

Characterization and numerical simulation of liquid refrigerant flow
emerging from a flooded evaporator tube bundle

by

William Evan Asher

B.S., Kansas State University, 2008
M.S., Kansas State University, 2014

Appendix D: Rotated triangular bundle with R-123

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Mechanical and Nuclear Engineering
College of Engineering

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2019

Approved by:

Major Professor
Steven J. Eckels

Table of Contents

D.1 - 1556 R-123 40F 5000Btu 15000Lb Rot Tri	1
D.1.1 Liquid Level 2	1
D.1.1.1 Lens 100mm Mag 0_29x.....	1
D.1.1.1 Depth J	1
D.1.1.1 All Droplets for .LA Image	2
D.1.1.1 All Droplets for .LB Image	3
D.1.1.1 Matched Only Droplets for .LA Image	4
D.1.1.1 Matched Only Droplets for .LB Image	5
D.1.1.1 Depth K.....	7
D.1.1.1 All Droplets for .LA Image	8
D.1.1.1 All Droplets for .LB Image	9
D.1.1.1 Matched Only Droplets for .LA Image	10
D.1.1.1 Matched Only Droplets for .LB Image	11
D.1.1.1 Depth L	12
D.1.1.1 All Droplets for .LA Image	13
D.1.1.1 All Droplets for .LB Image	14
D.1.1.1 Matched Only Droplets for .LA Image	15
D.1.1.1 Matched Only Droplets for .LB Image	16
D.1.1.2 Lens 50mm Mag 0_13x.....	17
D.1.1.2 Depth J	17
D.1.1.2 All Droplets for .LA Image	18
D.1.1.2 All Droplets for .LB Image	19
D.1.1.2 Matched Only Droplets for .LA Image	20
D.1.1.2 Matched Only Droplets for .LB Image	21
D.1.1.2 Depth K.....	22
D.1.1.2 All Droplets for .LA Image	23

D.1.1.2 All Droplets for .LB Image	24
D.1.1.2 Matched Only Droplets for .LA Image	25
D.1.1.2 Matched Only Droplets for .LB Image	26
D.1.1.2 Depth L	27
D.1.1.2 All Droplets for .LA Image	28
D.1.1.2 All Droplets for .LB Image	29
D.1.1.2 Matched Only Droplets for .LA Image	30
D.1.1.2 Matched Only Droplets for .LB Image	31
D.1.2 Liquid Level 3	32
D.1.2.1 Lens 100mm Mag 0_29x.....	32
D.1.2.1 Depth J	32
D.1.2.1 All Droplets for .LA Image	33
D.1.2.1 All Droplets for .LB Image	34
D.1.2.1 Matched Only Droplets for .LA Image	35
D.1.2.1 Matched Only Droplets for .LB Image	36
D.1.2.1 Depth K.....	37
D.1.2.1 All Droplets for .LA Image	38
D.1.2.1 All Droplets for .LB Image	39
D.1.2.1 Matched Only Droplets for .LA Image	40
D.1.2.1 Matched Only Droplets for .LB Image	41
D.1.2.1 Depth L	42
D.1.2.1 All Droplets for .LA Image	43
D.1.2.1 All Droplets for .LB Image	44
D.1.2.1 Matched Only Droplets for .LA Image	45
D.1.2.1 Matched Only Droplets for .LB Image	46
D.1.2.2 Lens 50mm Mag 0_13x.....	47
D.1.2.2 Depth J	47
D.1.2.2 All Droplets for .LA Image	48
D.1.2.2 All Droplets for .LB Image	49

D.1.2.2 Matched Only Droplets for .LA Image	50
D.1.2.2 Matched Only Droplets for .LB Image	51
D.1.2.2 Depth K.....	52
D.1.2.2 All Droplets for .LA Image	53
D.1.2.2 All Droplets for .LB Image	54
D.1.2.2 Matched Only Droplets for .LA Image	55
D.1.2.2 Matched Only Droplets for .LB Image	56
D.1.2.2 Depth L	57
D.1.2.2 All Droplets for .LA Image	58
D.1.2.2 All Droplets for .LB Image	59
D.1.2.2 Matched Only Droplets for .LA Image	60
D.1.2.2 Matched Only Droplets for .LB Image	61
D.2 - 1556 R-123 40F 5000Btu 30000Lb Rot Tri	62
D.2.1 Liquid Level 2	62
D.2.1.1 Lens 100mm Mag 0_29x.....	62
D.2.1.1 Depth J	62
D.2.1.1 All Droplets for .LA Image	63
D.2.1.1 All Droplets for .LB Image	64
D.2.1.1 Matched Only Droplets for .LA Image	65
D.2.1.1 Matched Only Droplets for .LB Image	66
D.2.1.1 Depth K.....	67
D.2.1.1 All Droplets for .LA Image	68
D.2.1.1 All Droplets for .LB Image	69
D.2.1.1 Matched Only Droplets for .LA Image	70
D.2.1.1 Matched Only Droplets for .LB Image	71
D.2.1.1 Depth L	72
D.2.1.1 All Droplets for .LA Image	73
D.2.1.1 All Droplets for .LB Image	74
D.2.1.1 Matched Only Droplets for .LA Image	75

D.2.1.1 Matched Only Droplets for .LB Image	76
D.2.1.2 Lens 50mm Mag 0_13x.....	77
D.2.1.2 Depth J	77
D.2.1.2 All Droplets for .LA Image	78
D.2.1.2 All Droplets for .LB Image	79
D.2.1.2 Matched Only Droplets for .LA Image	80
D.2.1.2 Matched Only Droplets for .LB Image	81
D.2.1.2 Depth K.....	82
D.2.1.2 All Droplets for .LA Image	83
D.2.1.2 All Droplets for .LB Image	84
D.2.1.2 Matched Only Droplets for .LA Image	85
D.2.1.2 Matched Only Droplets for .LB Image	86
D.2.1.2 Depth L	87
D.2.1.2 All Droplets for .LA Image	88
D.2.1.2 All Droplets for .LB Image	89
D.2.1.2 Matched Only Droplets for .LA Image	90
D.2.1.2 Matched Only Droplets for .LB Image	91
D.2.2 Liquid Level 3	92
D.2.2.1 Lens 50mm Mag 0_13x.....	92
D.2.2.1 Depth J	92
D.2.2.1 All Droplets for .LA Image	93
D.2.2.1 All Droplets for .LB Image	94
D.2.2.1 Matched Only Droplets for .LA Image	95
D.2.2.1 Matched Only Droplets for .LB Image	96
D.3 - 1556 R-123 40F 10000Btu 30000Lb Rot Tri	97
D.3.1 Liquid Level 2	97
D.3.1.1 Lens 100mm Mag 0_29x.....	97
D.3.1.1 Depth J	97
D.3.1.1 All Droplets for .LA Image	98

D.3.1.1 All Droplets for .LB Image	99
D.3.1.1 Matched Only Droplets for .LA Image	100
D.3.1.1 Matched Only Droplets for .LB Image	101
D.3.1.1 Depth K.....	102
D.3.1.1 All Droplets for .LA Image	103
D.3.1.1 All Droplets for .LB Image	104
D.3.1.1 Matched Only Droplets for .LA Image	105
D.3.1.1 Matched Only Droplets for .LB Image	106
D.3.1.1 Depth L	107
D.3.1.1 All Droplets for .LA Image	108
D.3.1.1 All Droplets for .LB Image	109
D.3.1.1 Matched Only Droplets for .LA Image	110
D.3.1.1 Matched Only Droplets for .LB Image	111
D.3.1.2 Lens 50mm Mag 0_13x.....	112
D.3.1.2 Depth J	112
D.3.1.2 All Droplets for .LA Image	113
D.3.1.2 All Droplets for .LB Image	114
D.3.1.2 Matched Only Droplets for .LA Image	115
D.3.1.2 Matched Only Droplets for .LB Image	116
D.3.1.2 Depth K.....	117
D.3.1.2 All Droplets for .LA Image	118
D.3.1.2 All Droplets for .LB Image	119
D.3.1.2 Matched Only Droplets for .LA Image	120
D.3.1.2 Matched Only Droplets for .LB Image	121
D.3.1.2 Depth L	122
D.3.1.2 All Droplets for .LA Image	123
D.3.1.2 All Droplets for .LB Image	124
D.3.1.2 Matched Only Droplets for .LA Image	125
D.3.1.2 Matched Only Droplets for .LB Image	126

D.3.2 Liquid Level 3	127
D.3.2.1 Lens 100mm Mag 0_29x.....	127
D.3.2.1 Depth J	127
D.3.2.1 All Droplets for .LA Image	128
D.3.2.1 All Droplets for .LB Image	129
D.3.2.1 Matched Only Droplets for .LA Image	130
D.3.2.1 Matched Only Droplets for .LB Image	131
D.3.2.1 Depth K.....	132
D.3.2.1 All Droplets for .LA Image	133
D.3.2.1 All Droplets for .LB Image	134
D.3.2.1 Matched Only Droplets for .LA Image	135
D.3.2.1 Matched Only Droplets for .LB Image	136
D.3.2.1 Depth L	137
D.3.2.1 All Droplets for .LA Image	138
D.3.2.1 All Droplets for .LB Image	139
D.3.2.1 Matched Only Droplets for .LA Image	140
D.3.2.1 Matched Only Droplets for .LB Image	141
D.3.2.2 Lens 50mm Mag 0_13x.....	142
D.3.2.2 Depth J	142
D.3.2.2 All Droplets for .LA Image	143
D.3.2.2 All Droplets for .LB Image	144
D.3.2.2 Matched Only Droplets for .LA Image	145
D.3.2.2 Matched Only Droplets for .LB Image	146
D.3.2.2 Depth K.....	147
D.3.2.2 All Droplets for .LA Image	148
D.3.2.2 All Droplets for .LB Image	149
D.3.2.2 Matched Only Droplets for .LA Image	150
D.3.2.2 Matched Only Droplets for .LB Image	151
D.3.2.2 Depth L	152

D.3.2.2 All Droplets for .LA Image	153
D.3.2.2 All Droplets for .LB Image	154
D.3.2.2 Matched Only Droplets for .LA Image	155
D.3.2.2 Matched Only Droplets for .LB Image	156
D.4 - 1556 R-123 55F 1100Btu 2250Lb Rot Tri	158
D.4.1 Liquid Level 2	158
D.4.1.1 Lens 100mm Mag 0_29x.....	158
D.4.1.1 Depth J	158
D.4.1.1 All Droplets for .LA Image	159
D.4.1.1 All Droplets for .LB Image	160
D.4.1.1 Matched Only Droplets for .LA Image	161
D.4.1.1 Matched Only Droplets for .LB Image	162
D.4.1.1 Depth K.....	164
D.4.1.1 All Droplets for .LA Image	165
D.4.1.1 All Droplets for .LB Image	166
D.4.1.1 Matched Only Droplets for .LA Image	167
D.4.1.1 Matched Only Droplets for .LB Image	168
D.4.1.1 Depth L	169
D.4.1.1 All Droplets for .LA Image	170
D.4.1.1 All Droplets for .LB Image	171
D.4.1.1 Matched Only Droplets for .LA Image	172
D.4.1.1 Matched Only Droplets for .LB Image	173
D.4.1.2 Lens 50mm Mag 0_13x.....	174
D.4.1.2 Depth J	174
D.4.1.2 All Droplets for .LA Image	175
D.4.1.2 All Droplets for .LB Image	176
D.4.1.2 Matched Only Droplets for .LA Image	177
D.4.1.2 Matched Only Droplets for .LB Image	178
D.4.1.2 Depth K.....	179

D.4.1.2 All Droplets for .LA Image	180
D.4.1.2 All Droplets for .LB Image	181
D.4.1.2 Matched Only Droplets for .LA Image	182
D.4.1.2 Matched Only Droplets for .LB Image	183
D.4.1.2 Depth L	184
D.4.1.2 All Droplets for .LA Image	185
D.4.1.2 All Droplets for .LB Image	186
D.4.1.2 Matched Only Droplets for .LA Image	187
D.4.1.2 Matched Only Droplets for .LB Image	188
D.4.2 Liquid Level 3	189
D.4.2.1 Lens 100mm Mag 0_29x.....	189
D.4.2.1 Depth J	189
D.4.2.1 All Droplets for .LA Image	190
D.4.2.1 All Droplets for .LB Image	191
D.4.2.1 Matched Only Droplets for .LA Image	192
D.4.2.1 Matched Only Droplets for .LB Image	193
D.4.2.1 Depth K.....	194
D.4.2.1 All Droplets for .LA Image	195
D.4.2.1 All Droplets for .LB Image	196
D.4.2.1 Matched Only Droplets for .LA Image	197
D.4.2.1 Matched Only Droplets for .LB Image	198
D.4.2.1 Depth L	199
D.4.2.1 All Droplets for .LA Image	200
D.4.2.1 All Droplets for .LB Image	201
D.4.2.1 Matched Only Droplets for .LA Image	202
D.4.2.1 Matched Only Droplets for .LB Image	203
D.4.2.2 Lens 50mm Mag 0_13x.....	204
D.4.2.2 Depth J	204
D.4.2.2 All Droplets for .LA Image	205

D.4.2.2 All Droplets for .LB Image	206
D.4.2.2 Matched Only Droplets for .LA Image	207
D.4.2.2 Matched Only Droplets for .LB Image	208
D.4.2.2 Depth K.....	209
D.4.2.2 All Droplets for .LA Image	210
D.4.2.2 All Droplets for .LB Image	211
D.4.2.2 Matched Only Droplets for .LA Image	212
D.4.2.2 Matched Only Droplets for .LB Image	213
D.4.2.2 Depth L	214
D.4.2.2 All Droplets for .LA Image	215
D.4.2.2 All Droplets for .LB Image	216
D.4.2.2 Matched Only Droplets for .LA Image	217
D.4.2.2 Matched Only Droplets for .LB Image	218
D.5 - 1556 R-123 55F 1900Btu 5200Lb Rot Tri	219
D.5.1 Liquid Level 2	219
D.5.1.1 Lens 100mm Mag 0_29x.....	219
D.5.1.1 Depth J	219
D.5.1.1 All Droplets for .LA Image	220
D.5.1.1 All Droplets for .LB Image	221
D.5.1.1 Matched Only Droplets for .LA Image	222
D.5.1.1 Matched Only Droplets for .LB Image	223
D.5.1.1 Depth K.....	224
D.5.1.1 All Droplets for .LA Image	225
D.5.1.1 All Droplets for .LB Image	226
D.5.1.1 Matched Only Droplets for .LA Image	227
D.5.1.1 Matched Only Droplets for .LB Image	228
D.5.1.1 Depth L	229
D.5.1.1 All Droplets for .LA Image	230
D.5.1.1 All Droplets for .LB Image	231

D.5.1.1 Matched Only Droplets for .LA Image	232
D.5.1.1 Matched Only Droplets for .LB Image	233
D.5.1.2 Lens 50mm Mag 0_13x.....	234
D.5.1.2 Depth J	234
D.5.1.2 All Droplets for .LA Image	235
D.5.1.2 All Droplets for .LB Image	236
D.5.1.2 Matched Only Droplets for .LA Image	237
D.5.1.2 Matched Only Droplets for .LB Image	238
D.5.1.2 Depth K.....	239
D.5.1.2 All Droplets for .LA Image	240
D.5.1.2 All Droplets for .LB Image	241
D.5.1.2 Matched Only Droplets for .LA Image	242
D.5.1.2 Matched Only Droplets for .LB Image	243
D.5.1.2 Depth L	244
D.5.1.2 All Droplets for .LA Image	245
D.5.1.2 All Droplets for .LB Image	246
D.5.1.2 Matched Only Droplets for .LA Image	247
D.5.1.2 Matched Only Droplets for .LB Image	248
D.5.2 Liquid Level 3	249
D.5.2.1 Lens 100mm Mag 0_29x.....	249
D.5.2.1 Depth J	249
D.5.2.1 All Droplets for .LA Image	250
D.5.2.1 All Droplets for .LB Image	251
D.5.2.1 Matched Only Droplets for .LA Image	252
D.5.2.1 Matched Only Droplets for .LB Image	253
D.5.2.1 Depth K.....	254
D.5.2.1 All Droplets for .LA Image	255
D.5.2.1 All Droplets for .LB Image	256
D.5.2.1 Matched Only Droplets for .LA Image	257

D.5.2.1 Matched Only Droplets for .LB Image	258
D.5.2.1 Depth L	259
D.5.2.1 All Droplets for .LA Image	260
D.5.2.1 All Droplets for .LB Image	261
D.5.2.1 Matched Only Droplets for .LA Image	262
D.5.2.1 Matched Only Droplets for .LB Image	263
D.5.2.2 Lens 50mm Mag 0_13x.....	264
D.5.2.2 Depth J	264
D.5.2.2 All Droplets for .LA Image	265
D.5.2.2 All Droplets for .LB Image	266
D.5.2.2 Matched Only Droplets for .LA Image	267
D.5.2.2 Matched Only Droplets for .LB Image	268
D.5.2.2 Depth K.....	269
D.5.2.2 All Droplets for .LA Image	270
D.5.2.2 All Droplets for .LB Image	271
D.5.2.2 Matched Only Droplets for .LA Image	272
D.5.2.2 Matched Only Droplets for .LB Image	273
D.5.2.2 Depth L	274
D.5.2.2 All Droplets for .LA Image	275
D.5.2.2 All Droplets for .LB Image	276
D.5.2.2 Matched Only Droplets for .LA Image	277
D.5.2.2 Matched Only Droplets for .LB Image	278
D.6 - 1556 R-123 55F 5000Btu 15000Lb Rot Tri	279
D.6.1 Liquid Level 2	279
D.6.1.1 Lens 100mm Mag 0_29x.....	279
D.6.1.1 Depth J	279
D.6.1.1 All Droplets for .LA Image	280
D.6.1.1 All Droplets for .LB Image	281
D.6.1.1 Matched Only Droplets for .LA Image	282

D.6.1.1 Matched Only Droplets for .LB Image	283
D.6.1.1 Depth K.....	284
D.6.1.1 All Droplets for .LA Image	285
D.6.1.1 All Droplets for .LB Image	286
D.6.1.1 Matched Only Droplets for .LA Image	287
D.6.1.1 Matched Only Droplets for .LB Image	288
D.6.1.1 Depth L.....	289
D.6.1.1 All Droplets for .LA Image	290
D.6.1.1 All Droplets for .LB Image	291
D.6.1.1 Matched Only Droplets for .LA Image	292
D.6.1.1 Matched Only Droplets for .LB Image	293
D.6.1.2 Lens 50mm Mag 0_13x.....	294
D.6.1.2 Depth J	294
D.6.1.2 All Droplets for .LA Image	295
D.6.1.2 All Droplets for .LB Image	296
D.6.1.2 Matched Only Droplets for .LA Image	297
D.6.1.2 Matched Only Droplets for .LB Image	298
D.6.1.2 Depth K.....	299
D.6.1.2 All Droplets for .LA Image	300
D.6.1.2 All Droplets for .LB Image	301
D.6.1.2 Matched Only Droplets for .LA Image	302
D.6.1.2 Matched Only Droplets for .LB Image	303
D.6.1.2 Depth L.....	304
D.6.1.2 All Droplets for .LA Image	305
D.6.1.2 All Droplets for .LB Image	306
D.6.1.2 Matched Only Droplets for .LA Image	307
D.6.1.2 Matched Only Droplets for .LB Image	308
D.6.2 Liquid Level 3	309
D.6.2.1 Lens 100mm Mag 0_29x.....	309

D.6.2.1 Depth J	309
D.6.2.1 All Droplets for .LA Image	310
D.6.2.1 All Droplets for .LB Image	311
D.6.2.1 Matched Only Droplets for .LA Image	312
D.6.2.1 Matched Only Droplets for .LB Image	313
D.6.2.1 Depth K.....	314
D.6.2.1 All Droplets for .LA Image	315
D.6.2.1 All Droplets for .LB Image	316
D.6.2.1 Matched Only Droplets for .LA Image	317
D.6.2.1 Matched Only Droplets for .LB Image	318
D.6.2.1 Depth L	319
D.6.2.1 All Droplets for .LA Image	320
D.6.2.1 All Droplets for .LB Image	321
D.6.2.1 Matched Only Droplets for .LA Image	322
D.6.2.1 Matched Only Droplets for .LB Image	323
D.6.2.2 Lens 50mm Mag 0_13x.....	324
D.6.2.2 Depth J	324
D.6.2.2 All Droplets for .LA Image	325
D.6.2.2 All Droplets for .LB Image	326
D.6.2.2 Matched Only Droplets for .LA Image	327
D.6.2.2 Matched Only Droplets for .LB Image	328
D.6.2.2 Depth K.....	329
D.6.2.2 All Droplets for .LA Image	330
D.6.2.2 All Droplets for .LB Image	331
D.6.2.2 Matched Only Droplets for .LA Image	332
D.6.2.2 Matched Only Droplets for .LB Image	333
D.6.2.2 Depth L	334
D.6.2.2 All Droplets for .LA Image	335
D.6.2.2 All Droplets for .LB Image	336

D.6.2.2 Matched Only Droplets for .LA Image	337
D.6.2.2 Matched Only Droplets for .LB Image	338
D.7 - 1556 R-123 55F 5000Btu 30000Lb Rot Tri	339
D.7.1 Liquid Level 2	339
D.7.1.1 Lens 100mm Mag 0_29x.....	339
D.7.1.1 Depth J	339
D.7.1.1 All Droplets for .LA Image	340
D.7.1.1 All Droplets for .LB Image	341
D.7.1.1 Matched Only Droplets for .LA Image	342
D.7.1.1 Matched Only Droplets for .LB Image	343
D.7.1.1 Depth K.....	344
D.7.1.1 All Droplets for .LA Image	345
D.7.1.1 All Droplets for .LB Image	346
D.7.1.1 Matched Only Droplets for .LA Image	347
D.7.1.1 Matched Only Droplets for .LB Image	348
D.7.1.1 Depth L	349
D.7.1.1 All Droplets for .LA Image	350
D.7.1.1 All Droplets for .LB Image	351
D.7.1.1 Matched Only Droplets for .LA Image	352
D.7.1.1 Matched Only Droplets for .LB Image	353
D.7.1.2 Lens 50mm Mag 0_13x.....	354
D.7.1.2 Depth J	354
D.7.1.2 All Droplets for .LA Image	355
D.7.1.2 All Droplets for .LB Image	356
D.7.1.2 Matched Only Droplets for .LA Image	357
D.7.1.2 Matched Only Droplets for .LB Image	358
D.7.1.2 Depth K.....	359
D.7.1.2 All Droplets for .LA Image	360
D.7.1.2 All Droplets for .LB Image	361

D.7.1.2 Matched Only Droplets for .LA Image	362
D.7.1.2 Matched Only Droplets for .LB Image	363
D.7.1.2 Depth L	364
D.7.1.2 All Droplets for .LA Image	365
D.7.1.2 All Droplets for .LB Image	366
D.7.1.2 Matched Only Droplets for .LA Image	367
D.7.1.2 Matched Only Droplets for .LB Image	368
D.7.2 Liquid Level 3	369
D.7.2.1 Lens 100mm Mag 0_29x.....	369
D.7.2.1 Depth J	369
D.7.2.1 All Droplets for .LA Image	370
D.7.2.1 All Droplets for .LB Image	371
D.7.2.1 Matched Only Droplets for .LA Image	372
D.7.2.1 Matched Only Droplets for .LB Image	373
D.7.2.1 Depth K.....	374
D.7.2.1 All Droplets for .LA Image	375
D.7.2.1 All Droplets for .LB Image	376
D.7.2.1 Matched Only Droplets for .LA Image	377
D.7.2.1 Matched Only Droplets for .LB Image	378
D.7.2.1 Depth L	379
D.7.2.1 All Droplets for .LA Image	380
D.7.2.1 All Droplets for .LB Image	381
D.7.2.1 Matched Only Droplets for .LA Image	382
D.7.2.1 Matched Only Droplets for .LB Image	383
D.7.2.2 Lens 50mm Mag 0_13x.....	384
D.7.2.2 Depth J	384
D.7.2.2 All Droplets for .LA Image	385
D.7.2.2 All Droplets for .LB Image	386
D.7.2.2 Matched Only Droplets for .LA Image	387

D.7.2.2 Matched Only Droplets for .LB Image	388
D.7.2.2 Depth K.....	389
D.7.2.2 All Droplets for .LA Image	390
D.7.2.2 All Droplets for .LB Image	391
D.7.2.2 Matched Only Droplets for .LA Image	392
D.7.2.2 Matched Only Droplets for .LB Image	393
D.7.2.2 Depth L.....	394
D.7.2.2 All Droplets for .LA Image	395
D.7.2.2 All Droplets for .LB Image	396
D.7.2.2 Matched Only Droplets for .LA Image	397
D.7.2.2 Matched Only Droplets for .LB Image	398
D.8 - 1556 R-123 55F 10000Btu 30000Lb Rot Tri	399
D.8.1 Liquid Level 2	399
D.8.1.1 Lens 100mm Mag 0_29x.....	399
D.8.1.1 Depth J	399
D.8.1.1 All Droplets for .LA Image	400
D.8.1.1 All Droplets for .LB Image	401
D.8.1.1 Matched Only Droplets for .LA Image	402
D.8.1.1 Matched Only Droplets for .LB Image	403
D.8.1.1 Depth K.....	404
D.8.1.1 All Droplets for .LA Image	405
D.8.1.1 All Droplets for .LB Image	406
D.8.1.1 Matched Only Droplets for .LA Image	407
D.8.1.1 Matched Only Droplets for .LB Image	408
D.8.1.1 Depth L	409
D.8.1.1 All Droplets for .LA Image	410
D.8.1.1 All Droplets for .LB Image	411
D.8.1.1 Matched Only Droplets for .LA Image	412
D.8.1.1 Matched Only Droplets for .LB Image	413

D.8.1.2 Lens 50mm Mag 0_13x.....	414
D.8.1.2 Depth J	414
D.8.1.2 All Droplets for .LA Image	415
D.8.1.2 All Droplets for .LB Image	416
D.8.1.2 Matched Only Droplets for .LA Image	417
D.8.1.2 Matched Only Droplets for .LB Image	418
D.8.1.2 Depth K.....	419
D.8.1.2 All Droplets for .LA Image	420
D.8.1.2 All Droplets for .LB Image	421
D.8.1.2 Matched Only Droplets for .LA Image	422
D.8.1.2 Matched Only Droplets for .LB Image	423
D.8.1.2 Depth L	424
D.8.1.2 All Droplets for .LA Image	425
D.8.1.2 All Droplets for .LB Image	426
D.8.1.2 Matched Only Droplets for .LA Image	427
D.8.1.2 Matched Only Droplets for .LB Image	428
D.8.2 Liquid Level 3	429
D.8.2.1 Lens 100mm Mag 0_29x.....	429
D.8.2.1 Depth J	429
D.8.2.1 All Droplets for .LA Image	430
D.8.2.1 All Droplets for .LB Image	431
D.8.2.1 Matched Only Droplets for .LA Image	432
D.8.2.1 Matched Only Droplets for .LB Image	433
D.8.2.1 Depth K.....	434
D.8.2.1 All Droplets for .LA Image	435
D.8.2.1 All Droplets for .LB Image	436
D.8.2.1 Matched Only Droplets for .LA Image	437
D.8.2.1 Matched Only Droplets for .LB Image	438
D.8.2.1 Depth L	439

D.8.2.1 All Droplets for .LA Image	440
D.8.2.1 All Droplets for .LB Image	441
D.8.2.1 Matched Only Droplets for .LA Image	442
D.8.2.1 Matched Only Droplets for .LB Image	443
D.8.2.2 Lens 50mm Mag 0_13x.....	444
D.8.2.2 Depth J	444
D.8.2.2 All Droplets for .LA Image	445
D.8.2.2 All Droplets for .LB Image	446
D.8.2.2 Matched Only Droplets for .LA Image	447
D.8.2.2 Matched Only Droplets for .LB Image	448
D.8.2.2 Depth K.....	449
D.8.2.2 All Droplets for .LA Image	450
D.8.2.2 All Droplets for .LB Image	451
D.8.2.2 Matched Only Droplets for .LA Image	452
D.8.2.2 Matched Only Droplets for .LB Image	453
D.8.2.2 Depth L	454
D.8.2.2 All Droplets for .LA Image	455
D.8.2.2 All Droplets for .LB Image	456
D.8.2.2 Matched Only Droplets for .LA Image	457
D.8.2.2 Matched Only Droplets for .LB Image	458

D.1 - 1556 R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1 Liquid Level 2

Thermal Conditions	
H2O Flow Rate (lb/hr) / (kg/s)	19707 / 2.483
Ref Mass Flow (lb/hr) / (kg/s)	1527 / 0.192
Ref Mass Flux (lb/hr-ft ²) / (kg/s-m ²)	14863 / 20.157
Top Two Rows Heat Flux (Btu/hr-ft ²) / (kW/m ²)	4616 / 14.56
Bundle Exit Saturation Temp (°F) / (°C)	43.2 / 6.19
Bundle Inlet Saturation Temp (°F) / (°C)	45.1 / 7.30
Total Bundle Q (Btu/hr) / (kW)	122505 / 35.90
Total Bundle & Preboiler Q (Btu/hr) / (kW)	122505 / 35.90
Top Two Rows HTC Ratio	1.110
Bundle Inlet Quality	-0.11
Bundle Exit Quality	0.94

Table D. 1: Thermal Conditions

D.1.1.1 Lens 100mm Mag 0_29x

D.1.1.1 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	54.38	55.01	75.9	4002	539.8	589.2	75.9	3974	526.9	582.6
40-60mm	143.26	147.31	75.9	4002	512.8	560.4	75.9	3968	500.4	560.2
60-80mm	142.2	146.22	75.9	4012	485.1	524.2	75.9	3945	471.4	514.8
80-100mm	5.74	6.13	81.1	2365	428.9	358.8	81.1	2179	419.6	377.3
All	345.58	354.72	75.9	4012	504.2	548.2	75.9	3974	491.1	543.3
			Height A (mm)				Height B (mm)			
Highest Particle			80.6929				80.7022			
Lowest Particle			32.7281				32.7281			

Table D. 2: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	25.45	81.1	3926	719.5	644.6	81.1	3974	706.3	654.2	-2.010	1.990	-0.050	0.540	-2.010	2.010	0.100	0.800
40-60mm	69.06	81.1	3841	656.1	591.4	81.1	3940	648.6	596.9	-2.000	2.010	-0.040	0.560	-2.010	2.010	0.140	0.860
60-80mm	73.3	81.1	3727	607.0	553.5	75.9	3859	596.7	554.0	-2.010	2.010	-0.020	0.540	-1.990	2.000	0.170	0.870
80-100mm	2.48	86.0	2365	565.5	428.7	81.1	2179	572.1	437.9	-1.880	2.010	-0.040	0.520	-1.820	1.480	-0.080	0.620
All	170.29	81.1	3926	643.1	583.2	75.9	3974	633.7	587.1	-2.010	2.010	-0.040	0.550	-2.010	2.010	0.140	0.850

Table D. 3: Matched Droplet Info

D.1.1.1 All Droplets for .LA Image

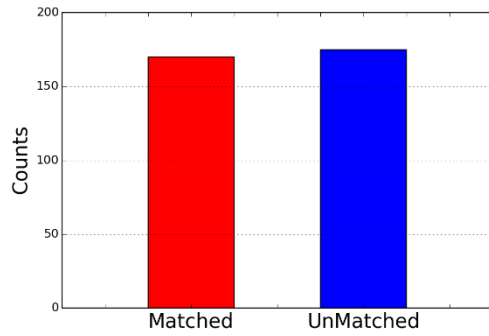


Figure D. 1: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

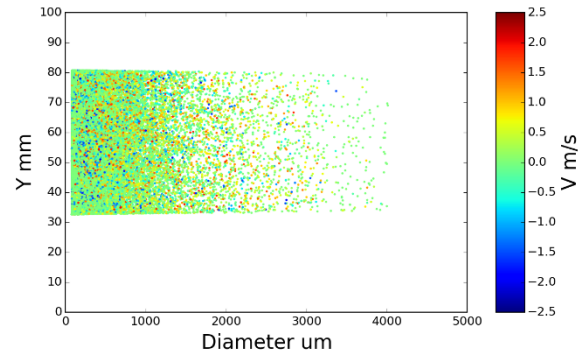


Figure D. 4: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

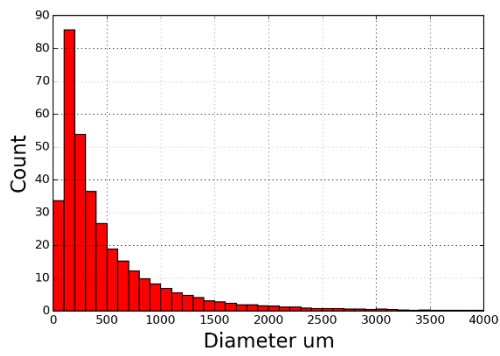


Figure D. 2: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

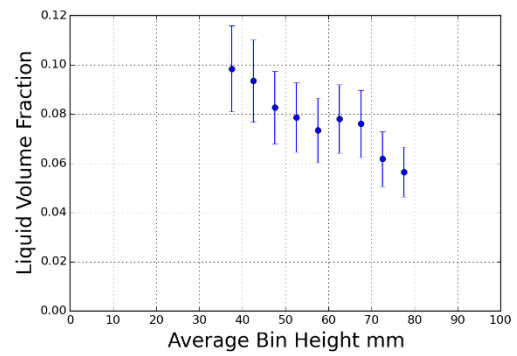


Figure D. 5: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

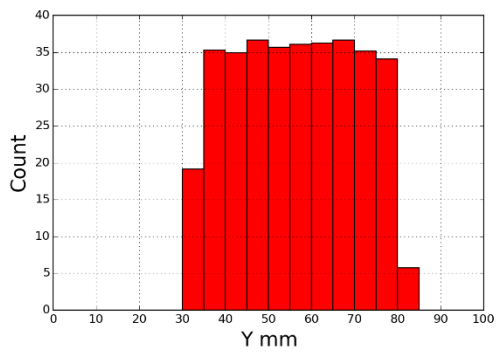


Figure D. 3: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1.1 All Droplets for .LB Image

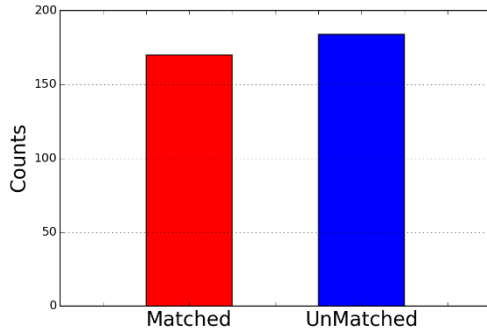


Figure D. 6: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

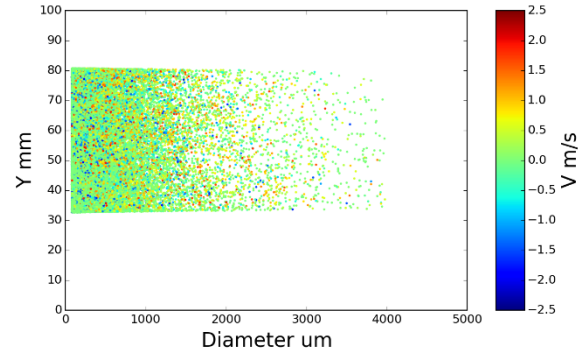


Figure D. 9: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

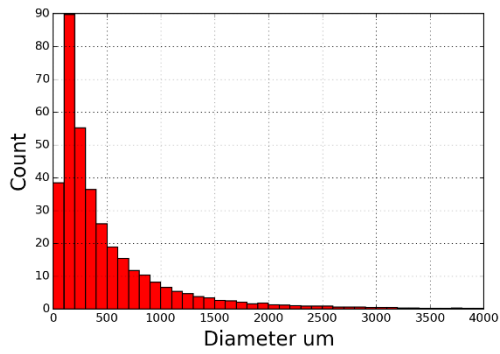


Figure D. 7: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

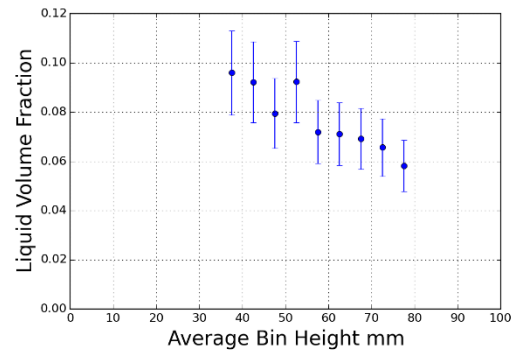


Figure D. 10: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

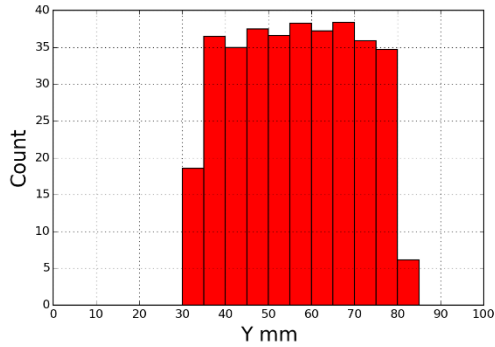


Figure D. 8: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1.1 Matched Only Droplets for .LA Image

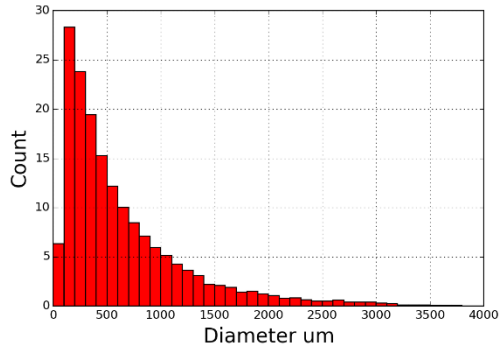


Figure D. 11: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

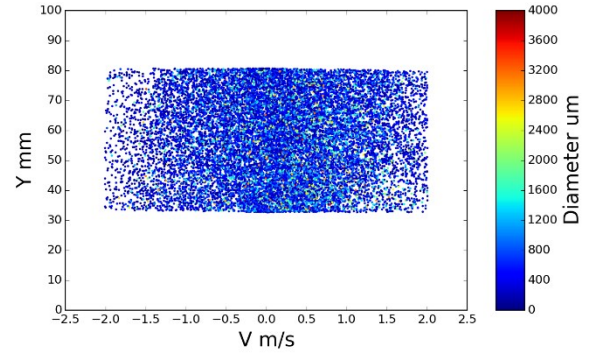


Figure D. 14: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

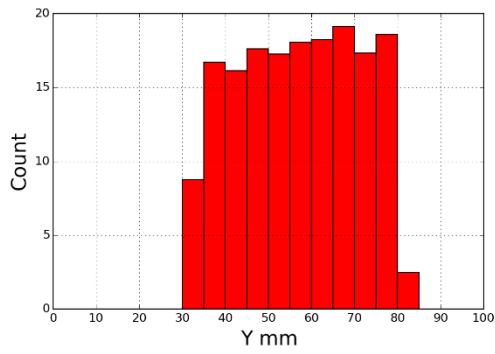


Figure D. 12: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

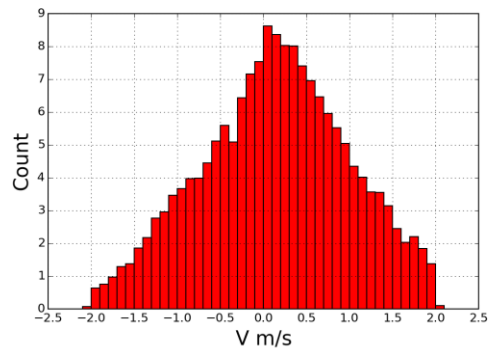


Figure D. 15: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

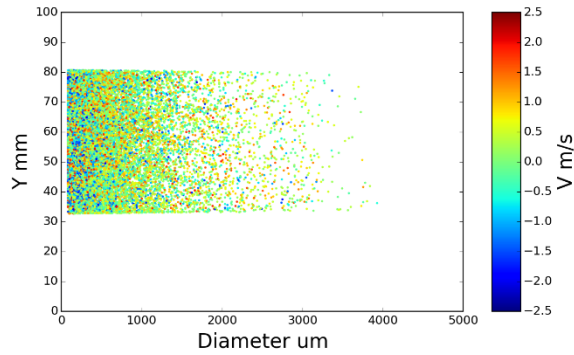


Figure D. 13: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1.1 Matched Only Droplets for .LB Image

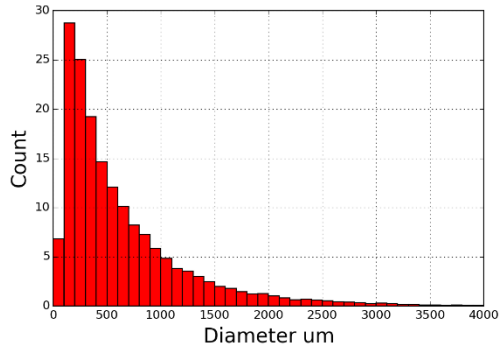


Figure D. 16: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

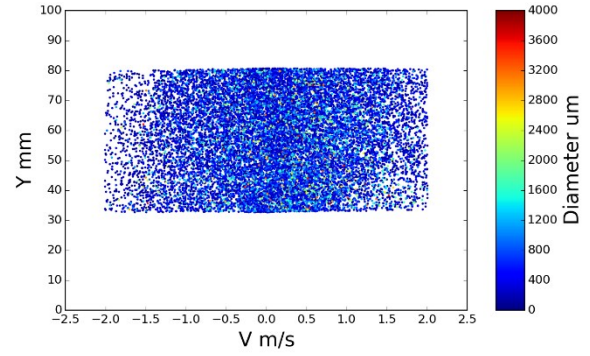


Figure D. 19: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

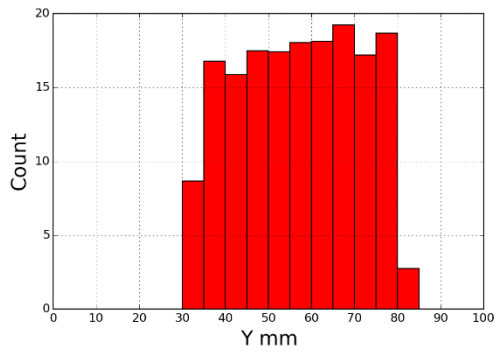


Figure D. 17: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

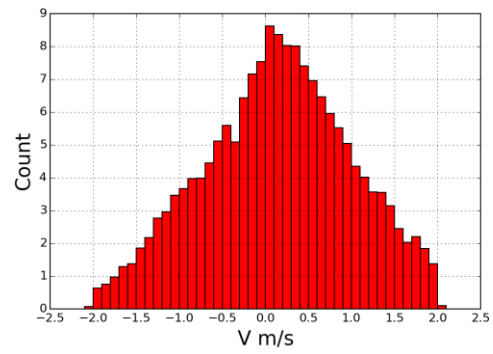


Figure D. 20: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

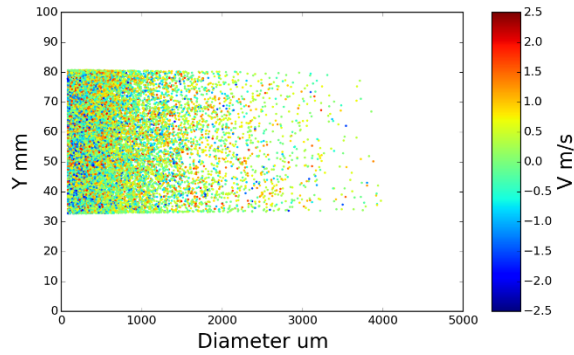


Figure D. 18: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1.1 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	50.76	50.89	75.9	4013	603.4	630.4	75.9	3908	596.0	621.6
40-60mm	128.01	131.83	75.9	4014	593.3	626.6	75.9	4011	578.4	617.1
60-80mm	123.31	128.46	75.9	3990	567.5	593.7	75.9	3998	553.2	594.0
80-100mm	5.11	5.35	75.9	2154	456.4	389.9	81.1	1924	476.3	399.7
All	307.19	316.53	75.9	4014	582.3	611.4	75.9	4011	569.3	605.8
			Height A (mm)				Height B (mm)			
Highest Particle			80.7022				80.6958			
Lowest Particle			32.7281				32.7281			

Table D. 4: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	23.77	81.1	3871	821.8	668.2	81.1	3908	814.4	683.1	-1.970	1.970	-0.030	0.530	-2.010	2.010	0.410	0.810
40-60mm	59.26	81.1	3834	815.5	670.7	81.1	4005	798.0	671.3	-2.010	2.010	-0.050	0.520	-2.010	2.010	0.430	0.850
60-80mm	61.09	81.1	3900	755.5	633.0	81.1	3998	743.3	639.9	-2.000	2.000	-0.050	0.520	-2.010	2.010	0.380	0.850
80-100mm	1.89	81.1	2154	666.4	471.7	86.0	1924	662.4	443.6	-1.620	1.740	0.020	0.460	-1.870	1.600	0.060	0.570
All	146.01	81.1	3900	789.5	653.4	81.1	4005	775.5	657.9	-2.010	2.010	-0.040	0.520	-2.010	2.010	0.400	0.840

Table D. 5: Matched Droplet Info

D.1.1.1 All Droplets for .LA Image

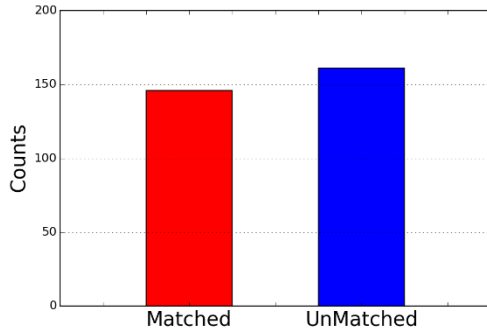


Figure D. 21: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

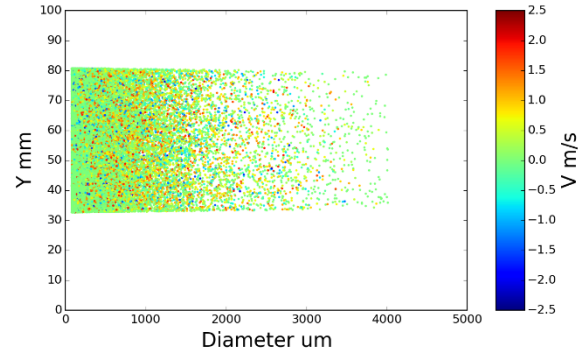


Figure D. 24: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

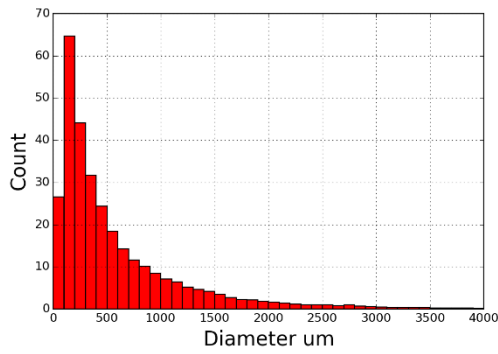


Figure D. 22: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

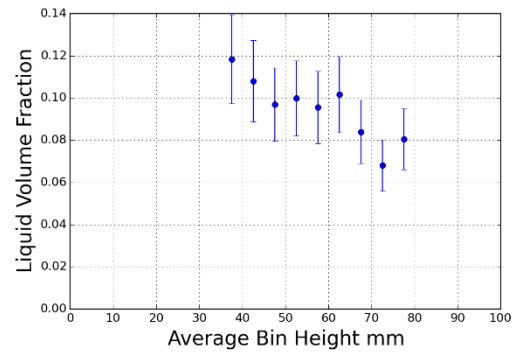


Figure D. 25: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

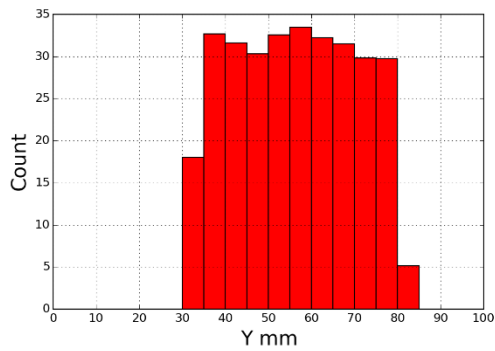


Figure D. 23: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1.1 All Droplets for .LB Image

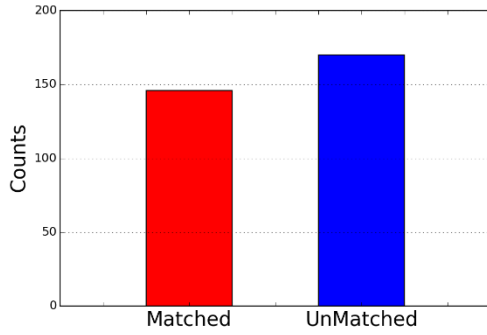


Figure D. 26: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

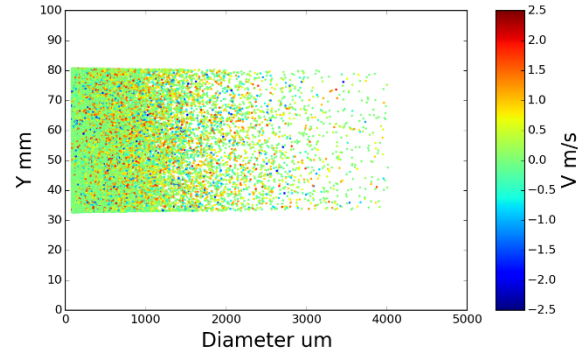


Figure D. 29: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

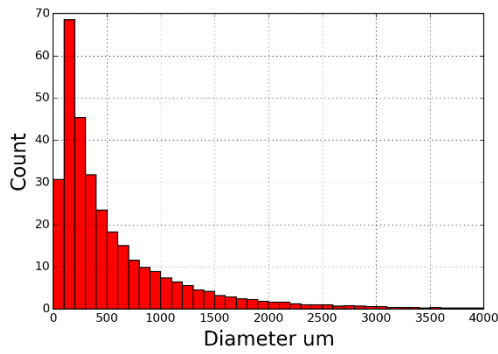


Figure D. 27: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

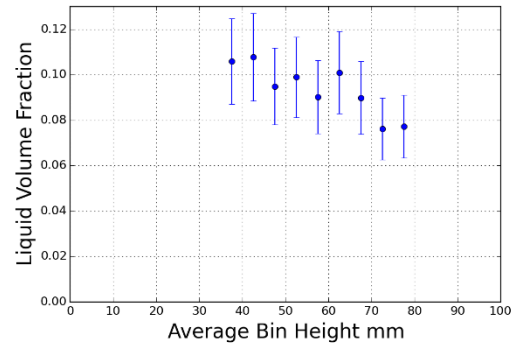


Figure D. 30: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

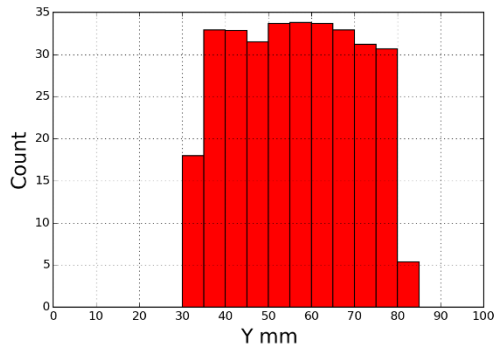


Figure D. 28: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1.1 Matched Only Droplets for .LA Image

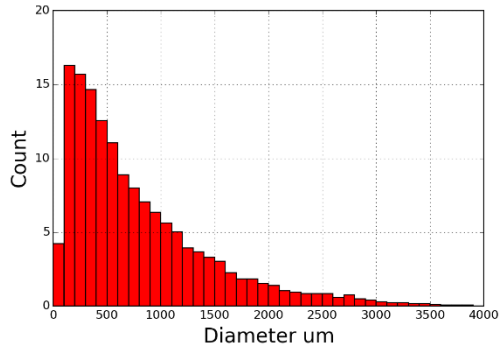


Figure D. 31: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

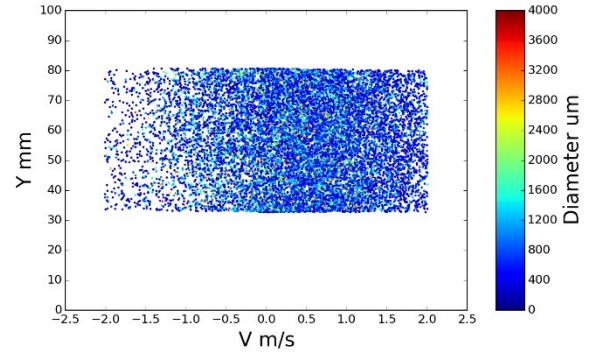


Figure D. 34: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

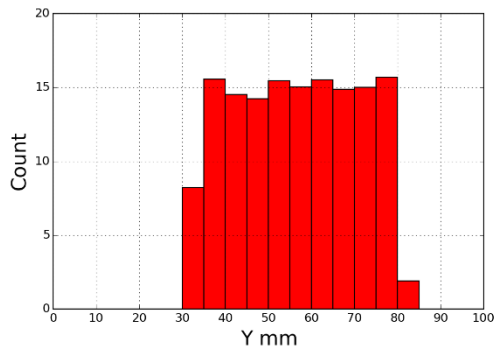


Figure D. 32: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

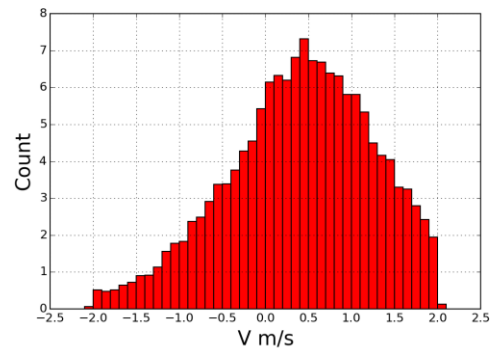


Figure D. 35: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

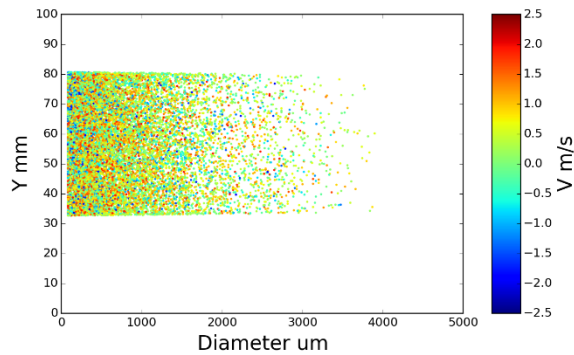


Figure D. 33: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1.1 Matched Only Droplets for .LB Image

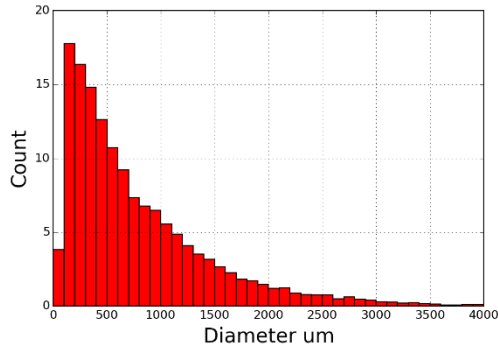


Figure D. 36: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

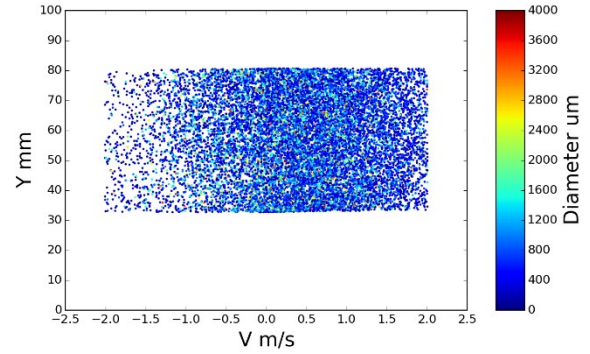


Figure D. 39: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

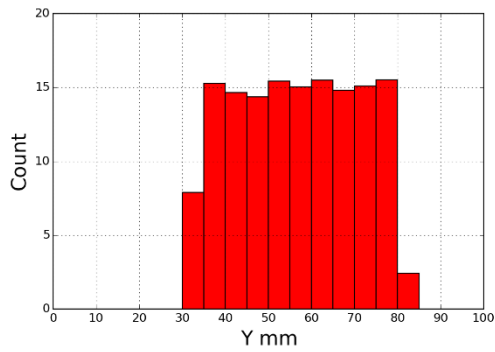


Figure D. 37: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

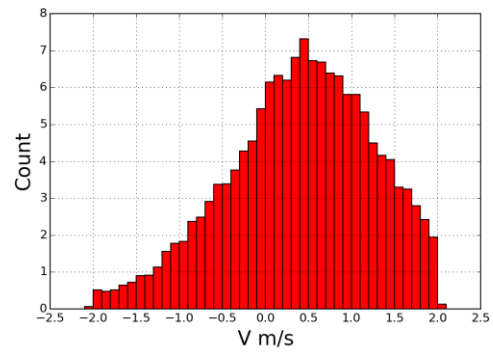


Figure D. 40: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

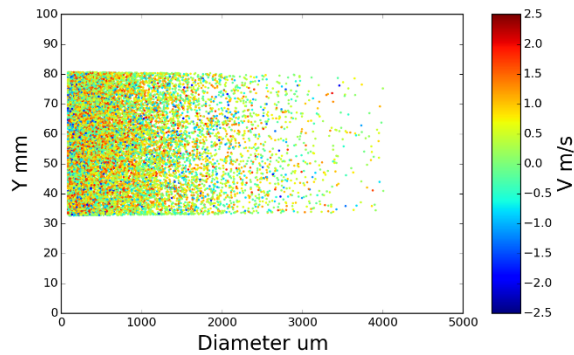


Figure D. 38: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1.1 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	37.32	38.52	75.9	3978	684.9	687.6	75.9	4006	654.9	683.0
40-60mm	95.54	98.01	75.9	4014	666.7	688.8	75.9	3989	649.0	686.3
60-80mm	96.77	98.32	75.9	4012	652.8	660.8	75.9	4009	634.2	661.1
80-100mm	4.38	4.63	75.9	2161	485.5	408.7	75.9	2156	473.1	401.2
All	234.01	239.48	75.9	4014	660.5	673.4	75.9	4009	640.5	671.5
			Height A (mm)				Height B (mm)			
Highest Particle			80.7022				80.6937			
Lowest Particle			32.7281				32.7281			

Table D. 6: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	16.03	86.0	3963	973.4	726.8	81.1	4006	974.7	745.2	-2.000	1.970	0.020	0.520	-1.960	2.010	0.590	0.800
40-60mm	41.92	81.1	3867	943.3	725.7	75.9	3958	926.5	732.9	-2.010	1.980	-0.020	0.510	-2.010	2.000	0.610	0.820
60-80mm	45.61	81.1	3812	893.7	685.9	81.1	3885	876.8	687.8	-2.010	1.980	-0.030	0.480	-2.010	2.000	0.500	0.810
80-100mm	1.52	86.0	2161	707.9	466.2	86.0	2156	649.8	426.4	-1.930	1.580	-0.040	0.480	-1.940	1.520	0.090	0.560
All	105.08	81.1	3963	923.0	706.8	75.9	4006	906.6	712.5	-2.010	1.980	-0.020	0.500	-2.010	2.010	0.550	0.810

Table D. 7: Matched Droplet Info

D.1.1.1 All Droplets for .LA Image

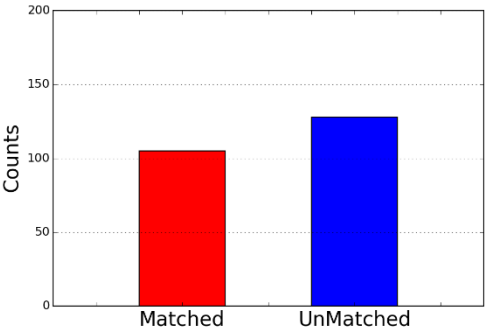


Figure D. 41: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

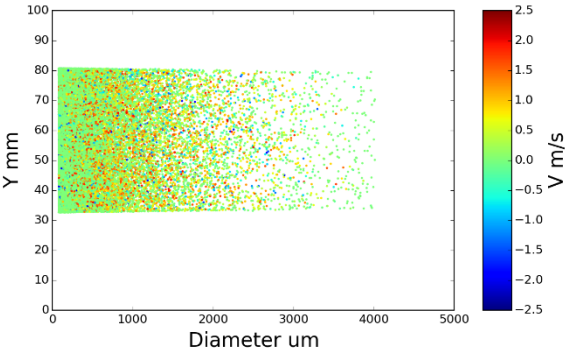


Figure D. 44: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

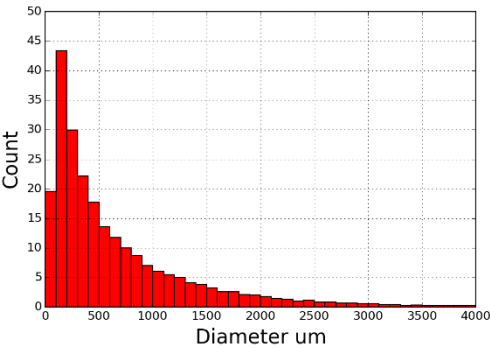


Figure D. 42: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

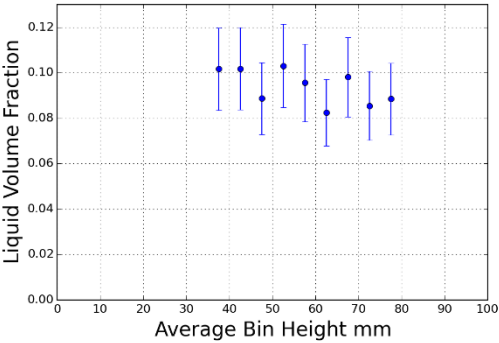


Figure D. 45: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

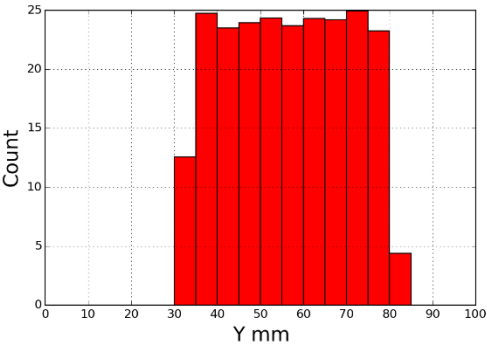


Figure D. 43: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1.1 All Droplets for .LB Image

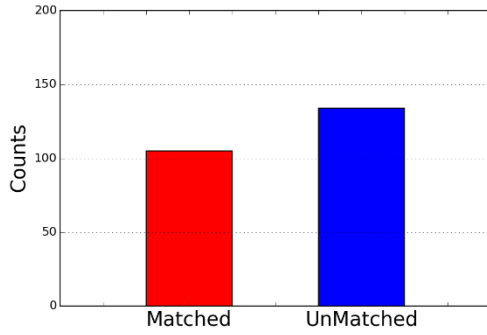


Figure D. 46: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

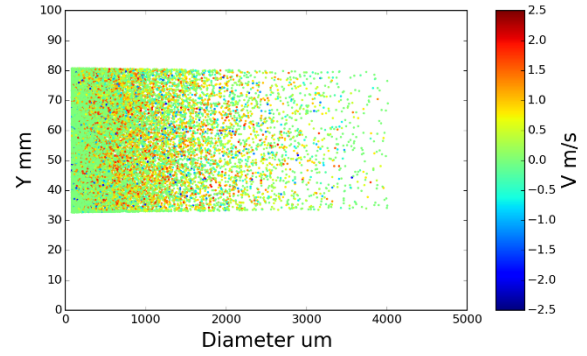


Figure D. 49: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

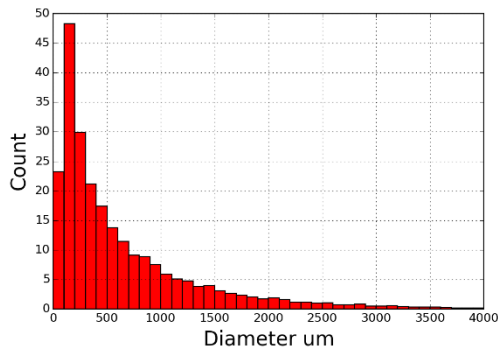


Figure D. 47: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

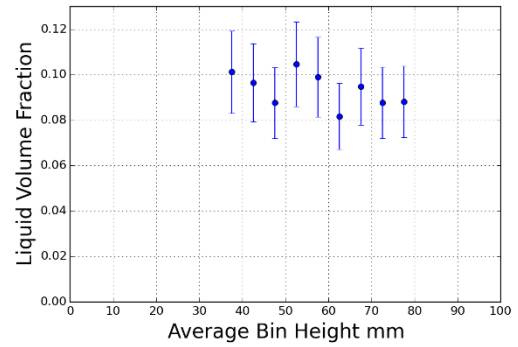


Figure D. 50: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

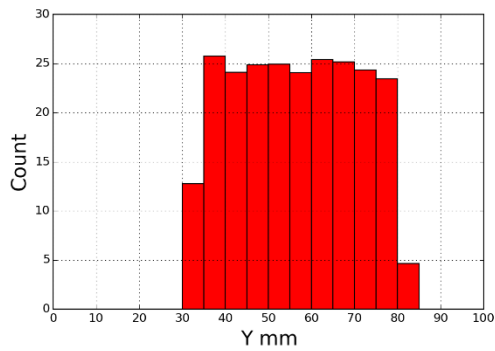


Figure D. 48: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1.1 Matched Only Droplets for .LA Image

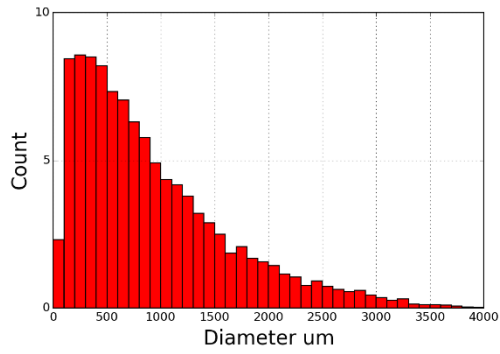


Figure D. 51: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

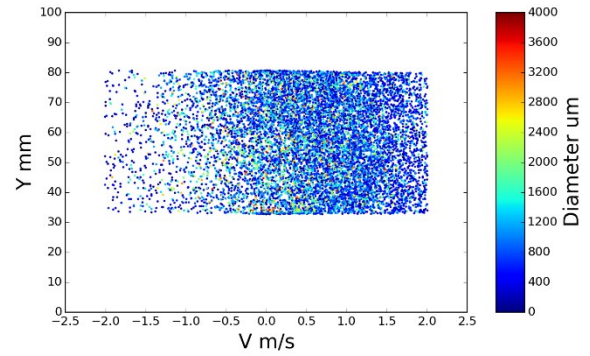


Figure D. 54: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

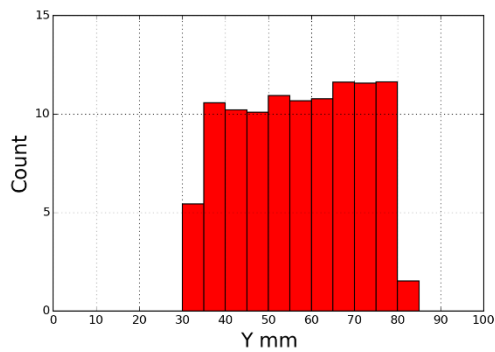


Figure D. 52: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

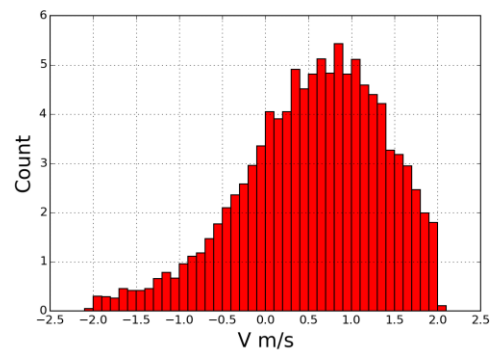


Figure D. 55: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

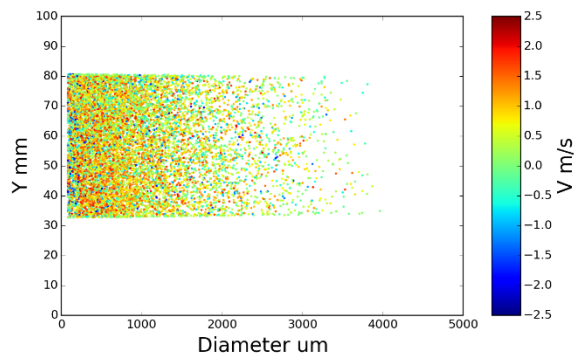


Figure D. 53: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1.1 Matched Only Droplets for .LB Image

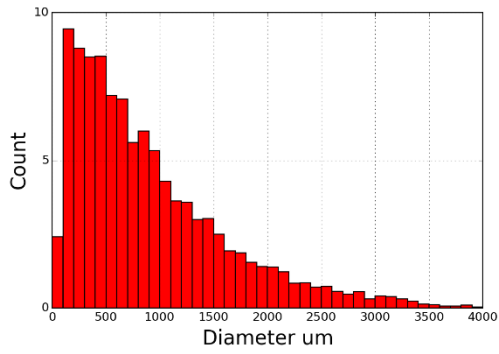


Figure D. 56: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

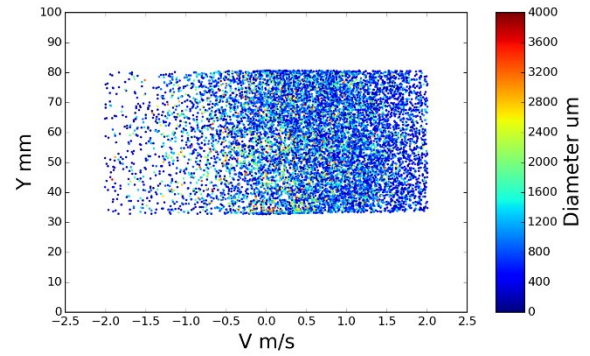


Figure D. 59: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

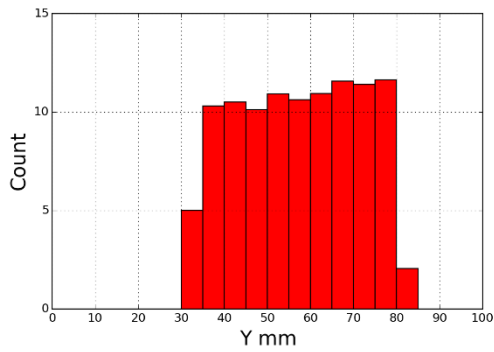


Figure D. 57: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

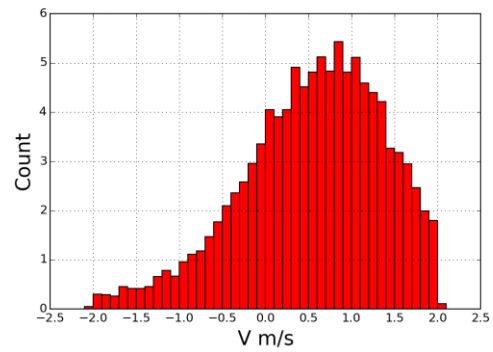


Figure D. 60: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

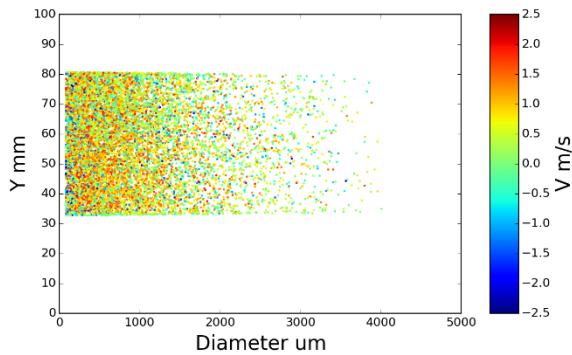


Figure D. 58: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1.2 Lens 50mm Mag 0_13x

D.1.1.2 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	91.62	91.68	170.7	3995	787.0	657.7	170.7	3991	790.3	659.6
40-60mm	94.08	95.96	170.7	3947	753.2	620.2	170.7	3967	756.6	619.5
60-80mm	90.38	90.08	170.7	3994	721.0	590.5	170.7	4001	726.3	592.9
80-100mm	83.75	83.08	170.7	3992	672.0	511.9	182.5	3852	679.2	512.9
All	360.36	361.26	170.7	3995	734.1	600.7	170.7	4001	739.2	602.0
			Height A (mm)				Height B (mm)			
Highest Particle			100.0650				100.0450			
Lowest Particle			20.1274				20.1274			

Table D. 8: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	45.77	182.5	3809	915.2	669.4	182.5	3950	885.7	666.7	-1.990	1.990	-0.080	0.690	-1.990	1.990	0.200	0.870
40-60mm	49.41	182.5	3688	857.7	622.0	182.5	3945	840.8	625.0	-1.990	1.990	-0.070	0.680	-1.990	1.990	0.240	0.910
60-80mm	49.32	182.5	3742	811.8	594.4	182.5	3903	794.9	599.9	-1.990	1.990	-0.060	0.640	-1.990	1.990	0.230	0.900
80-100mm	49.28	182.5	3654	752.9	521.7	182.5	3729	740.5	514.1	-1.990	1.990	-0.070	0.590	-1.990	1.990	0.240	0.850
All	193.9	182.5	3809	832.6	605.9	182.5	3950	813.7	604.8	-1.990	1.990	-0.070	0.650	-1.990	1.990	0.230	0.880

Table D. 9: Matched Droplet Info

D.1.1.2 All Droplets for .LA Image

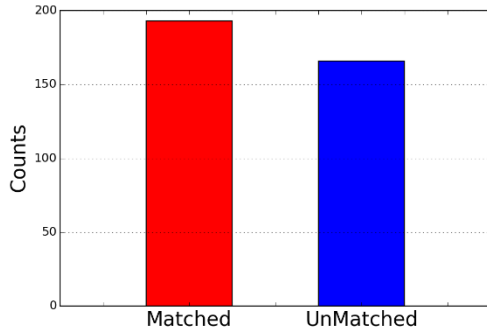


Figure D. 61: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

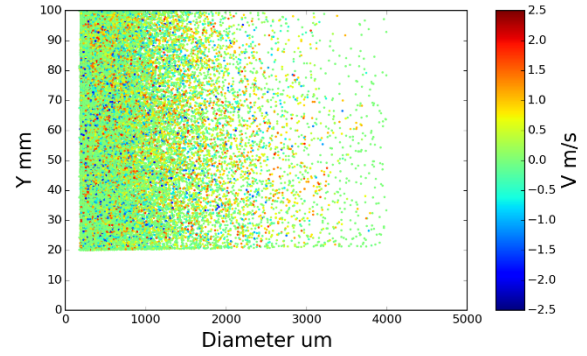


Figure D. 64: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

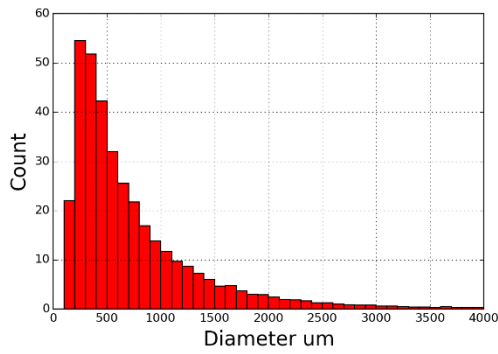


Figure D. 62: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

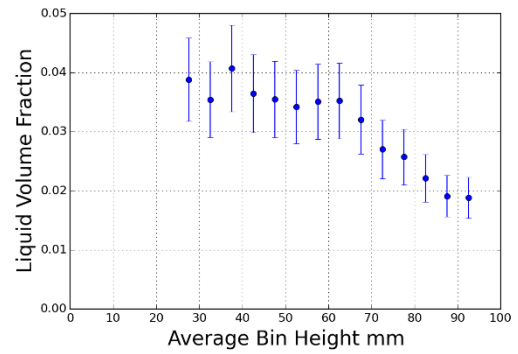


Figure D. 65: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

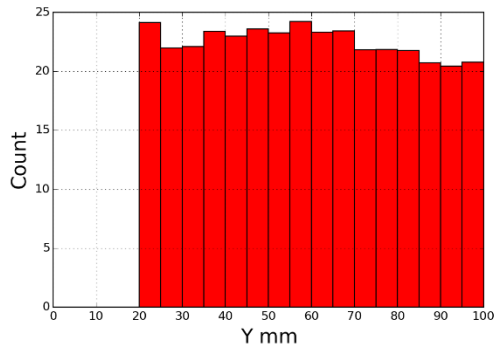


Figure D. 63: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1.2 All Droplets for .LB Image

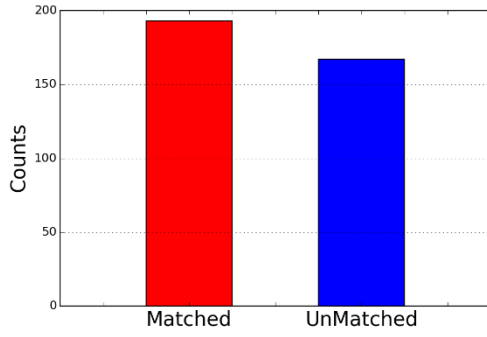


Figure D. 66: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

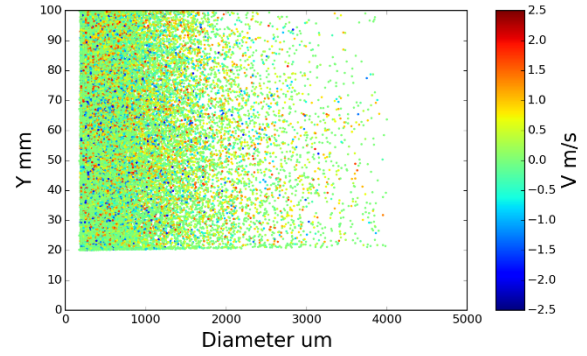


Figure D. 69: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

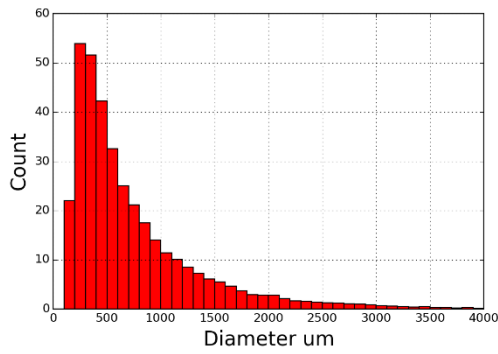


Figure D. 67: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

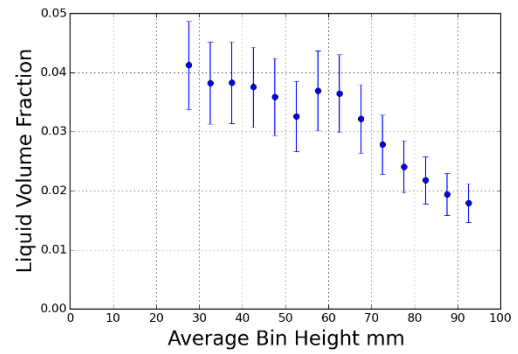


Figure D. 70: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

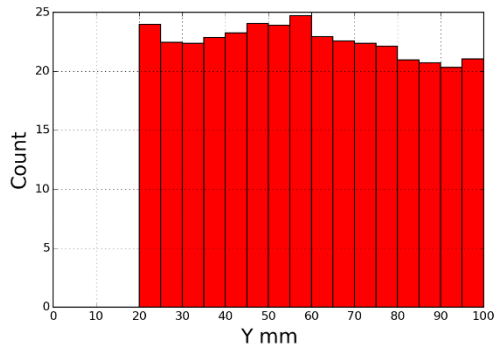


Figure D. 68: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1.2 Matched Only Droplets for .LA Image

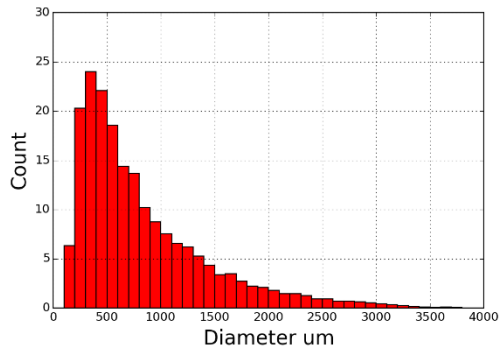


Figure D. 71: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

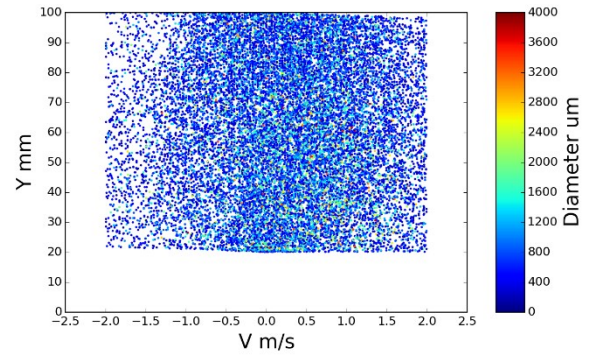


Figure D. 74: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

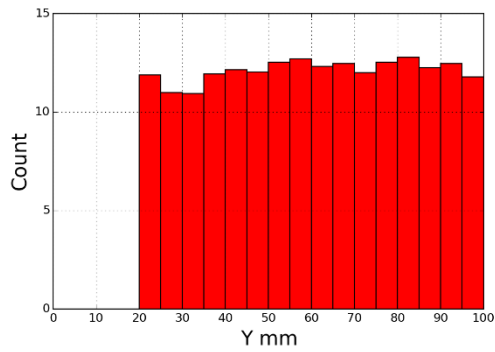


Figure D. 72: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

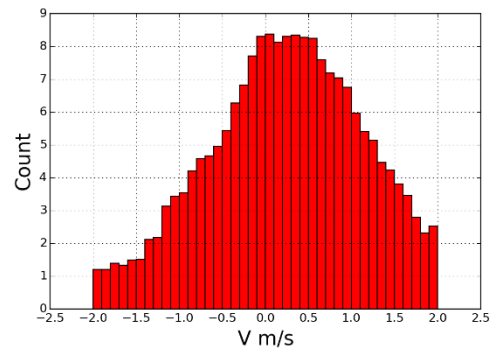


Figure D. 75: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

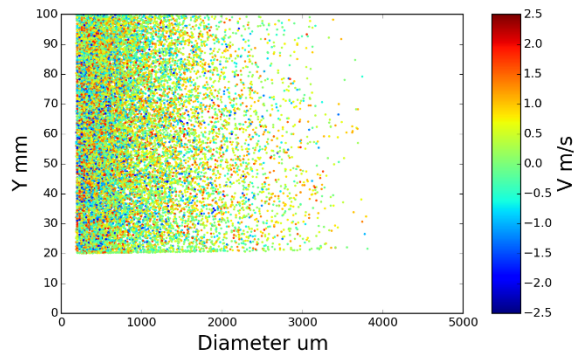


Figure D. 73: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1.2 Matched Only Droplets for .LB Image

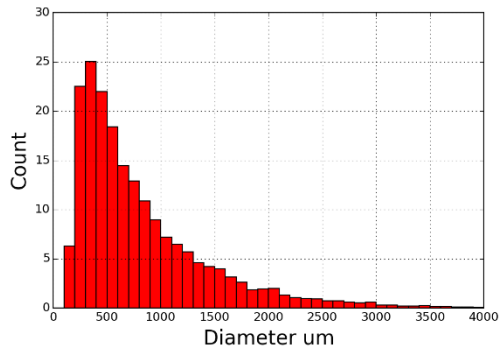


Figure D. 76: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

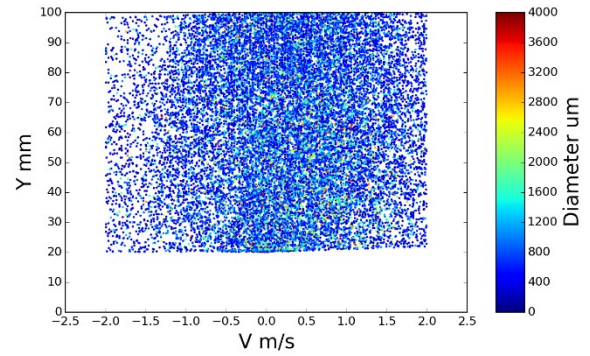


Figure D. 79: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

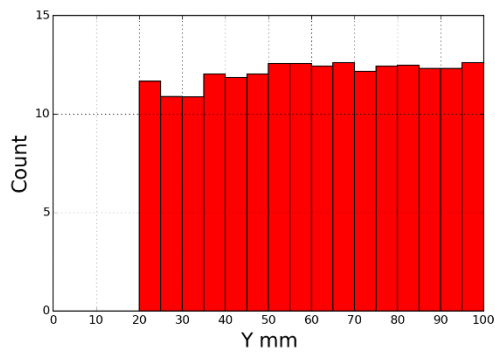


Figure D. 77: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

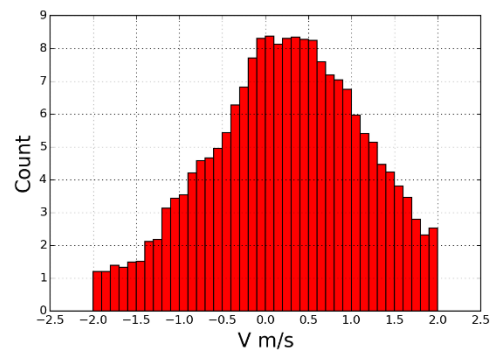


Figure D. 80: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

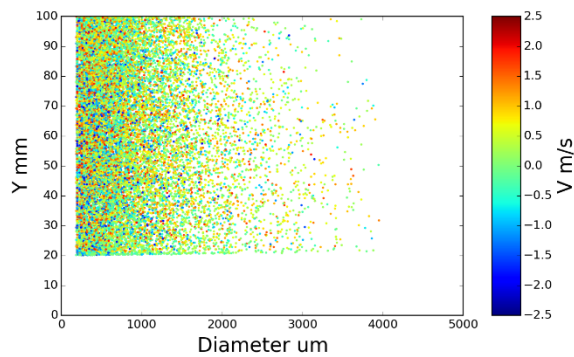


Figure D. 78: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1.2 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	98.36	97.2	170.7	3997	802.1	648.4	170.7	3988	802.8	652.3
40-60mm	99.78	99.25	170.7	3997	771.2	613.8	170.7	3997	770.2	618.2
60-80mm	95.93	94.75	170.7	3999	746.0	580.0	170.7	3986	744.5	580.8
80-100mm	87.03	86.87	170.7	3942	689.0	514.8	170.7	3946	690.6	513.2
All	381.5	378.58	170.7	3999	753.5	594.9	170.7	3997	753.2	596.9
			Height A (mm)				Height B (mm)			
Highest Particle			100.0650				100.0650			
Lowest Particle			20.1274				20.1274			

Table D. 10: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	49.3	182.5	3766	935.2	661.2	170.7	3988	915.8	664.8	-1.990	1.990	-0.050	0.670	-1.990	1.990	0.300	0.870
40-60mm	51.47	170.7	3687	893.4	631.9	170.7	3997	872.7	630.4	-1.990	1.990	-0.070	0.690	-1.990	1.990	0.310	0.920
60-80mm	51.82	182.5	3681	858.3	590.5	182.5	3933	841.4	594.2	-1.990	1.990	-0.060	0.630	-1.990	1.990	0.330	0.900
80-100mm	51.49	182.5	3812	784.1	536.5	182.5	3946	769.5	531.6	-1.990	1.990	-0.060	0.580	-1.990	1.990	0.280	0.860
All	204.18	170.7	3812	866.7	608.7	170.7	3997	848.2	608.5	-1.990	1.990	-0.060	0.640	-1.990	1.990	0.310	0.890

Table D. 11: Matched Droplet Info

D.1.1.2 All Droplets for .LA Image

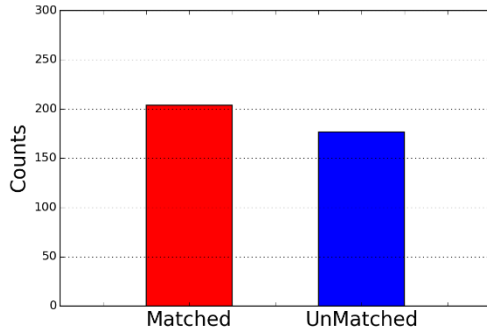


Figure D. 81: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

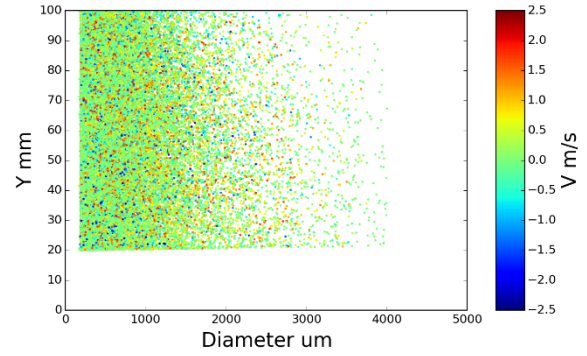


Figure D. 84: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

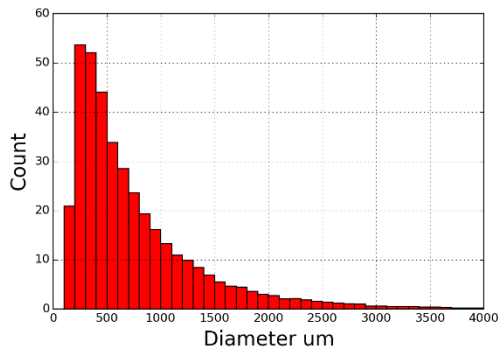


Figure D. 82: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

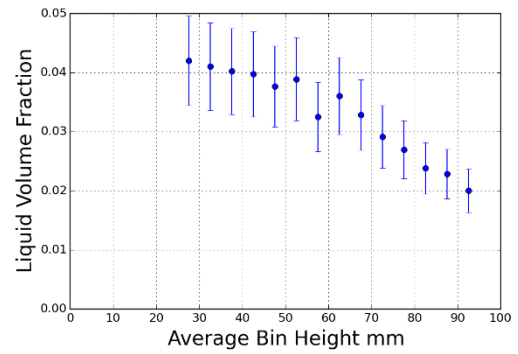


Figure D. 85: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

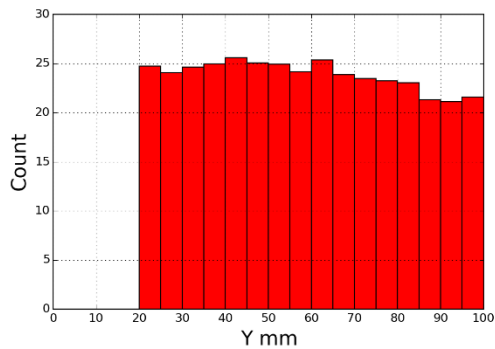


Figure D. 83: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1.2 All Droplets for .LB Image

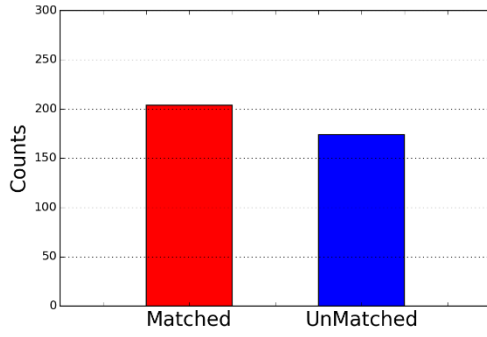


Figure D. 86: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

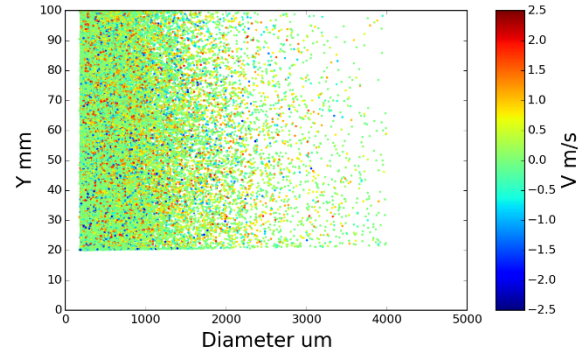


Figure D. 89: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

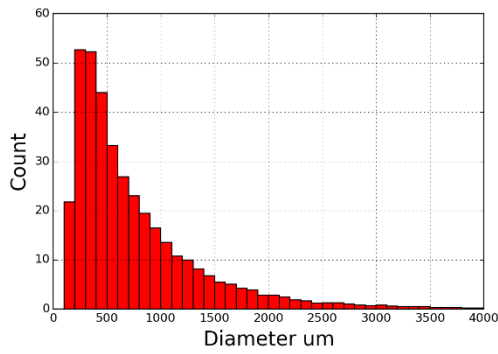


Figure D. 87: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

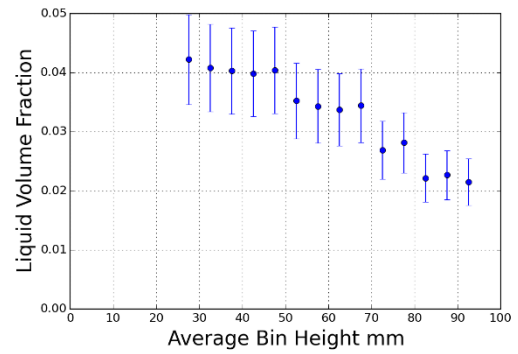


Figure D. 90: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

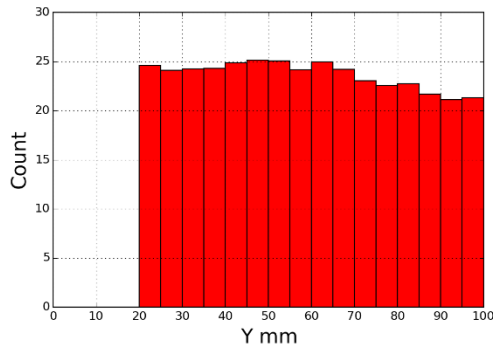


Figure D. 88: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1.2 Matched Only Droplets for .LA Image

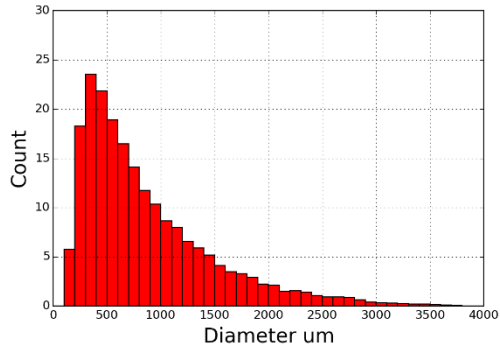


Figure D. 91: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

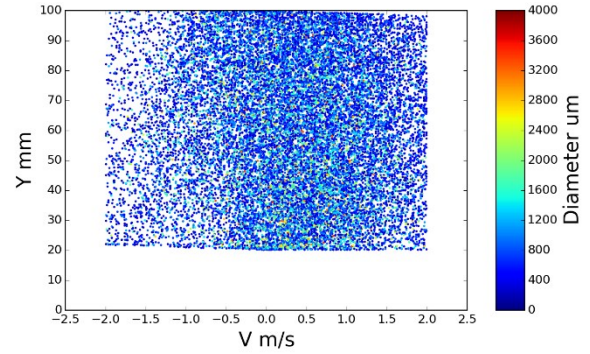


Figure D. 94: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

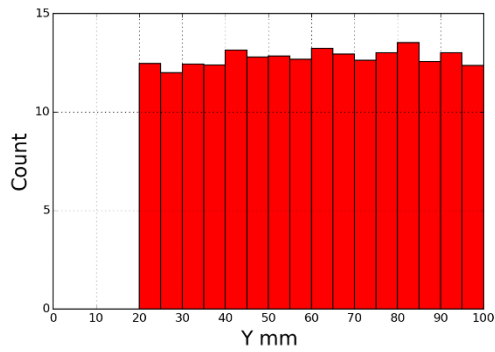


Figure D. 92: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

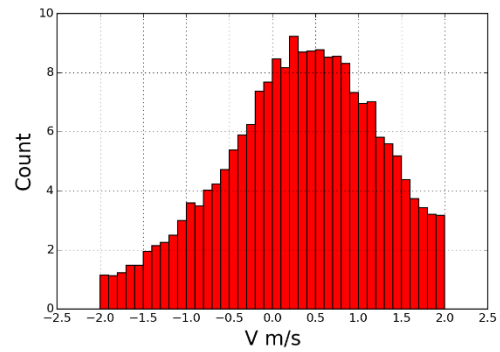


Figure D. 95: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

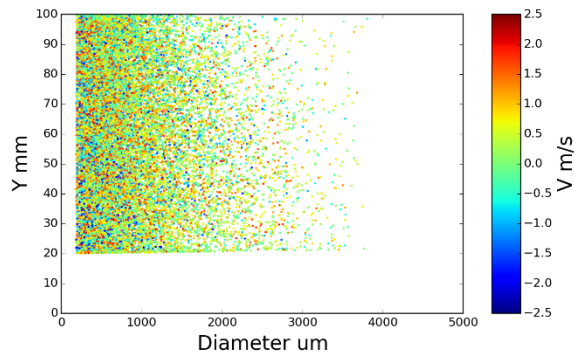


Figure D. 93: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1.2 Matched Only Droplets for .LB Image

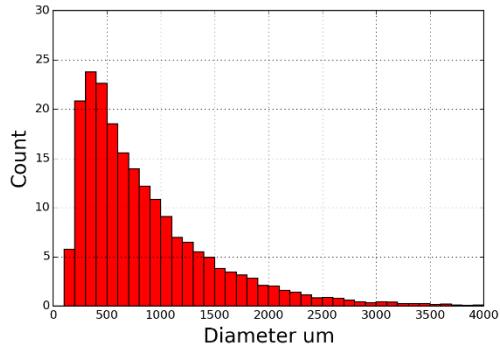


Figure D. 96: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

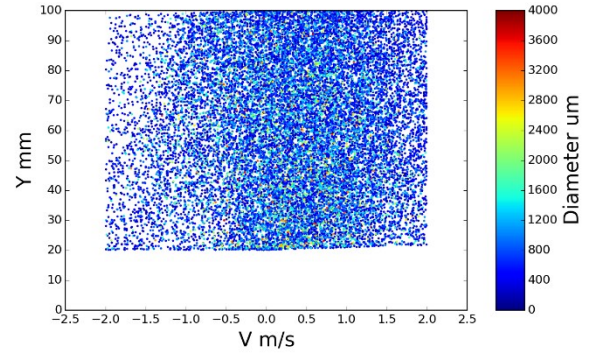


Figure D. 99: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

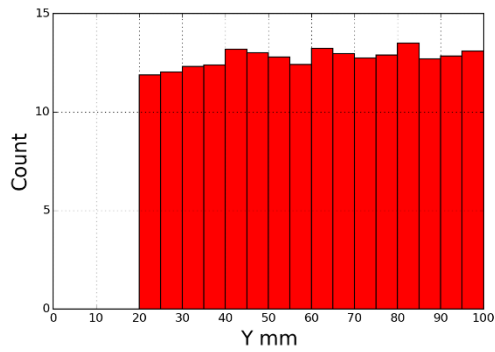


Figure D. 97: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

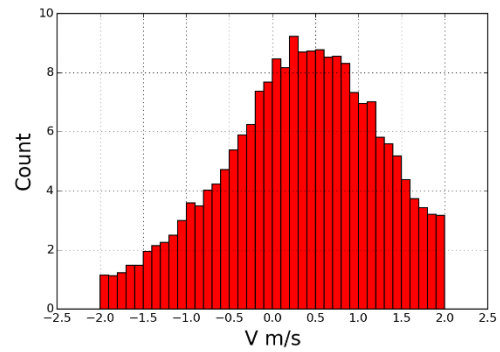


Figure D. 100: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

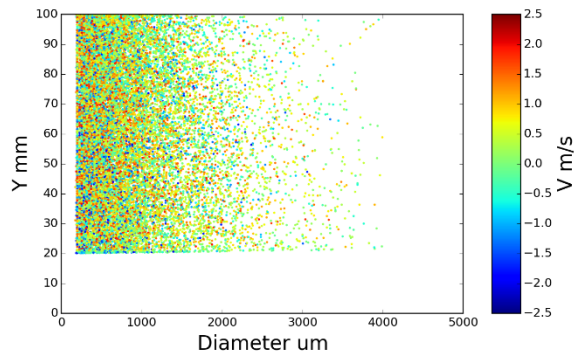


Figure D. 98: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1.2 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	81.4	80.55	170.7	3993	869.8	716.6	170.7	3997	874.8	717.3
40-60mm	74.62	74.2	170.7	3997	860.8	689.2	170.7	4002	864.4	694.5
60-80mm	73.03	74.44	170.7	3935	837.9	652.4	170.7	3993	837.1	664.7
80-100mm	74.6	74.75	170.7	4002	767.9	578.0	170.7	3940	773.1	590.7
All	304.18	304.38	170.7	4002	833.9	663.5	170.7	4002	837.2	670.4
			Height A (mm)				Height B (mm)			
Highest Particle			100.0650				100.0650			
Lowest Particle			20.1274				20.1274			

Table D. 12: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	38.01	182.5	3816	1048	728.4	182.5	3997	1024	737.3	-1.990	1.990	-0.040	0.680	-1.990	1.990	0.380	0.850
40-60mm	34.69	182.5	3866	1040	699.2	182.5	3997	1013	707.9	-1.990	1.990	-0.050	0.660	-1.990	1.990	0.410	0.920
60-80mm	35.82	193.6	3644	997.0	661.7	182.5	3990	973.7	666.8	-1.990	1.990	-0.040	0.640	-1.990	1.990	0.420	0.890
80-100mm	40.19	182.5	3712	918.7	610.2	170.7	3925	902.1	609.9	-1.990	1.990	-0.040	0.600	-1.990	1.990	0.360	0.850
All	148.82	182.5	3866	998.6	677.2	170.7	3997	975.4	682.0	-1.990	1.990	-0.040	0.650	-1.990	1.990	0.390	0.880

Table D. 13: Matched Droplet Info

D.1.1.2 All Droplets for .LA Image

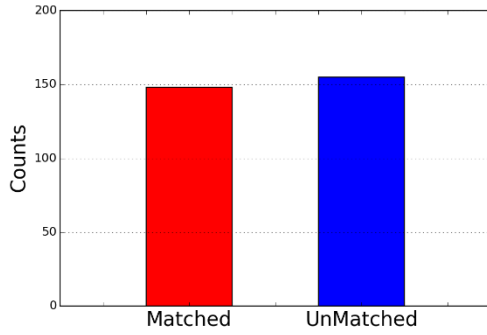


Figure D. 101: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

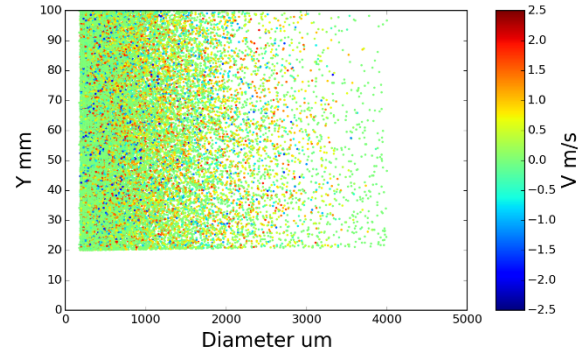


Figure D. 104: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

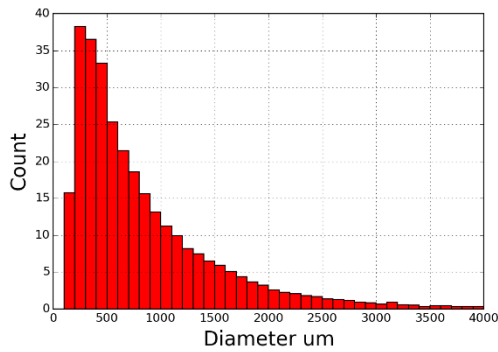


Figure D. 102: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

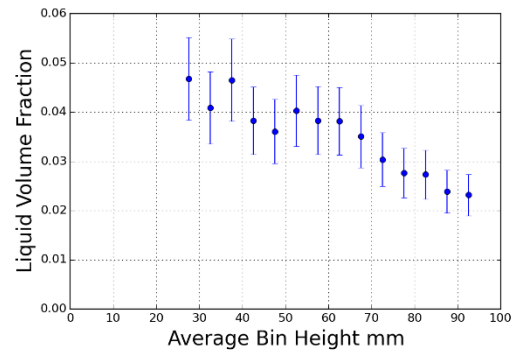


Figure D. 105: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

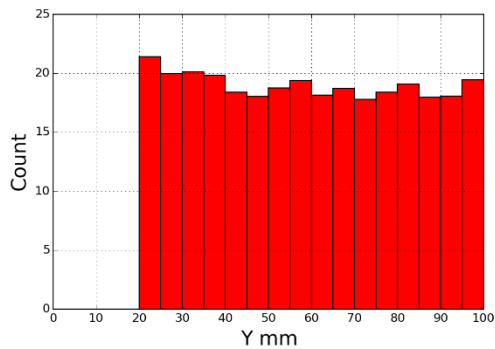


Figure D. 103: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1.2 All Droplets for .LB Image

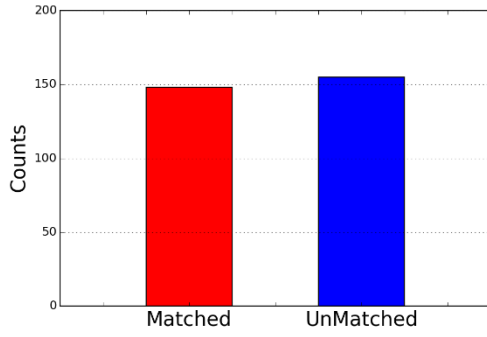


Figure D. 106: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

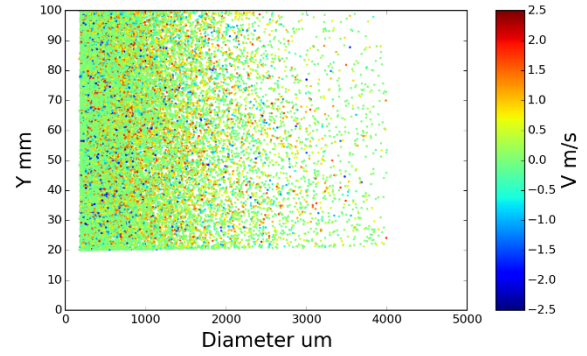


Figure D. 109: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

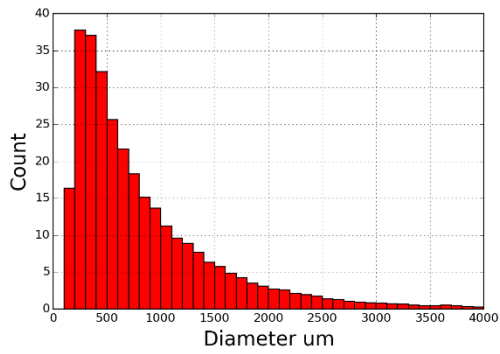


Figure D. 107: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

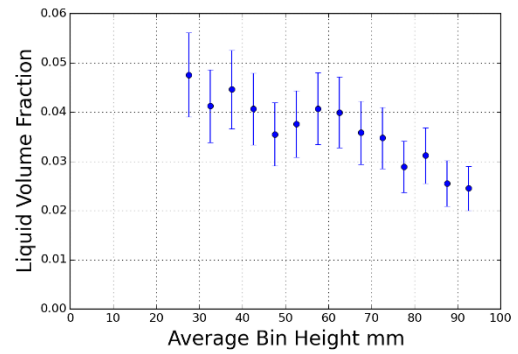


Figure D. 110: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

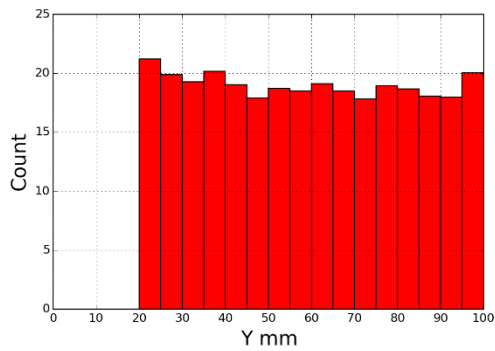


Figure D. 108: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1.2 Matched Only Droplets for .LA Image

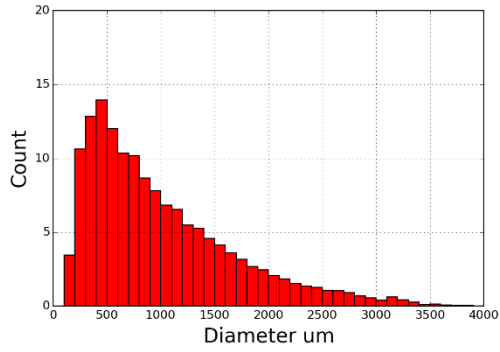


Figure D. 111: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

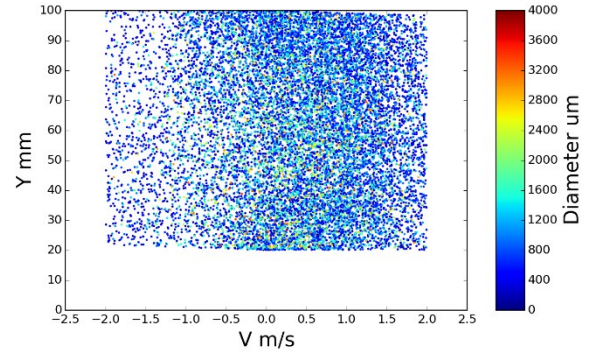


Figure D. 114: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

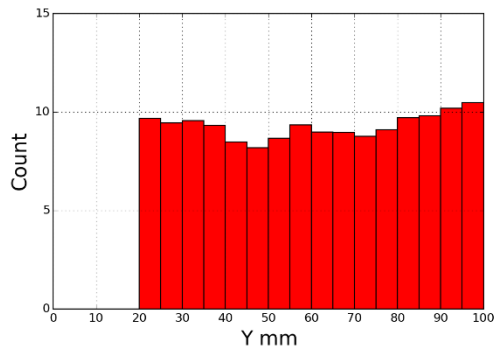


Figure D. 112: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

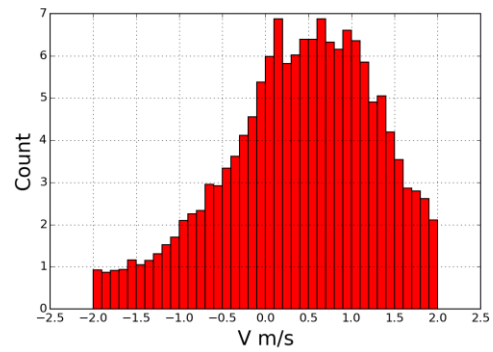


Figure D. 115: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

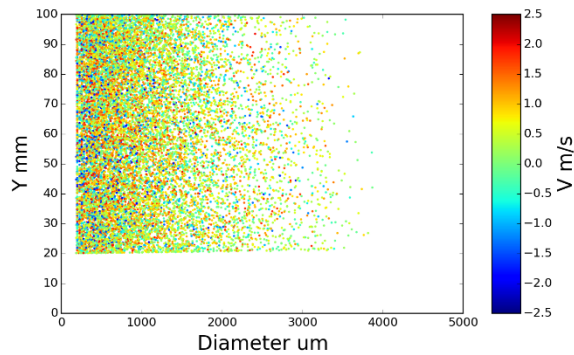


Figure D. 113: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.1.1.2 Matched Only Droplets for .LB Image

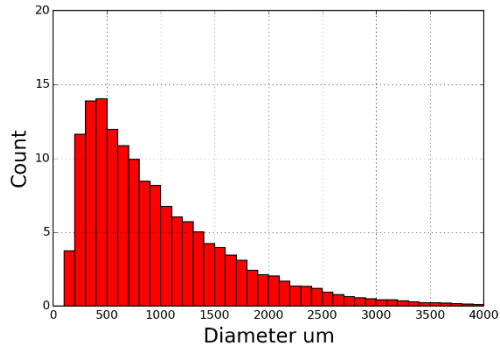


Figure D. 116: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

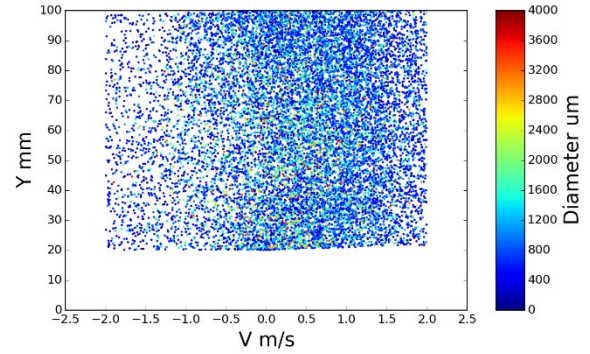


Figure D. 119: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

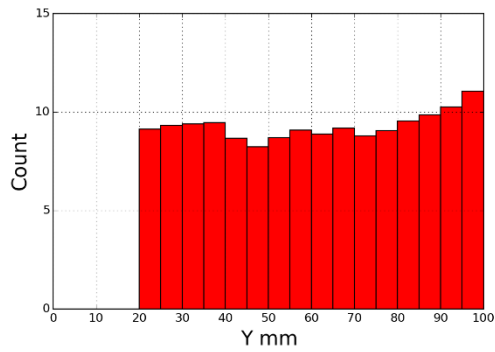


Figure D. 117: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

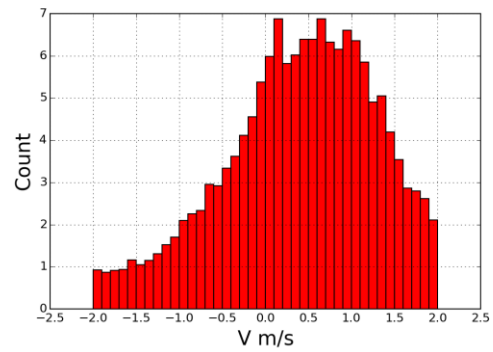


Figure D. 120: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

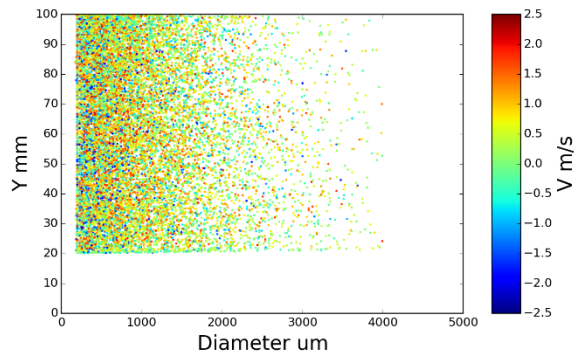


Figure D. 118: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2 Liquid Level 3

Thermal Conditions	
H2O Flow Rate (lb/hr) / (kg/s)	20955 / 2.640
Ref Mass Flow (lb/hr) / (kg/s)	1572 / 0.198
Ref Mass Flux (lb/hr-ft ²) / (kg/s-m ²)	15304 / 20.756
Top Two Rows Heat Flux (Btu/hr-ft ²) / (kW/m ²)	2103 / 6.63
Bundle Exit Saturation Temp (°F) / (°C)	43.7 / 6.48
Bundle Inlet Saturation Temp (°F) / (°C)	45.6 / 7.56
Total Bundle Q (Btu/hr) / (kW)	131269 / 38.47
Total Bundle & Preboiler Q (Btu/hr) / (kW)	131269 / 38.47
Top Two Rows HTC Ratio	0.526
Bundle Inlet Quality	-0.11
Bundle Exit Quality	0.98

Table D. 14: Thermal Conditions

D.1.2.1 Lens 100mm Mag 0_29x

D.1.2.1 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	9.44	8.84	75.9	2274	505.3	399.1	75.9	2768	530.5	417.2
40-60mm	23.36	24.83	81.1	2816	501.9	398.2	75.9	2431	477.0	395.7
60-80mm	24.4	25.47	75.9	2464	434.2	359.8	75.9	3647	420.5	365.7
80-100mm	1.08	1.06	86.0	1400	361.1	310.9	86.0	1272	365.2	282.8
All	58.28	60.2	75.9	2816	471.5	383.0	75.9	3647	458.9	387.1
			Height A (mm)				Height B (mm)			
Highest Particle			80.6895				80.6901			
Lowest Particle			32.7376				32.7400			

Table D. 15: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	6.16	81.1	2274	598.5	382.4	86.0	2768	602.6	397.2	-1.820	1.640	0.140	0.400	-1.820	1.960	0.400	0.600
40-60mm	16.68	81.1	2102	562.5	371.7	81.1	2142	559.2	380.9	-1.610	1.690	0.090	0.350	-1.850	2.010	0.480	0.620
60-80mm	17.21	81.1	2371	496.0	355.8	81.1	2531	493.5	359.3	-2.010	1.940	0.080	0.400	-1.970	2.010	0.630	0.610
80-100mm	0.46	114.7	1400	483.8	350.4	99.3	1272	432.3	301.7	-0.760	1.540	0.080	0.480	-0.720	1.150	0.320	0.400
All	40.51	81.1	2371	538.8	368.6	81.1	2768	535.7	375.7	-2.010	1.940	0.090	0.380	-1.970	2.010	0.530	0.620

Table D. 16: Matched Droplet Info

D.1.2.1 All Droplets for .LA Image

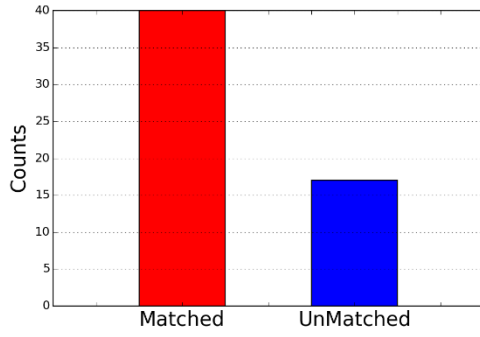


Figure D. 121: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

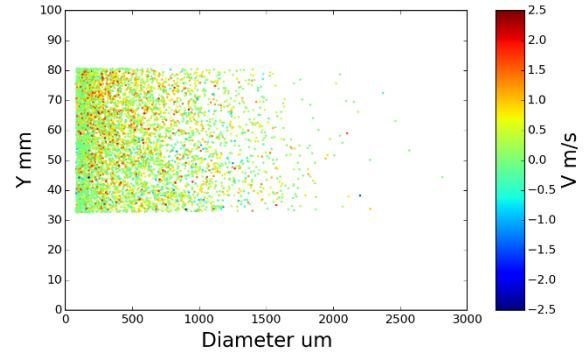


Figure D. 124: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

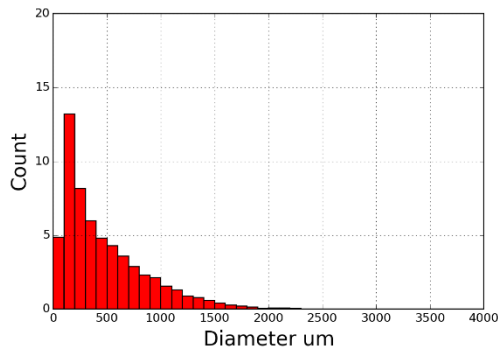


Figure D. 122: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

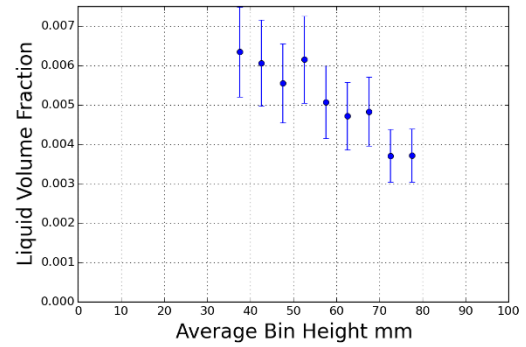


Figure D. 125: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

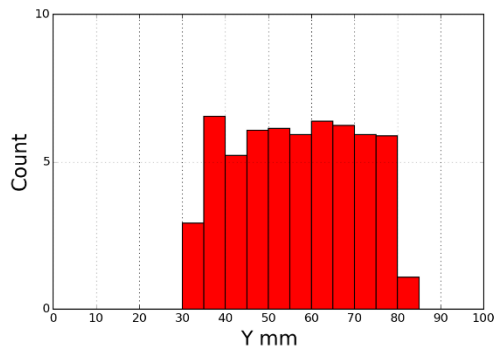


Figure D. 123: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2.1 All Droplets for .LB Image

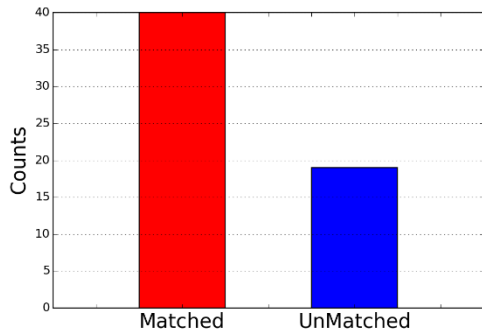


Figure D. 126: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

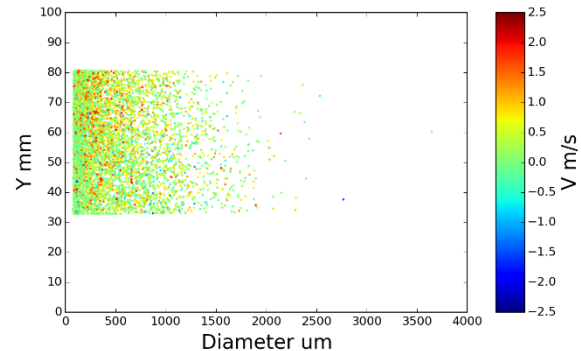


Figure D. 129: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

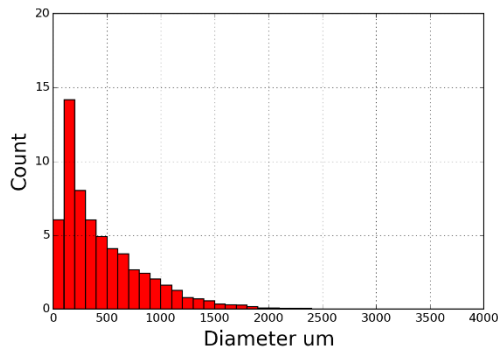


Figure D. 127: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

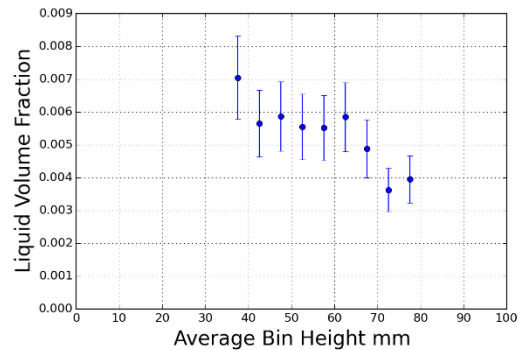


Figure D. 130: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

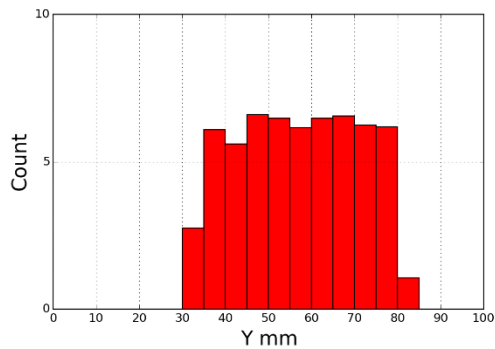


Figure D. 128: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2.1 Matched Only Droplets for .LA Image

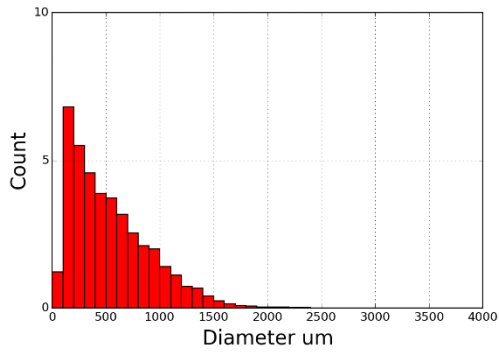


Figure D. 131: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

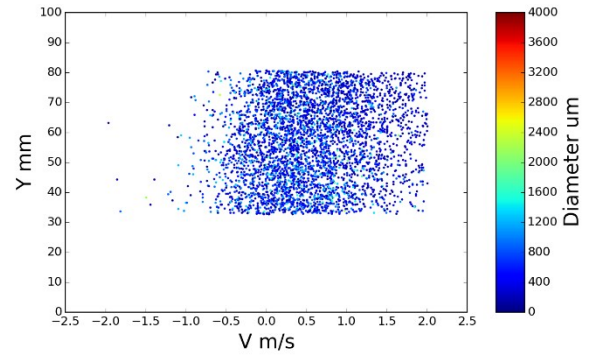


Figure D. 134: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

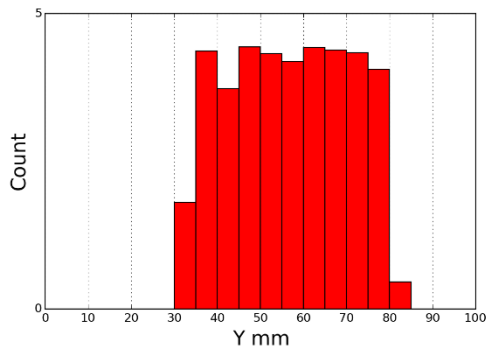


Figure D. 132: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

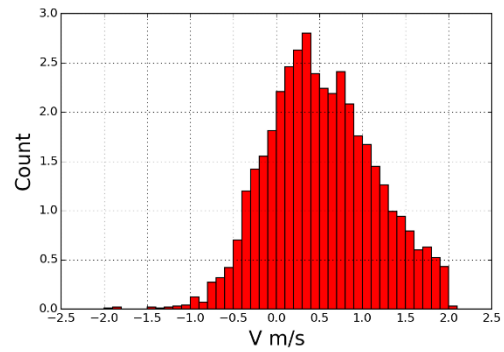


Figure D. 135: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

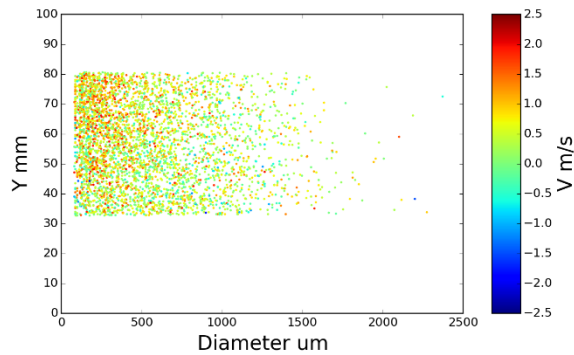


Figure D. 133: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2.1 Matched Only Droplets for .LB Image

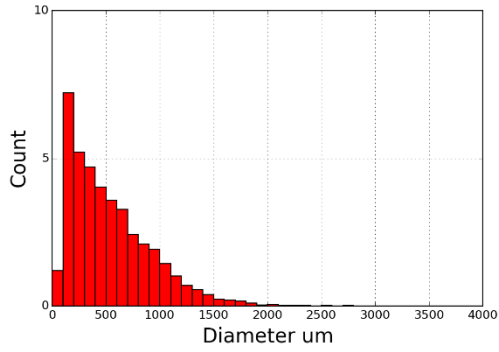


Figure D. 136: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

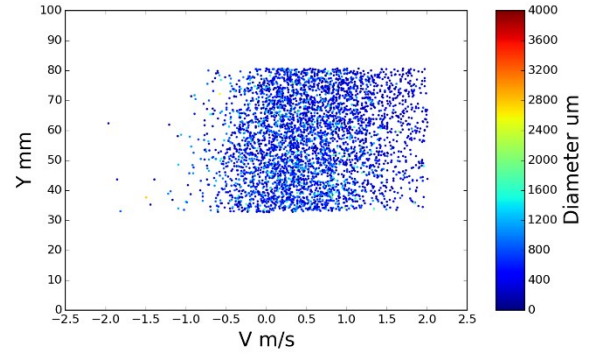


Figure D. 139: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

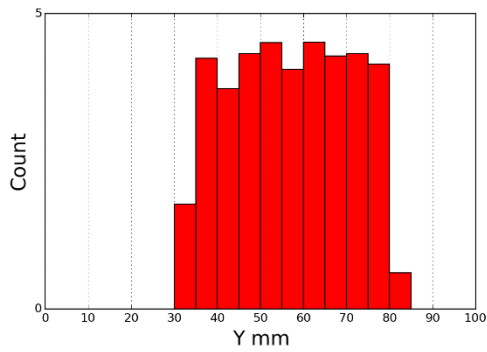


Figure D. 137: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

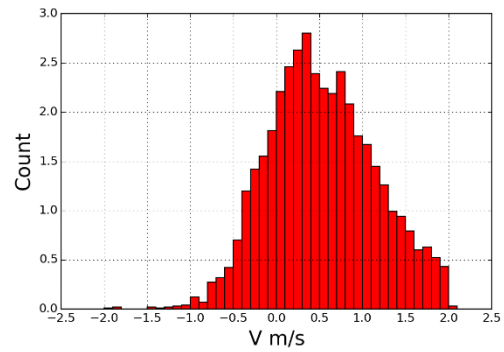


Figure D. 140: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

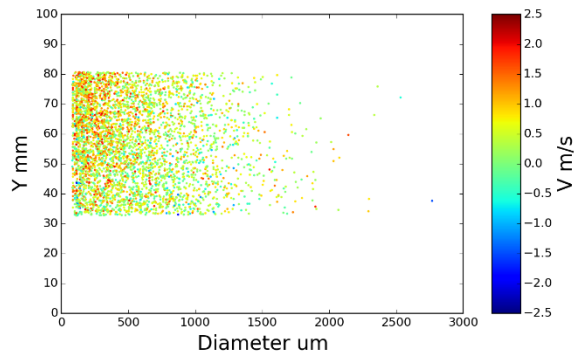


Figure D. 138: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2.1 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	16.57	16.67	75.9	2557	439.5	367.8	81.1	2850	431.1	368.9
40-60mm	40.22	41.75	81.1	2372	421.6	349.4	75.9	2574	413.2	351.1
60-80mm	34.22	34.35	81.1	2274	372.9	324.1	81.1	2658	370.2	328.3
80-100mm	1.17	1.22	81.1	1425	307.1	250.1	75.9	1387	342.8	276.3
All	92.18	93.99	75.9	2557	405.3	343.8	75.9	2850	399.8	346.3
			Height A (mm)				Height B (mm)			
Highest Particle			80.6906				80.7022			
Lowest Particle			32.7408				32.7408			

Table D. 17: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	10.32	81.1	2557	523.7	367.2	86.0	2850	528.3	385.0	-1.990	1.940	0.220	0.390	-1.770	2.010	0.730	0.690
40-60mm	25.38	86.0	2372	500.4	346.3	81.1	2418	499.0	353.4	-1.880	1.910	0.220	0.390	-1.600	2.010	0.730	0.670
60-80mm	21.15	81.1	2274	450.1	336.9	81.1	2399	446.0	345.6	-1.970	1.980	0.230	0.410	-1.990	2.010	0.770	0.650
80-100mm	0.37	86.0	1425	409.5	324.4	86.0	1387	416.4	313.3	-0.810	1.820	0.280	0.450	-1.560	1.670	0.290	0.560
All	57.22	81.1	2557	485.4	347.9	81.1	2850	483.4	357.1	-1.990	1.980	0.220	0.400	-1.990	2.010	0.740	0.670

Table D. 18: Matched Droplet Info

D.1.2.1 All Droplets for .LA Image

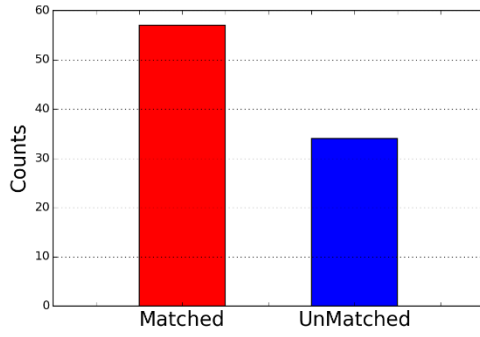


Figure D. 141: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

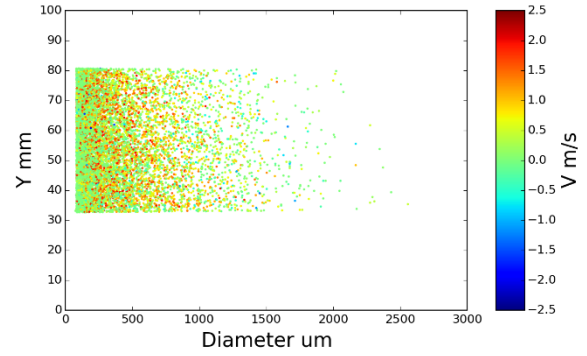


Figure D. 144: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

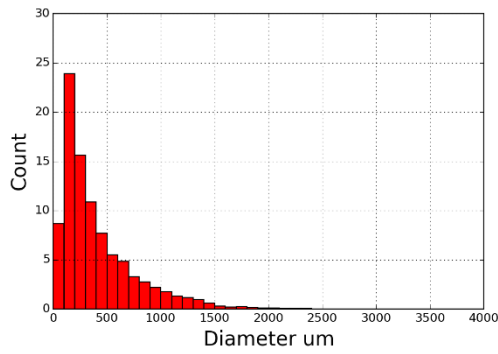


Figure D. 142: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

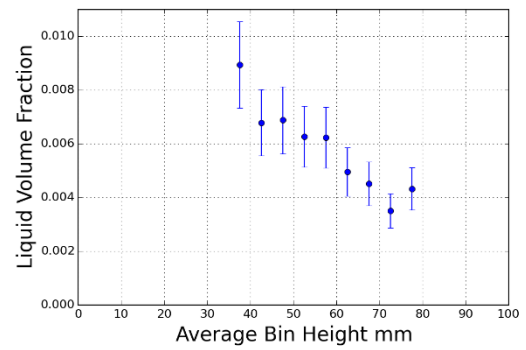


Figure D. 145: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

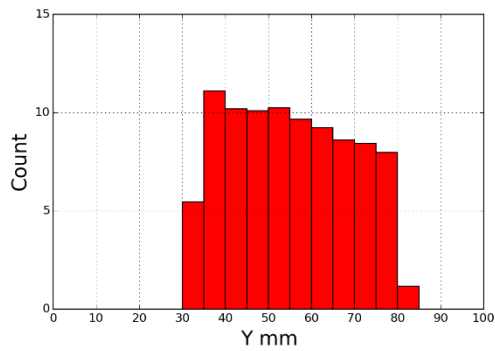


Figure D. 143: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2.1 All Droplets for .LB Image

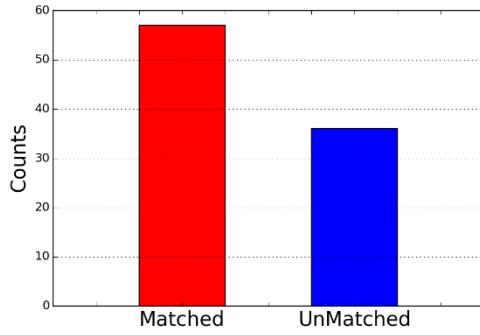


Figure D. 146: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

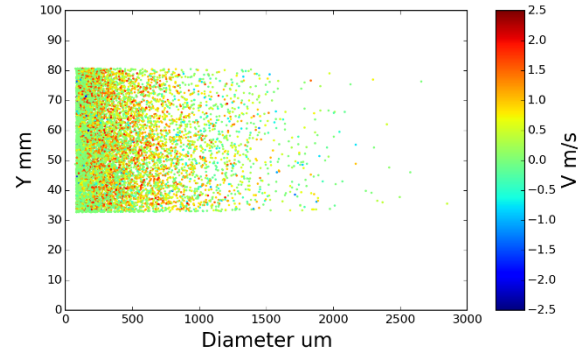


Figure D. 149: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

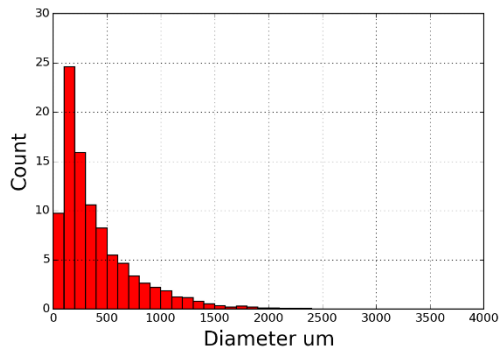


Figure D. 147: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

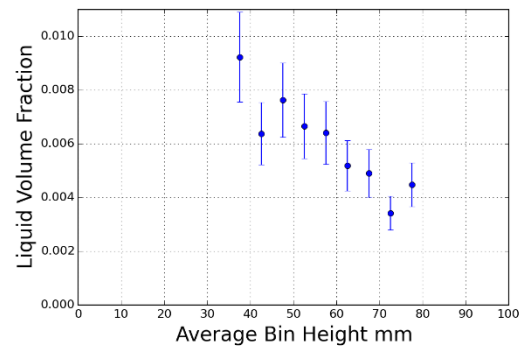


Figure D. 150: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

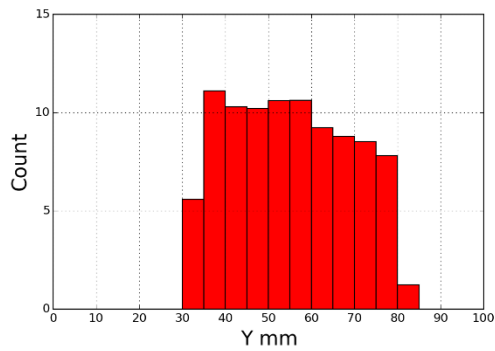


Figure D. 148: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2.1 Matched Only Droplets for .LA Image

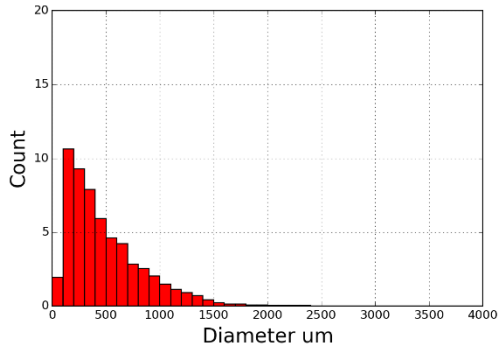


Figure D. 151: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

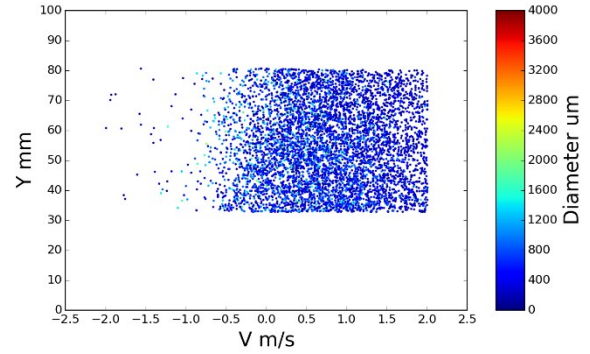


Figure D. 154: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

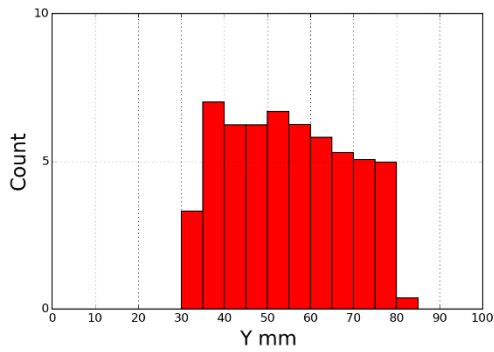


Figure D. 152: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

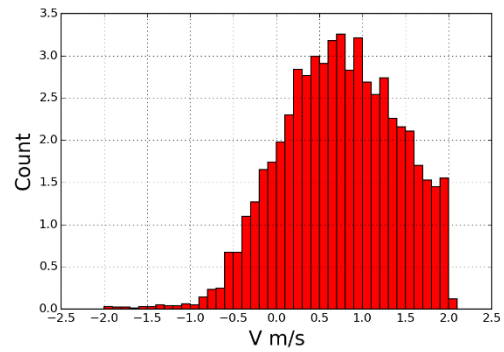


Figure D. 155: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

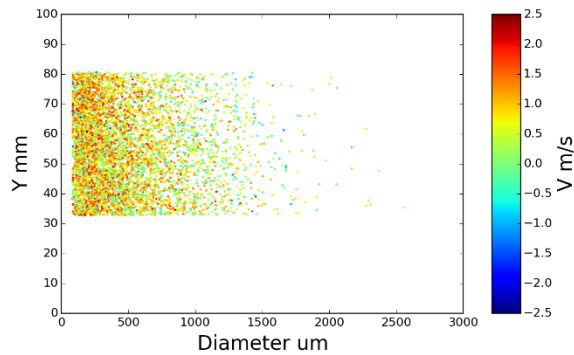


Figure D. 153: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2.1 Matched Only Droplets for .LB Image

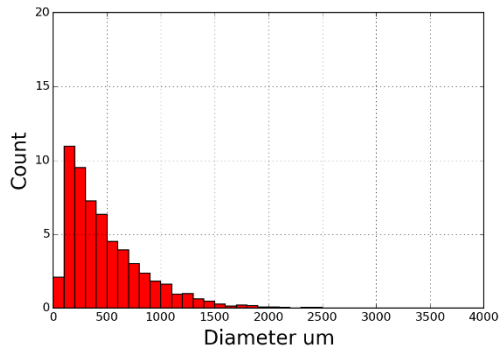


Figure D. 156: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

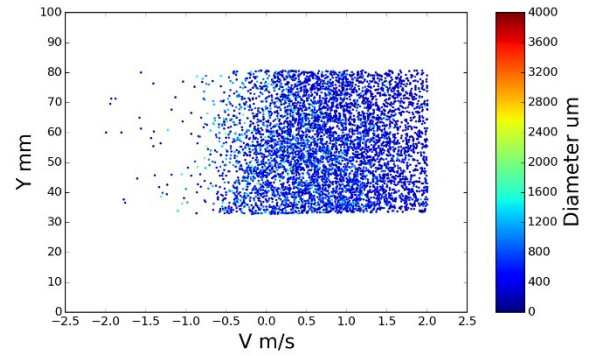


Figure D. 159: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

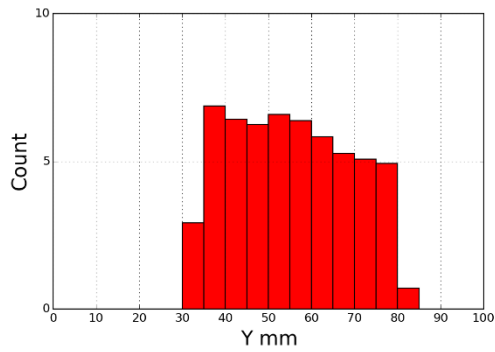


Figure D. 157: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

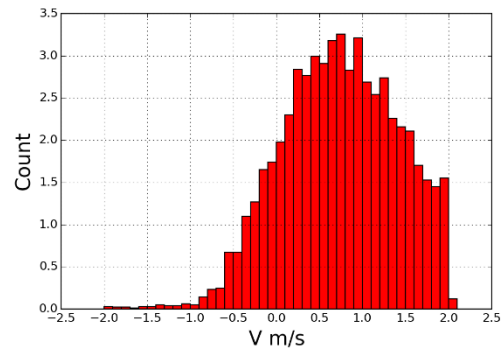


Figure D. 160: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

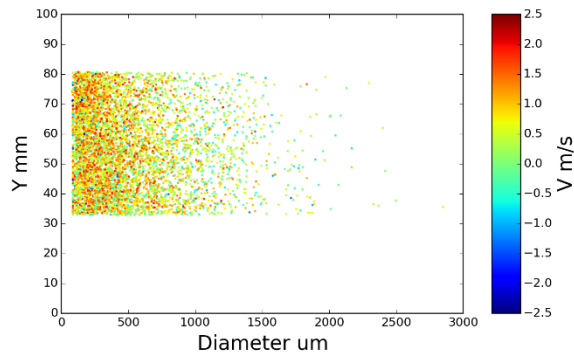


Figure D. 158: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2.1 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	24.25	24.7	75.9	2097	370.3	321.3	81.1	2515	366.3	324.4
40-60mm	55.45	59.13	75.9	2942	386.4	348.5	75.9	3260	371.3	348.3
60-80mm	43.27	45.65	81.1	2582	369.8	333.2	75.9	2880	361.7	336.1
80-100mm	1.34	1.36	81.1	1575	327.1	275.2	81.1	870.1	295.6	203.5
All	124.31	130.84	75.9	2942	376.9	337.4	75.9	3260	366.2	338.5
			Height A (mm)				Height B (mm)			
Highest Particle			80.7022				80.6895			
Lowest Particle			32.7281				32.7390			

Table D. 19: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	11.58	81.1	2097	485.4	337.1	81.1	2388	488.2	350.6	-1.950	1.910	0.210	0.440	-1.970	2.010	0.860	0.760
40-60mm	28.07	81.1	2942	494.6	358.4	81.1	2968	491.9	370.4	-1.980	2.010	0.240	0.450	-2.010	2.010	0.850	0.720
60-80mm	22.74	81.1	2582	467.5	346.5	81.1	2772	462.7	353.9	-2.000	2.000	0.280	0.430	-1.990	2.010	0.850	0.680
80-100mm	0.44	86.0	1575	503.6	325.9	81.1	870.1	377.6	214.5	-1.700	0.900	0.140	0.380	-1.900	1.600	0.340	0.610
All	62.83	81.1	2942	483.2	350.3	81.1	2968	479.3	360.0	-2.000	2.010	0.250	0.440	-2.010	2.010	0.850	0.720

Table D. 20: Matched Droplet Info

D.1.2.1 All Droplets for .LA Image

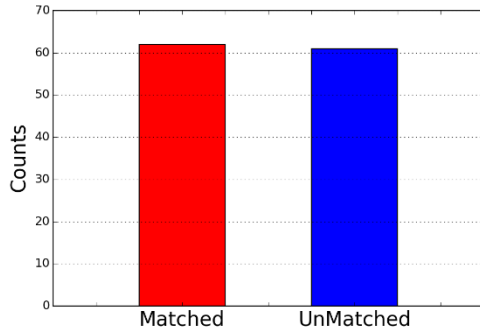


Figure D. 161: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

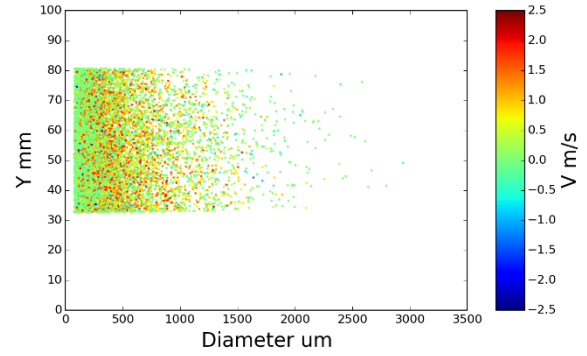


Figure D. 164: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

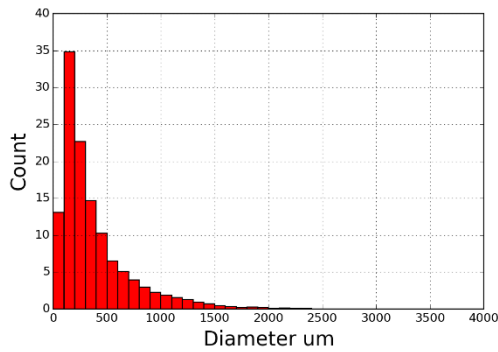


Figure D. 162: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

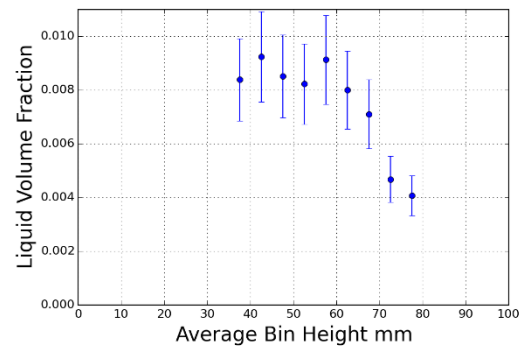


Figure D. 165: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

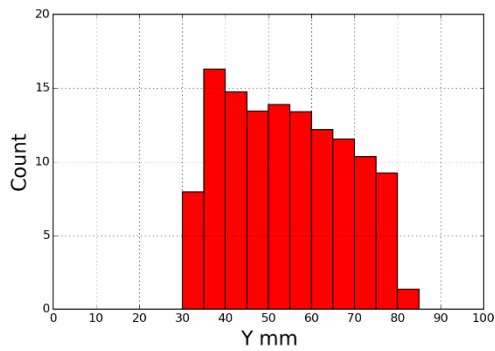


Figure D. 163: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2.1 All Droplets for .LB Image

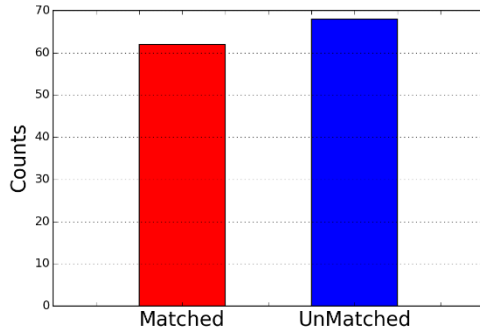


Figure D. 166: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

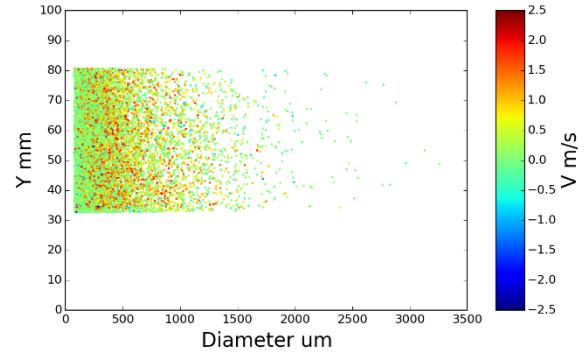


Figure D. 169: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

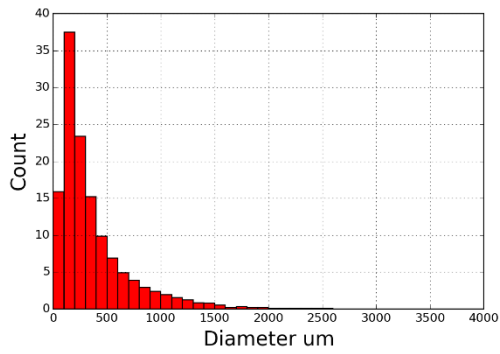


Figure D. 167: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

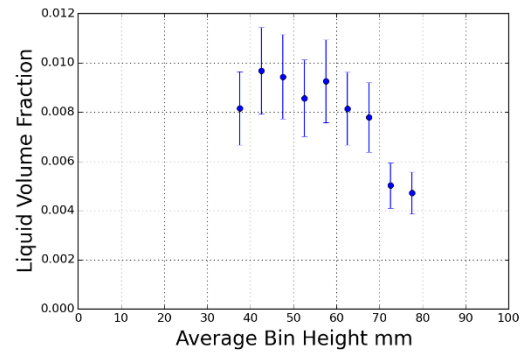


Figure D. 170: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

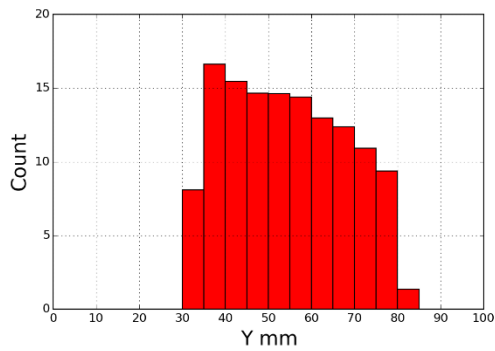


Figure D. 168: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2.1 Matched Only Droplets for .LA Image

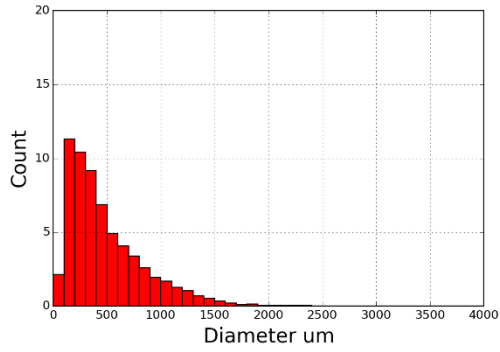


Figure D. 171: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

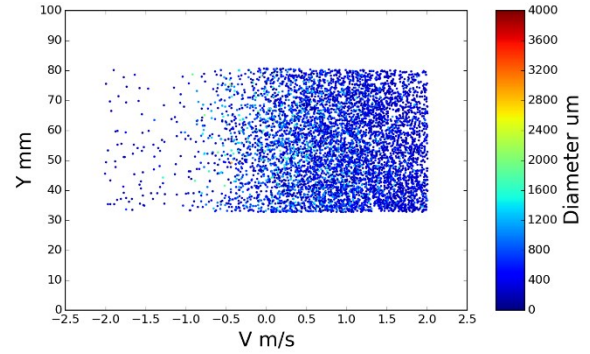


Figure D. 174: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

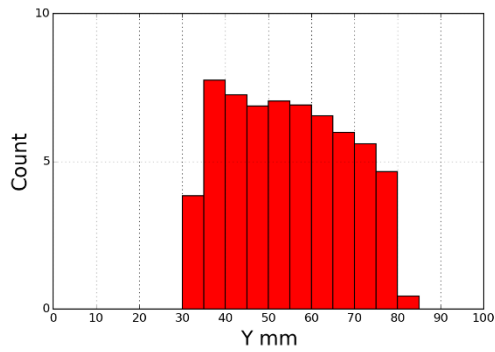


Figure D. 172: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

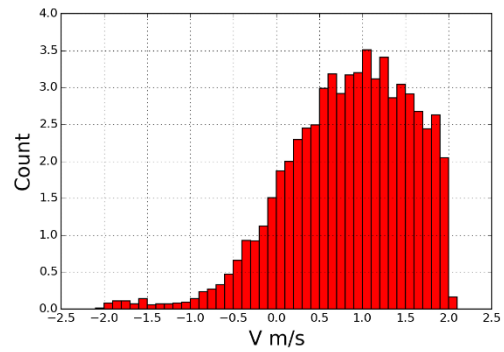


Figure D. 175: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

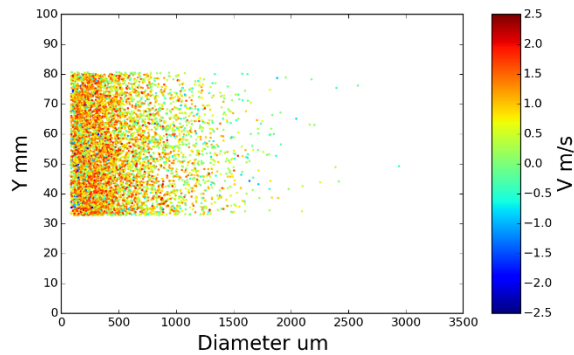


Figure D. 173: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2.1 Matched Only Droplets for .LB Image

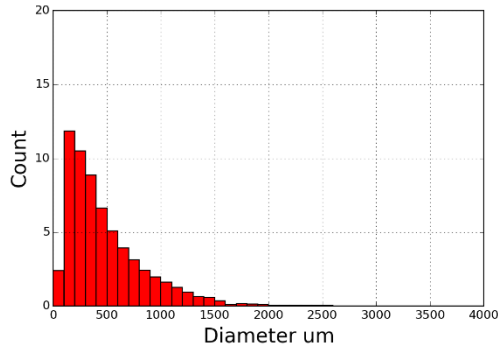


Figure D. 176: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

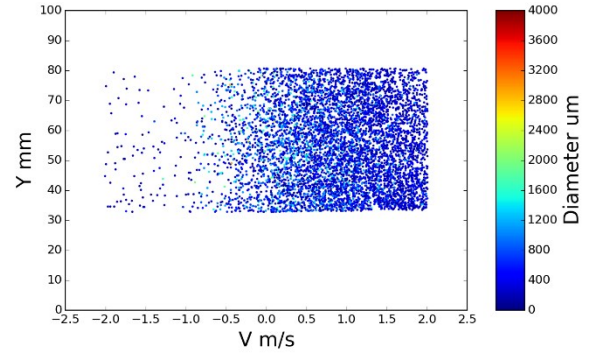


Figure D. 179: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

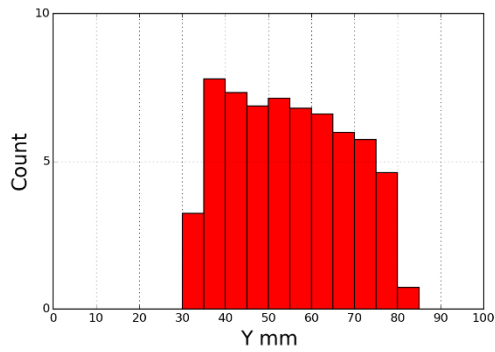


Figure D. 177: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

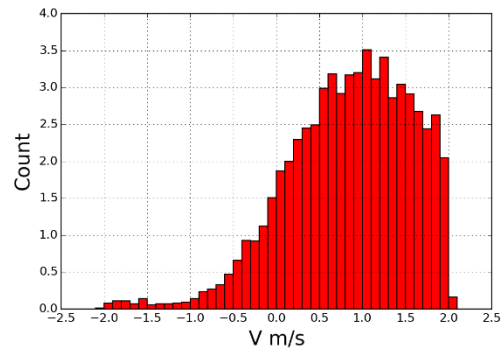


Figure D. 180: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

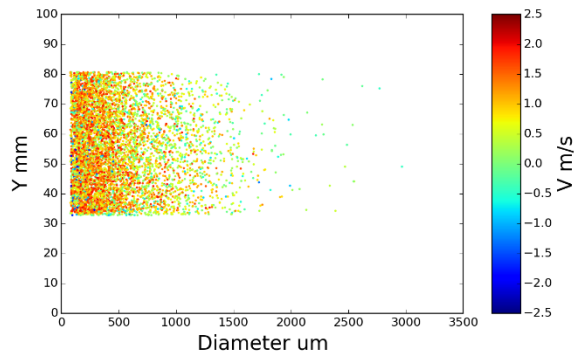


Figure D. 178: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2.2 Lens 50mm Mag 0_13x

D.1.2.2 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	8.9	8.47	182.5	3600	614.9	438.0	182.5	3441	590.6	431.1
20-40mm	30.59	30.23	170.7	2792	571.3	349.3	170.7	3311	573.0	362.9
40-60mm	27.09	27.25	182.5	2438	572.3	331.2	182.5	2186	569.5	335.7
60-80mm	22.14	22.29	182.5	2071	545.3	318.1	182.5	2267	543.0	325.5
80-100mm	16.61	16.28	182.5	2303	499.4	281.4	170.7	2190	506.8	284.6
All	105.34	104.52	170.7	3600	558.4	338.5	170.7	3441	556.8	344.1
			Height A (mm)				Height B (mm)			
Highest Particle			100.0078				99.9792			
Lowest Particle			14.1441				14.0497			

Table D. 21: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	5.16	182.5	2869	618.1	376.1	193.6	2901	611.9	386.5	-1.990	1.930	0.090	0.400	-1.760	1.990	0.520	0.710
20-40mm	21.0	182.5	2792	616.7	343.9	193.6	3311	613.7	361.1	-1.990	1.970	0.130	0.420	-1.980	1.990	0.420	0.710
40-60mm	19.87	193.6	1944	605.9	315.5	182.5	2186	602.4	320.1	-1.970	1.960	0.130	0.400	-1.970	1.990	0.450	0.670
60-80mm	16.4	193.6	2071	591.6	314.5	182.5	2198	586.5	323.5	-1.810	1.780	0.130	0.380	-1.660	1.990	0.510	0.660
80-100mm	12.05	193.6	1782	554.6	280.0	182.5	1832	547.2	281.6	-1.830	1.470	0.060	0.350	-1.790	1.990	0.510	0.640
All	74.48	182.5	2869	598.3	323.5	182.5	3311	593.5	332.5	-1.990	1.970	0.120	0.390	-1.980	1.990	0.470	0.680

Table D. 22: Matched Droplet Info

D.1.2.2 All Droplets for .LA Image

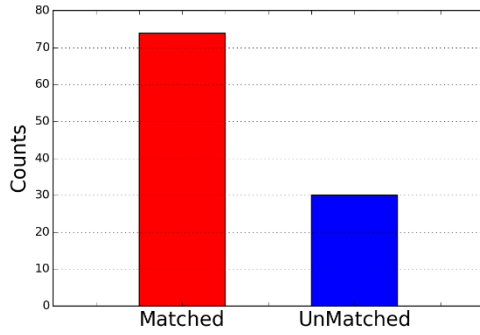


Figure D. 181: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

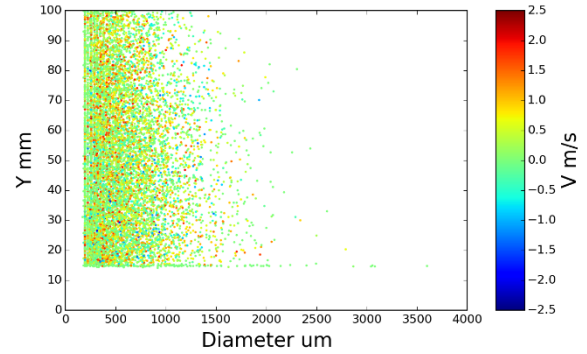


Figure D. 184: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

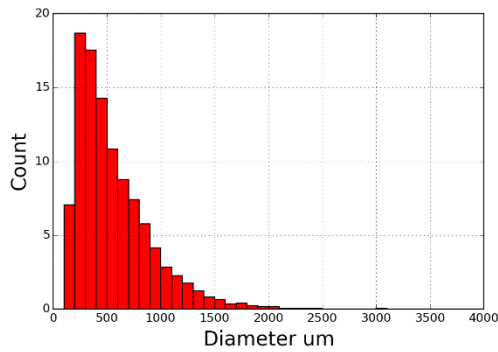


Figure D. 182: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

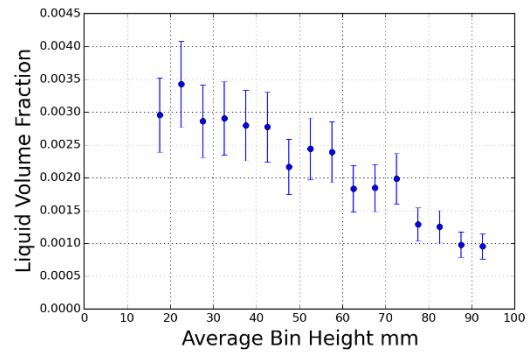


Figure D. 185: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

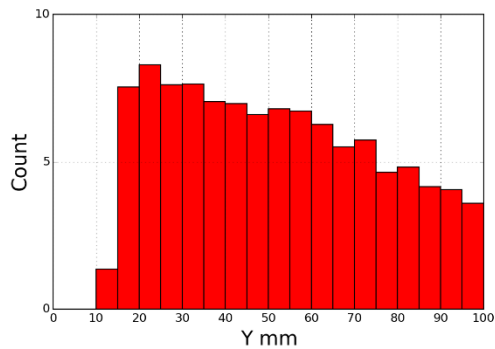


Figure D. 183: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2.2 All Droplets for .LB Image

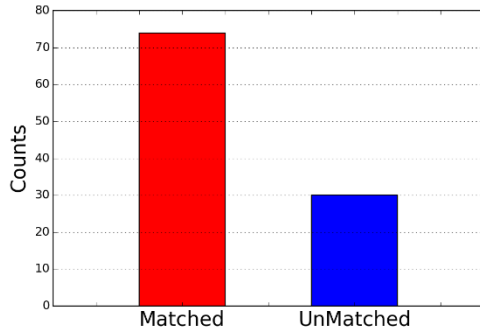


Figure D. 186: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

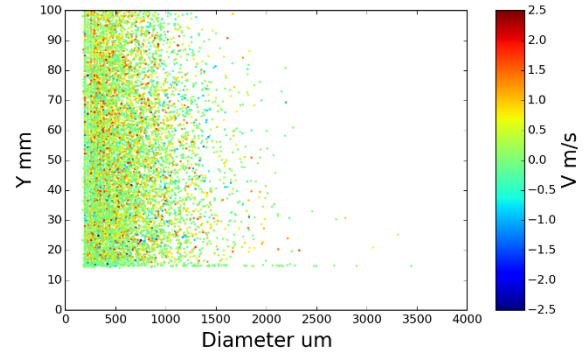


Figure D. 189: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

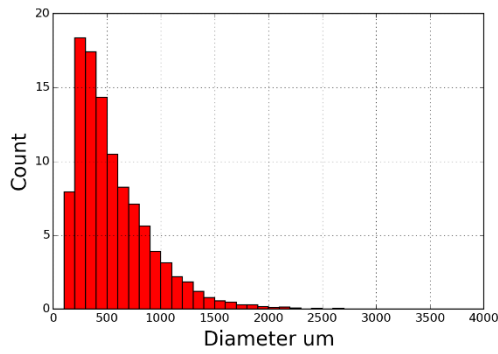


Figure D. 187: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

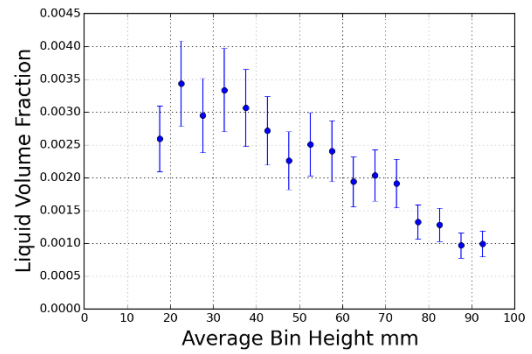


Figure D. 190: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

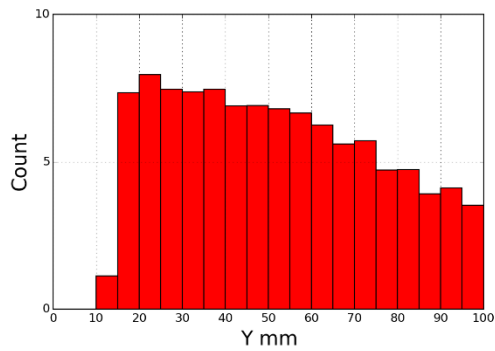


Figure D. 188: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2.2 Matched Only Droplets for .LA Image

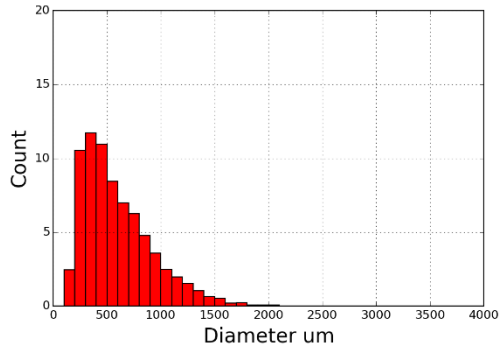


Figure D. 191: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

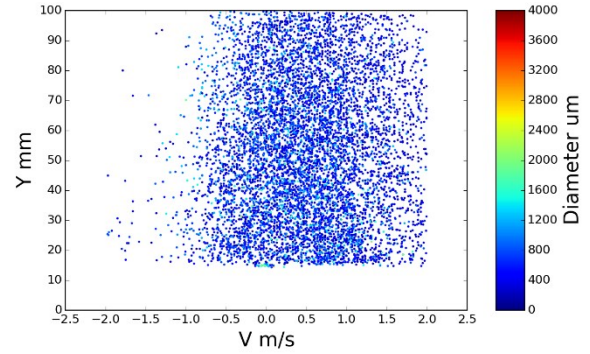


Figure D. 194: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

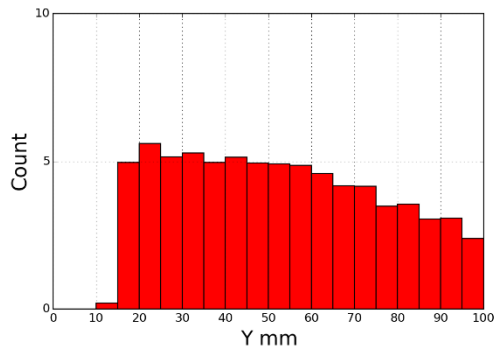


Figure D. 192: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

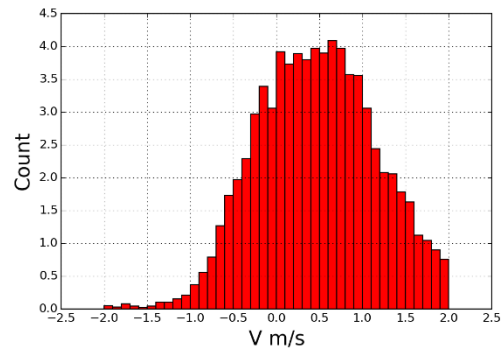


Figure D. 195: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

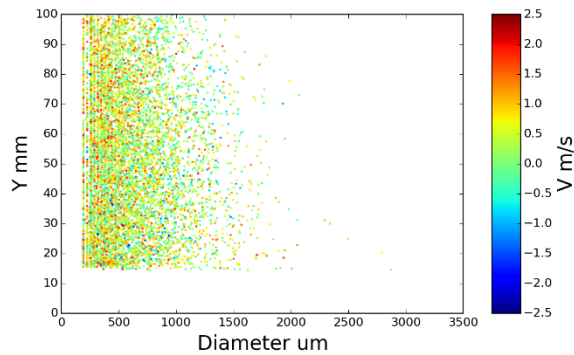


Figure D. 193: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2.2 Matched Only Droplets for .LB Image

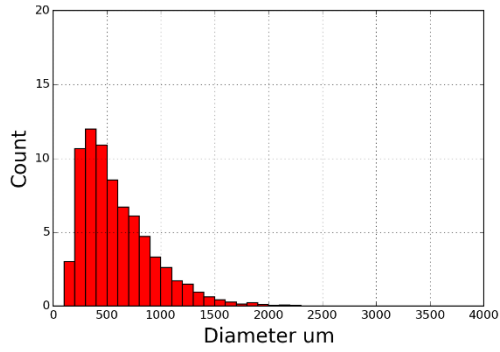


Figure D. 196: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

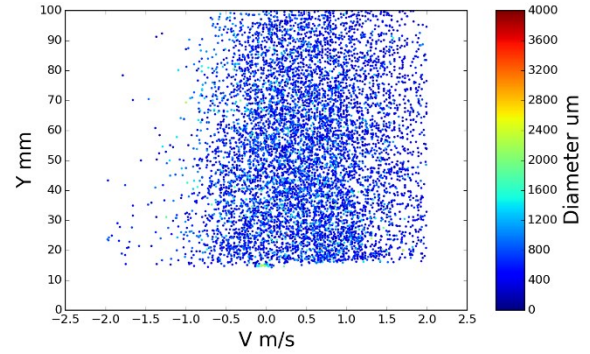


Figure D. 199: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

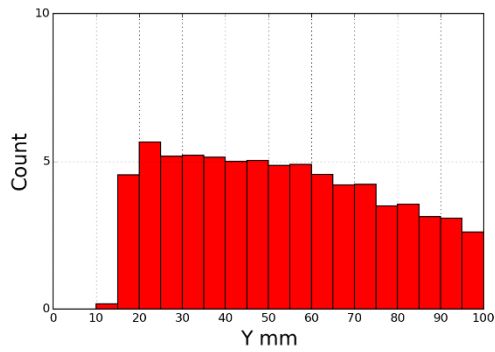


Figure D. 197: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

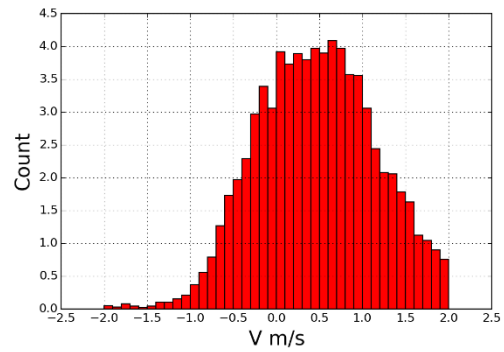


Figure D. 200: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

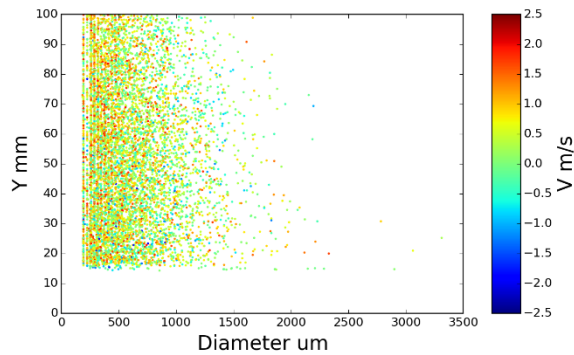


Figure D. 198: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2.2 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	11.87	11.78	182.5	3661	532.0	368.9	182.5	2307	530.8	354.6
20-40mm	35.53	35.06	182.5	3202	540.8	337.0	170.7	3077	542.7	340.5
40-60mm	31.42	31.38	170.7	2538	541.3	327.6	170.7	2272	534.2	320.1
60-80mm	25.48	25.16	182.5	3005	529.8	330.4	182.5	2442	533.0	326.1
80-100mm	17.88	17.78	182.5	1943	503.3	294.3	170.7	1912	503.0	296.3
All	122.18	121.16	170.7	3661	532.3	330.8	170.7	3077	531.5	327.8
			Height A (mm)				Height B (mm)			
Highest Particle			99.9809				99.9833			
Lowest Particle			13.3420				13.4737			

Table D. 23: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	7.16	182.5	1952	556.5	321.7	182.5	2138	557.1	322.4	-1.990	1.870	0.110	0.450	-1.900	1.990	0.610	0.740
20-40mm	24.25	193.6	2275	593.6	328.3	170.7	2529	588.0	334.0	-1.990	1.930	0.130	0.420	-1.990	1.990	0.620	0.740
40-60mm	21.73	182.5	2148	596.1	319.4	182.5	2260	583.0	319.5	-1.960	1.970	0.150	0.390	-1.990	1.990	0.620	0.730
60-80mm	17.75	193.6	2036	580.0	315.1	182.5	2316	579.6	319.6	-1.960	1.950	0.180	0.380	-1.990	1.990	0.660	0.700
80-100mm	12.85	193.6	1890	562.7	300.5	193.6	1912	553.6	304.4	-1.760	1.990	0.150	0.350	-1.990	1.990	0.640	0.650
All	83.74	182.5	2275	583.4	318.8	170.7	2529	577.1	322.0	-1.990	1.990	0.140	0.400	-1.990	1.990	0.630	0.720

Table D. 24: Matched Droplet Info

D.1.2.2 All Droplets for .LA Image

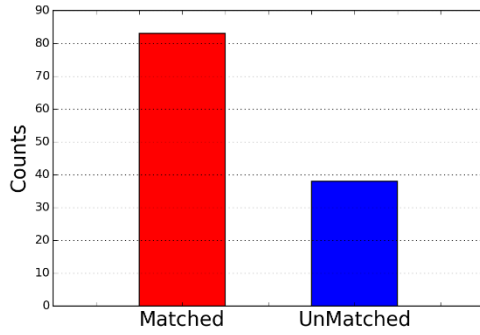


Figure D. 201: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

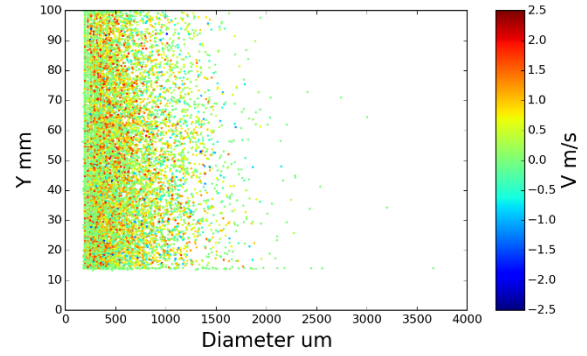


Figure D. 204: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

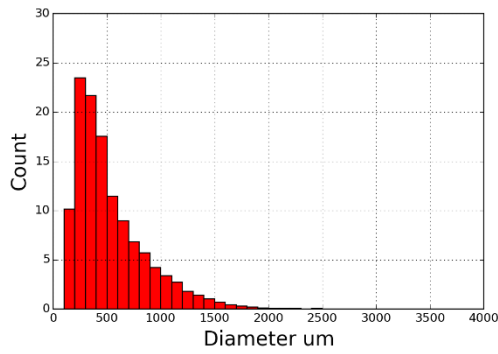


Figure D. 202: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

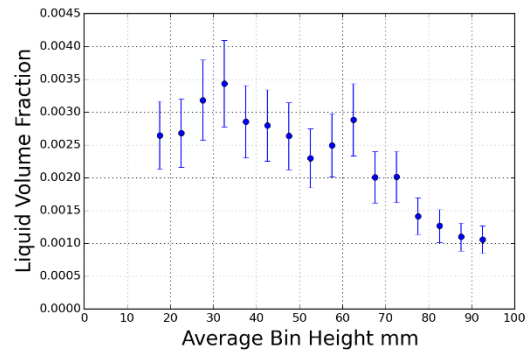


Figure D. 205: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

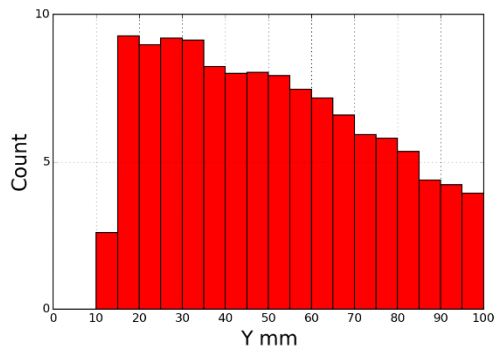


Figure D. 203: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2.2 All Droplets for .LB Image

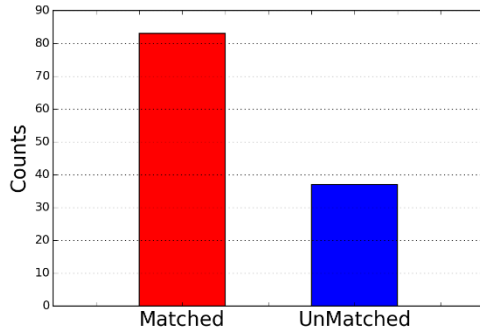


Figure D. 206: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

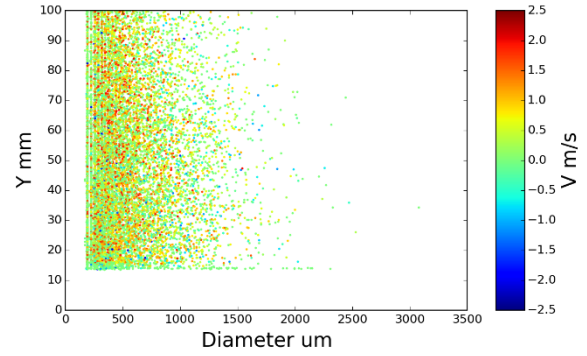


Figure D. 209: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

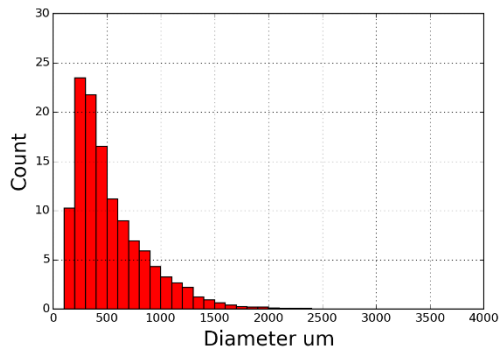


Figure D. 207: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

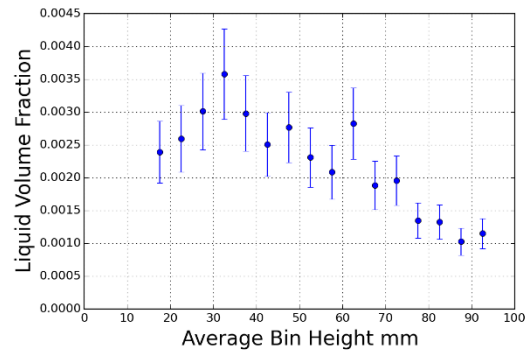


Figure D. 210: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

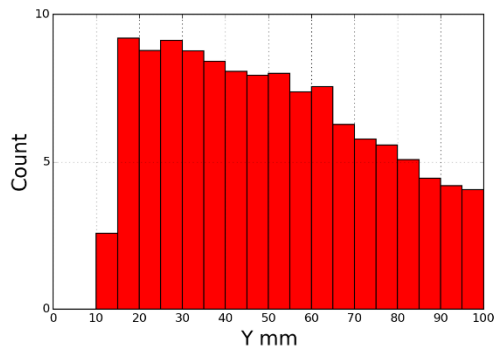


Figure D. 208: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2.2 Matched Only Droplets for .LA Image

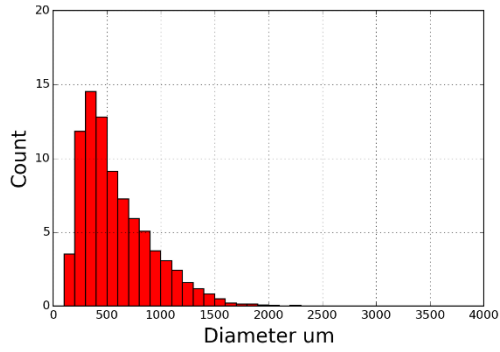


Figure D. 211: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

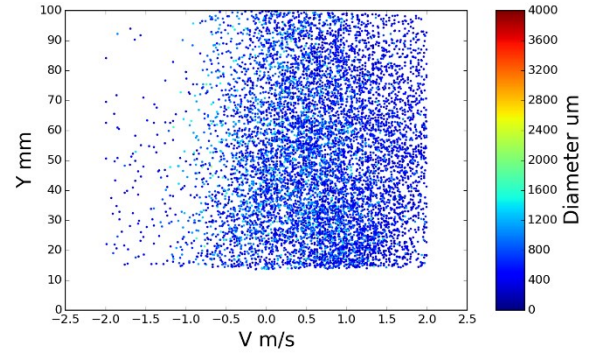


Figure D. 214: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

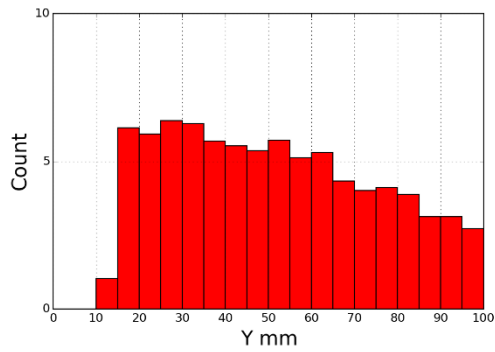


Figure D. 212: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

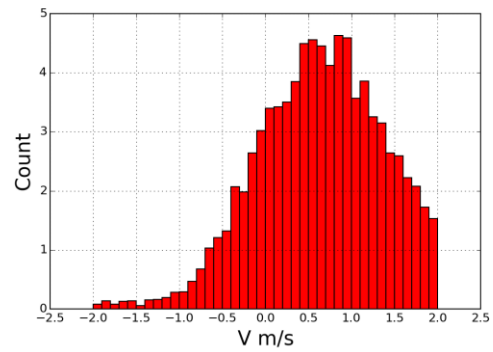


Figure D. 215: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

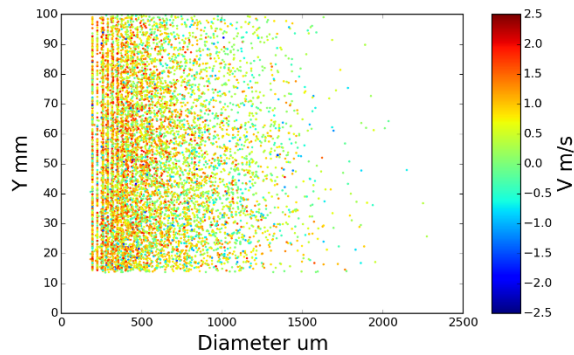


Figure D. 213: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2.2 Matched Only Droplets for .LB Image

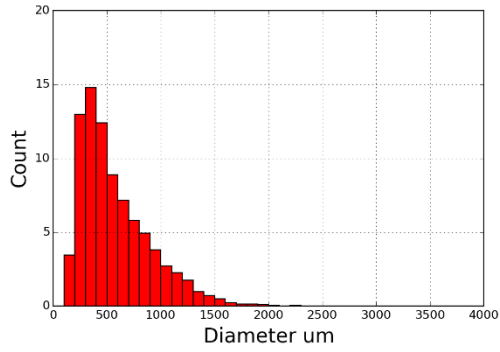


Figure D. 216: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

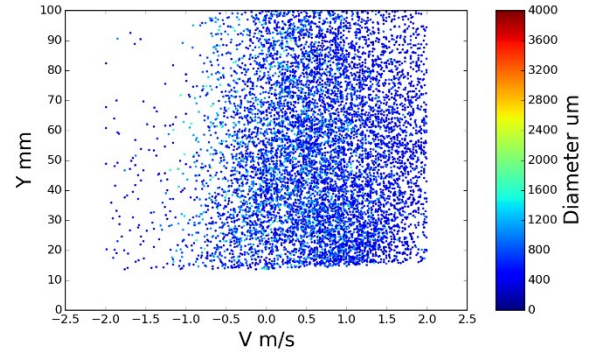


Figure D. 219: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

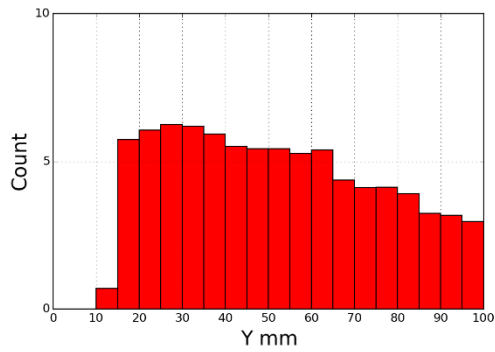


Figure D. 217: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

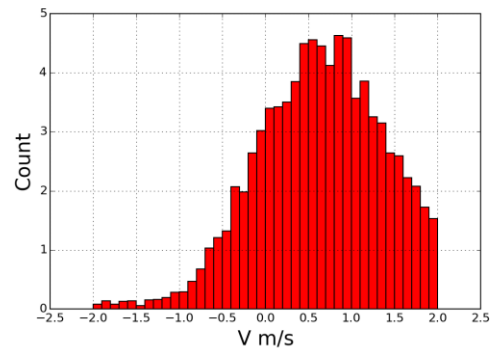


Figure D. 220: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

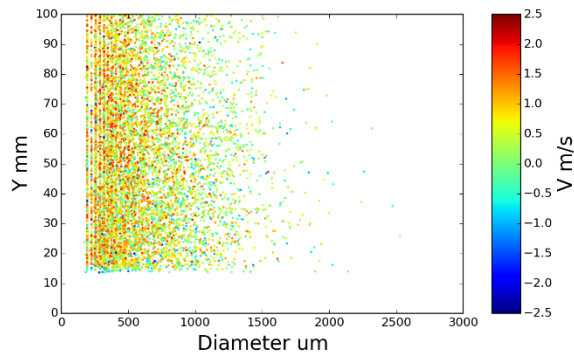


Figure D. 218: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2.2 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	12.71	12.57	182.5	3114	546.9	370.4	182.5	2858	550.8	360.4
20-40mm	32.46	32.49	170.7	3232	570.9	361.9	182.5	3381	571.5	362.8
40-60mm	28.04	28.27	182.5	2586	564.6	370.8	182.5	2685	558.8	368.7
60-80mm	23.14	23.05	170.7	2676	545.9	357.4	170.7	2595	552.8	362.4
80-100mm	18.18	18.52	170.7	2241	536.7	323.2	170.7	2525	538.6	326.4
All	114.53	114.9	170.7	3232	556.2	358.6	170.7	3381	557.1	358.5
			Height A (mm)				Height B (mm)			
Highest Particle			99.9843				99.9833			
Lowest Particle			12.8083				12.6848			

Table D. 25: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	7.78	182.5	2107	599.3	330.4	193.6	2120	596.3	332.4	-1.990	1.990	0.070	0.440	-1.960	1.990	0.770	0.700
20-40mm	20.39	182.5	3190	652.1	361.4	182.5	3381	642.8	369.0	-1.990	1.900	0.140	0.430	-1.990	1.990	0.760	0.750
40-60mm	16.92	182.5	2586	650.7	373.9	182.5	2645	640.5	380.3	-1.990	1.970	0.200	0.420	-1.970	1.990	0.850	0.710
60-80mm	14.24	182.5	2378	625.2	360.5	182.5	2595	626.1	365.2	-1.930	1.960	0.220	0.400	-1.990	1.990	0.910	0.650
80-100mm	11.73	182.5	2241	616.3	327.6	182.5	2525	609.4	338.1	-1.890	1.930	0.180	0.350	-1.910	1.990	0.830	0.690
All	71.06	182.5	3190	634.7	356.1	182.5	3381	628.6	362.8	-1.990	1.990	0.170	0.410	-1.990	1.990	0.820	0.710

Table D. 26: Matched Droplet Info

D.1.2.2 All Droplets for .LA Image

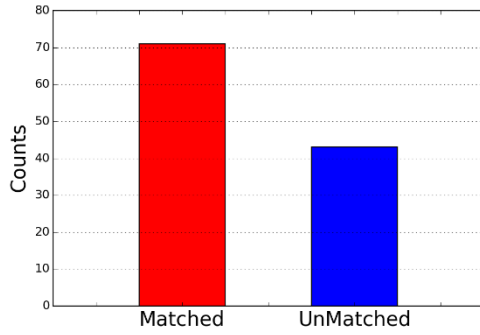


Figure D. 221: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

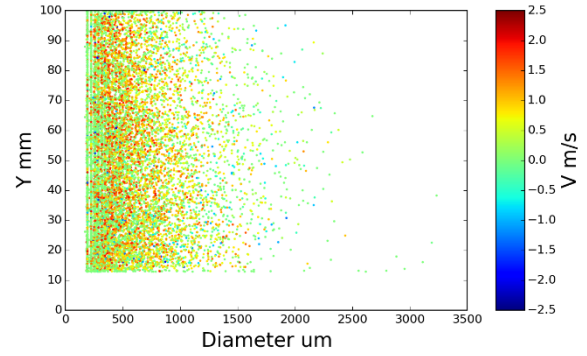


Figure D. 224: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

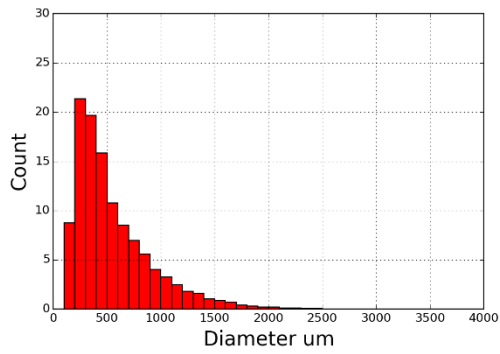


Figure D. 222: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

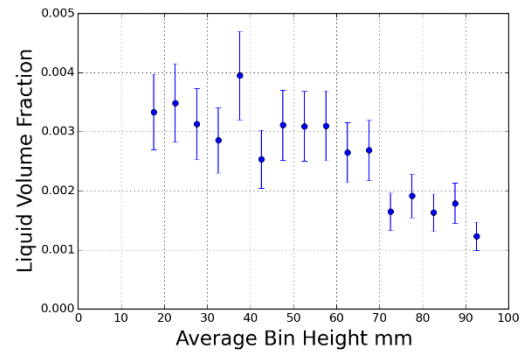


Figure D. 225: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

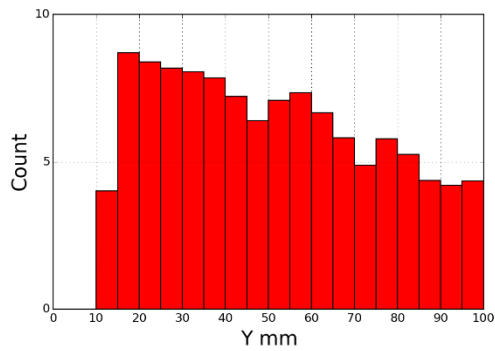


Figure D. 223: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2.2 All Droplets for .LB Image

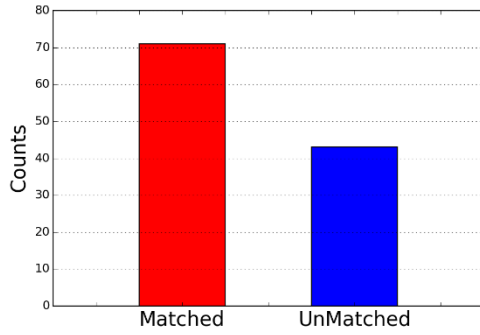


Figure D. 226: CHC Count Comparison R-123 40F 5000Btu 15000Lb Rot Tri

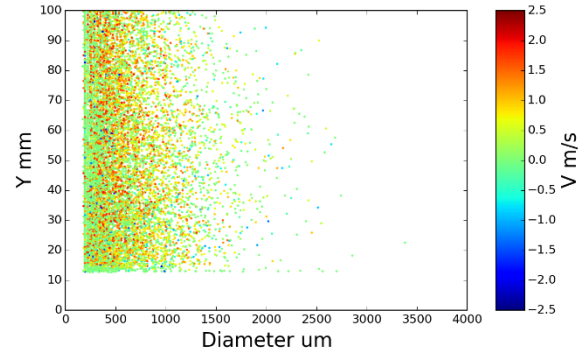


Figure D. 229: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

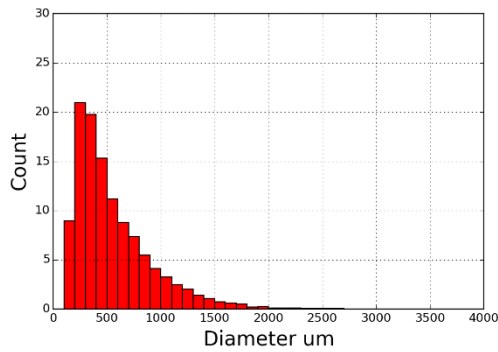


Figure D. 227: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

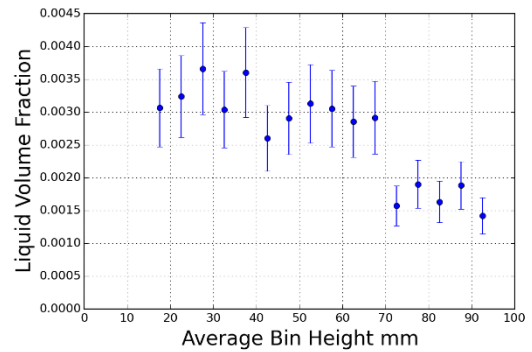


Figure D. 230: Void Fraction R-123 40F 5000Btu 15000Lb Rot Tri

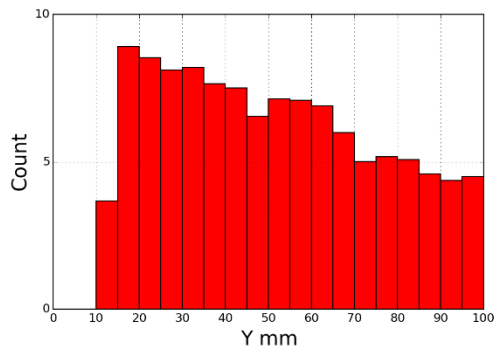


Figure D. 228: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2.2 Matched Only Droplets for .LA Image

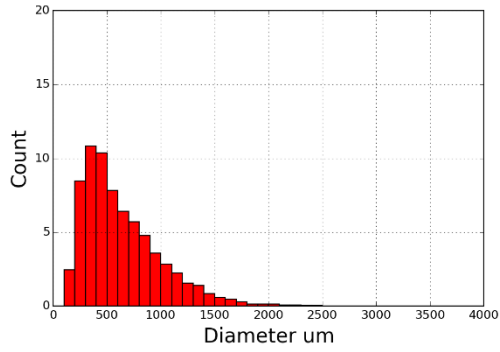


Figure D. 231: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

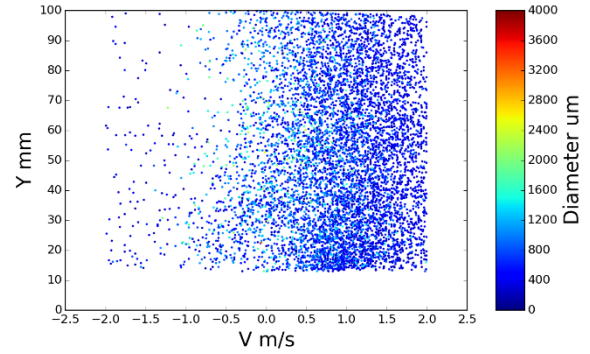


Figure D. 234: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

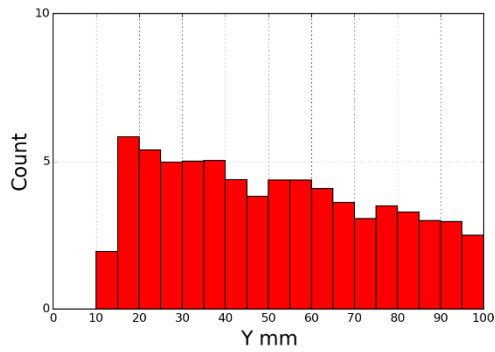


Figure D. 232: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

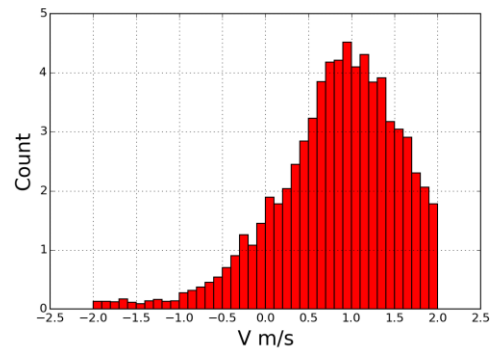


Figure D. 235: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

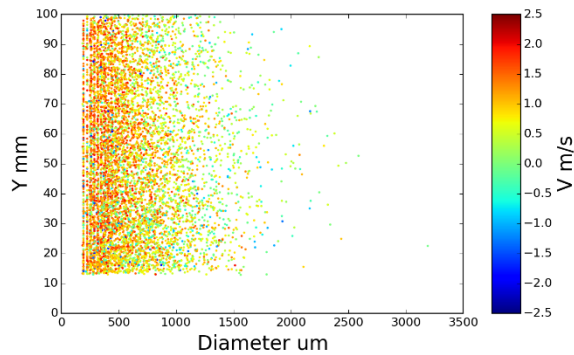


Figure D. 233: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.1.2.2 Matched Only Droplets for .LB Image

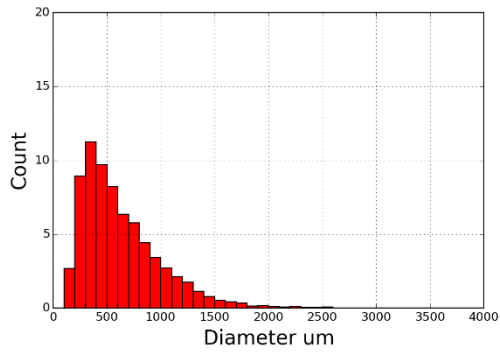


Figure D. 236: Droplet Diameter Histogram R-123 40F 5000Btu 15000Lb Rot Tri

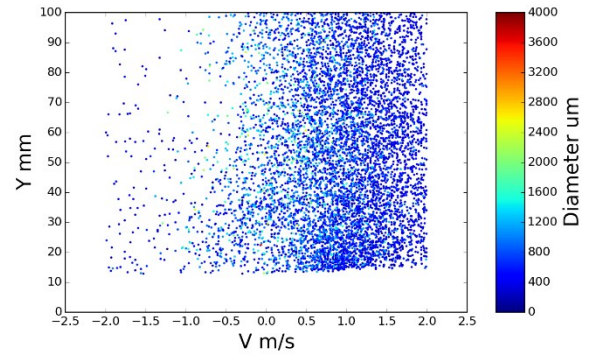


Figure D. 239: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 15000Lb Rot Tri

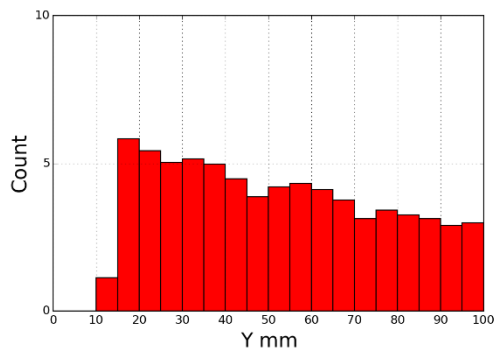


Figure D. 237: Droplet Height Histogram R-123 40F 5000Btu 15000Lb Rot Tri

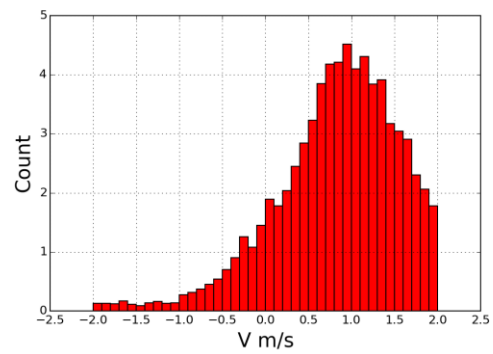


Figure D. 240: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 15000Lb Rot Tri

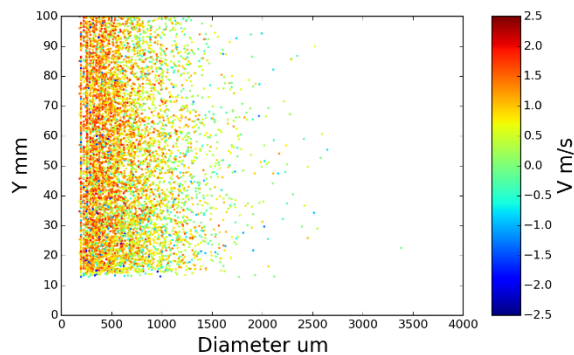


Figure D. 238: Droplet Height vs Diameter R-123 40F 5000Btu 15000Lb Rot Tri

D.2 - 1556 R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1 Liquid Level 2

Thermal Conditions	
H2O Flow Rate (lb/hr) / (kg/s)	9902 / 1.248
Ref Mass Flow (lb/hr) / (kg/s)	3076 / 0.388
Ref Mass Flux (lb/hr-ft ²) / (kg/s-m ²)	29939 / 40.604
Top Two Rows Heat Flux (Btu/hr-ft ²) / (kW/m ²)	5111 / 16.12
Bundle Exit Saturation Temp (°F) / (°C)	44.2 / 6.76
Bundle Inlet Saturation Temp (°F) / (°C)	47.5 / 8.62
Total Bundle Q (Btu/hr) / (kW)	194015 / 56.86
Total Bundle & Preboiler Q (Btu/hr) / (kW)	194015 / 56.86
Top Two Rows HTC Ratio	1.113
Bundle Inlet Quality	-0.10
Bundle Exit Quality	0.73

Table D. 27: Thermal Conditions

D.2.1.1 Lens 100mm Mag 0_29x

D.2.1.1 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	64.27	65.47	76.1	3648	351.6	320.1	76.1	3423	349.5	321.8
40-60mm	207.81	209.06	76.1	3825	316.5	284.5	76.1	3962	317.1	285.8
60-80mm	206.74	207.6	76.1	3688	301.5	258.0	76.1	3872	298.4	251.5
80-100mm	11.1	11.51	81.3	1938	273.8	206.5	76.1	1684	271.1	200.4
All	489.92	493.64	76.1	3825	313.8	277.7	76.1	3962	312.5	276.0
			Height A (mm)				Height B (mm)			
Highest Particle			81.1256				81.1347			
Lowest Particle			33.1625				33.1625			

Table D. 28: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	41.81	81.3	2676	405.3	323.6	81.3	2946	399.8	325.5	-4.500	4.500	-0.210	0.970	-4.500	4.440	0.410	1.380
40-60mm	134.74	81.3	2594	365.5	296.3	81.3	3015	362.2	298.4	-4.500	4.500	-0.190	1.010	-4.500	4.500	0.600	1.560
60-80mm	137.88	81.3	3688	344.0	267.8	81.3	3872	340.1	267.9	-4.500	4.500	-0.110	1.020	-4.490	4.500	0.680	1.540
80-100mm	6.38	81.3	1938	309.4	223.1	81.3	1684	311.3	212.9	-4.400	4.240	-0.050	0.940	-4.280	4.130	0.470	1.230
All	320.81	81.3	3688	360.3	287.7	81.3	3872	356.4	288.5	-4.500	4.500	-0.150	1.010	-4.500	4.500	0.610	1.520

Table D. 29: Matched Droplet Info

D.2.1.1 All Droplets for .LA Image

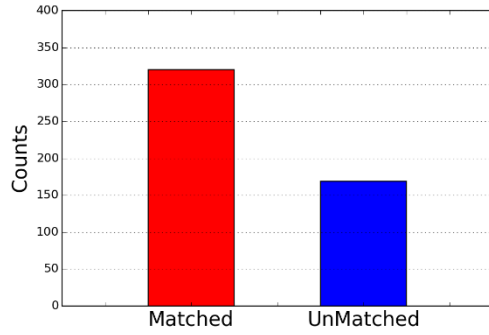


Figure D. 241: CHC Count Comparison R-123 40F 5000Btu 30000Lb Rot Tri

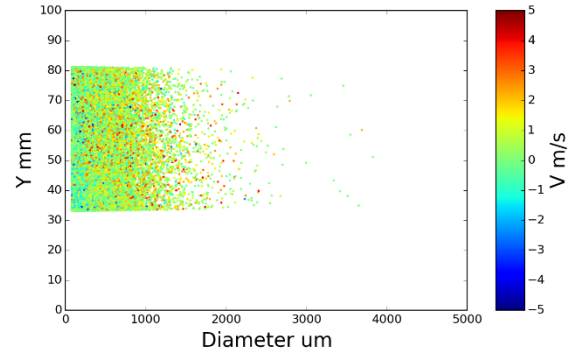


Figure D. 244: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

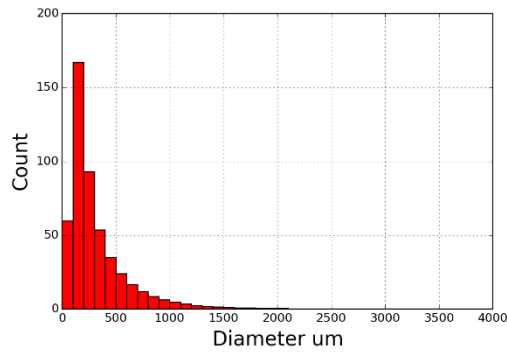


Figure D. 242: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

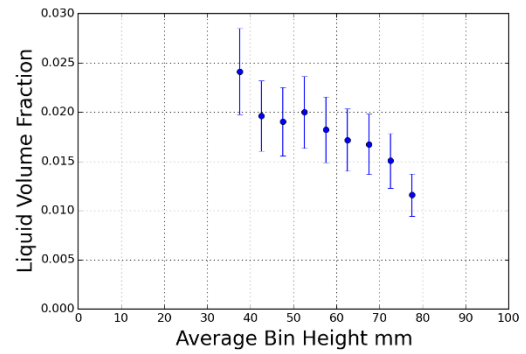


Figure D. 245: Void Fraction R-123 40F 5000Btu 30000Lb Rot Tri

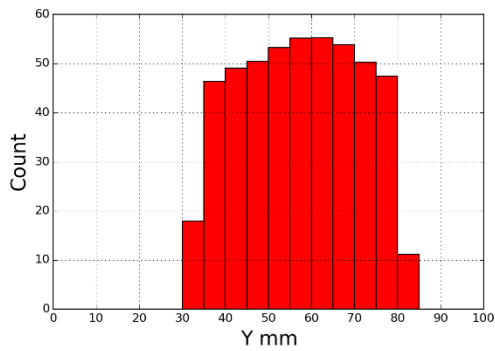


Figure D. 243: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1.1 All Droplets for .LB Image

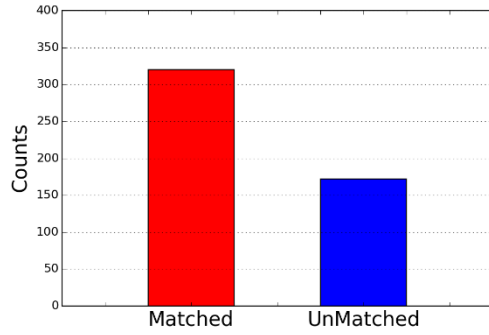


Figure D. 246: CHC Count Comparison R-123 40F 5000Btu 30000Lb Rot Tri

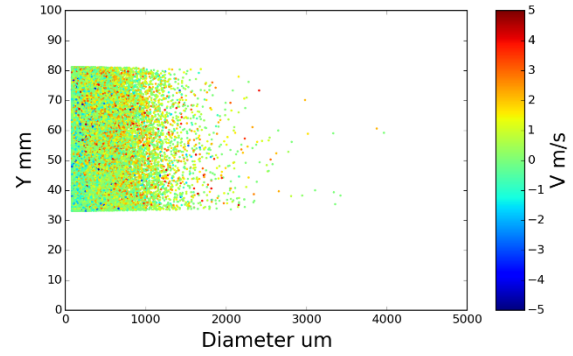


Figure D. 249: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

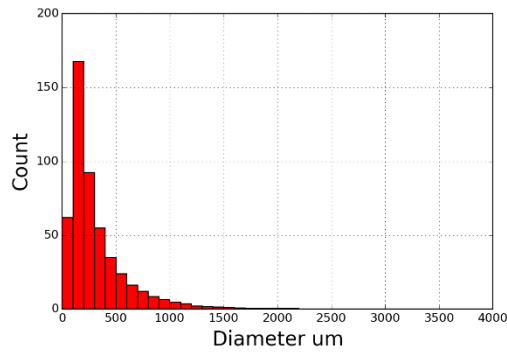


Figure D. 247: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

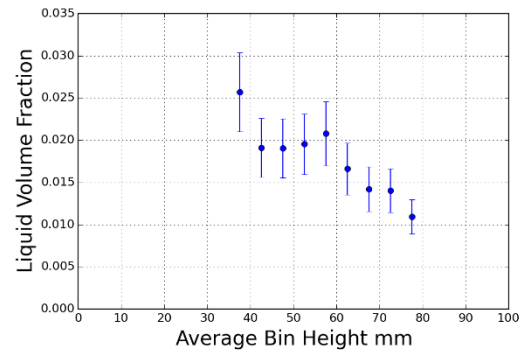


Figure D. 250: Void Fraction R-123 40F 5000Btu 30000Lb Rot Tri

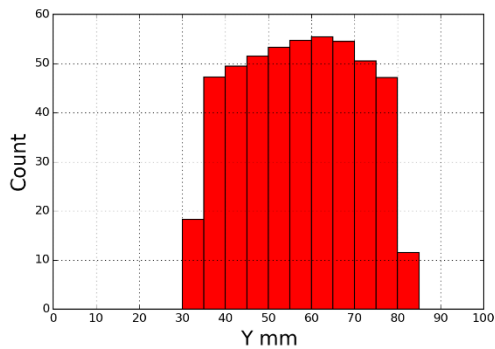


Figure D. 248: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1.1 Matched Only Droplets for .LA Image

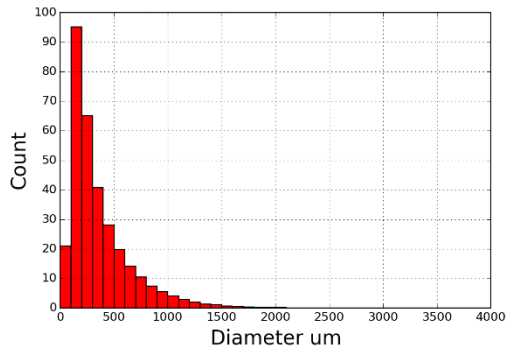


Figure D. 251: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

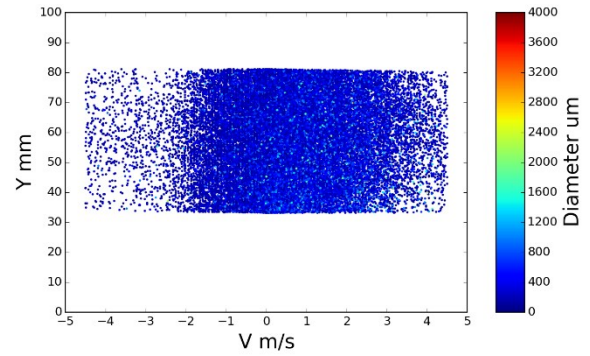


Figure D. 254: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 30000Lb Rot Tri

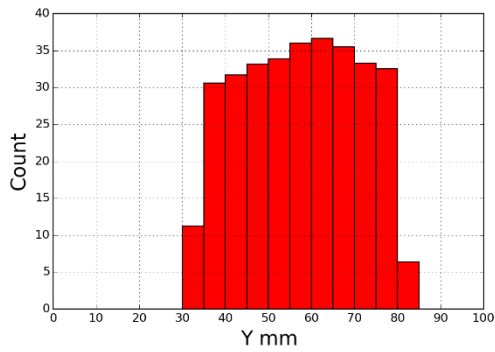


Figure D. 252: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

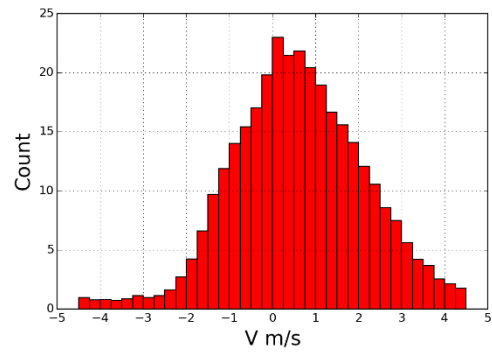


Figure D. 255: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 30000Lb Rot Tri

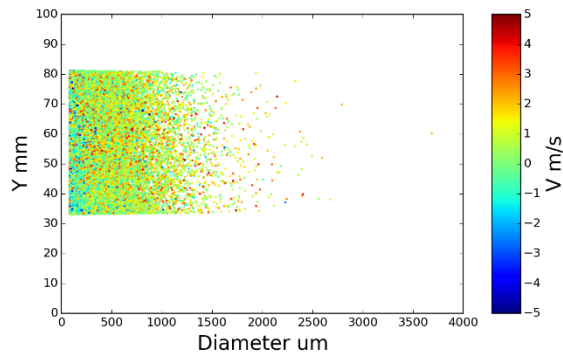


Figure D. 253: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1.1 Matched Only Droplets for .LB Image

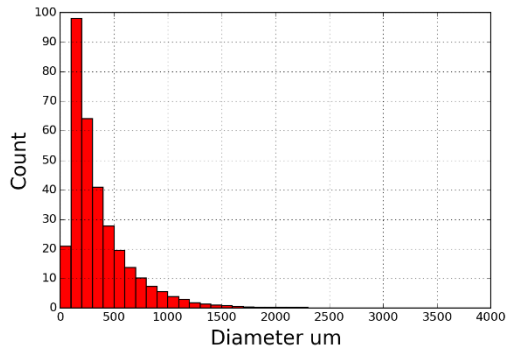


Figure D. 256: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

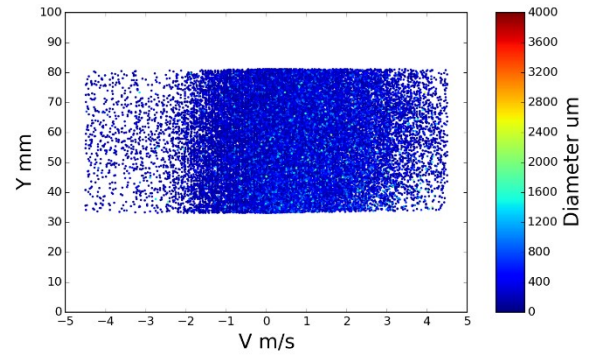


Figure D. 259: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 30000Lb Rot Tri

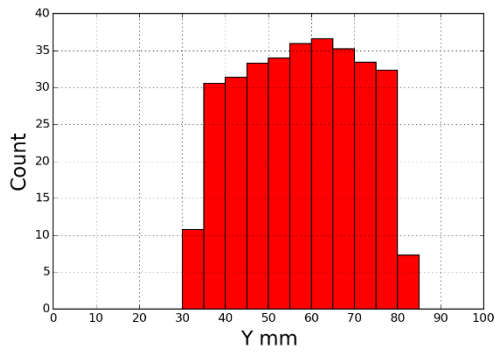


Figure D. 257: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

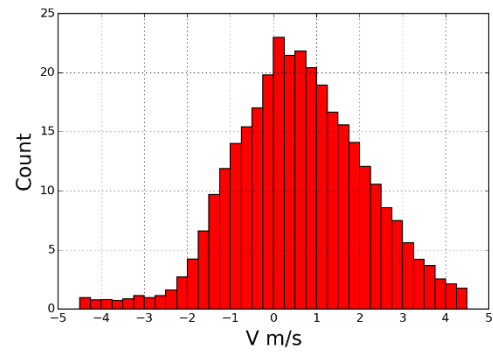


Figure D. 260: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 30000Lb Rot Tri

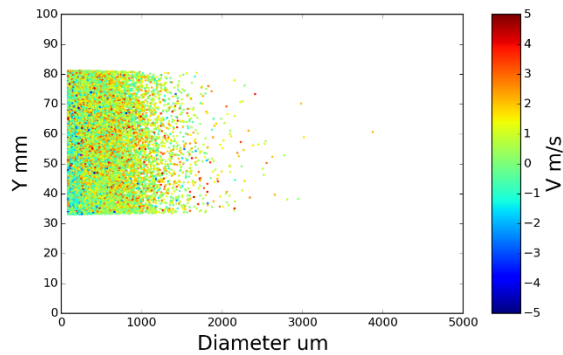


Figure D. 258: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1.1 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	80.06	80.32	76.1	3434	356.9	318.3	76.1	3342	355.0	313.8
40-60mm	209.74	209.79	76.1	3809	342.0	302.5	76.1	3940	343.4	300.6
60-80mm	175.03	175.69	76.1	3813	336.1	293.3	76.1	3755	333.5	294.2
80-100mm	10.0	9.81	76.1	2341	319.5	264.2	76.1	1713	320.6	251.3
All	474.83	475.61	76.1	3813	341.9	301.2	76.1	3940	341.2	299.7
			Height A (mm)				Height B (mm)			
Highest Particle			81.1347				81.1347			
Lowest Particle			33.1625				33.1625			

Table D. 30: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	46.77	81.3	2575	428.3	325.2	81.3	2647	425.7	328.7	-4.490	4.500	-0.090	1.060	-4.500	4.500	1.230	1.610
40-60mm	125.28	81.3	3809	415.0	320.2	81.3	3940	408.7	319.4	-4.500	4.500	-0.110	1.040	-4.500	4.500	1.310	1.650
60-80mm	106.8	81.3	3297	403.1	309.2	76.1	3471	398.0	309.6	-4.500	4.500	-0.050	0.970	-4.500	4.500	1.280	1.540
80-100mm	4.96	81.3	1543	403.7	287.1	86.3	1604	377.5	264.1	-4.380	4.500	-0.040	1.050	-4.430	4.130	0.880	1.430
All	283.81	81.3	3809	412.5	316.5	76.1	3940	406.7	316.3	-4.500	4.500	-0.080	1.020	-4.500	4.500	1.280	1.600

Table D. 31: Matched Droplet Info

D.2.1.1 All Droplets for .LA Image

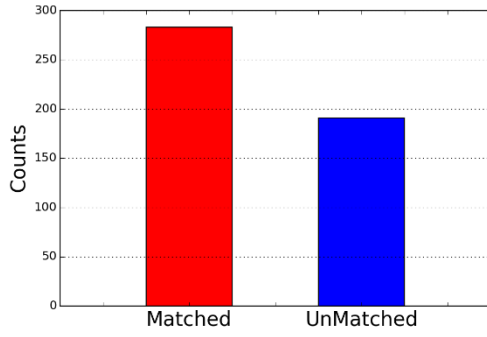


Figure D. 261: CHC Count Comparison R-123 40F 5000Btu 30000Lb Rot Tri

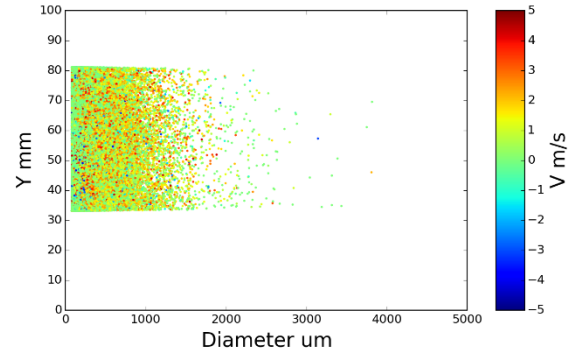


Figure D. 264: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

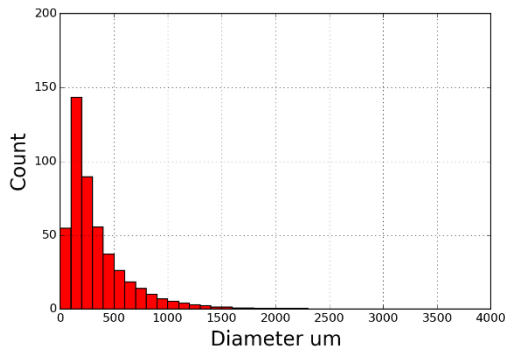


Figure D. 262: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

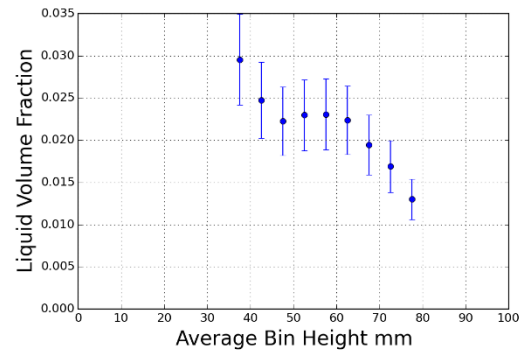


Figure D. 265: Void Fraction R-123 40F 5000Btu 30000Lb Rot Tri

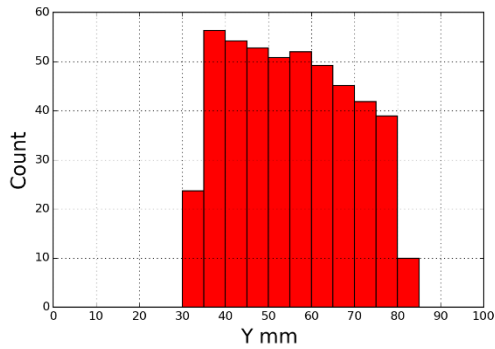


Figure D. 263: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1.1 All Droplets for .LB Image

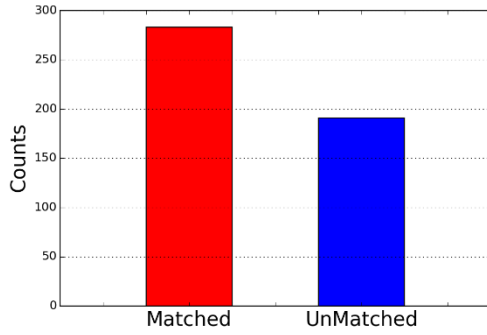


Figure D. 266: CHC Count Comparison R-123 40F 5000Btu 30000Lb Rot Tri

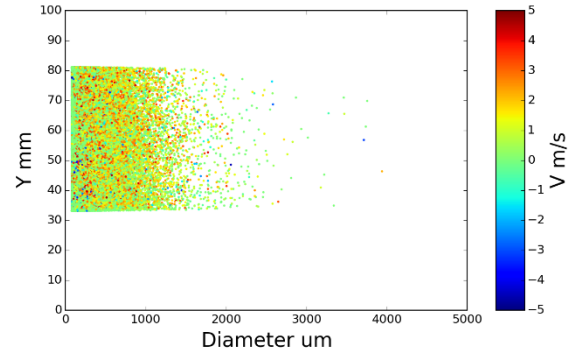


Figure D. 269: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

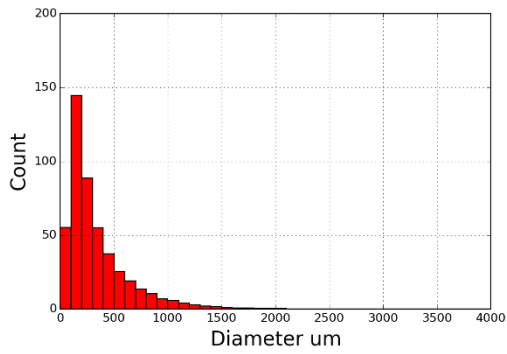


Figure D. 267: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

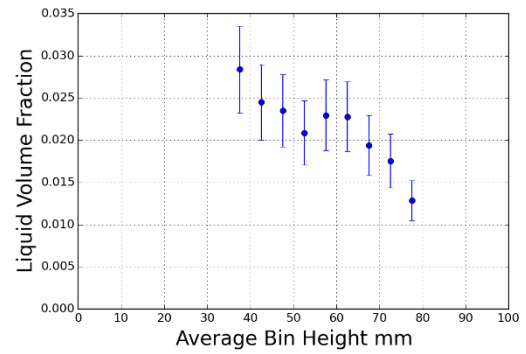


Figure D. 270: Void Fraction R-123 40F 5000Btu 30000Lb Rot Tri

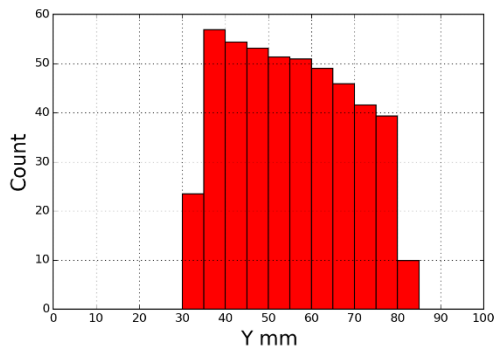


Figure D. 268: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1.1 Matched Only Droplets for .LA Image

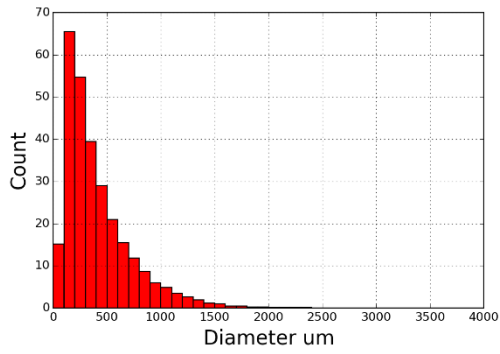


Figure D. 271: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

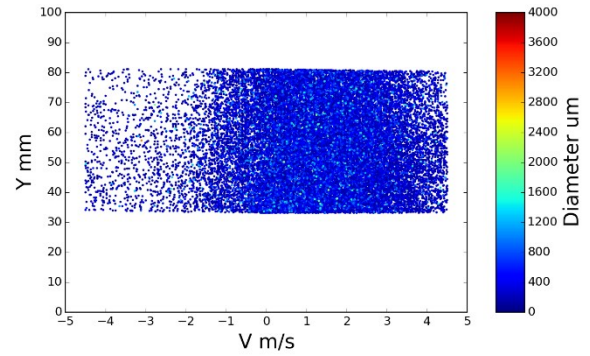


Figure D. 274: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 30000Lb Rot Tri

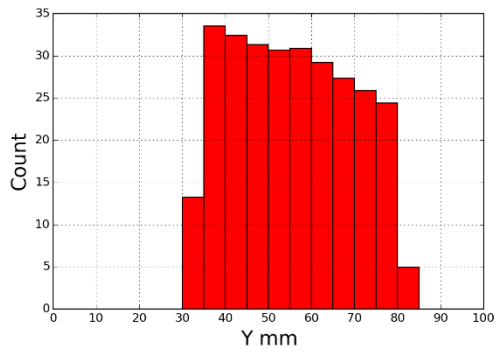


Figure D. 272: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

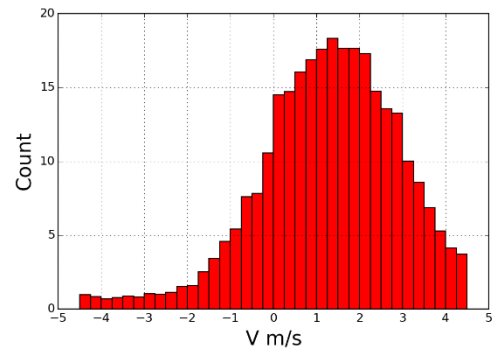


Figure D. 275: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 30000Lb Rot Tri

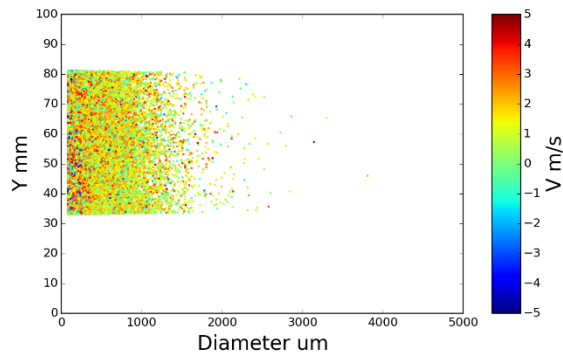


Figure D. 273: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1.1 Matched Only Droplets for .LB Image

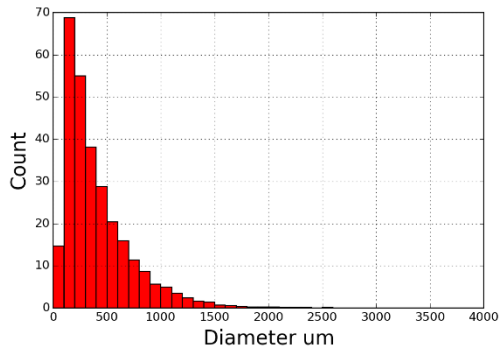


Figure D. 276: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

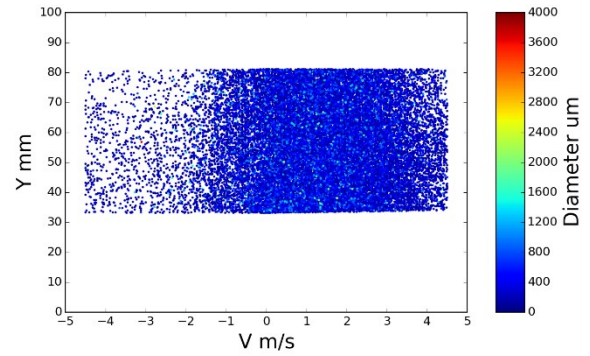


Figure D. 279: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 30000Lb Rot Tri

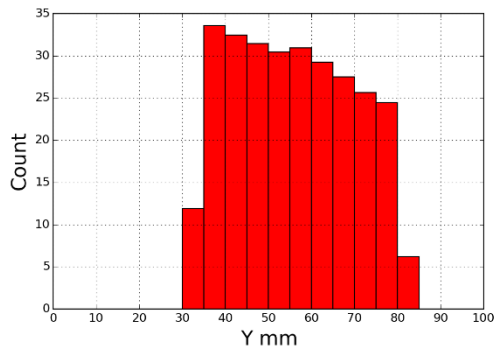


Figure D. 277: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

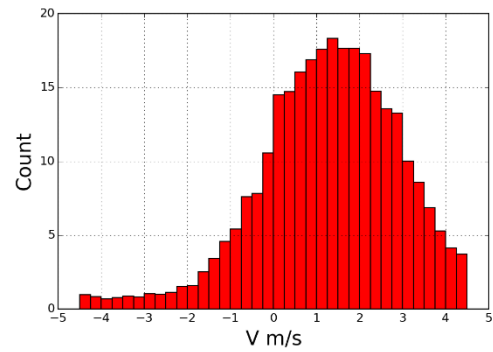


Figure D. 280: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 30000Lb Rot Tri

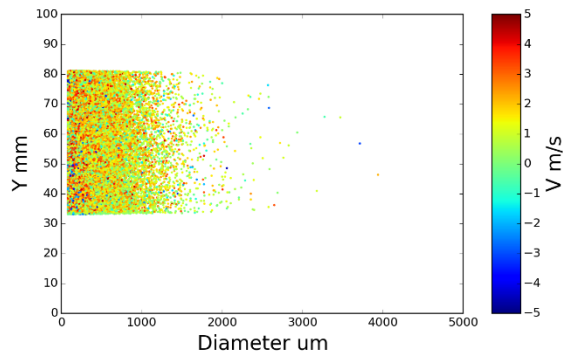


Figure D. 278: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1.1 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	68.52	69.72	76.1	3625	378.9	346.3	81.3	3358	377.1	341.2
40-60mm	169.82	170.33	76.1	3442	377.4	329.8	76.1	3320	379.0	331.1
60-80mm	140.46	142.09	76.1	3771	365.9	321.4	76.1	3080	361.7	317.0
80-100mm	7.23	6.66	81.3	1689	314.7	247.5	81.3	2069	333.6	262.7
All	386.03	388.8	76.1	3771	372.3	328.6	76.1	3358	371.5	327.0
			Height A (mm)				Height B (mm)			
Highest Particle			81.1240				81.1245			
Lowest Particle			33.1625				33.1625			

Table D. 32: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	36.95	81.3	3308	484.9	371.6	81.3	3358	476.9	380.4	-4.470	4.490	-0.120	1.130	-4.500	4.500	1.770	1.720
40-60mm	93.82	81.3	2941	476.1	349.9	81.3	3000	469.4	351.5	-4.500	4.500	-0.150	1.050	-4.500	4.500	1.760	1.650
60-80mm	80.57	81.3	2919	452.5	335.6	76.1	2931	443.9	333.8	-4.500	4.490	-0.090	1.020	-4.460	4.500	1.610	1.550
80-100mm	2.89	81.3	1689	406.3	280.2	81.3	2069	409.2	291.0	-4.350	4.200	0.000	1.030	-4.340	4.500	1.180	1.450
All	214.23	81.3	3308	467.8	347.9	76.1	3358	459.9	349.3	-4.500	4.500	-0.120	1.050	-4.500	4.500	1.700	1.630

Table D. 33: Matched Droplet Info

D.2.1.1 All Droplets for .LA Image

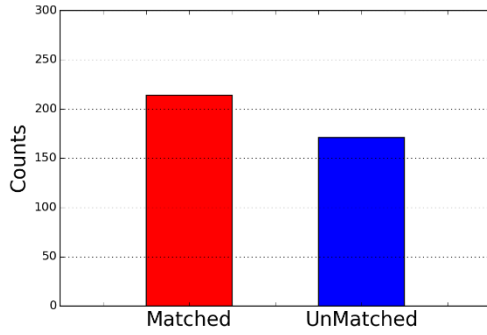


Figure D. 281: CHC Count Comparison R-123 40F 5000Btu 30000Lb Rot Tri

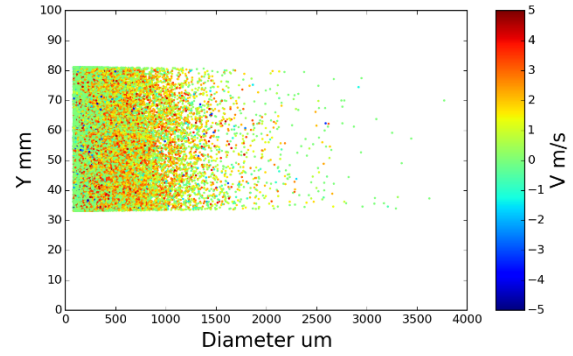


Figure D. 284: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

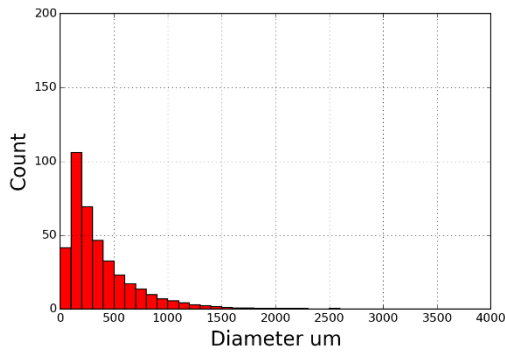


Figure D. 282: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

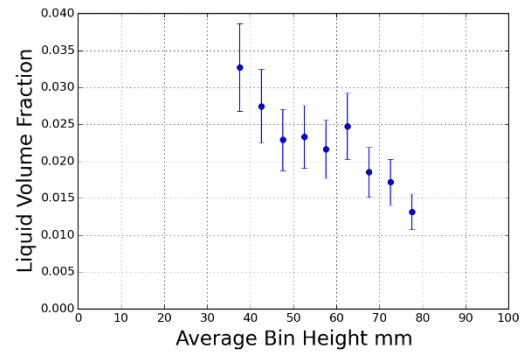


Figure D. 285: Void Fraction R-123 40F 5000Btu 30000Lb Rot Tri

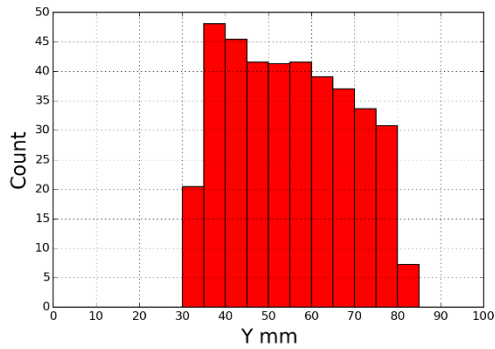


Figure D. 283: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1.1 All Droplets for .LB Image

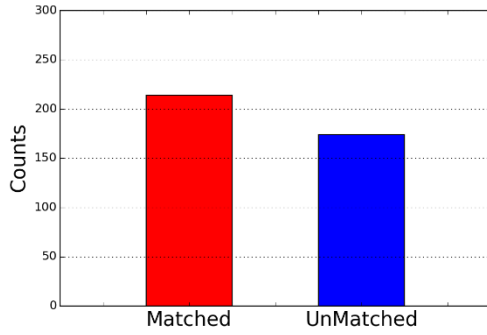


Figure D. 286: CHC Count Comparison R-123 40F 5000Btu 30000Lb Rot Tri

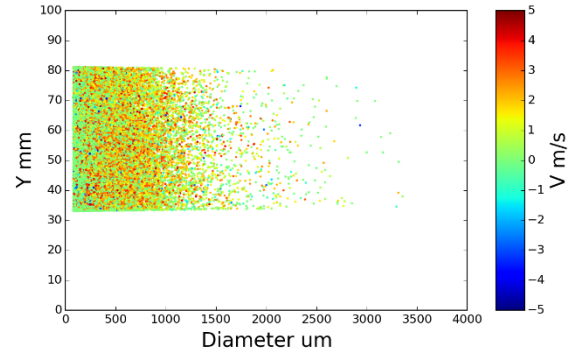


Figure D. 289: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

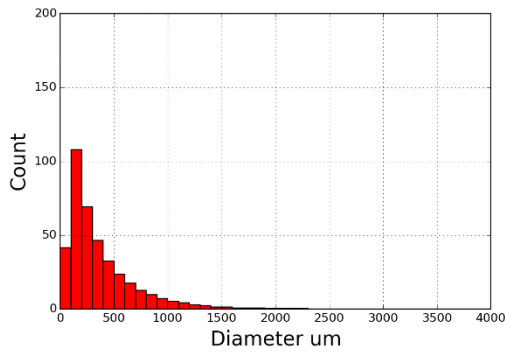


Figure D. 287: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

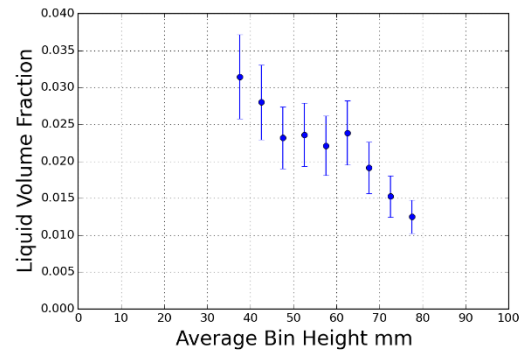


Figure D. 290: Void Fraction R-123 40F 5000Btu 30000Lb Rot Tri

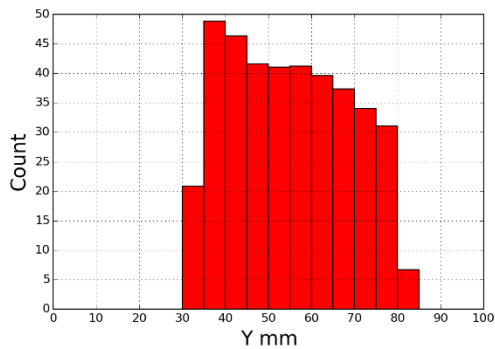


Figure D. 288: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1.1 Matched Only Droplets for .LA Image

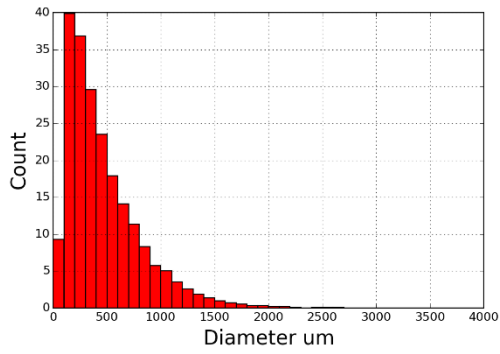


Figure D. 291: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

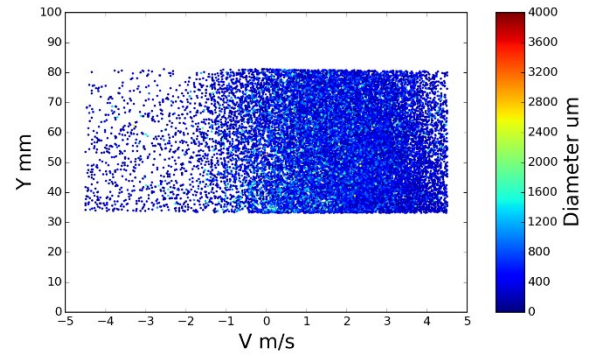


Figure D. 294: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 30000Lb Rot Tri

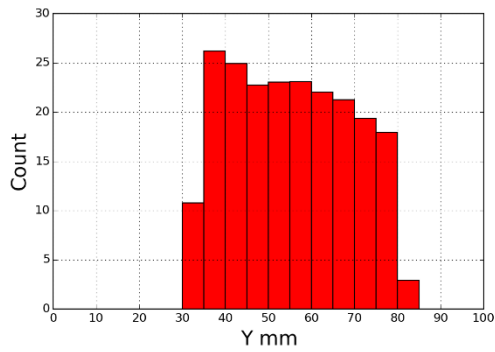


Figure D. 292: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

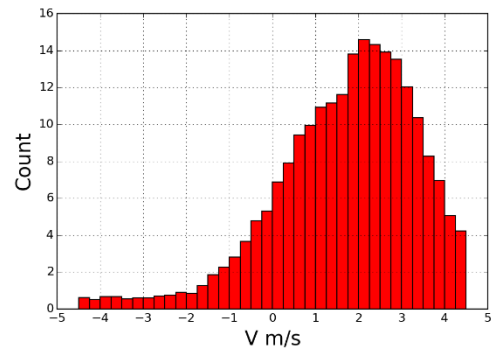


Figure D. 295: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 30000Lb Rot Tri

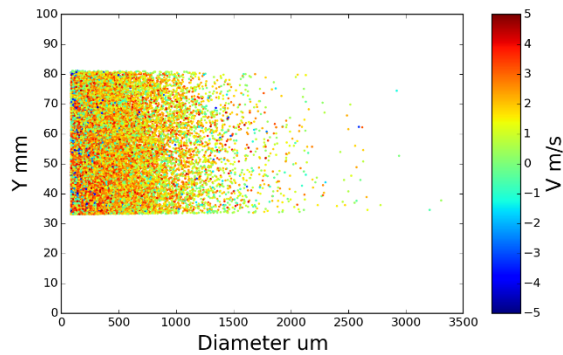


Figure D. 293: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1.1 Matched Only Droplets for .LB Image

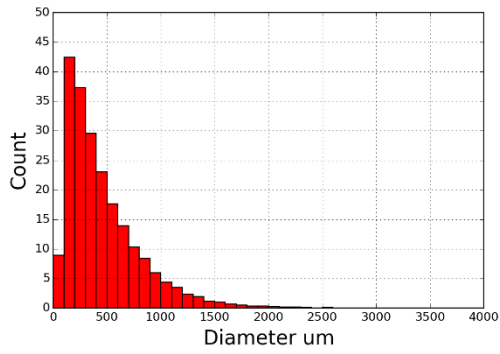


Figure D. 296: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

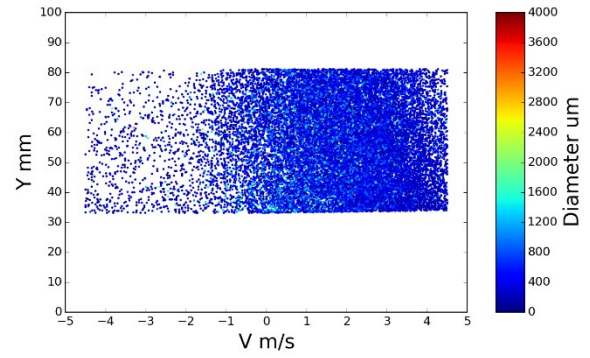


Figure D. 299: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 30000Lb Rot Tri

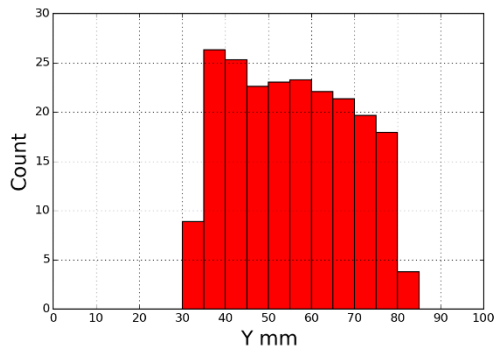


Figure D. 297: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

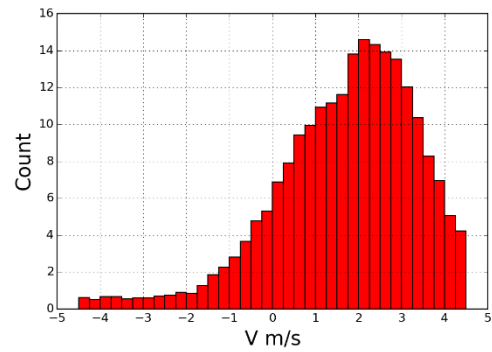


Figure D. 300: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 30000Lb Rot Tri

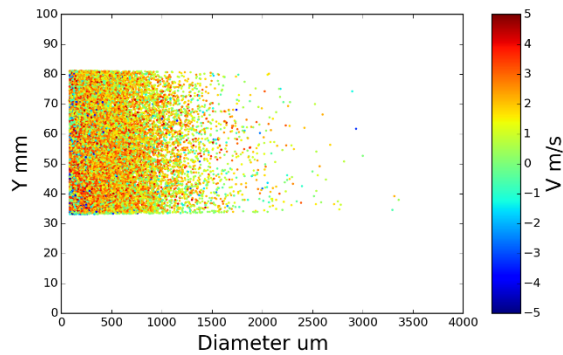


Figure D. 298: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1.2 Lens 50mm Mag 0_13x

D.2.1.2 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	107.26	108.69	170.6	3884	545.8	385.6	170.6	3870	547.8	383.0
40-60mm	104.07	106.79	170.6	3857	499.5	327.6	170.6	3806	502.1	328.3
60-80mm	102.72	105.5	182.4	3609	468.8	294.1	182.4	3536	471.3	300.7
80-100mm	79.49	83.12	182.4	3322	441.6	259.7	170.6	3050	441.6	261.6
All	393.79	404.31	170.6	3884	492.2	326.4	170.6	3870	493.7	327.3
			Height A (mm)				Height B (mm)			
Highest Particle			100.0521				100.0521			
Lowest Particle			20.1133				20.1133			

Table D. 34: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	64.81	182.4	3584	595.4	389.4	182.4	3870	587.3	390.0	-4.400	4.400	-0.230	1.360	-4.400	4.400	0.400	1.590
40-60mm	63.35	182.4	3012	543.6	330.5	182.4	3100	537.6	329.8	-4.400	4.400	-0.190	1.370	-4.400	4.400	0.560	1.720
60-80mm	63.9	182.4	2779	512.7	307.5	182.4	3157	507.6	311.2	-4.400	4.400	-0.160	1.360	-4.400	4.400	0.660	1.730
80-100mm	49.71	182.4	2814	482.1	275.0	182.4	3050	478.9	274.7	-4.400	4.400	-0.130	1.230	-4.400	4.400	0.680	1.590
All	241.84	182.4	3584	536.6	333.9	182.4	3870	530.6	334.2	-4.400	4.400	-0.180	1.340	-4.400	4.400	0.570	1.670

Table D. 35: Matched Droplet Info

D.2.1.2 All Droplets for .LA Image

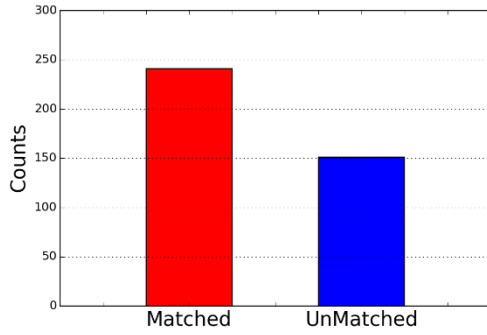


Figure D. 301: CHC Count Comparison R-123 40F 5000Btu 30000Lb Rot Tri

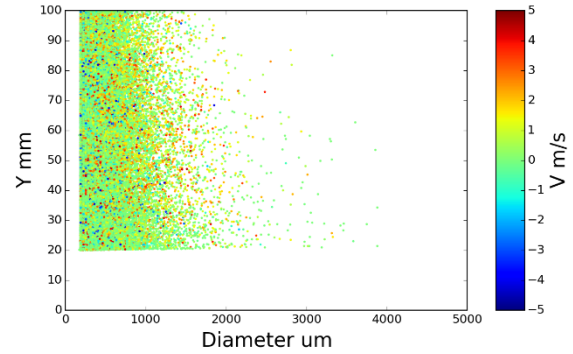


Figure D. 304: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

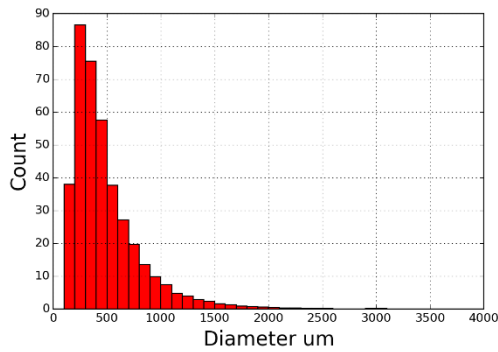


Figure D. 302: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

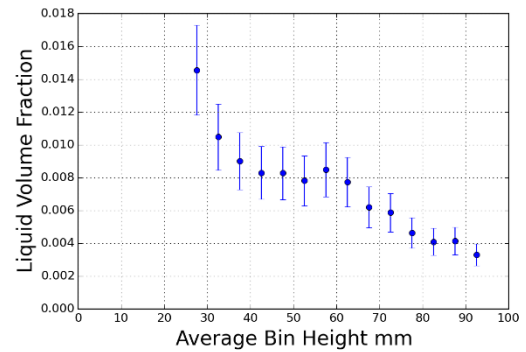


Figure D. 305: Void Fraction R-123 40F 5000Btu 30000Lb Rot Tri

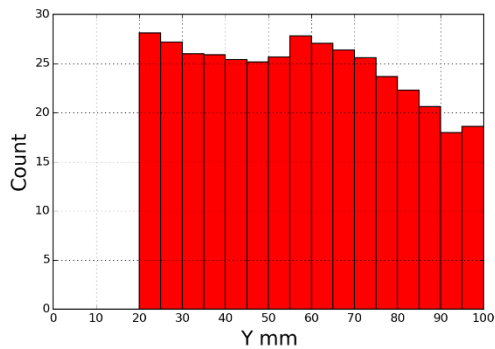


Figure D. 303: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1.2 All Droplets for .LB Image

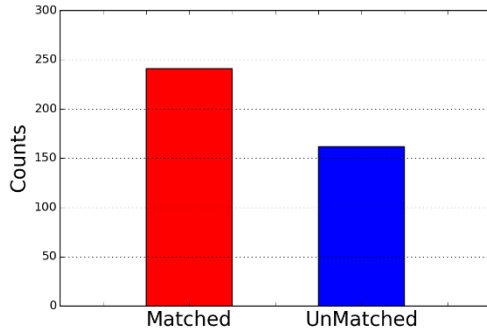


Figure D. 306: CHC Count Comparison R-123 40F 5000Btu 30000Lb Rot Tri

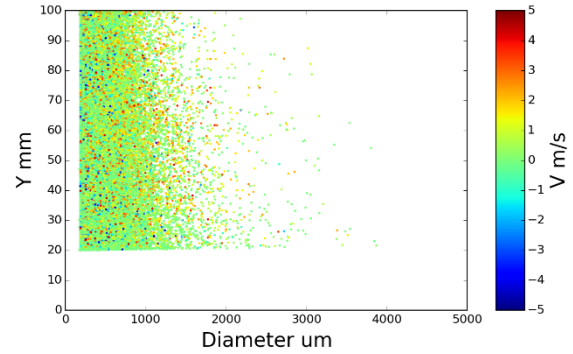


Figure D. 309: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

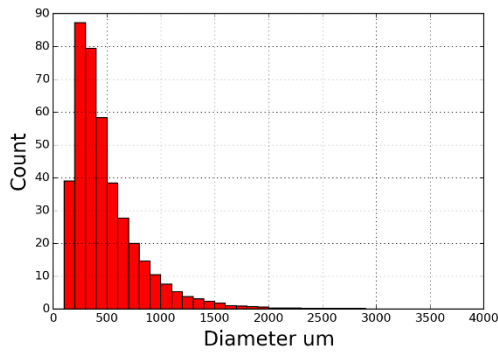


Figure D. 307: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

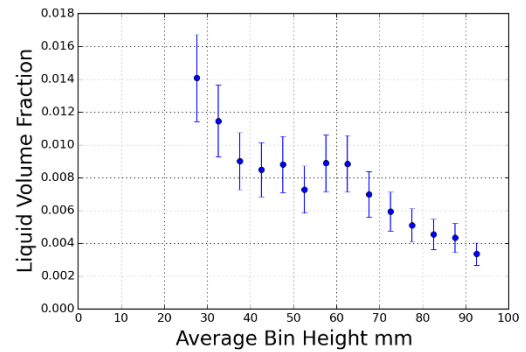


Figure D. 310: Void Fraction R-123 40F 5000Btu 30000Lb Rot Tri

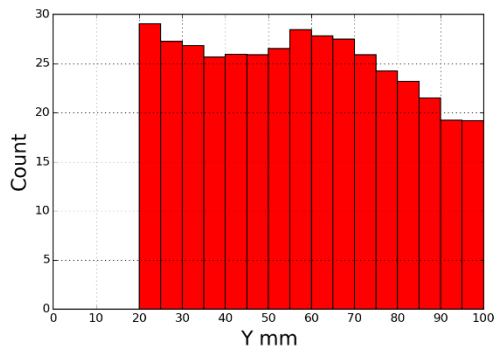


Figure D. 308: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1.2 Matched Only Droplets for .LA Image

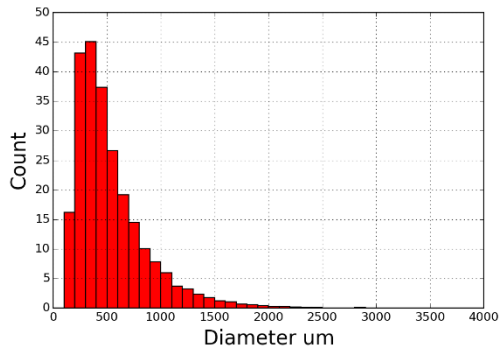


Figure D. 311: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

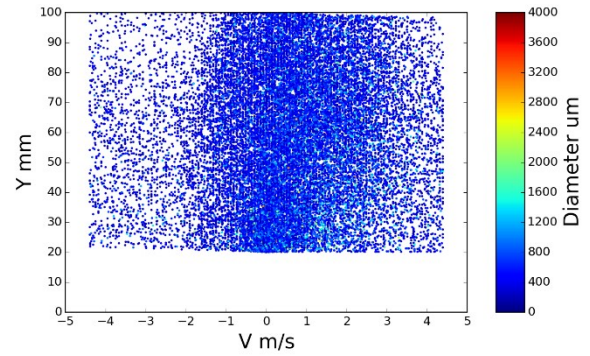


Figure D. 314: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 30000Lb Rot Tri

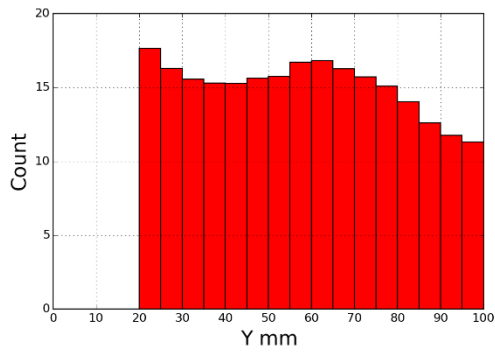


Figure D. 312: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

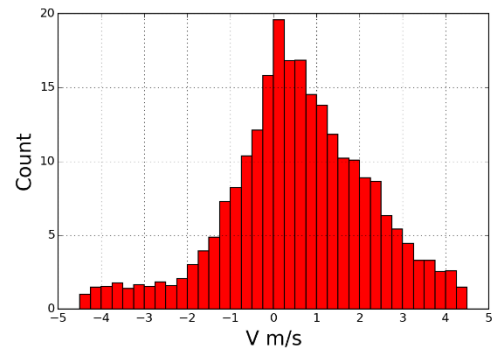


Figure D. 315: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 30000Lb Rot Tri

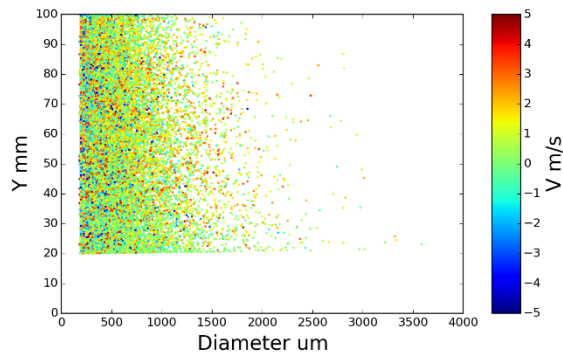


Figure D. 313: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1.2 Matched Only Droplets for .LB Image

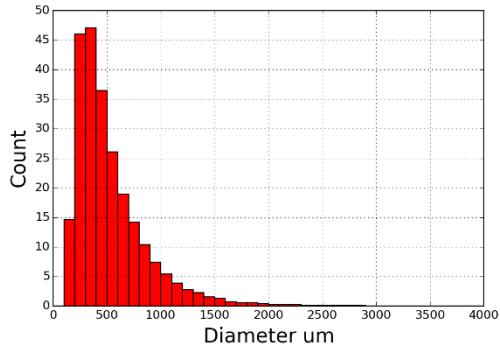


Figure D. 316: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

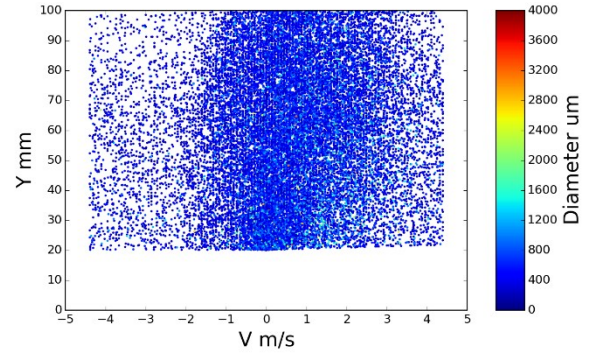


Figure D. 319: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 30000Lb Rot Tri

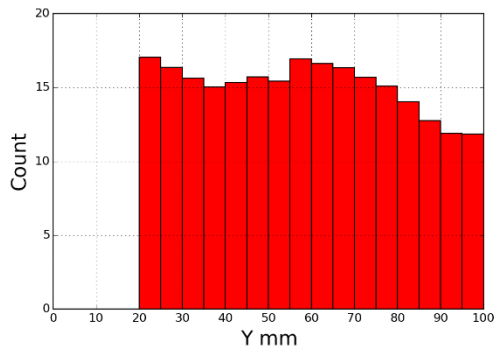


Figure D. 317: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

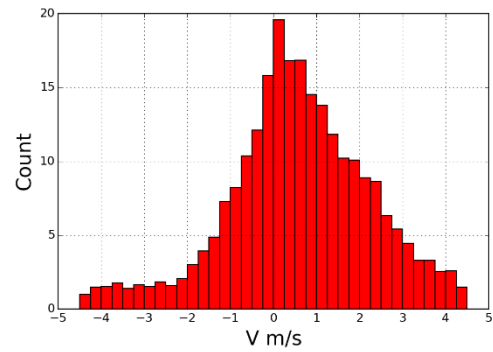


Figure D. 320: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 30000Lb Rot Tri

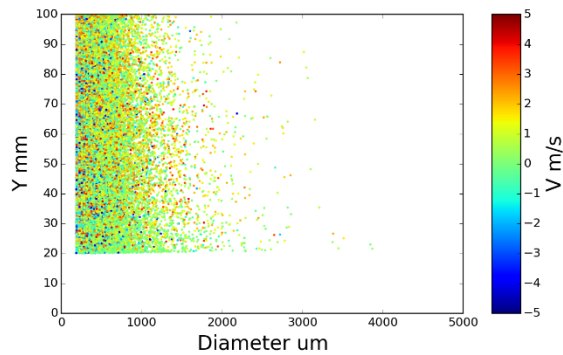


Figure D. 318: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1.2 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	129.09	132.84	170.6	3625	535.5	364.9	170.6	3719	533.4	367.0
40-60mm	116.95	119.72	170.6	3164	495.1	316.6	170.6	3340	497.9	319.3
60-80mm	105.68	107.7	170.6	3128	479.0	299.2	170.6	3186	483.7	305.4
80-100mm	78.28	81.16	182.4	2958	452.0	263.1	170.6	2929	455.5	263.6
All	430.2	441.69	170.6	3625	495.3	320.5	170.6	3719	497.1	323.2
			Height A (mm)				Height B (mm)			
Highest Particle			100.0521				100.0521			
Lowest Particle			20.1133				20.1133			

Table D. 36: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	76.34	182.4	3132	585.5	366.8	182.4	3719	576.9	370.2	-4.400	4.400	-0.220	1.510	-4.400	4.400	0.700	1.790
40-60mm	69.51	182.4	3164	542.4	327.1	182.4	3340	535.4	327.4	-4.400	4.400	-0.190	1.460	-4.400	4.400	0.790	1.840
60-80mm	63.82	182.4	3128	529.0	313.4	182.4	3186	524.3	319.7	-4.400	4.400	-0.130	1.350	-4.400	4.400	0.880	1.780
80-100mm	48.65	182.4	2832	497.8	275.3	182.4	2929	494.1	271.8	-4.400	4.400	-0.080	1.230	-4.400	4.400	0.810	1.620
All	258.34	182.4	3164	543.4	328.7	182.4	3719	536.8	330.4	-4.400	4.400	-0.160	1.410	-4.400	4.400	0.790	1.770

Table D. 37: Matched Droplet Info

D.2.1.2 All Droplets for .LA Image

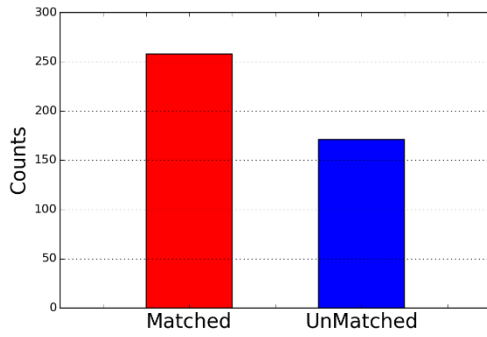


Figure D. 321: CHC Count Comparison R-123 40F 5000Btu 30000Lb Rot Tri

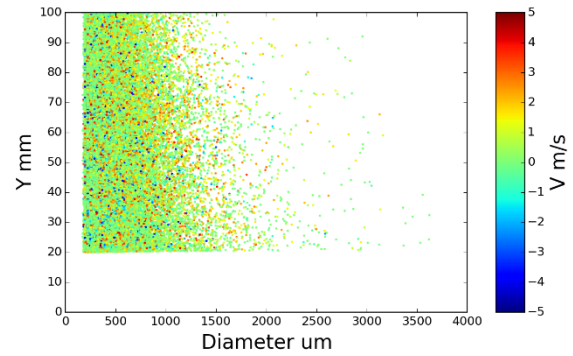


Figure D. 324: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

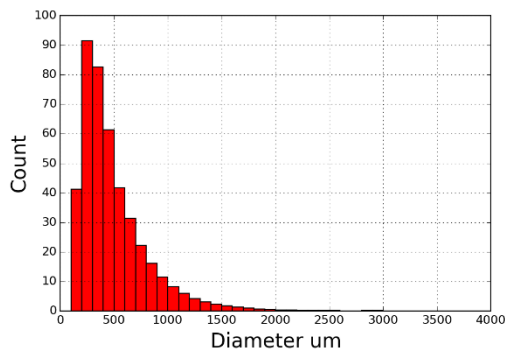


Figure D. 322: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

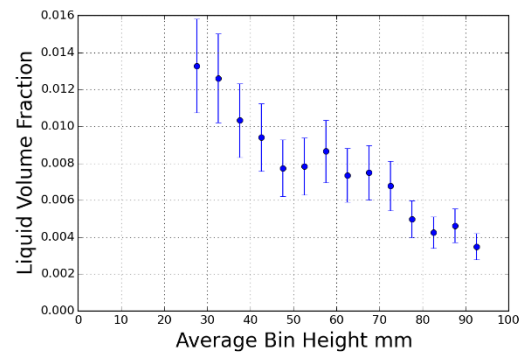


Figure D. 325: Void Fraction R-123 40F 5000Btu 30000Lb Rot Tri

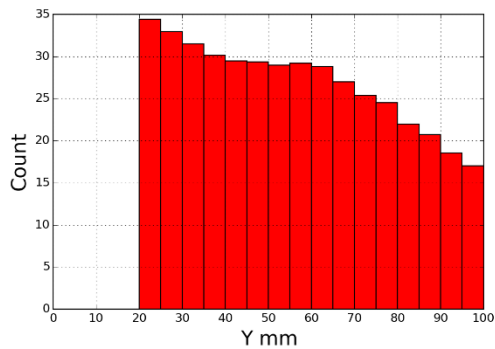


Figure D. 323: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1.2 All Droplets for .LB Image

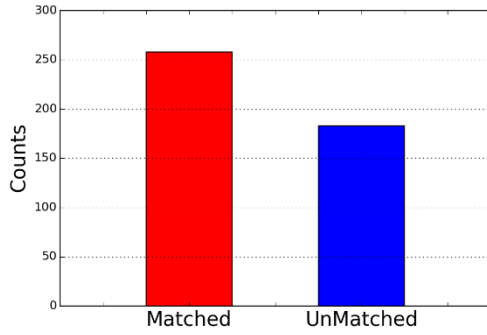


Figure D. 326: CHC Count Comparison R-123 40F 5000Btu 30000Lb Rot Tri

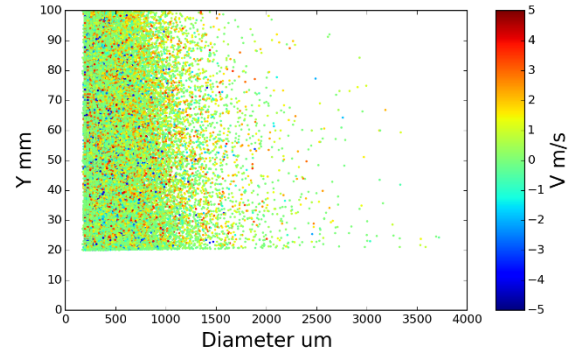


Figure D. 329: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

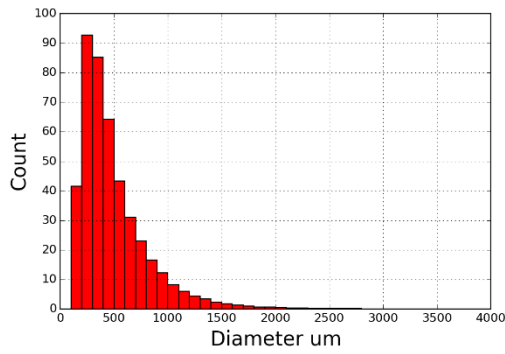


Figure D. 327: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

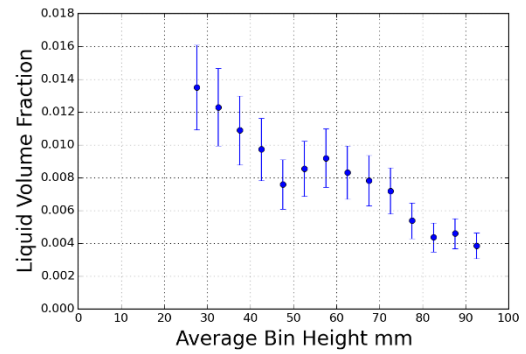


Figure D. 330: Void Fraction R-123 40F 5000Btu 30000Lb Rot Tri

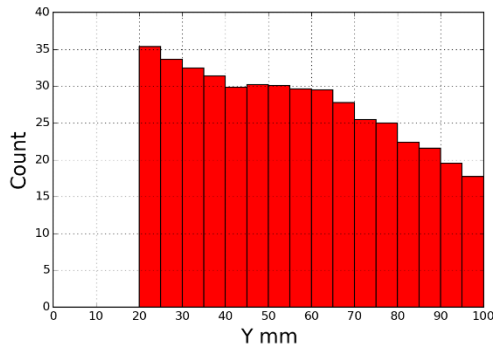


Figure D. 328: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1.2 Matched Only Droplets for .LA Image

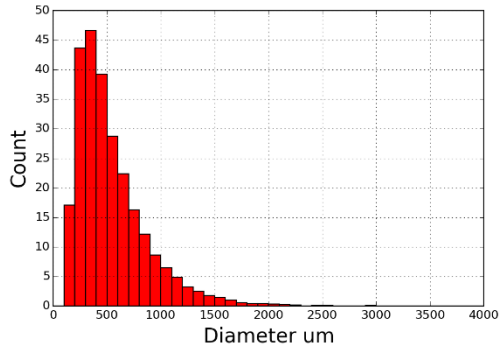


Figure D. 331: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

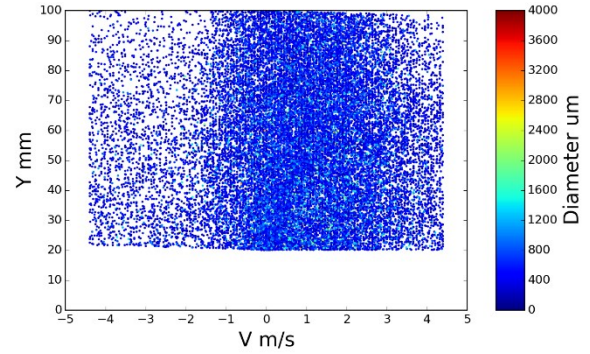


Figure D. 334: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 30000Lb Rot Tri

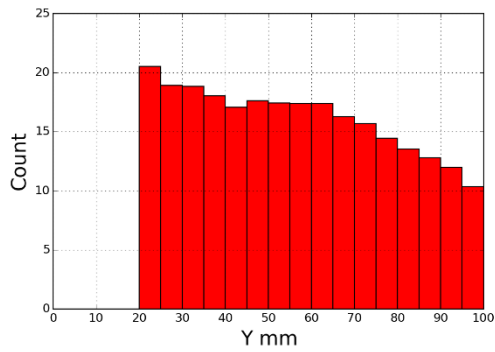


Figure D. 332: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

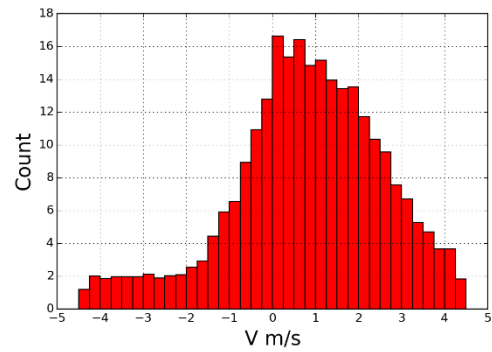


Figure D. 335: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 30000Lb Rot Tri

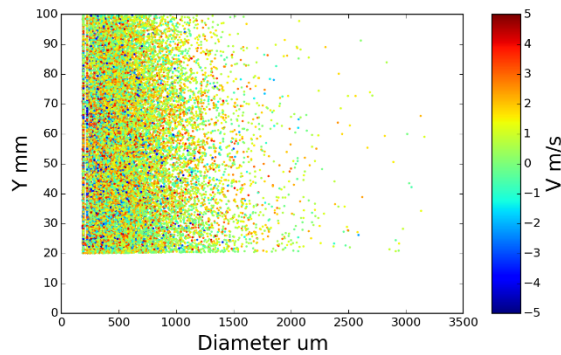


Figure D. 333: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1.2 Matched Only Droplets for .LB Image

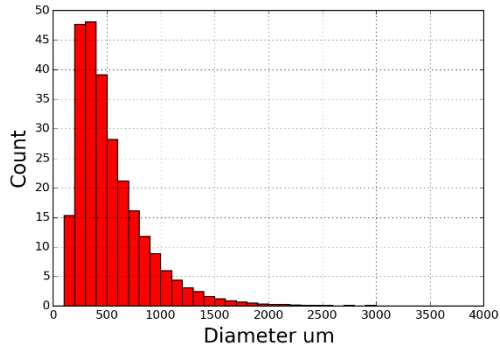


Figure D. 336: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

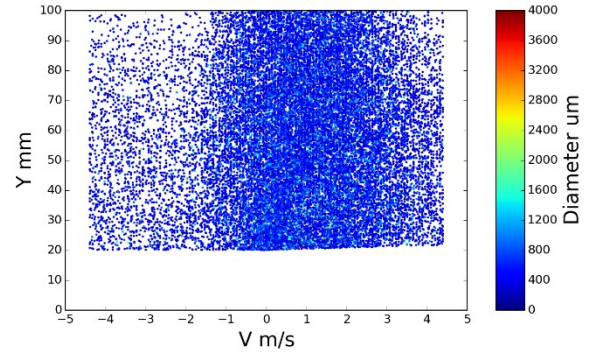


Figure D. 339: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 30000Lb Rot Tri

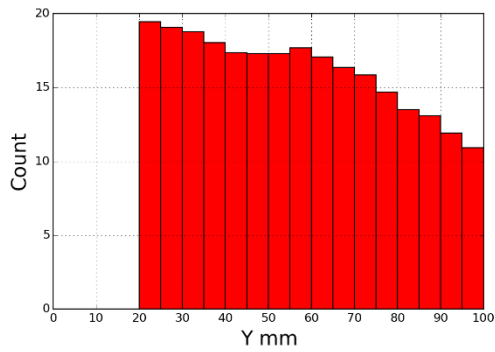


Figure D. 337: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

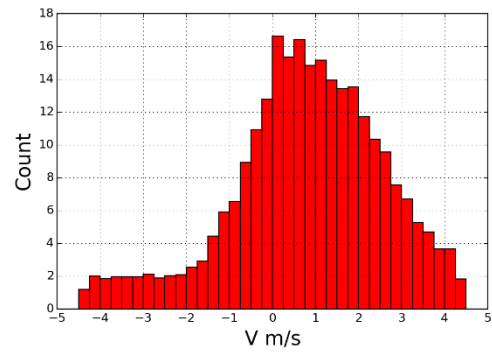


Figure D. 340: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 30000Lb Rot Tri

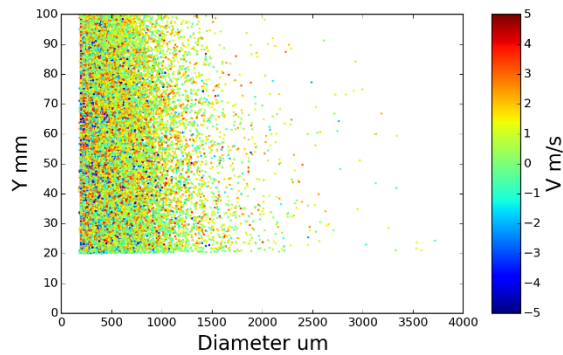


Figure D. 338: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1.2 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	131.26	131.12	170.6	3952	565.6	380.9	170.6	3937	570.1	383.1
40-60mm	113.35	116.42	182.4	3097	524.5	334.7	170.6	3546	528.1	344.1
60-80mm	94.01	97.22	170.6	3344	517.4	332.5	182.4	3838	516.4	328.8
80-100mm	70.89	72.67	170.6	3094	486.3	290.1	170.6	3006	489.8	290.3
All	409.67	417.64	170.6	3952	529.3	343.8	170.6	3937	531.7	346.1
			Height A (mm)				Height B (mm)			
Highest Particle			100.0521				100.0521			
Lowest Particle			20.1133				20.1133			

Table D. 38: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	75.18	182.4	3600	633.2	387.8	182.4	3666	625.0	394.1	-4.400	4.400	-0.150	1.550	-4.400	4.400	0.900	1.840
40-60mm	65.82	182.4	3097	587.6	353.7	182.4	3180	579.5	358.1	-4.400	4.400	-0.140	1.510	-4.400	4.400	1.190	1.920
60-80mm	53.41	182.4	3314	581.9	341.8	182.4	3838	569.4	335.6	-4.400	4.400	-0.070	1.440	-4.400	4.400	1.190	1.820
80-100mm	41.7	182.4	2869	549.0	306.3	170.6	3006	540.5	303.0	-4.400	4.400	-0.090	1.230	-4.400	4.400	1.190	1.630
All	236.12	182.4	3600	594.0	355.9	170.6	3838	584.3	357.0	-4.400	4.400	-0.120	1.460	-4.400	4.400	1.100	1.830

Table D. 39: Matched Droplet Info

D.2.1.2 All Droplets for .LA Image

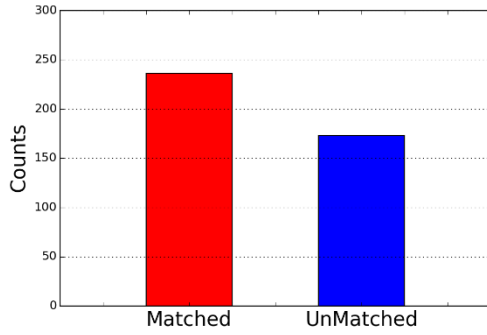


Figure D. 341: CHC Count Comparison R-123 40F 5000Btu 30000Lb Rot Tri

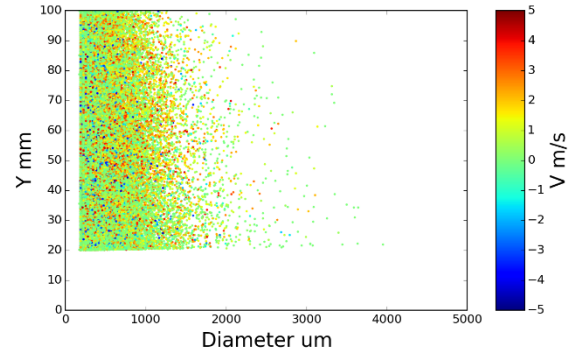


Figure D. 344: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

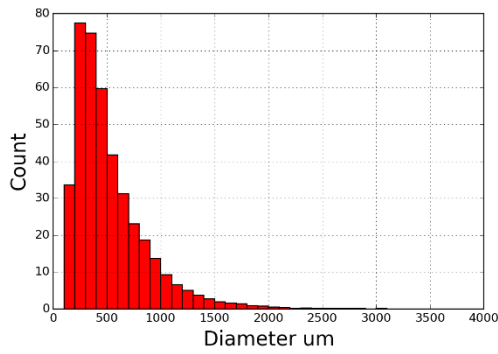


Figure D. 342: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

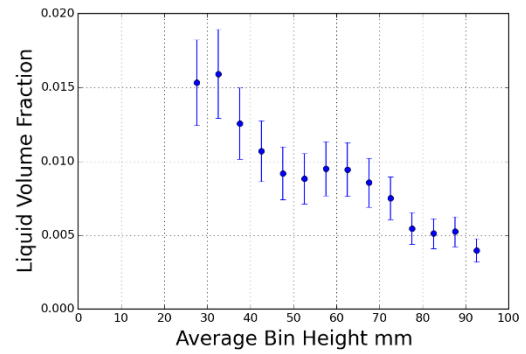


Figure D. 345: Void Fraction R-123 40F 5000Btu 30000Lb Rot Tri

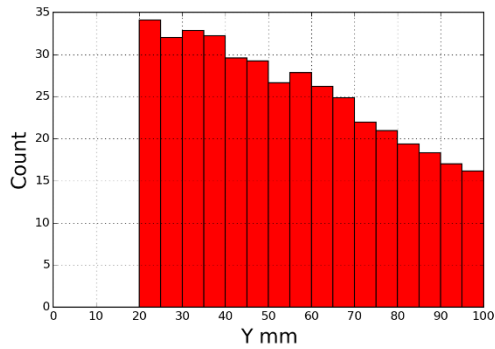


Figure D. 343: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1.2 All Droplets for .LB Image

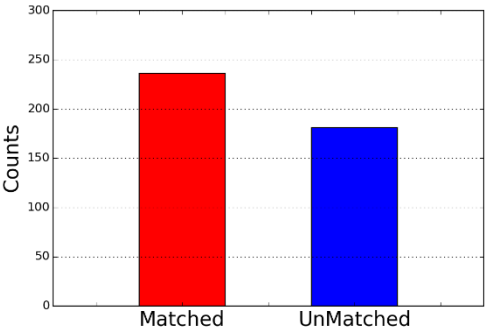


Figure D. 346: CHC Count Comparison R-123 40F 5000Btu 30000Lb Rot Tri

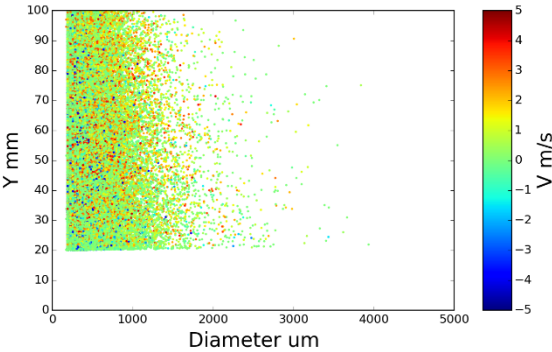


Figure D. 349: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

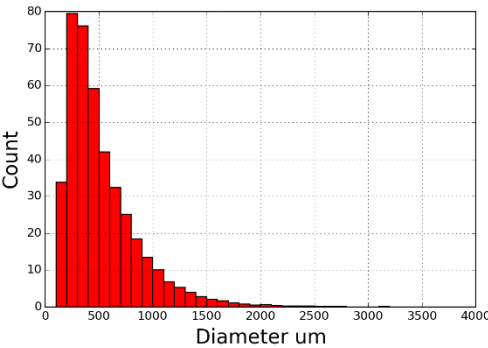


Figure D. 347: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

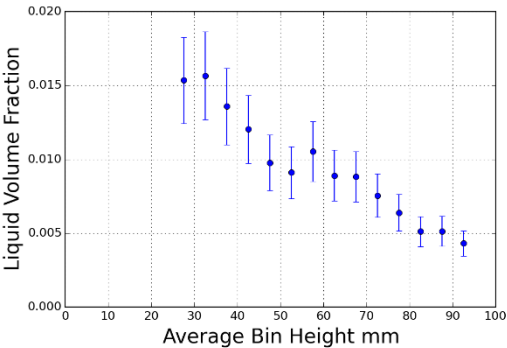


Figure D. 350: Void Fraction R-123 40F 5000Btu 30000Lb Rot Tri

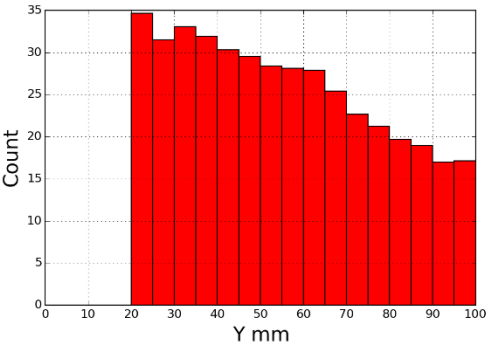


Figure D. 348: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1.2 Matched Only Droplets for .LA Image

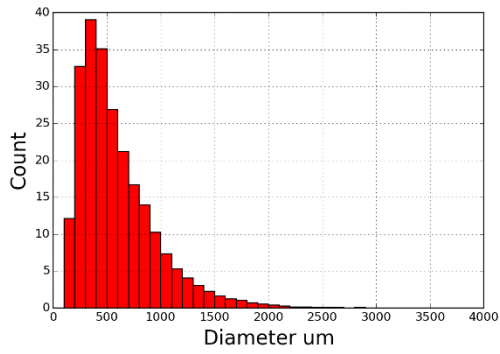


Figure D. 351: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

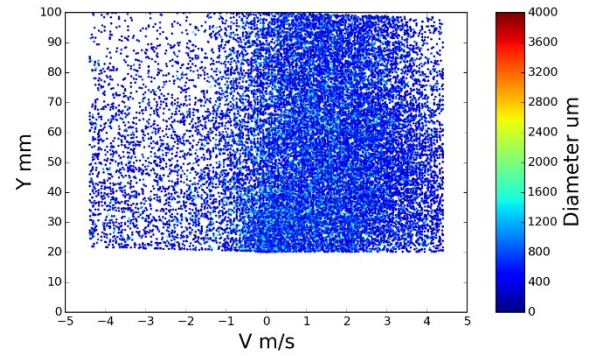


Figure D. 354: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 30000Lb Rot Tri

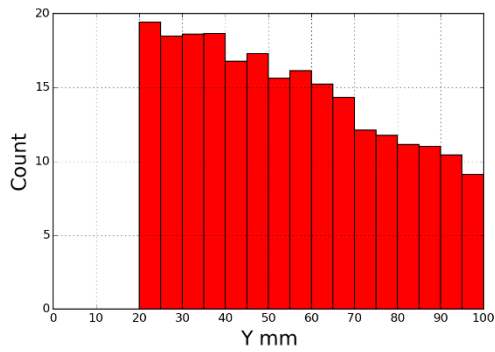


Figure D. 352: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

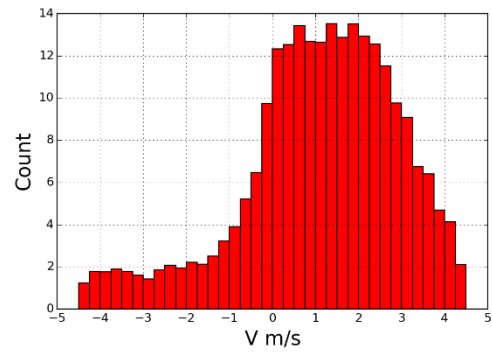


Figure D. 355: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 30000Lb Rot Tri

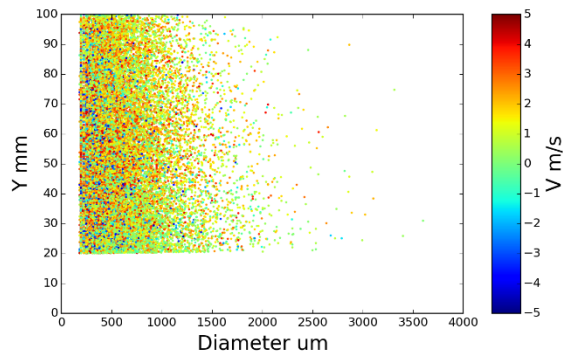


Figure D. 353: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

D.2.1.2 Matched Only Droplets for .LB Image

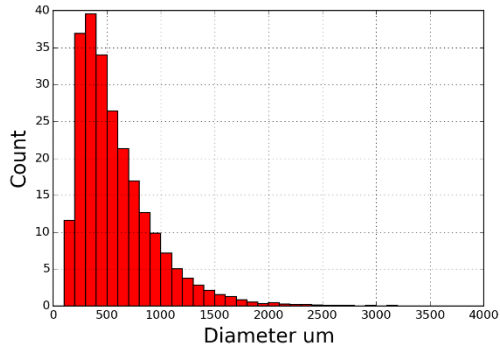


Figure D. 356: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

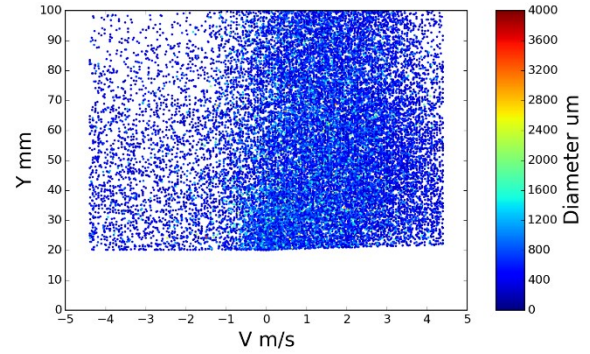


Figure D. 359: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 30000Lb Rot Tri

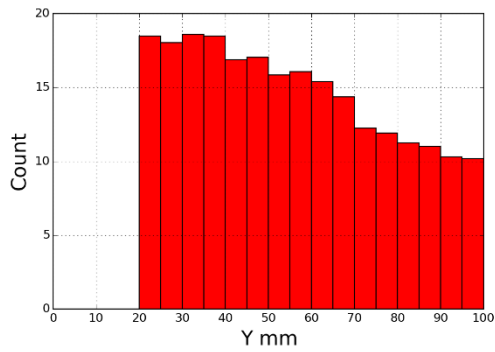


Figure D. 357: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

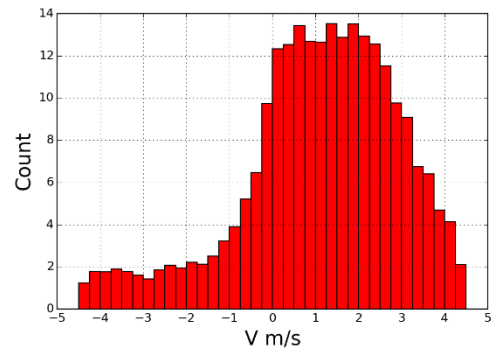


Figure D. 360: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 30000Lb Rot Tri

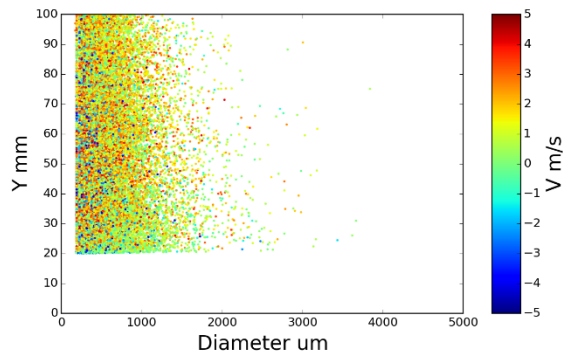


Figure D. 358: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

D.2.2 Liquid Level 3

Thermal Conditions	
H2O Flow Rate (lb/hr) / (kg/s)	10060 / 1.268
Ref Mass Flow (lb/hr) / (kg/s)	2183 / 0.275
Ref Mass Flux (lb/hr-ft2) / (kg/s-m2)	21250 / 28.819
Top Two Rows Heat Flux (Btu/hr-ft2) / (kW/m2)	571 / 1.80
Bundle Exit Saturation Temp (°F) / (°C)	41.0 / 4.99
Bundle Inlet Saturation Temp (°F) / (°C)	44.3 / 6.86
Total Bundle Q (Btu/hr) / (kW)	169388 / 49.64
Total Bundle & Preboiler Q (Btu/hr) / (kW)	169388 / 49.64
Top Two Rows HTC Ratio	0.780
Bundle Inlet Quality	-0.09
Bundle Exit Quality	0.93

Table D. 40: Thermal Conditions

D.2.2.1 Lens 50mm Mag 0_13x

D.2.2.1 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	4.99	5.01	182.4	3307	509.5	465.4	170.6	3142	472.8	425.6
20-40mm	4.37	4.26	170.6	1714	534.4	310.5	170.6	2000	528.3	302.8
40-60mm	4.12	3.98	182.4	1547	507.7	278.2	182.4	1318	512.3	268.2
60-80mm	5.21	4.96	182.4	2068	580.8	345.2	182.4	2830	576.6	353.6
80-100mm	2.01	2.14	182.4	1439	520.5	293.8	182.4	1301	501.3	279.2
All	20.73	20.38	170.6	3307	533.0	356.6	170.6	3142	520.0	343.3
			Height A (mm)				Height B (mm)			
Highest Particle			100.0258				100.0236			
Lowest Particle			9.5995				9.5424			

Table D. 41: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.95	182.4	2481	530.3	479.6	182.4	2539	523.3	481.8	-4.280	4.040	-0.280	2.080	-2.120	3.780	-0.020	1.140
20-40mm	2.89	193.4	1698	566.1	282.7	182.4	1682	565.5	291.3	-3.370	1.160	-0.100	0.550	-1.480	4.030	0.540	0.900
40-60mm	2.25	182.4	1477	594.0	264.2	193.4	1318	588.0	260.3	-3.270	3.320	-0.150	0.610	-4.280	4.210	0.710	1.180
60-80mm	2.68	193.4	1919	650.1	333.1	182.4	2032	646.9	347.8	-4.390	2.960	-0.260	0.680	-3.520	4.310	0.600	1.060
80-100mm	1.27	193.4	1189	551.1	263.9	182.4	1206	541.9	267.7	-3.590	0.660	-0.350	0.570	-0.770	3.740	1.020	1.020
All	10.05	182.4	2481	589.1	317.1	182.4	2539	585.3	323.8	-4.390	4.040	-0.200	0.870	-4.280	4.310	0.600	1.080

Table D. 42: Matched Droplet Info

D.2.2.1 All Droplets for .LA Image

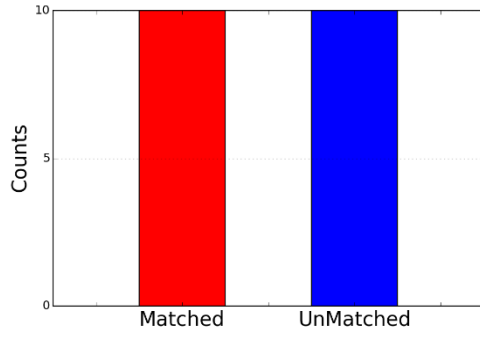


Figure D. 361: CHC Count Comparison R-123 40F 5000Btu 30000Lb Rot Tri

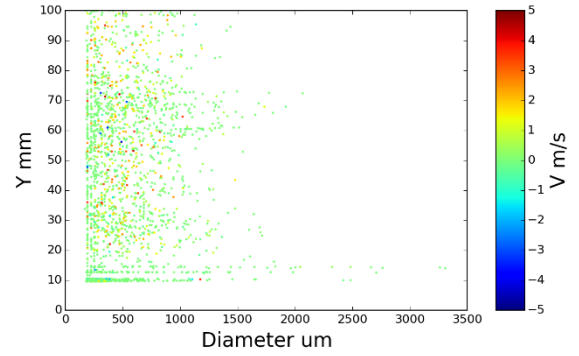


Figure D. 364: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

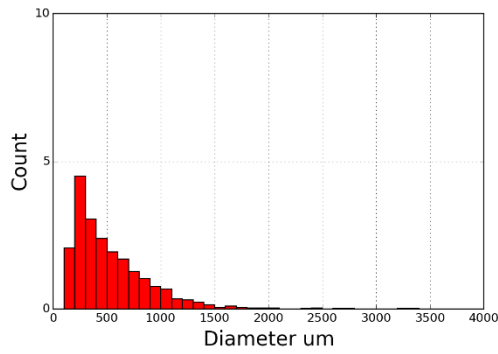


Figure D. 362: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

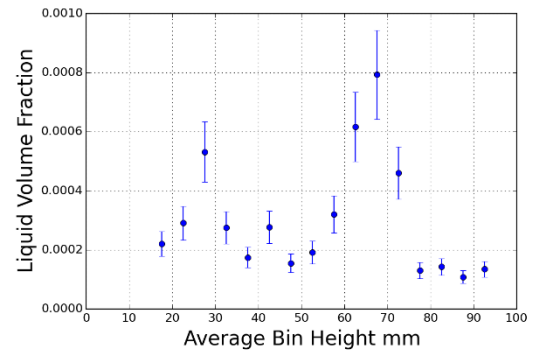


Figure D. 365: Void Fraction R-123 40F 5000Btu 30000Lb Rot Tri

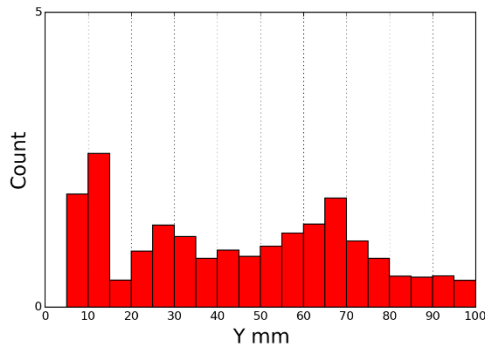


Figure D. 363: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

D.2.2.1 All Droplets for .LB Image

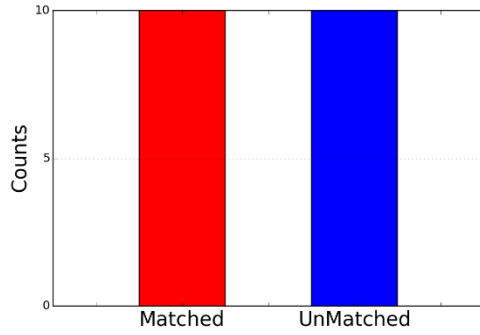


Figure D. 366: CHC Count Comparison R-123 40F 5000Btu 30000Lb Rot Tri

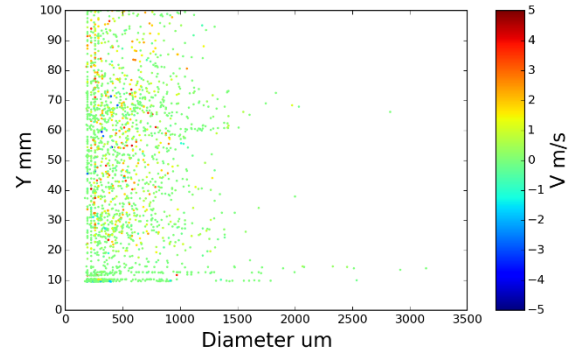


Figure D. 369: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

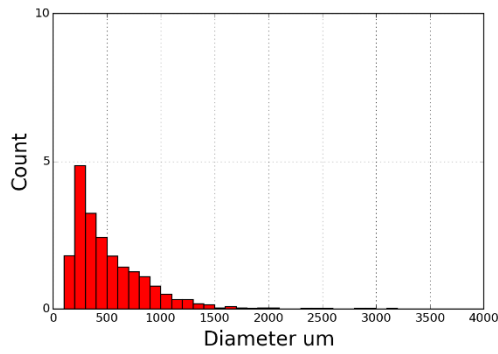


Figure D. 367: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

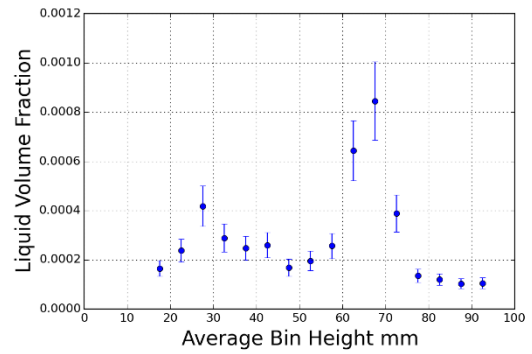


Figure D. 370: Void Fraction R-123 40F 5000Btu 30000Lb Rot Tri

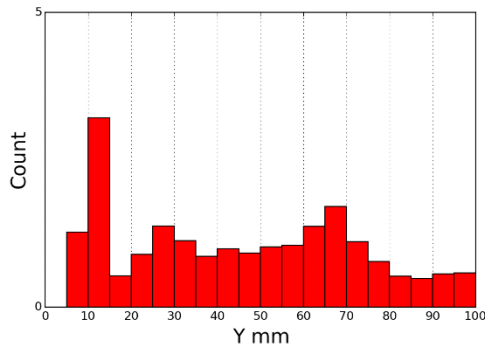


Figure D. 368: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

D.2.2.1 Matched Only Droplets for .LA Image

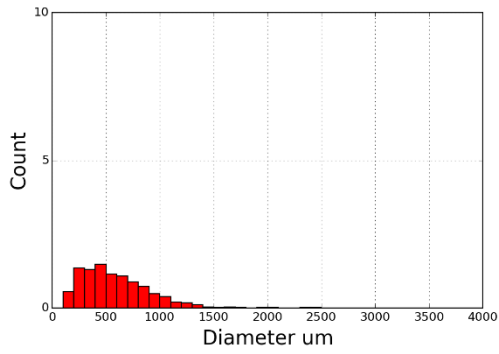


Figure D. 371: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

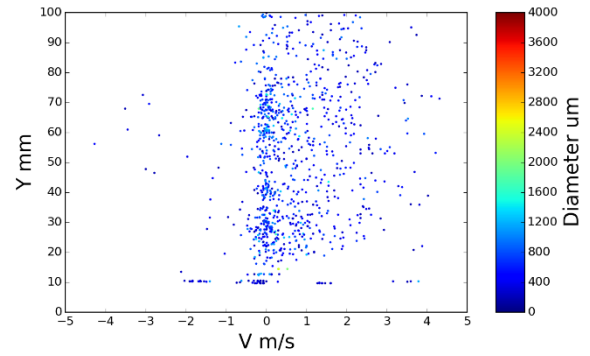


Figure D. 374: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 30000Lb Rot Tri

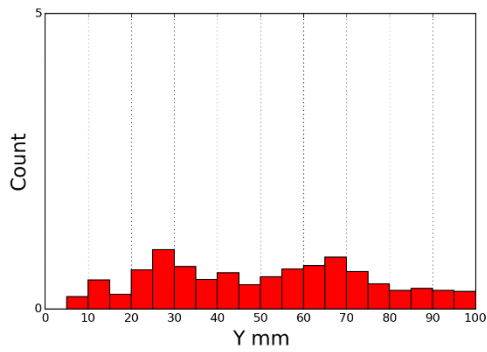


Figure D. 372: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

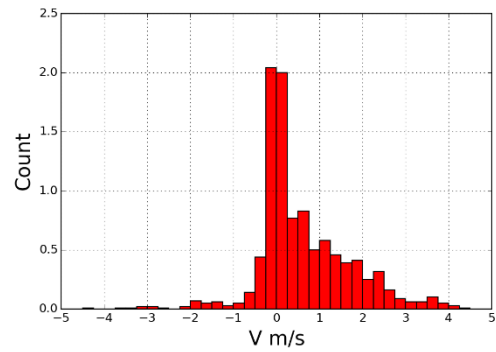


Figure D. 375: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 30000Lb Rot Tri

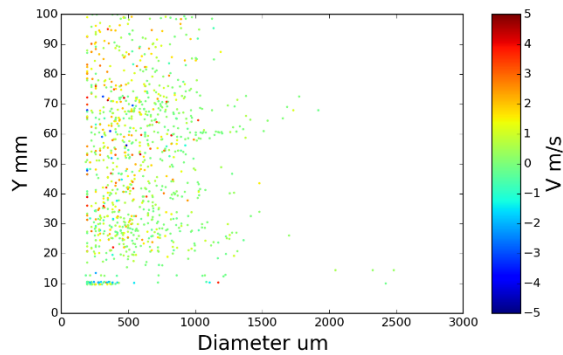


Figure D. 373: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

D.2.2.1 Matched Only Droplets for .LB Image

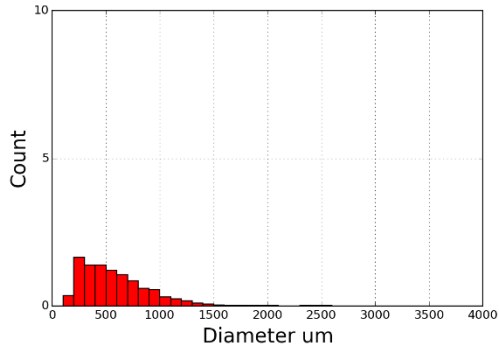


Figure D. 376: Droplet Diameter Histogram R-123 40F 5000Btu 30000Lb Rot Tri

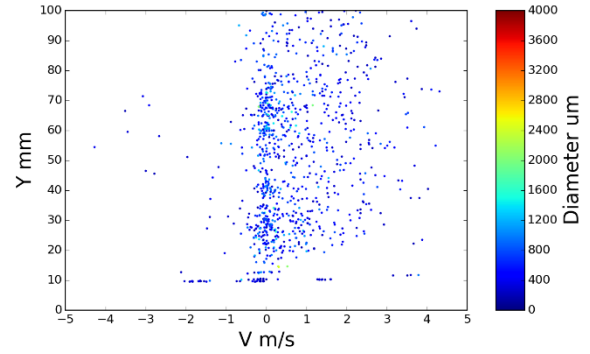


Figure D. 379: Droplet Height vs Vertical Velocity R-123 40F 5000Btu 30000Lb Rot Tri

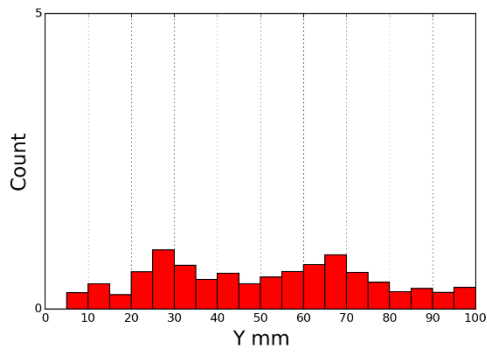


Figure D. 377: Droplet Height Histogram R-123 40F 5000Btu 30000Lb Rot Tri

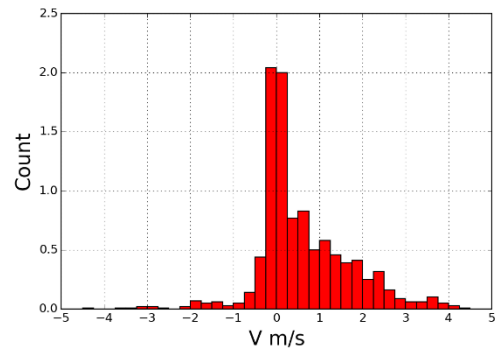


Figure D. 380: Droplet Vertical Velocity Histogram R-123 40F 5000Btu 30000Lb Rot Tri

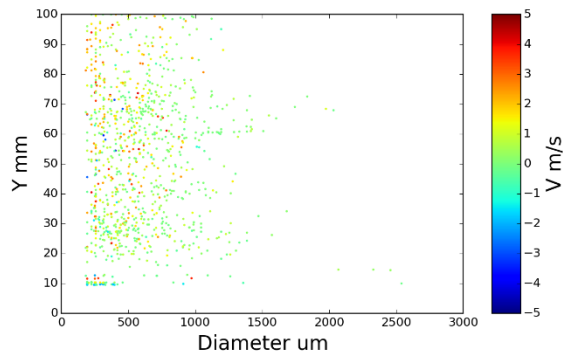


Figure D. 378: Droplet Height vs Diameter R-123 40F 5000Btu 30000Lb Rot Tri

D.3 - 1556 R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1 Liquid Level 2

Thermal Conditions	
H2O Flow Rate (lb/hr) / (kg/s)	27529 / 3.469
Ref Mass Flow (lb/hr) / (kg/s)	3055 / 0.385
Ref Mass Flux (lb/hr-ft ²) / (kg/s-m ²)	29740 / 40.334
Top Two Rows Heat Flux (Btu/hr-ft ²) / (kW/m ²)	7935 / 25.03
Bundle Exit Saturation Temp (°F) / (°C)	45.8 / 7.68
Bundle Inlet Saturation Temp (°F) / (°C)	49.0 / 9.42
Total Bundle Q (Btu/hr) / (kW)	182929 / 53.61
Total Bundle & Preboiler Q (Btu/hr) / (kW)	182929 / 53.61
Top Two Rows HTC Ratio	1.079
Bundle Inlet Quality	-0.10
Bundle Exit Quality	0.69

Table D. 43: Thermal Conditions

D.3.1.1 Lens 100mm Mag 0_29x

D.3.1.1 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	93.38	95.11	76.2	3875	407.9	428.9	76.2	3953	408.1	431.7
40-60mm	282.46	289.1	76.2	3983	387.0	404.8	76.2	4030	386.1	405.8
60-80mm	277.73	280.73	76.2	3676	389.2	394.8	76.2	4027	387.4	396.5
80-100mm	16.81	16.6	76.2	2483	367.6	326.2	76.2	2561	364.1	334.1
All	670.53	681.54	76.2	3983	390.3	402.4	76.2	4030	389.1	404.2
			Height A (mm)				Height B (mm)			
Highest Particle			81.0708				81.0708			
Lowest Particle			33.0865				33.0865			

Table D. 44: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	48.16	81.4	3209	508.0	459.6	76.2	3381	502.4	464.1	-4.500	4.500	-0.110	1.320	-4.500	4.500	0.330	1.580
40-60mm	146.49	81.4	3983	485.0	440.3	81.4	4005	477.2	440.8	-4.500	4.500	-0.110	1.350	-4.500	4.500	0.510	1.670
60-80mm	147.66	81.4	3586	484.9	429.4	76.2	3917	476.7	429.9	-4.500	4.500	-0.090	1.310	-4.500	4.500	0.540	1.620
80-100mm	8.06	81.4	2483	467.1	380.9	81.4	2561	451.2	372.5	-4.390	4.500	-0.010	1.160	-4.420	4.440	0.250	1.380
All	350.37	81.4	3983	487.7	437.3	76.2	4005	479.8	438.1	-4.500	4.500	-0.100	1.320	-4.500	4.500	0.490	1.630

Table D. 45: Matched Droplet Info

D.3.1.1 All Droplets for .LA Image

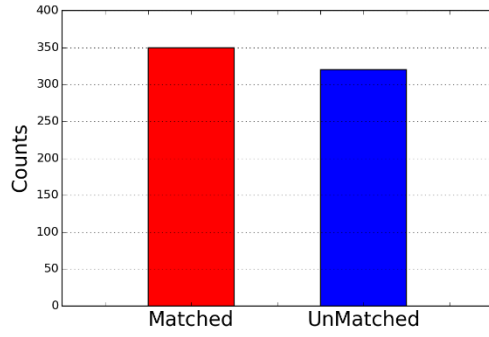


Figure D. 381: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

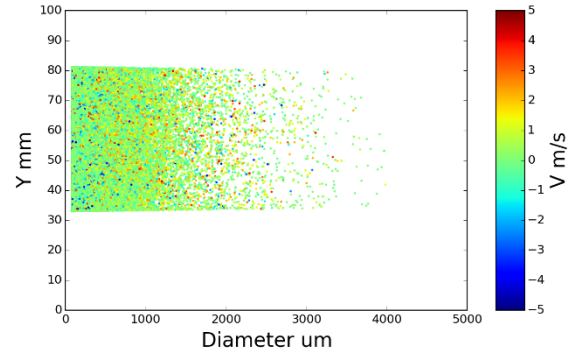


Figure D. 384: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

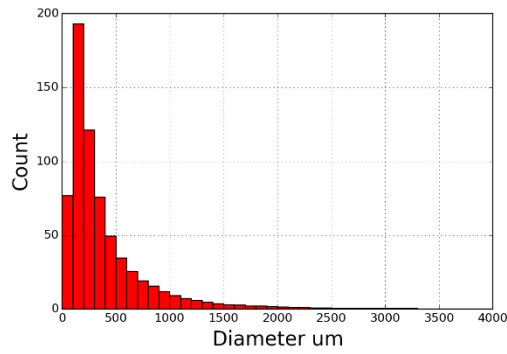


Figure D. 382: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

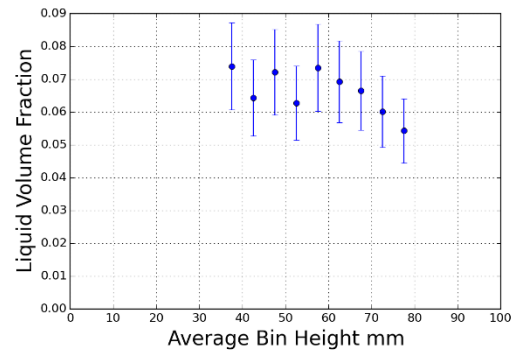


Figure D. 385: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

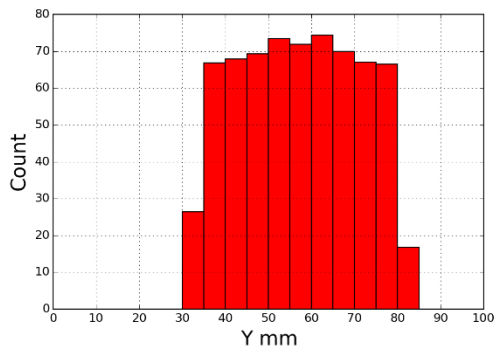


Figure D. 383: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1.1 All Droplets for .LB Image

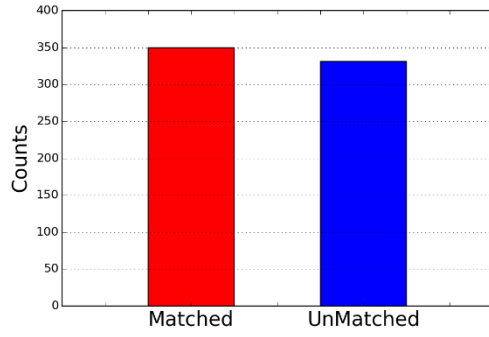


Figure D. 386: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

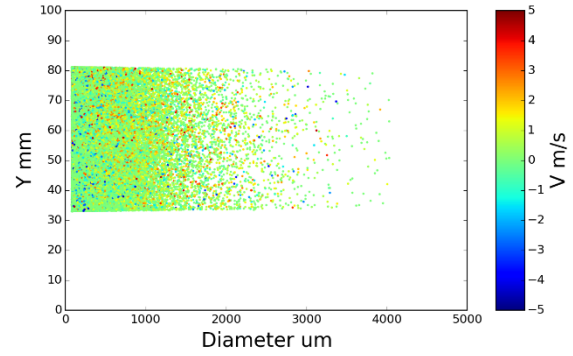


Figure D. 389: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

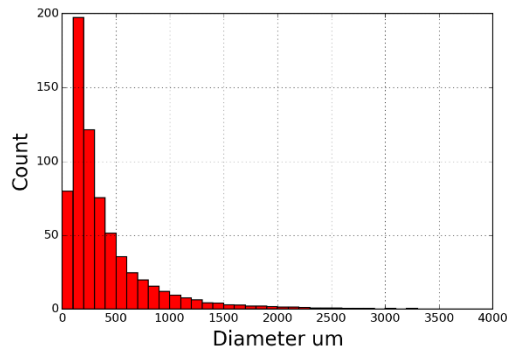


Figure D. 387: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

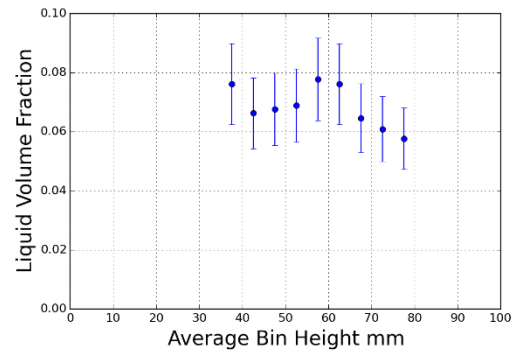


Figure D. 390: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

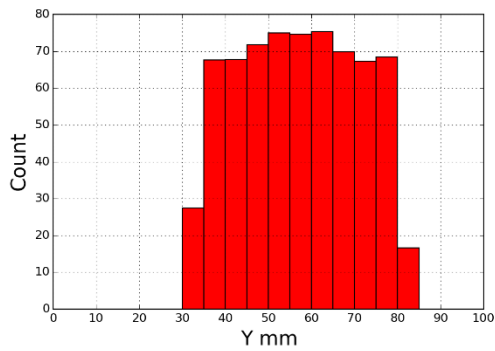


Figure D. 388: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1.1 Matched Only Droplets for .LA Image

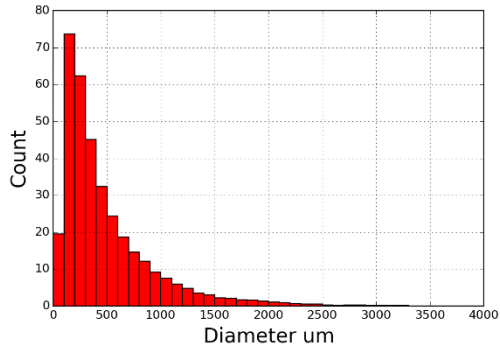


Figure D. 391: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

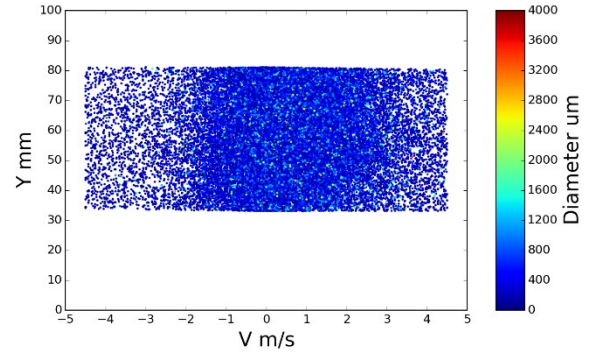


Figure D. 394: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

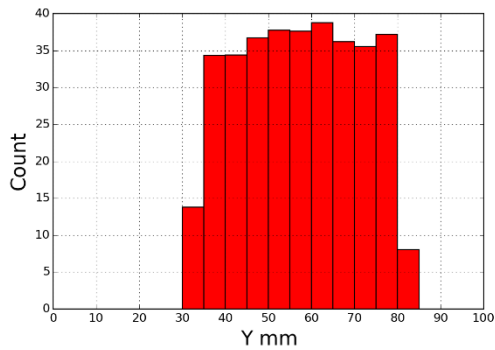


Figure D. 392: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

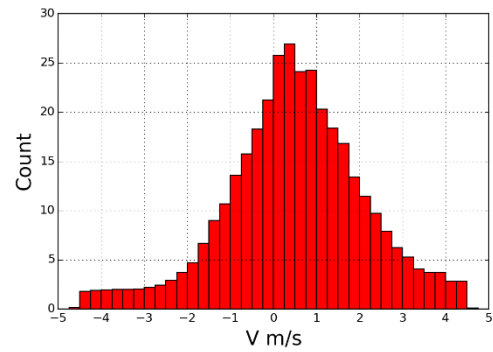


Figure D. 395: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

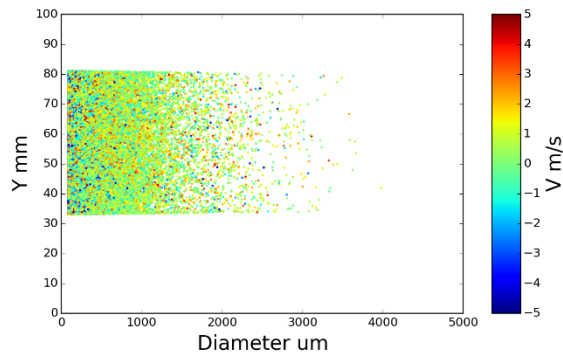


Figure D. 393: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1.1 Matched Only Droplets for .LB Image

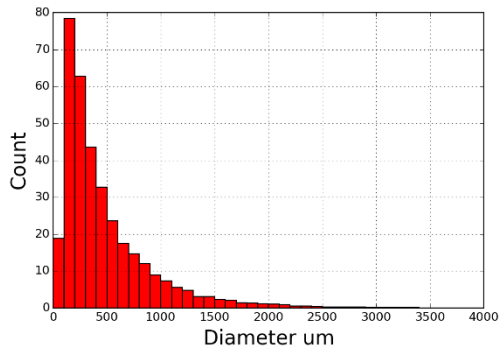


Figure D. 396: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

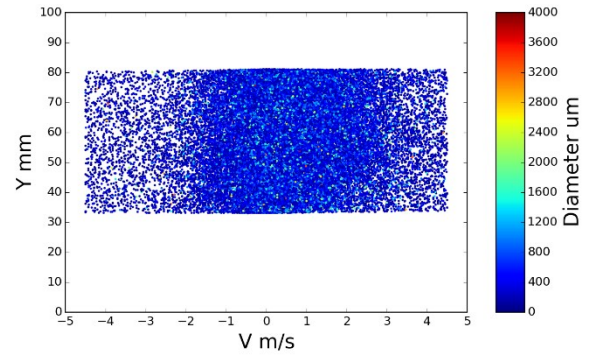


Figure D. 399: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

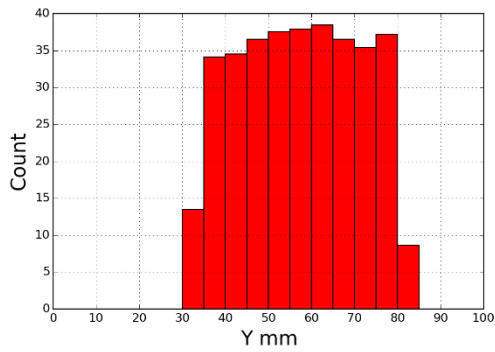


Figure D. 397: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

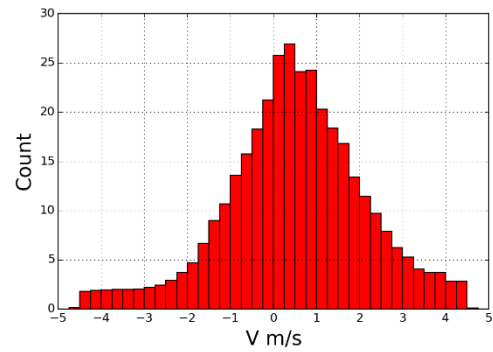


Figure D. 400: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

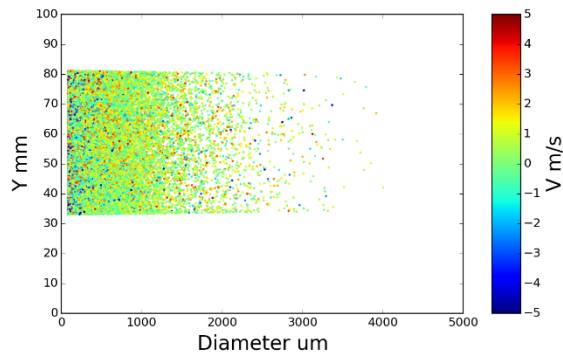


Figure D. 398: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1.1 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	81.78	81.83	76.2	3883	468.1	475.1	76.2	3803	463.7	472.5
40-60mm	207.47	207.44	76.2	3997	474.9	484.2	76.2	4015	476.8	485.9
60-80mm	179.4	181.43	76.2	3894	481.5	484.5	76.2	3991	479.0	482.5
80-100mm	11.28	11.26	81.4	2352	435.7	389.4	76.2	2764	443.8	411.7
All	479.93	481.96	76.2	3997	475.3	480.8	76.2	4015	474.6	480.8
			Height A (mm)				Height B (mm)			
Highest Particle			81.0594				81.0610			
Lowest Particle			33.0865				33.0865			

Table D. 46: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	42.12	81.4	3562	601.3	508.4	81.4	3803	597.8	516.0	-4.440	4.470	-0.050	1.210	-4.500	4.500	0.960	1.570
40-60mm	106.31	81.4	3997	616.1	513.4	81.4	4015	608.0	519.9	-4.500	4.500	-0.060	1.170	-4.500	4.500	0.990	1.580
60-80mm	92.02	81.4	3894	638.1	524.9	81.4	3991	624.6	525.5	-4.500	4.490	-0.050	1.140	-4.500	4.500	0.930	1.520
80-100mm	5.22	81.4	2352	602.4	459.2	81.4	2571	586.1	442.6	-4.410	4.410	-0.060	1.120	-4.450	4.260	0.510	1.360
All	245.67	81.4	3997	621.5	516.0	81.4	4015	612.0	519.8	-4.500	4.500	-0.060	1.160	-4.500	4.500	0.950	1.550

Table D. 47: Matched Droplet Info

D.3.1.1 All Droplets for .LA Image

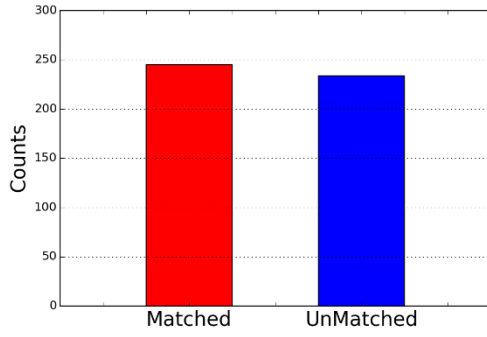


Figure D. 401: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

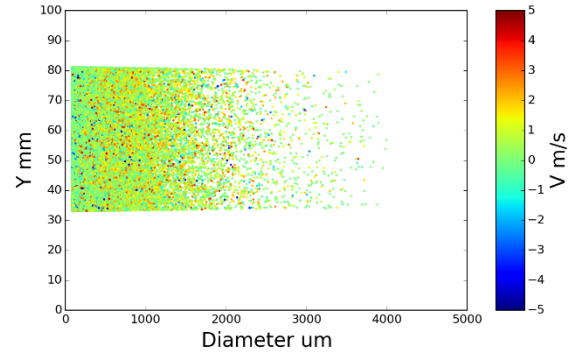


Figure D. 404: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

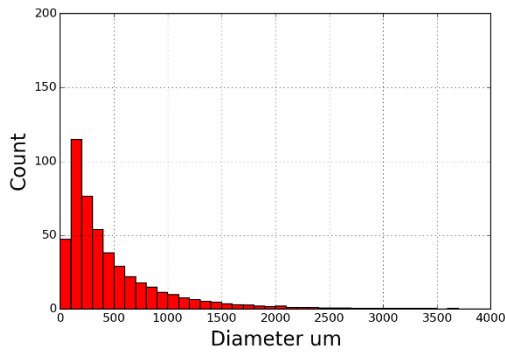


Figure D. 402: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

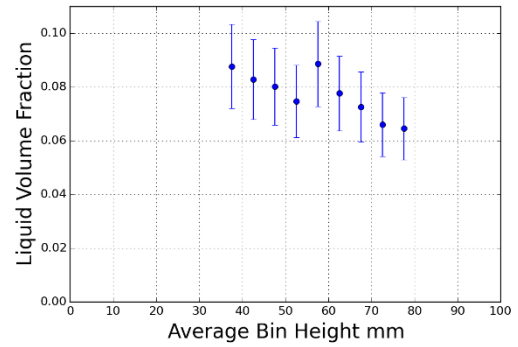


Figure D. 405: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

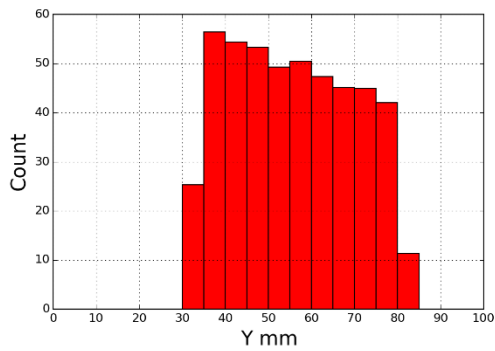


Figure D. 403: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1.1 All Droplets for .LB Image

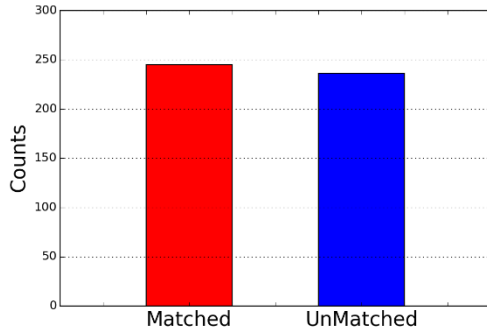


Figure D. 406: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

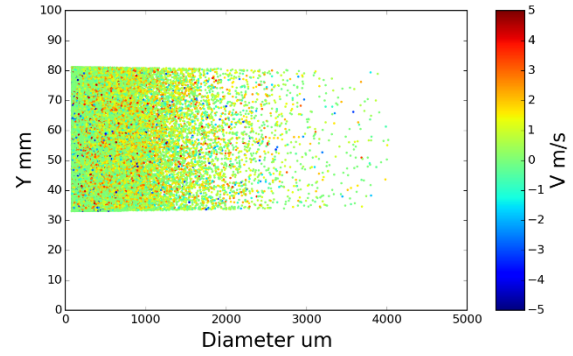


Figure D. 409: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

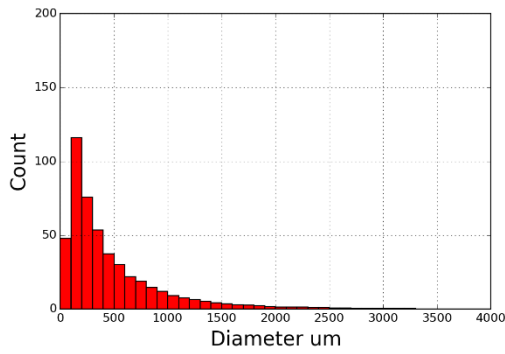


Figure D. 407: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

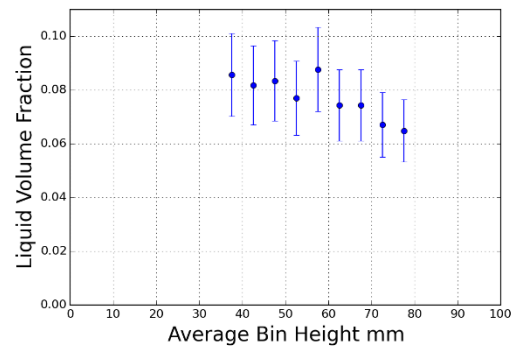


Figure D. 410: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

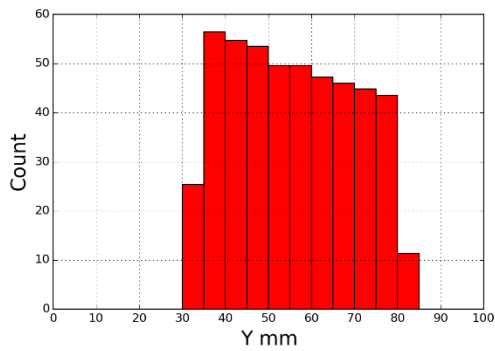


Figure D. 408: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1.1 Matched Only Droplets for .LA Image

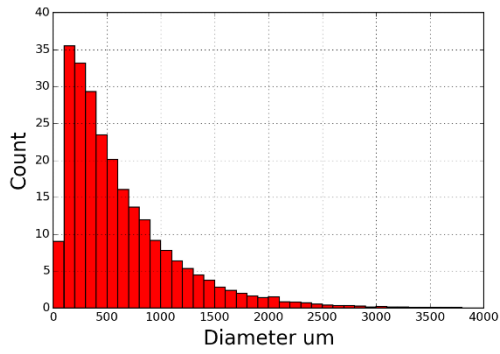


Figure D. 411: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

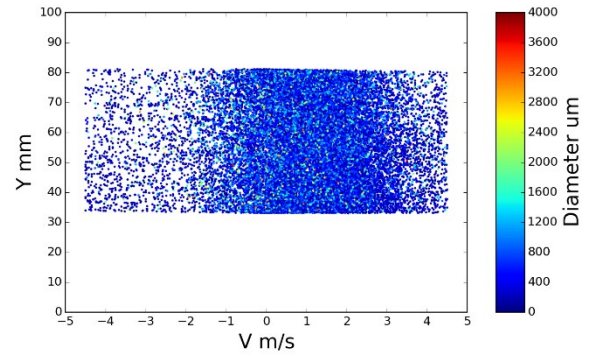


Figure D. 414: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

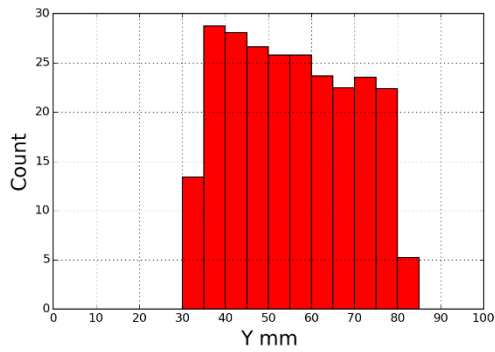


Figure D. 412: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

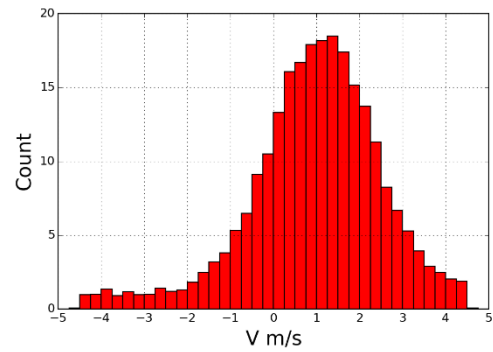


Figure D. 415: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

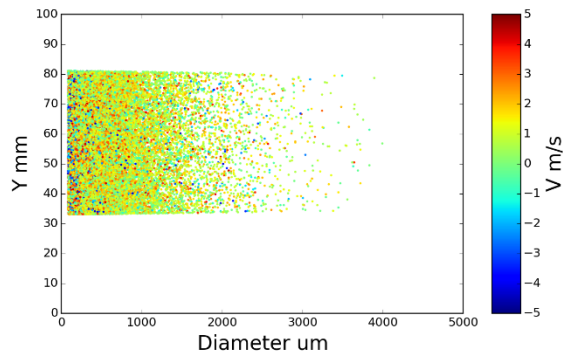


Figure D. 413: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1.1 Matched Only Droplets for .LB Image

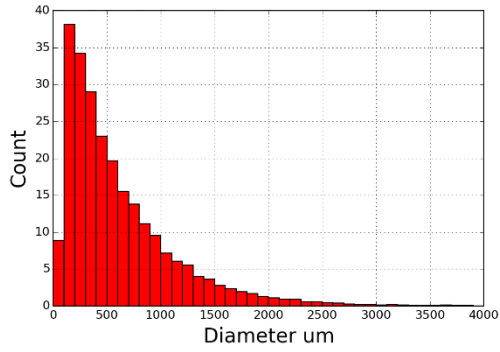


Figure D. 416: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

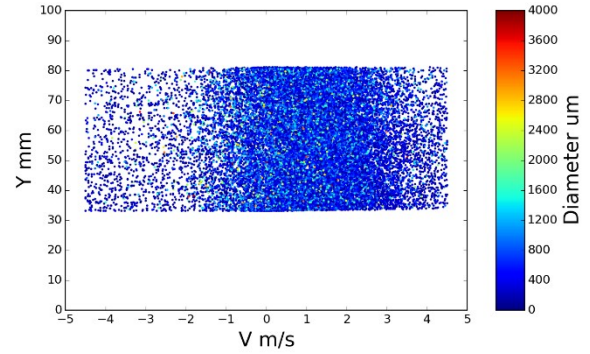


Figure D. 419: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

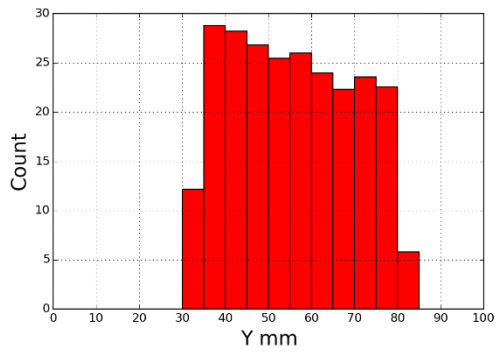


Figure D. 417: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

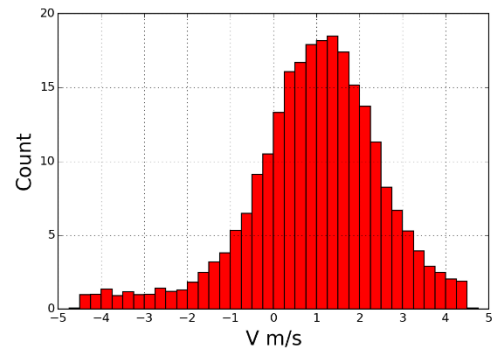


Figure D. 420: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

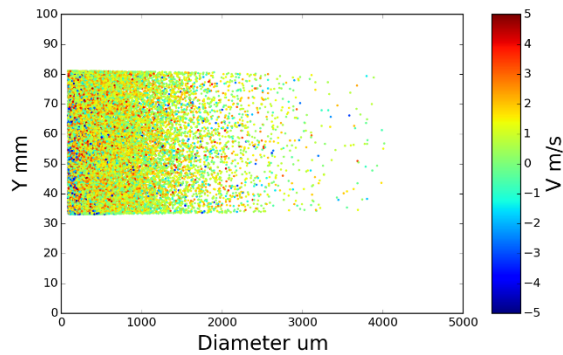


Figure D. 418: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1.1 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	59.27	60.08	76.2	3938	554.8	561.1	76.2	3975	555.4	562.2
40-60mm	148.02	149.18	76.2	4020	557.9	555.0	76.2	4010	561.3	561.0
60-80mm	118.96	120.18	76.2	3989	558.2	555.1	76.2	4012	552.2	558.1
80-100mm	7.46	7.24	76.2	2439	503.6	439.8	81.4	2393	495.1	430.5
All	333.71	336.68	76.2	4020	556.3	553.9	76.2	4012	555.5	557.8
			Height A (mm)				Height B (mm)			
Highest Particle			81.0653				81.0623			
Lowest Particle			33.0865				33.0865			

Table D. 48: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	28.79	81.4	3778	756.0	594.7	81.4	3887	752.6	608.5	-4.500	4.500	-0.030	1.140	-4.470	4.480	1.320	1.530
40-60mm	71.53	81.4	3970	764.7	590.9	81.4	3994	754.0	592.8	-4.500	4.500	-0.020	1.110	-4.500	4.500	1.380	1.510
60-80mm	56.39	81.4	3939	781.1	599.3	76.2	3966	762.3	599.3	-4.500	4.470	-0.010	1.080	-4.500	4.500	1.240	1.470
80-100mm	2.83	81.4	2439	750.2	500.7	81.4	2393	689.8	464.1	-4.500	4.440	-0.100	1.070	-4.320	4.340	0.730	1.230
All	159.54	81.4	3970	768.7	593.2	76.2	3994	755.3	595.5	-4.500	4.500	-0.020	1.100	-4.500	4.500	1.310	1.500

Table D. 49: Matched Droplet Info

D.3.1.1 All Droplets for .LA Image

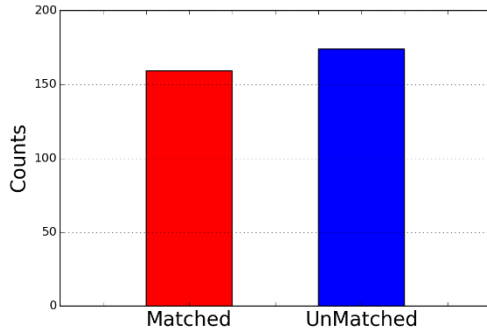


Figure D. 421: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

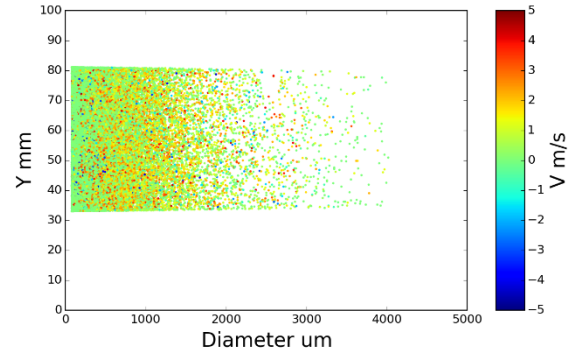


Figure D. 424: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

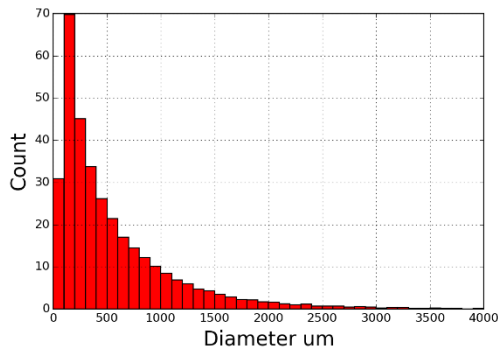


Figure D. 422: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

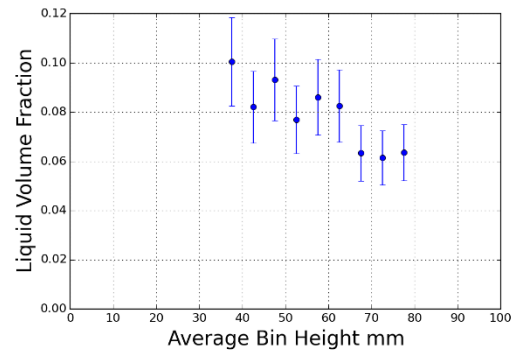


Figure D. 425: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

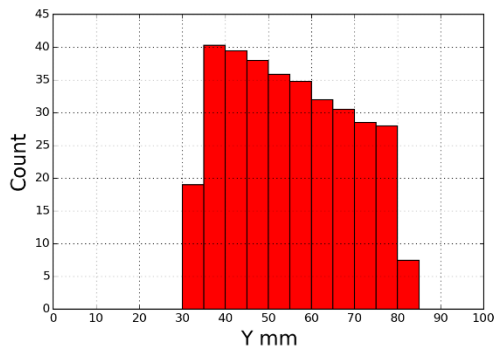


Figure D. 423: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1.1 All Droplets for .LB Image

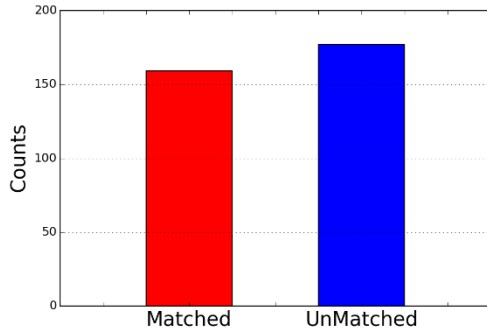


Figure D. 426: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

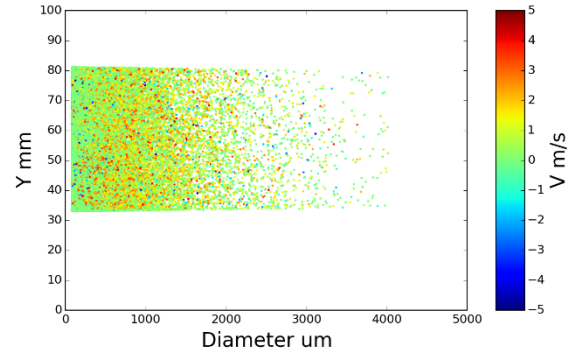


Figure D. 429: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

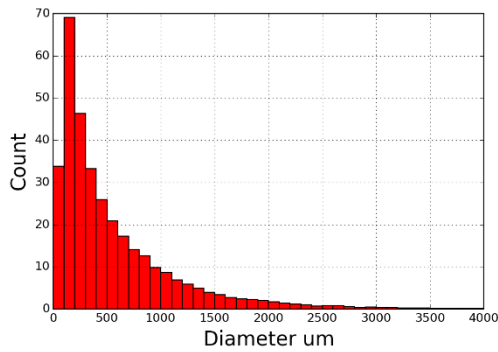


Figure D. 427: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

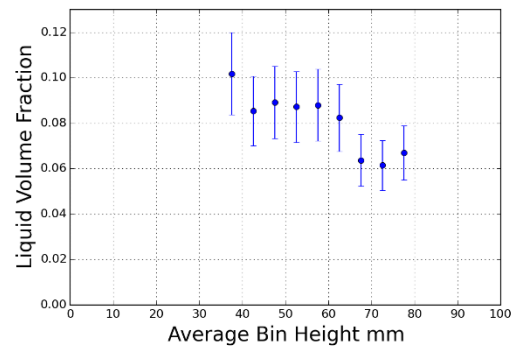


Figure D. 430: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

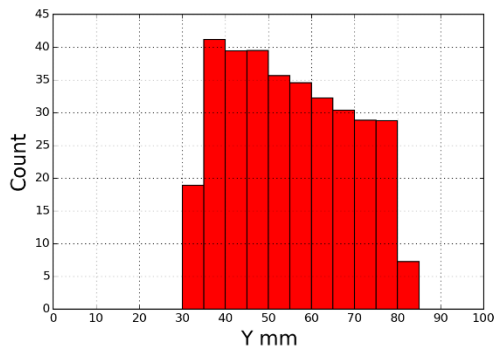


Figure D. 428: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1.1 Matched Only Droplets for .LA Image

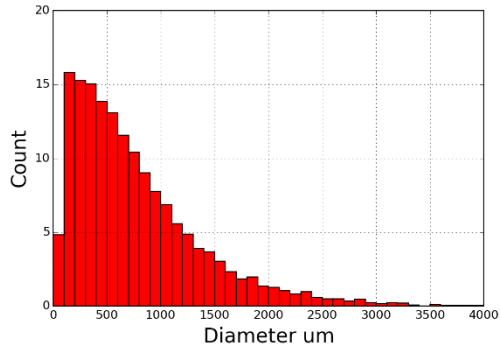


Figure D. 431: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

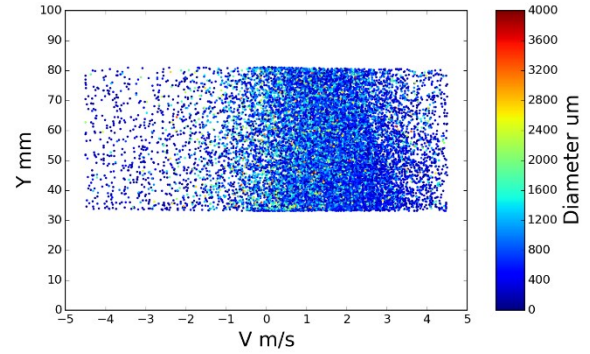


Figure D. 434: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

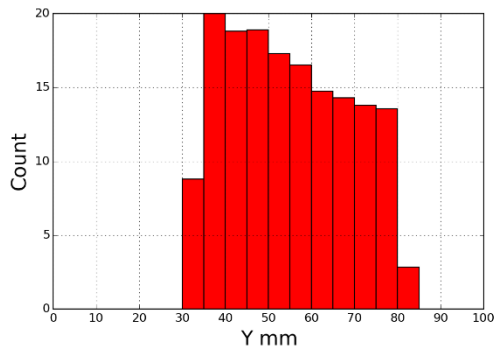


Figure D. 432: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

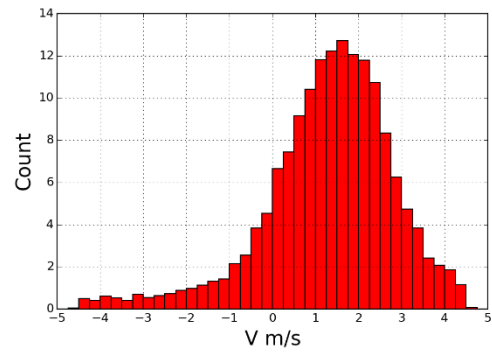


Figure D. 435: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

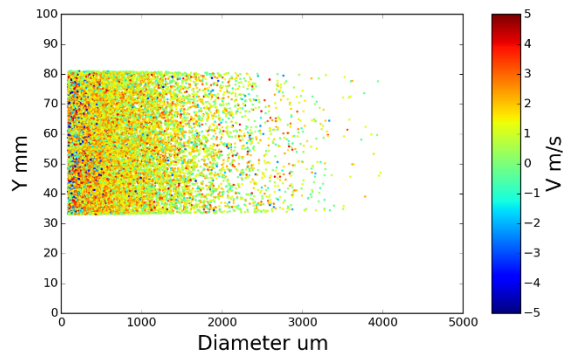


Figure D. 433: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1.1 Matched Only Droplets for .LB Image

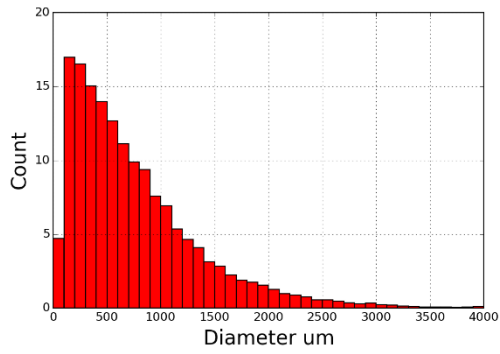


Figure D. 436: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

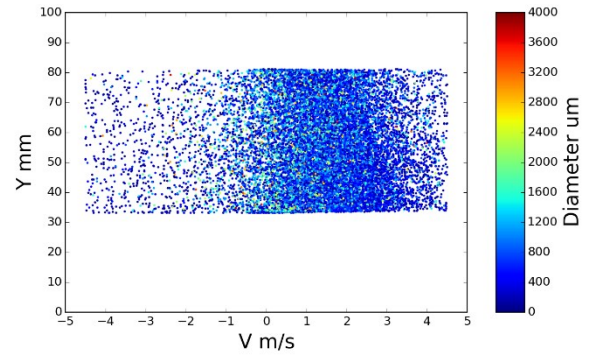


Figure D. 439: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

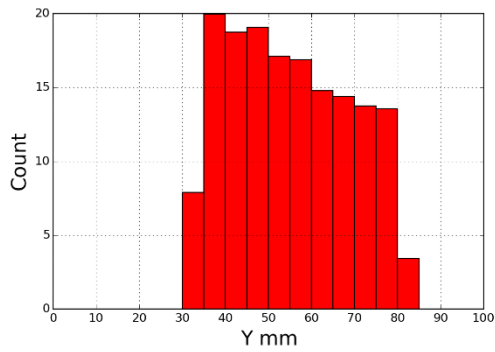


Figure D. 437: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

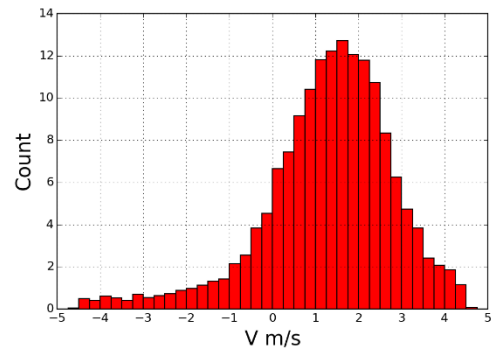


Figure D. 440: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

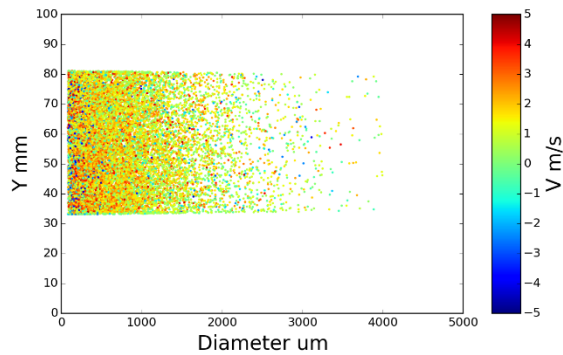


Figure D. 438: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1.2 Lens 50mm Mag 0_13x

D.3.1.2 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	145.98	145.87	170.7	3999	668.7	568.2	170.7	4000	670.0	565.8
40-60mm	161.54	162.31	170.7	3950	620.3	506.7	170.7	3999	615.9	502.5
60-80mm	160.81	161.59	170.7	3938	591.0	475.0	170.7	3889	592.8	479.8
80-100mm	146.09	150.09	170.7	3990	584.7	448.8	182.5	3996	588.2	449.9
All	615.27	620.64	170.7	3999	615.2	502.0	170.7	4000	615.5	501.3
			Height A (mm)				Height B (mm)			
Highest Particle			100.0650				100.0650			
Lowest Particle			20.1274				20.1274			

Table D. 50: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	77.06	182.5	3695	745.1	576.2	182.5	3894	729.2	577.9	-4.400	4.400	-0.190	1.670	-4.400	4.400	0.340	1.820
40-60mm	85.8	182.5	3620	690.0	518.0	182.5	3876	678.6	522.9	-4.400	4.400	-0.170	1.800	-4.400	4.400	0.380	2.000
60-80mm	84.51	182.5	3737	662.7	499.8	182.5	3889	646.6	497.0	-4.400	4.400	-0.190	1.790	-4.400	4.400	0.390	1.990
80-100mm	81.62	182.5	3768	660.1	473.6	182.5	3879	647.5	471.1	-4.400	4.400	-0.200	1.670	-4.400	4.400	0.380	1.880
All	329.16	182.5	3768	688.3	518.3	182.5	3894	674.0	518.5	-4.400	4.400	-0.190	1.740	-4.400	4.400	0.370	1.930

Table D. 51: Matched Droplet Info

D.3.1.2 All Droplets for .LA Image

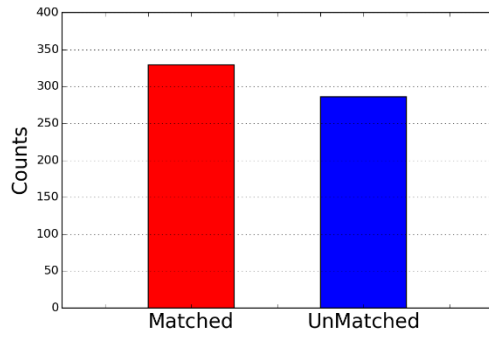


Figure D. 441: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

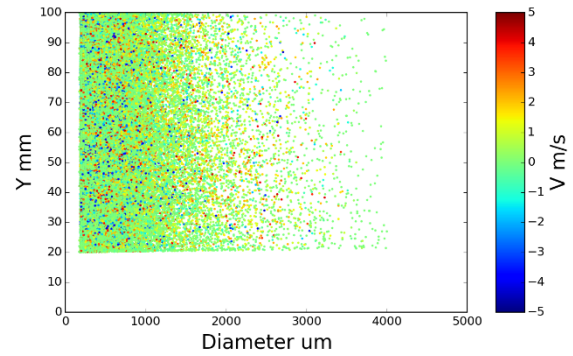


Figure D. 444: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

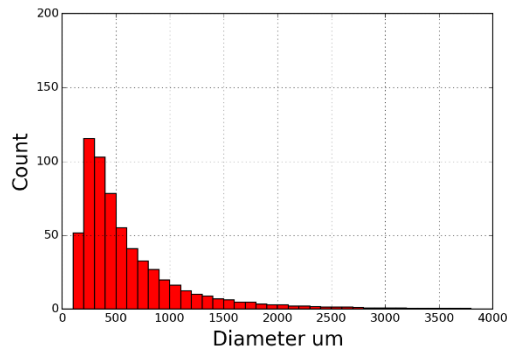


Figure D. 442: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

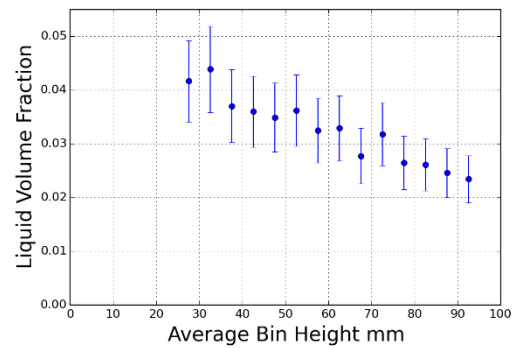


Figure D. 445: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

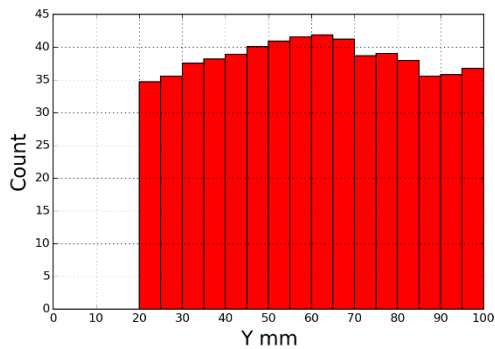


Figure D. 443: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1.2 All Droplets for .LB Image

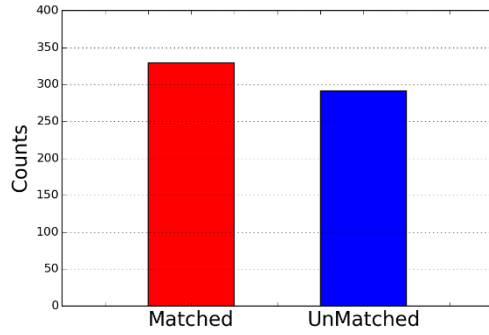


Figure D. 446: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

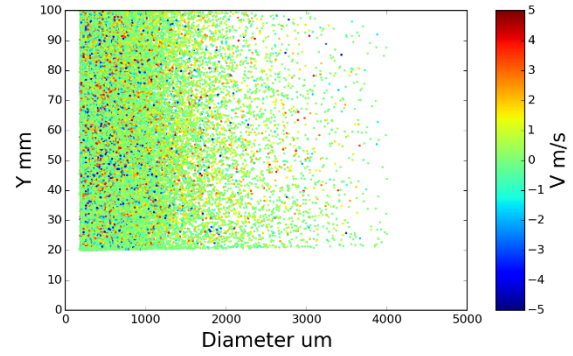


Figure D. 449: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

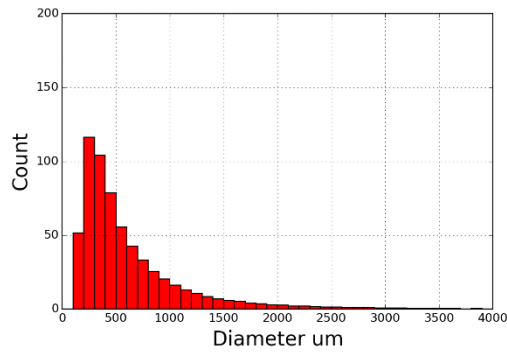


Figure D. 447: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

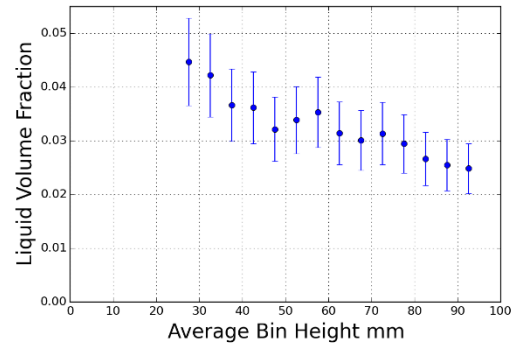


Figure D. 450: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

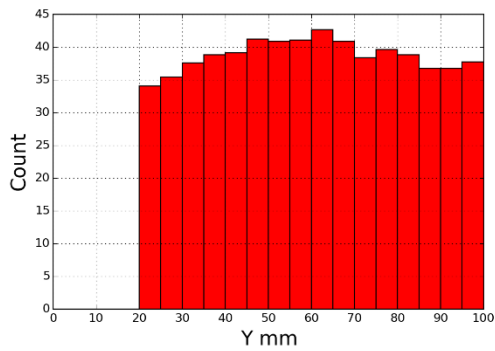


Figure D. 448: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1.2 Matched Only Droplets for .LA Image

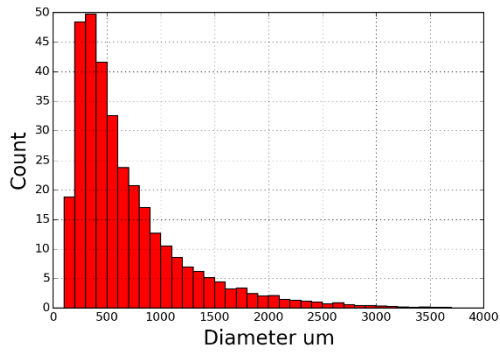


Figure D. 451: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

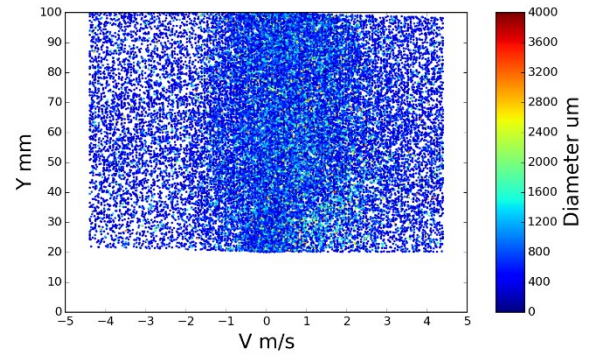


Figure D. 454: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

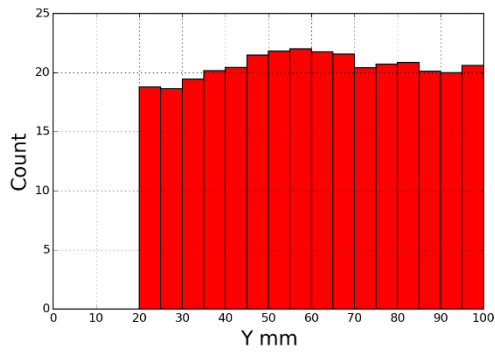


Figure D. 452: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

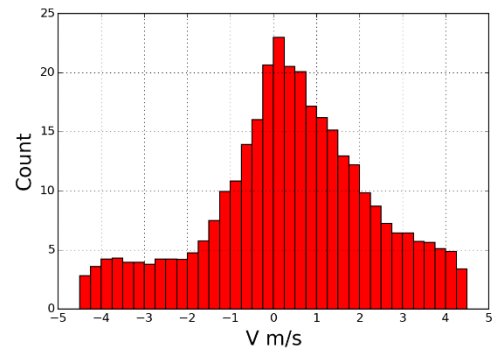


Figure D. 455: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

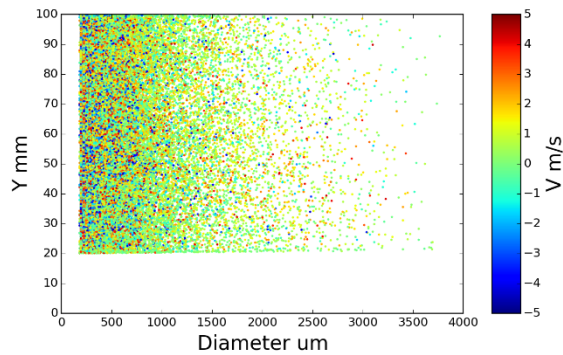


Figure D. 453: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1.2 Matched Only Droplets for .LB Image

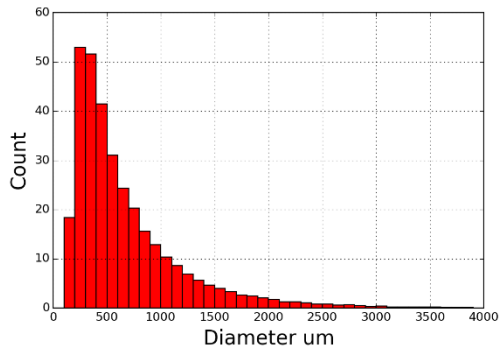


Figure D. 456: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

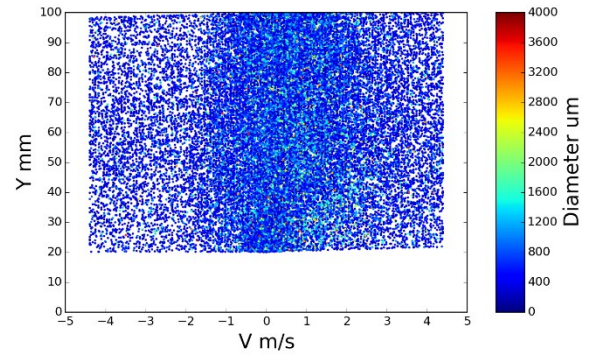


Figure D. 459: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

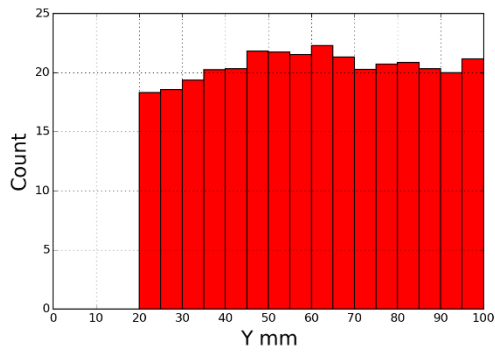


Figure D. 457: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

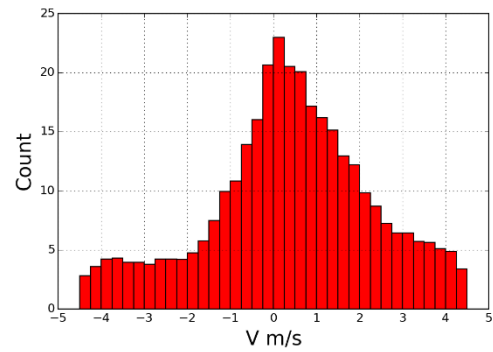


Figure D. 460: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

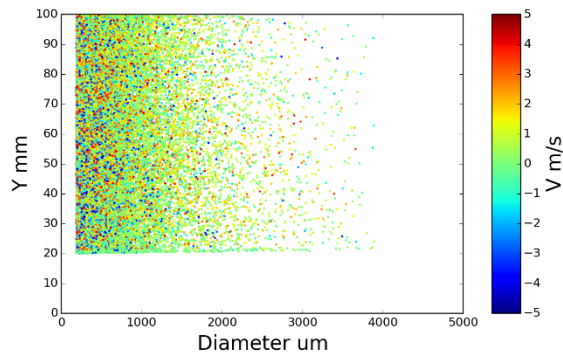


Figure D. 458: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1.2 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	148.73	148.09	170.7	3996	680.5	558.0	170.7	3989	689.0	572.5
40-60mm	142.34	143.05	170.7	3958	666.5	525.4	170.7	3994	674.3	531.6
60-80mm	125.99	127.22	170.7	3984	661.0	516.4	170.7	3968	664.8	529.3
80-100mm	118.09	118.99	170.7	3908	642.3	472.4	182.5	3878	647.5	483.6
All	535.83	537.97	170.7	3996	663.3	521.5	170.7	3994	669.7	532.7
			Height A (mm)				Height B (mm)			
Highest Particle			100.0650				100.0650			
Lowest Particle			20.1274				20.1274			

Table D. 52: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	75.95	182.5	3788	766.9	570.7	170.7	3986	750.2	575.5	-4.400	4.400	-0.200	1.760	-4.400	4.400	0.480	1.920
40-60mm	72.82	170.7	3827	752.3	535.9	170.7	3972	735.5	536.6	-4.400	4.400	-0.110	1.790	-4.400	4.400	0.600	2.000
60-80mm	63.42	182.5	3896	766.3	546.5	170.7	3940	747.8	550.9	-4.400	4.400	-0.130	1.720	-4.400	4.400	0.600	1.920
80-100mm	62.7	182.5	3643	745.2	503.2	182.5	3849	728.1	504.2	-4.400	4.400	-0.140	1.610	-4.400	4.400	0.570	1.810
All	275.07	170.7	3896	757.6	541.1	170.7	3986	740.3	543.7	-4.400	4.400	-0.150	1.730	-4.400	4.400	0.560	1.920

Table D. 53: Matched Droplet Info

D.3.1.2 All Droplets for .LA Image

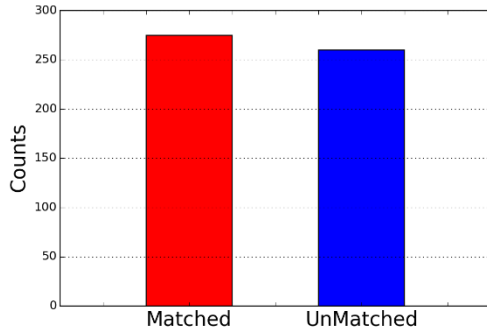


Figure D. 461: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

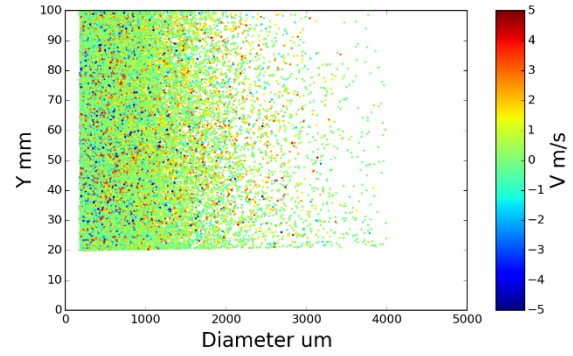


Figure D. 464: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

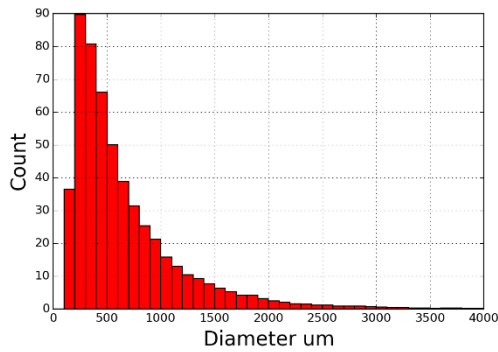


Figure D. 462: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

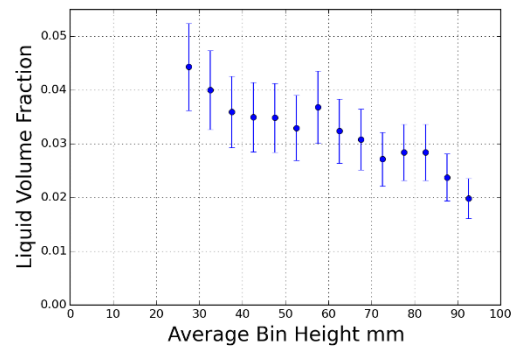


Figure D. 465: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

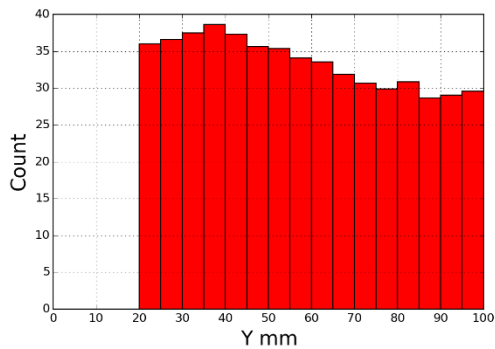


Figure D. 463: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1.2 All Droplets for .LB Image

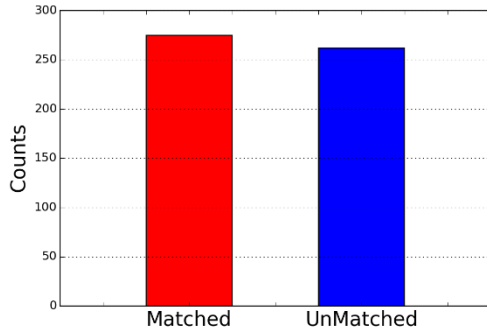


Figure D. 466: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

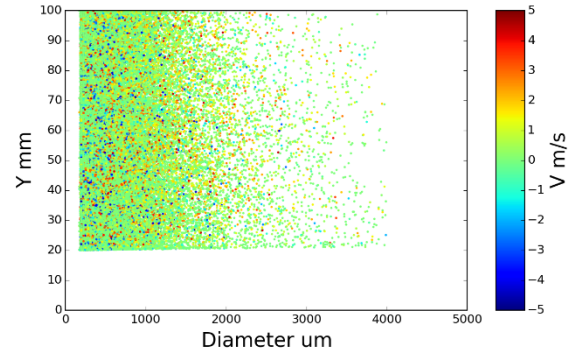


Figure D. 469: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

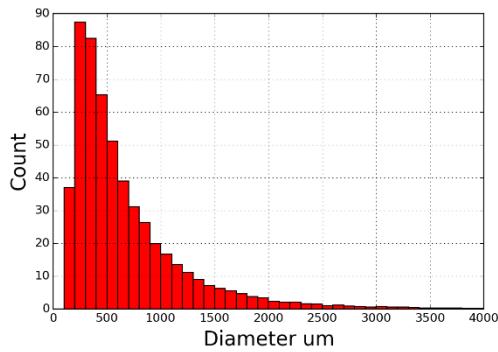


Figure D. 467: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

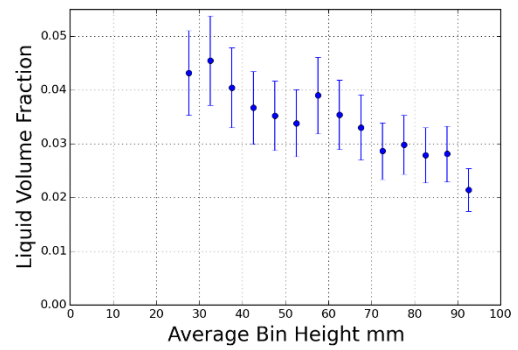


Figure D. 470: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

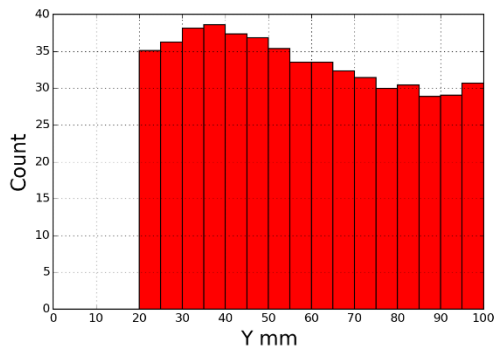


Figure D. 468: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1.2 Matched Only Droplets for .LA Image

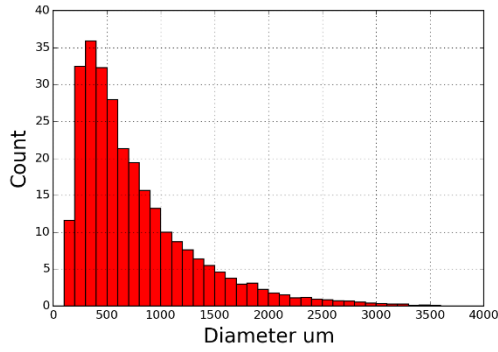


Figure D. 471: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

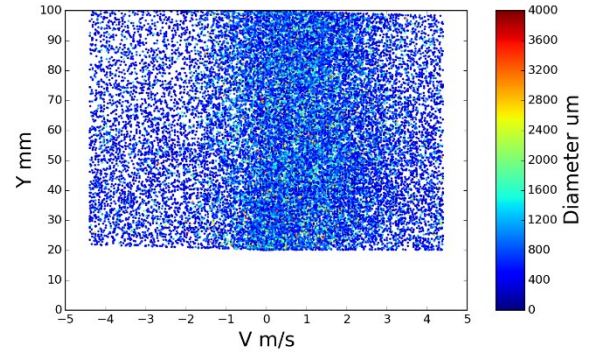


Figure D. 474: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

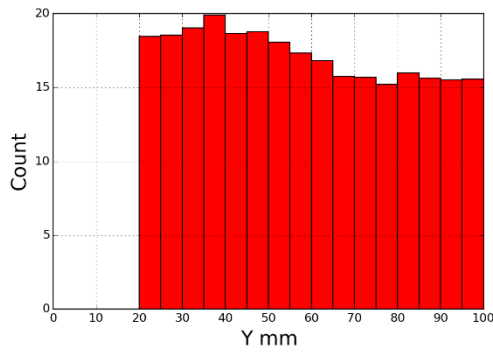


Figure D. 472: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

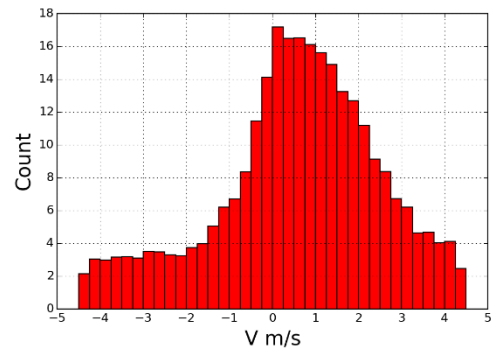


Figure D. 475: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

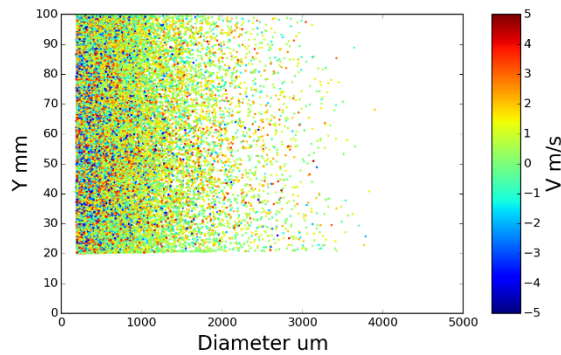


Figure D. 473: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1.2 Matched Only Droplets for .LB Image

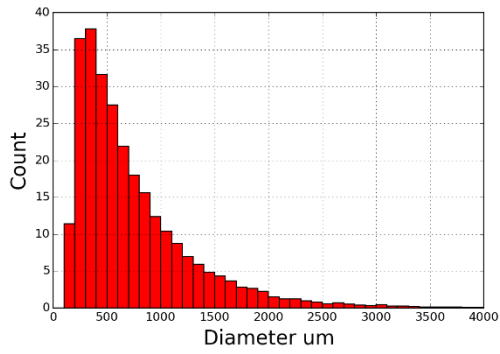


Figure D. 476: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

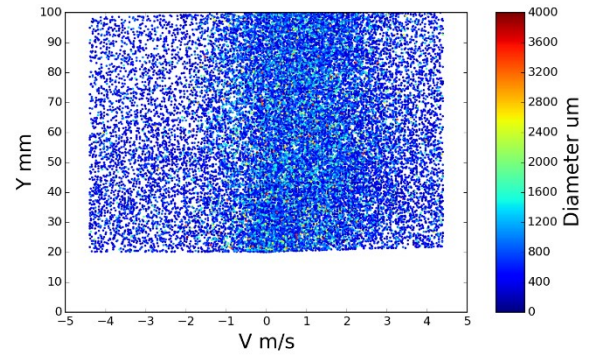


Figure D. 479: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

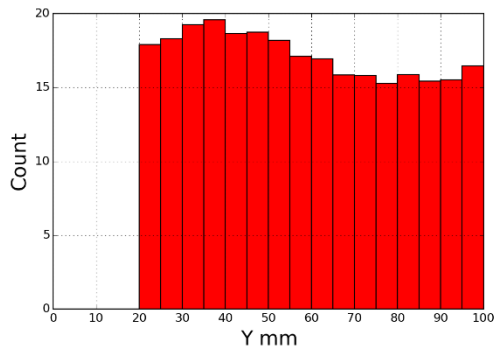


Figure D. 477: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

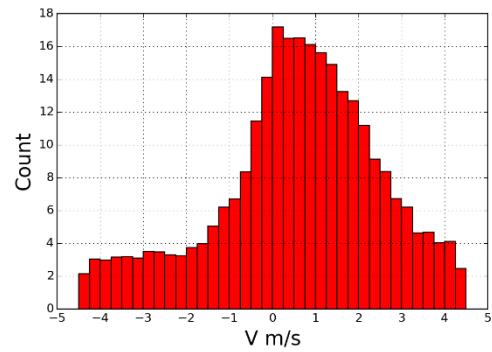


Figure D. 480: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

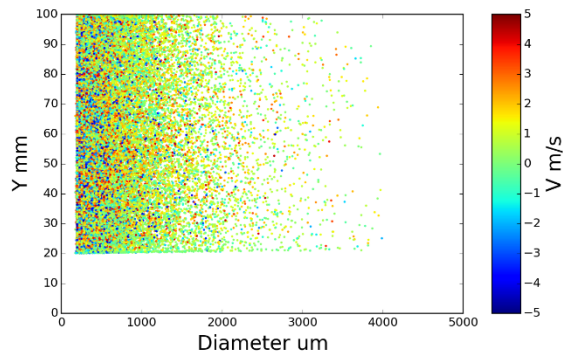


Figure D. 478: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1.2 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	131.23	130.53	170.7	4000	731.5	597.6	170.7	3986	737.8	601.8
40-60mm	113.55	116.06	170.7	3992	751.5	584.3	170.7	3981	749.2	587.8
60-80mm	95.94	96.13	170.7	3968	752.3	590.4	170.7	3994	757.4	594.0
80-100mm	90.68	91.85	182.5	3975	715.8	528.9	170.7	3854	716.4	533.7
All	431.95	434.97	170.7	4000	737.5	578.7	170.7	3994	740.2	582.6
			Height A (mm)				Height B (mm)			
Highest Particle			100.0650				100.0650			
Lowest Particle			20.1274				20.1274			

Table D. 54: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	65.83	182.5	4000	849.0	611.2	170.7	3976	830.5	617.2	-4.400	4.400	-0.140	1.710	-4.400	4.400	0.680	1.890
40-60mm	57.33	182.5	3758	882.1	605.6	170.7	3969	858.9	606.6	-4.400	4.400	-0.130	1.660	-4.400	4.400	0.790	1.940
60-80mm	46.55	182.5	3787	889.7	610.0	170.7	3929	870.6	609.1	-4.400	4.380	-0.140	1.650	-4.400	4.400	0.700	1.890
80-100mm	45.0	182.5	3596	848.4	547.4	182.5	3810	826.3	552.2	-4.400	4.390	-0.110	1.500	-4.400	4.400	0.650	1.760
All	214.83	182.5	4000	866.2	596.9	170.7	3976	845.7	599.5	-4.400	4.400	-0.130	1.640	-4.400	4.400	0.710	1.880

Table D. 55: Matched Droplet Info

D.3.1.2 All Droplets for .LA Image

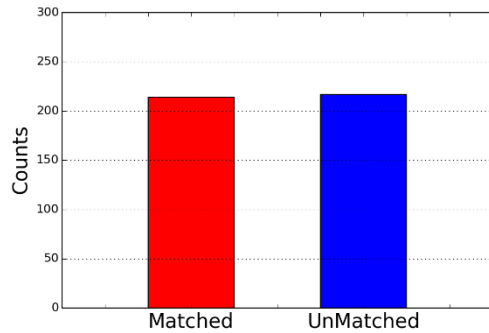


Figure D. 481: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

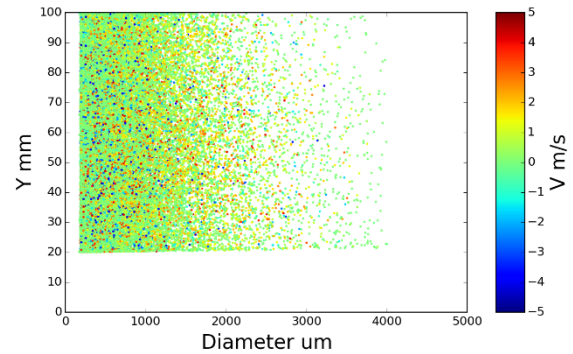


Figure D. 484: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

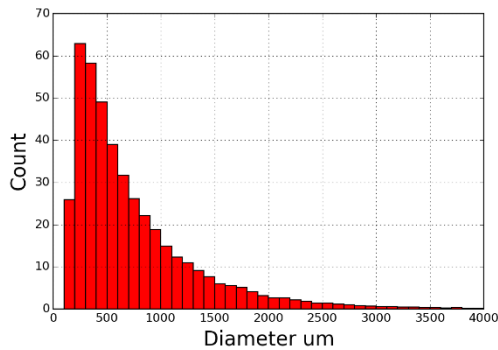


Figure D. 482: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

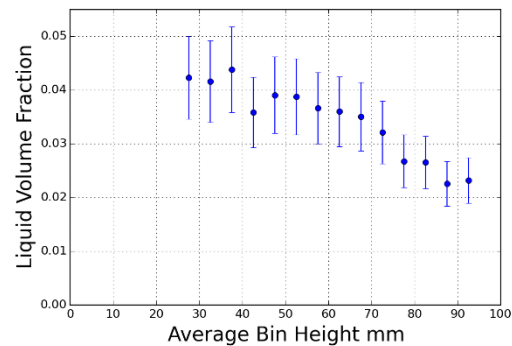


Figure D. 485: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

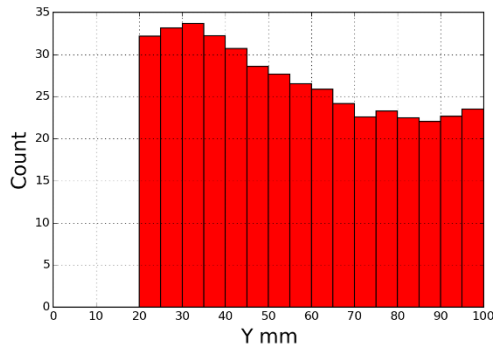


Figure D. 483: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1.2 All Droplets for .LB Image

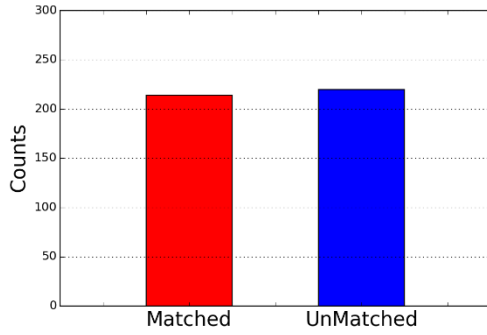


Figure D. 486: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

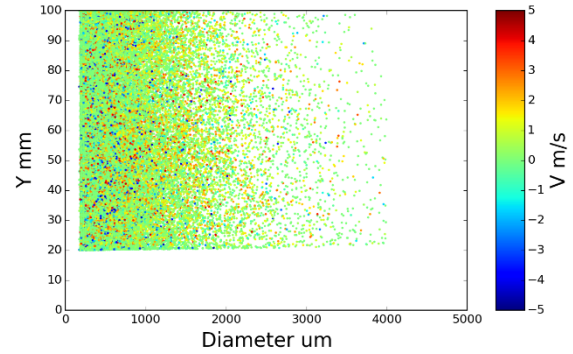


Figure D. 489: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

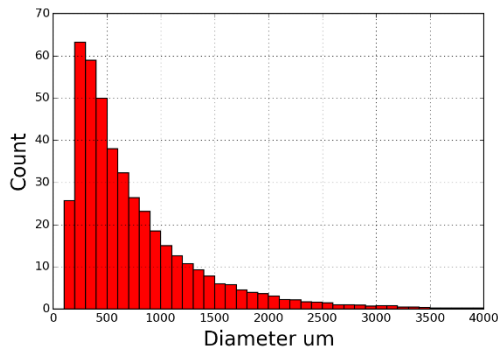


Figure D. 487: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

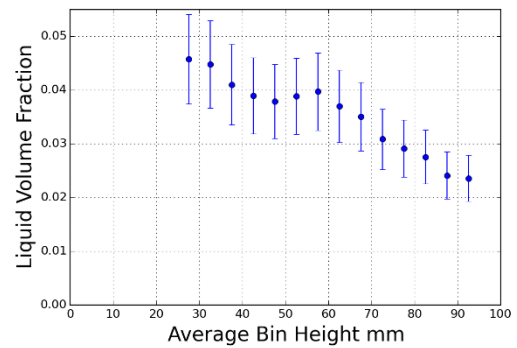


Figure D. 490: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

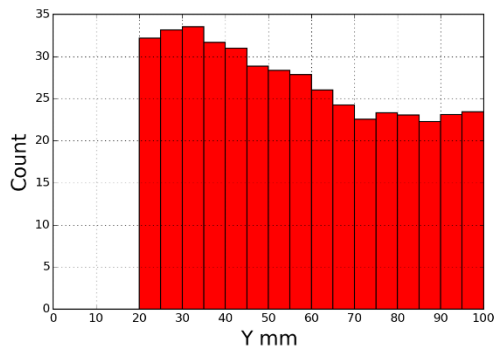


Figure D. 488: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1.2 Matched Only Droplets for .LA Image

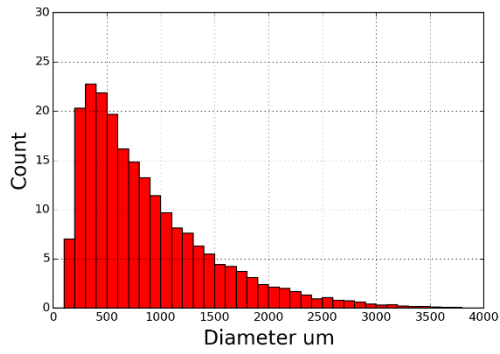


Figure D. 491: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

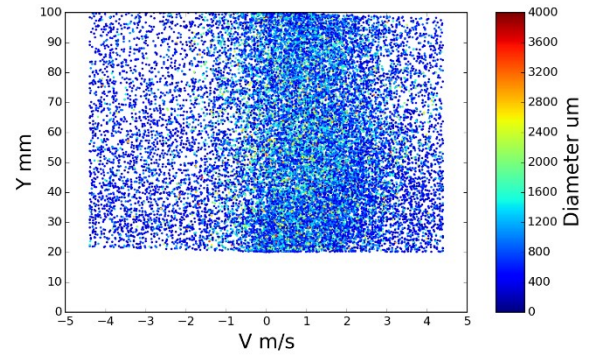


Figure D. 494: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

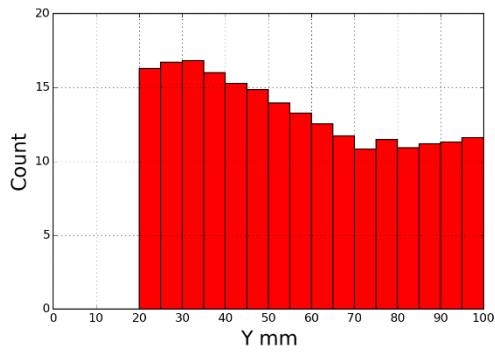


Figure D. 492: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

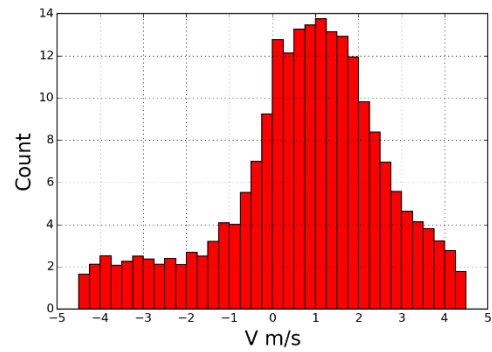


Figure D. 495: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

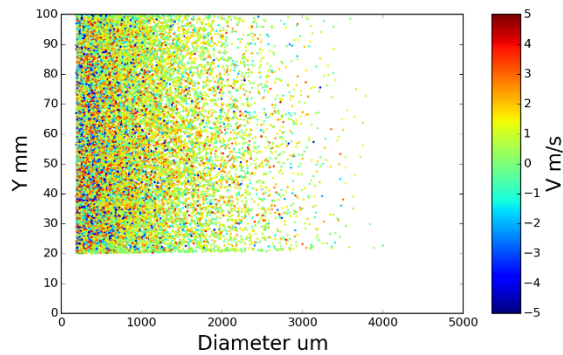


Figure D. 493: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.3.1.2 Matched Only Droplets for .LB Image

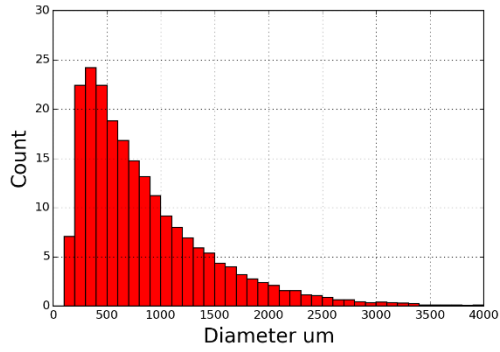


Figure D. 496: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

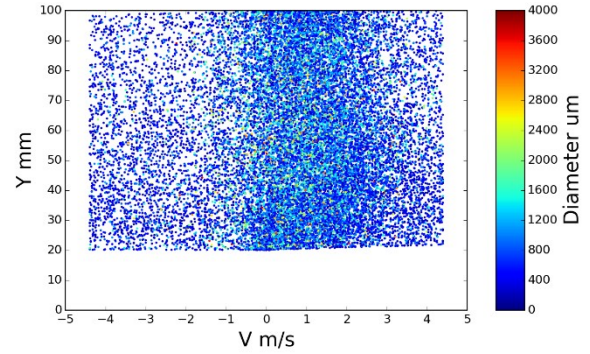


Figure D. 499: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

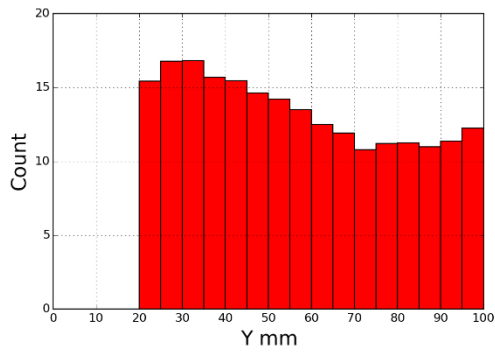


Figure D. 497: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

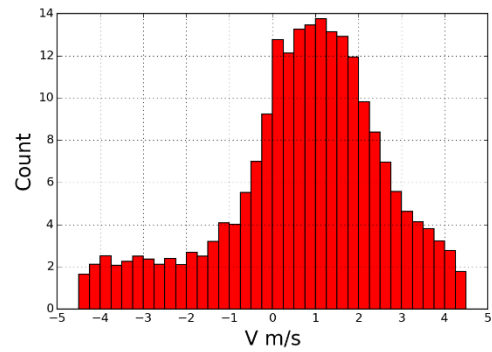


Figure D. 500: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

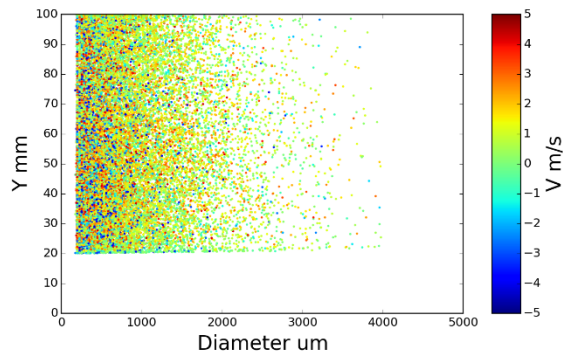


Figure D. 498: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2 Liquid Level 3

Thermal Conditions	
H2O Flow Rate (lb/hr) / (kg/s)	27547 / 3.471
Ref Mass Flow (lb/hr) / (kg/s)	3077 / 0.388
Ref Mass Flux (lb/hr-ft ²) / (kg/s-m ²)	29948 / 40.617
Top Two Rows Heat Flux (Btu/hr-ft ²) / (kW/m ²)	4366 / 13.77
Bundle Exit Saturation Temp (°F) / (°C)	45.0 / 7.22
Bundle Inlet Saturation Temp (°F) / (°C)	48.4 / 9.09
Total Bundle Q (Btu/hr) / (kW)	198291 / 58.11
Total Bundle & Preboiler Q (Btu/hr) / (kW)	198291 / 58.11
Top Two Rows HTC Ratio	0.567
Bundle Inlet Quality	-0.10
Bundle Exit Quality	0.75

Table D. 56: Thermal Conditions

D.3.2.1 Lens 100mm Mag 0_29x

D.3.2.1 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	4.35	4.42	81.4	2175	261.6	258.8	81.4	2346	259.9	268.0
40-60mm	15.89	16.23	76.2	1501	207.8	187.6	81.4	1504	208.9	189.4
60-80mm	16.75	16.4	81.4	3259	201.8	186.1	81.4	3281	201.5	185.6
80-100mm	0.82	0.73	86.3	1126	181.0	159.2	81.4	1128	188.6	163.5
All	37.81	37.78	76.2	3259	210.8	196.8	81.4	3281	211.3	199.1
			Height A (mm)				Height B (mm)			
Highest Particle			81.0606				81.0453			
Lowest Particle			33.1097				33.1120			

Table D. 57: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	2.72	86.3	2175	293.2	262.4	86.3	2346	297.8	280.9	-2.580	3.890	-0.200	0.660	-3.810	4.500	1.010	1.710
40-60mm	9.65	81.4	1501	232.1	198.0	81.4	1504	235.4	206.3	-3.150	4.390	-0.130	0.760	-3.980	4.500	1.140	1.700
60-80mm	9.51	81.4	3259	224.2	205.5	81.4	3281	224.3	211.2	-4.130	4.050	-0.140	0.780	-4.130	4.500	1.180	1.600
80-100mm	0.35	86.3	1126	215.3	209.2	86.3	1128	207.5	185.5	-3.610	1.220	-0.160	0.880	-2.110	3.700	0.650	1.310
All	22.23	81.4	3259	235.9	211.4	81.4	3281	237.6	219.4	-4.130	4.390	-0.140	0.760	-4.130	4.500	1.130	1.650

Table D. 58: Matched Droplet Info

D.3.2.1 All Droplets for .LA Image

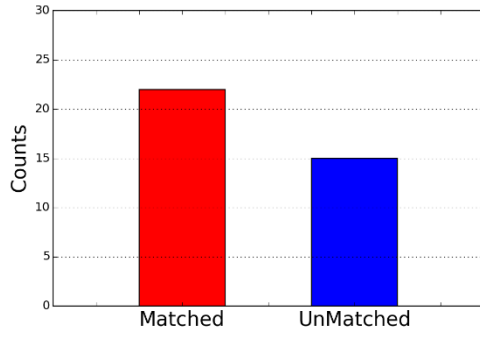


Figure D. 501: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

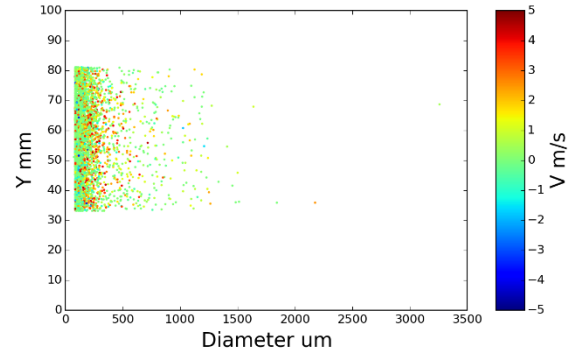


Figure D. 504: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

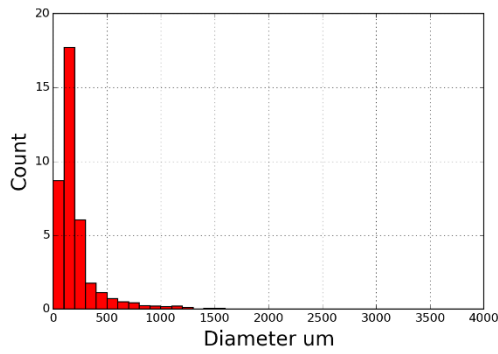


Figure D. 502: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

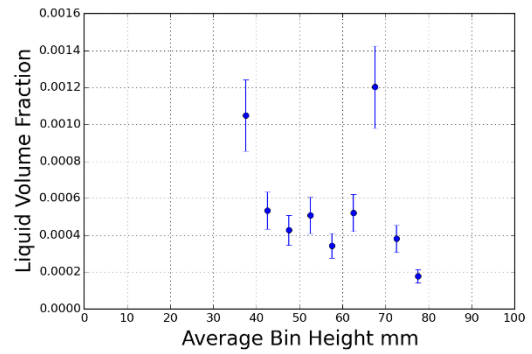


Figure D. 505: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

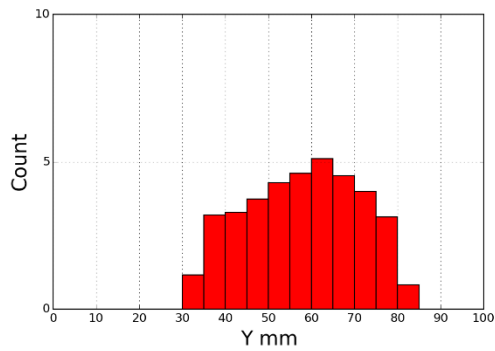


Figure D. 503: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2.1 All Droplets for .LB Image

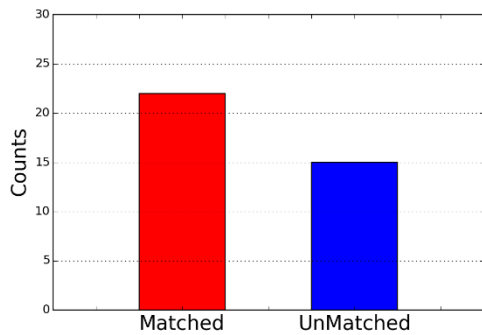


Figure D. 506: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

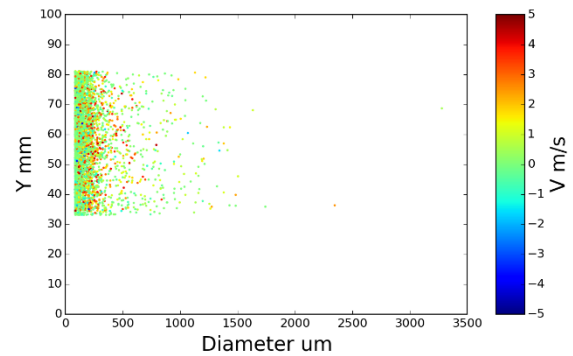


Figure D. 509: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

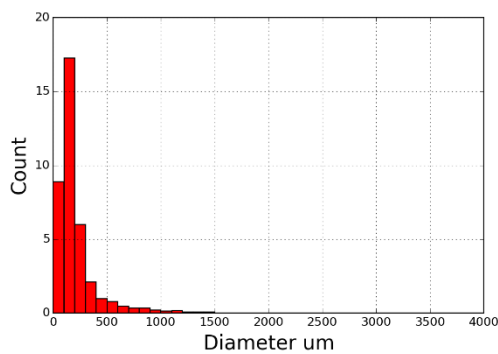


Figure D. 507: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

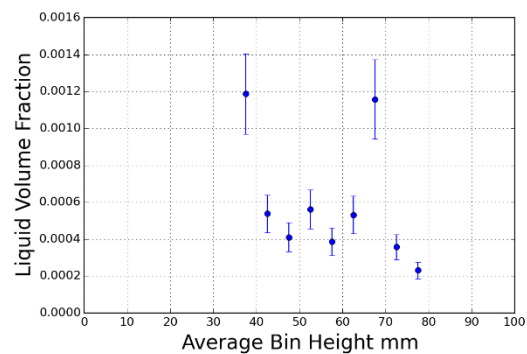


Figure D. 510: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

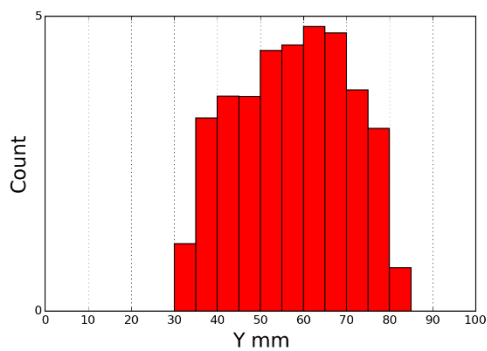


Figure D. 508: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2.1 Matched Only Droplets for .LA Image

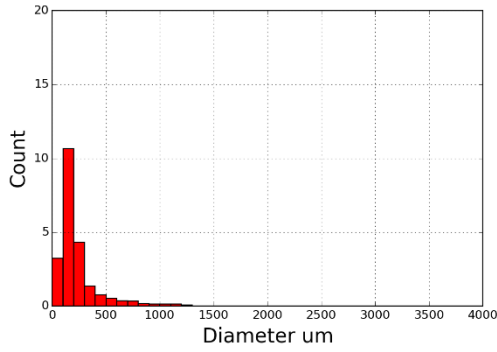


Figure D. 511: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

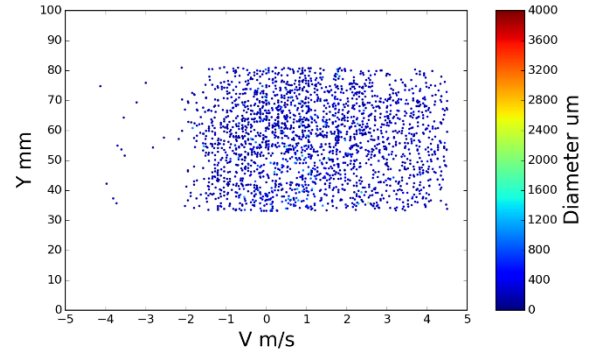


Figure D. 514: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

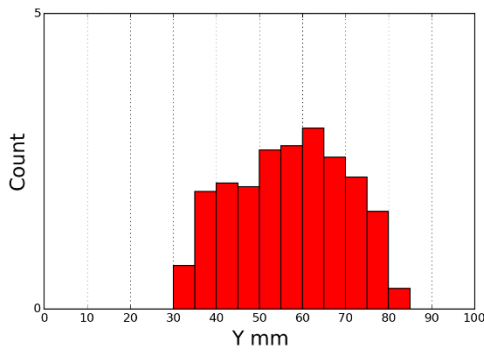


Figure D. 512: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

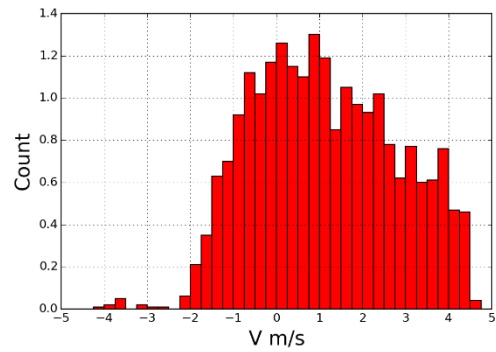


Figure D. 515: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

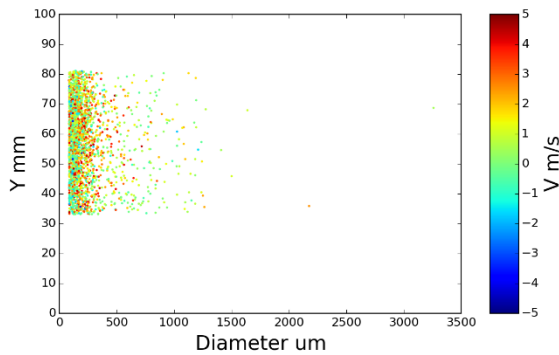


Figure D. 513: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2.1 Matched Only Droplets for .LB Image

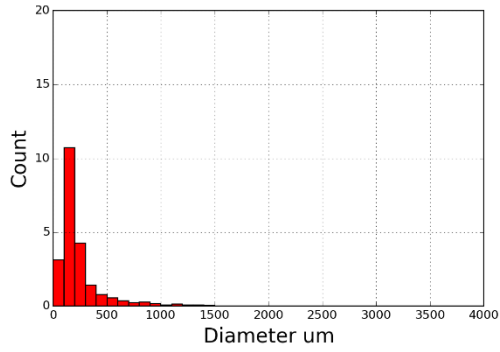


Figure D. 516: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

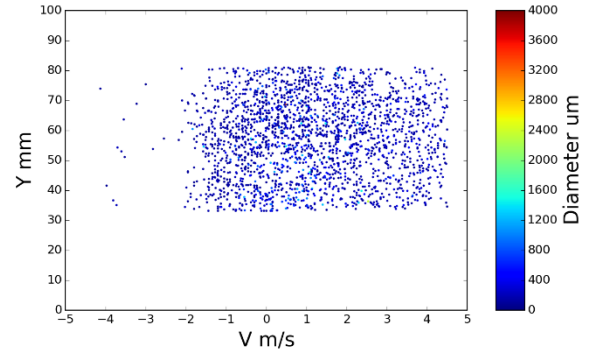


Figure D. 519: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

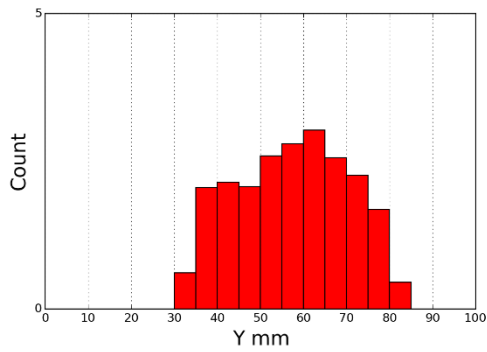


Figure D. 517: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

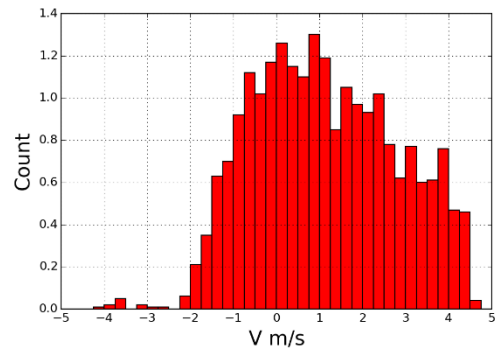


Figure D. 520: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

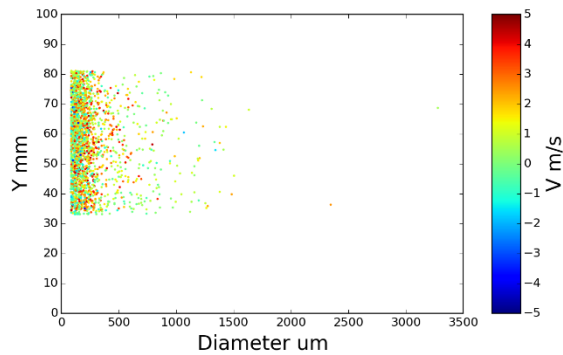


Figure D. 518: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2.1 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	5.87	6.05	81.4	1471	211.4	158.2	81.4	1431	208.0	162.7
40-60mm	15.04	15.47	81.4	1624	212.0	172.8	81.4	1655	211.5	174.4
60-80mm	10.23	9.53	81.4	1356	234.5	180.0	81.4	1297	229.1	181.3
80-100mm	0.35	0.42	76.2	1074	280.3	211.1	81.4	1013	248.9	189.3
All	31.49	31.47	76.2	1624	220.0	173.5	81.4	1655	216.7	174.9
			Height A (mm)				Height B (mm)			
Highest Particle			81.0708				81.0708			
Lowest Particle			33.0992				33.1102			

Table D. 59: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	3.36	86.3	1075	241.8	164.6	86.3	1224	244.3	177.4	-4.500	4.060	0.210	0.750	-3.820	4.500	2.120	1.590
40-60mm	7.78	81.4	1624	248.0	187.5	81.4	1655	249.1	192.8	-4.200	2.830	0.180	0.740	-4.500	4.500	2.040	1.550
60-80mm	5.24	81.4	1280	271.7	190.4	81.4	1297	266.2	192.3	-4.470	4.350	0.170	0.760	-3.510	4.500	1.930	1.490
80-100mm	0.07	207.6	582.1	381.9	151.8	86.3	599.0	297.7	161.7	-0.750	1.180	0.280	0.550	0.720	3.850	2.280	1.100
All	16.45	81.4	1624	254.9	184.4	81.4	1655	254.1	189.8	-4.500	4.350	0.180	0.740	-4.500	4.500	2.020	1.540

Table D. 60: Matched Droplet Info

D.3.2.1 All Droplets for .LA Image

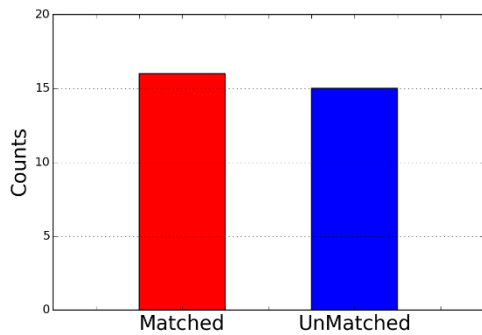


Figure D. 521: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

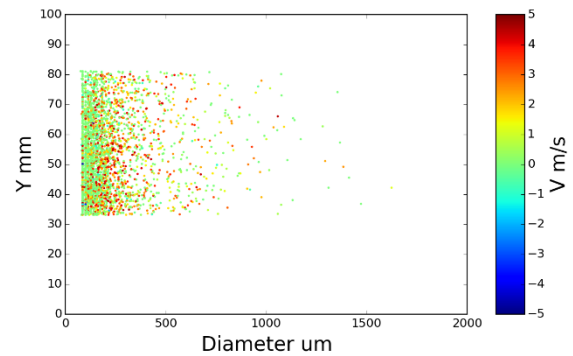


Figure D. 524: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

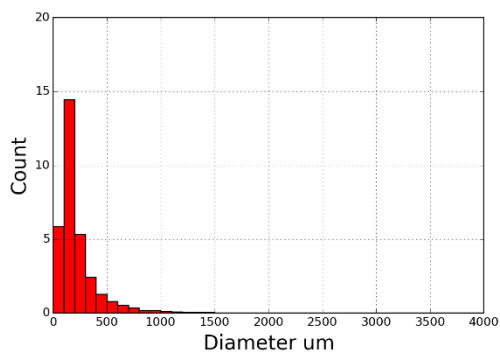


Figure D. 522: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

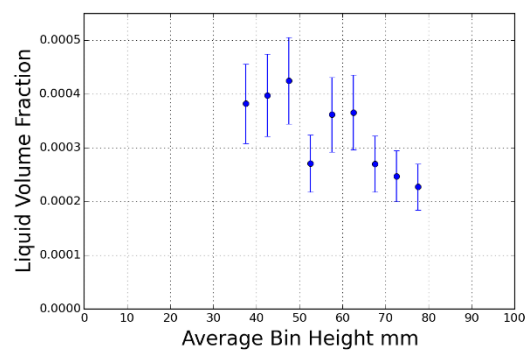


Figure D. 525: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

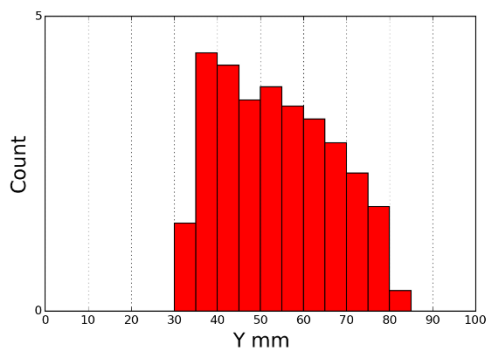


Figure D. 523: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2.1 All Droplets for .LB Image

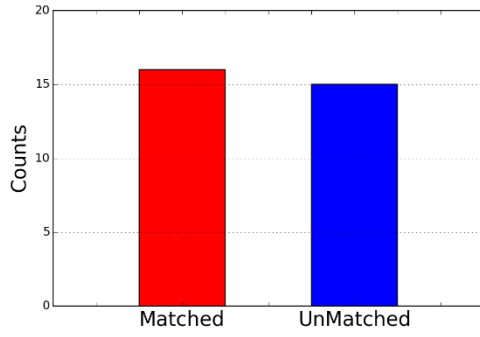


Figure D. 526: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

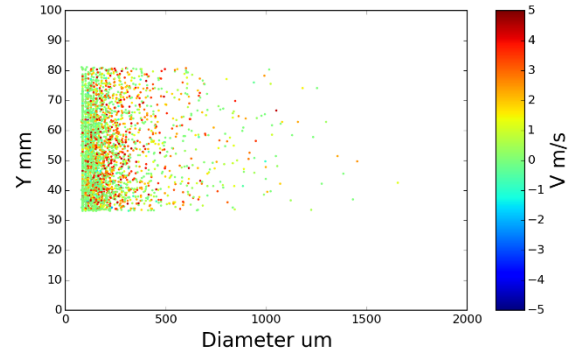


Figure D. 529: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

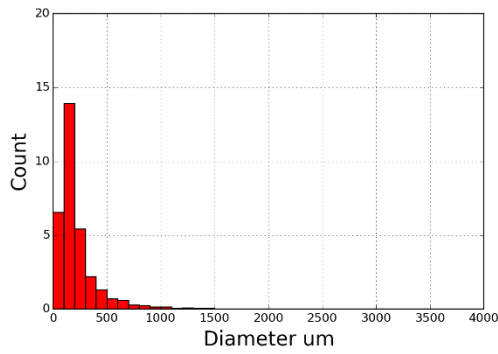


Figure D. 527: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

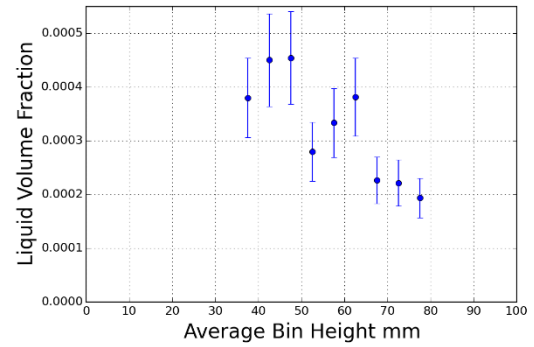


Figure D. 530: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

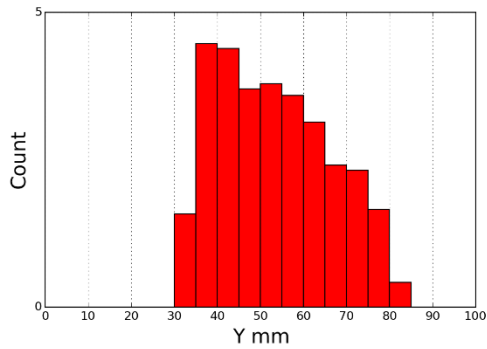


Figure D. 528: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2.1 Matched Only Droplets for .LA Image

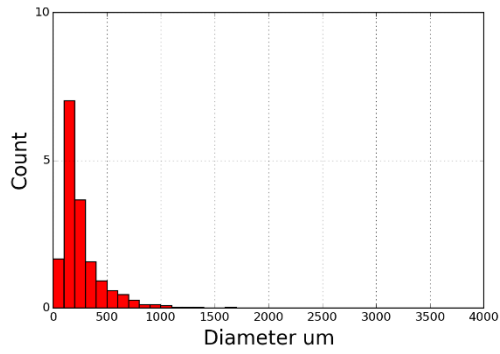


Figure D. 531: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

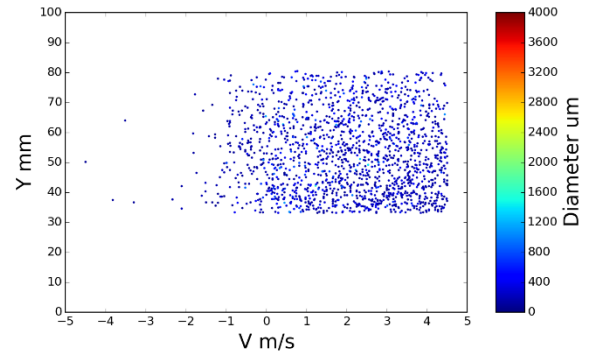


Figure D. 534: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

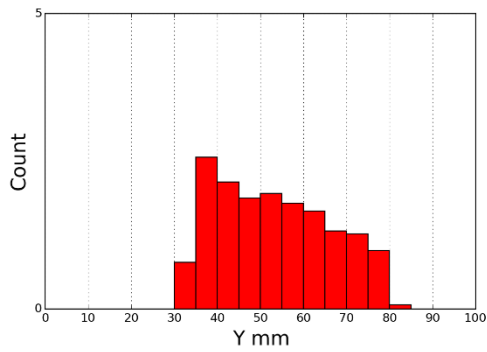


Figure D. 532: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

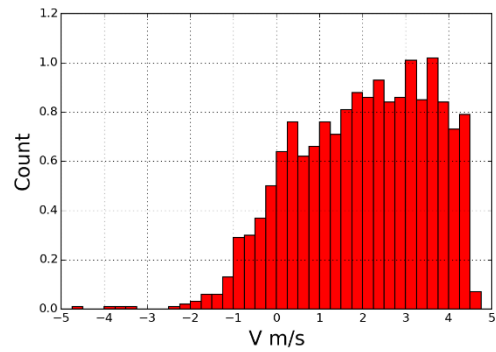


Figure D. 535: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

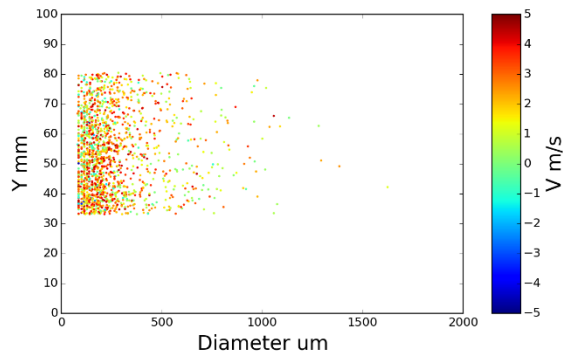


Figure D. 533: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2.1 Matched Only Droplets for .LB Image

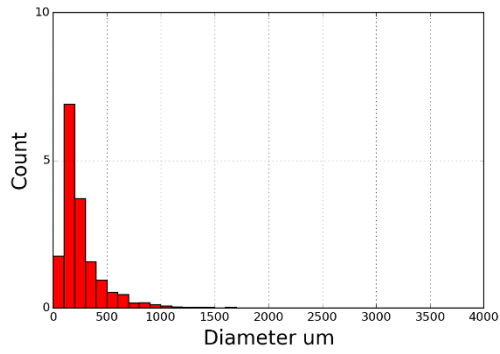


Figure D. 536: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

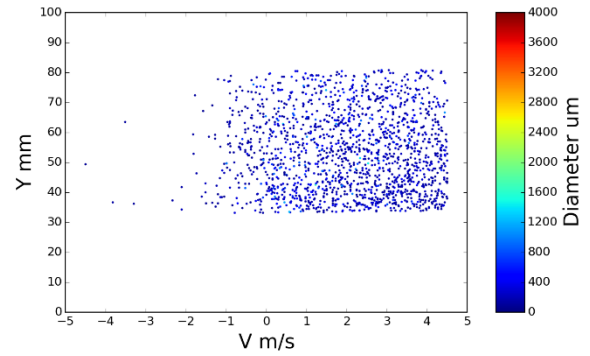


Figure D. 539: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

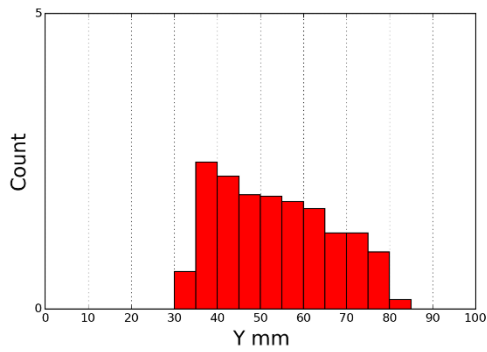


Figure D. 537: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

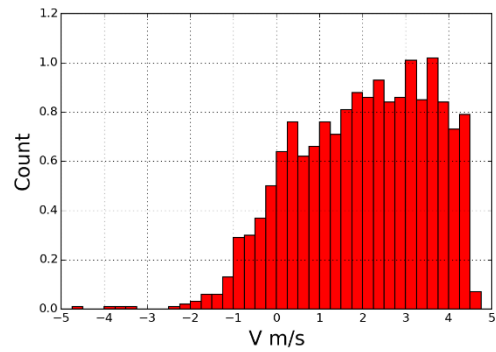


Figure D. 540: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

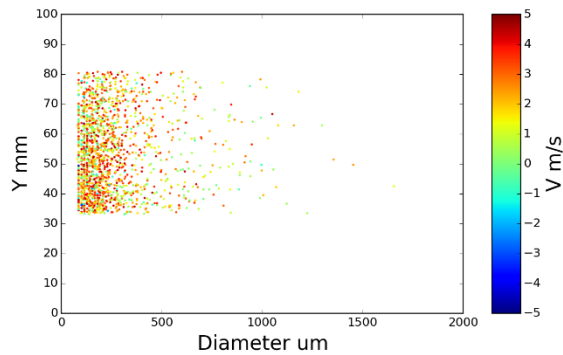


Figure D. 538: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2.1 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	3.25	3.15	81.4	1701	237.4	204.3	81.4	1708	239.8	212.5
40-60mm	8.01	7.8	81.4	1440	211.6	150.4	81.4	1392	209.5	150.8
60-80mm	5.03	4.82	81.4	1276	233.6	181.3	86.3	1364	232.8	176.9
80-100mm	0.16	0.14	91.0	868.8	295.9	235.2	86.3	765.4	319.1	250.7
All	16.45	15.91	81.4	1701	224.3	173.3	81.4	1708	223.5	174.3
			Height A (mm)				Height B (mm)			
Highest Particle			81.0580				81.0453			
Lowest Particle			33.0992				33.0992			

Table D. 61: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	1.41	86.3	1701	285.4	220.1	86.3	1708	295.1	231.3	-4.030	2.500	0.100	0.660	-1.430	4.500	2.360	1.410
40-60mm	3.68	86.3	1353	249.1	161.9	86.3	1392	245.9	165.6	-2.830	4.500	0.320	0.680	-4.350	4.500	2.280	1.500
60-80mm	2.52	81.4	1276	274.5	188.6	86.3	1364	261.2	190.6	-1.420	2.070	0.430	0.570	-1.580	4.490	1.920	1.360
80-100mm	0.04	91.0	289.3	158.9	77.6	99.7	734.4	260.0	219.7	-1.950	1.070	0.040	1.170	-1.050	3.890	0.910	1.820
All	7.65	81.4	1701	263.6	183.2	86.3	1708	259.6	188.1	-4.030	4.500	0.320	0.660	-4.350	4.500	2.170	1.450

Table D. 62: Matched Droplet Info

D.3.2.1 All Droplets for .LA Image

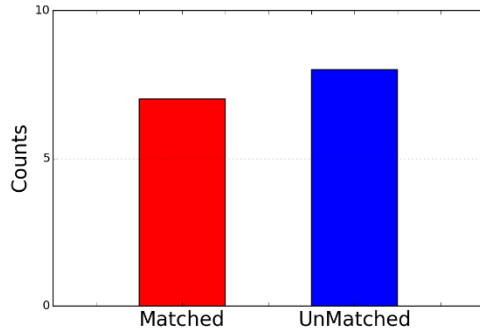


Figure D. 541: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

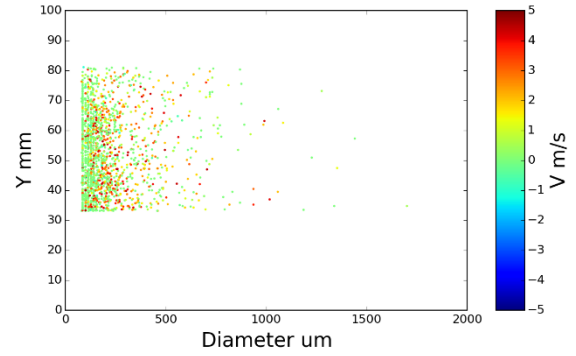


Figure D. 544: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

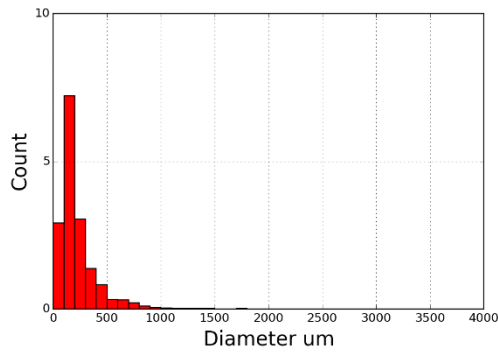


Figure D. 542: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

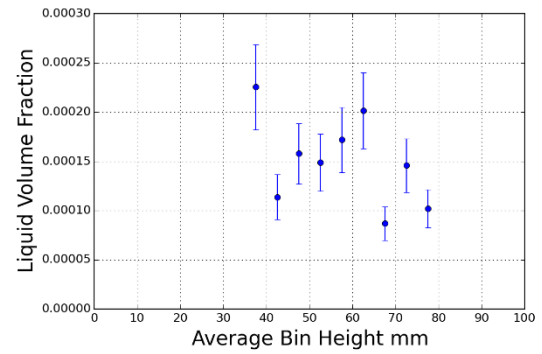


Figure D. 545: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

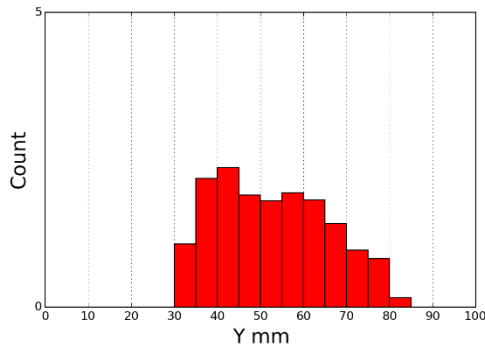


Figure D. 543: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2.1 All Droplets for .LB Image

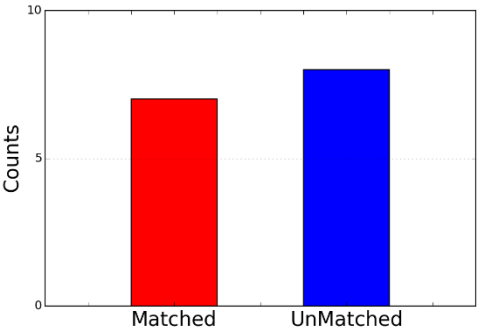


Figure D. 546: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

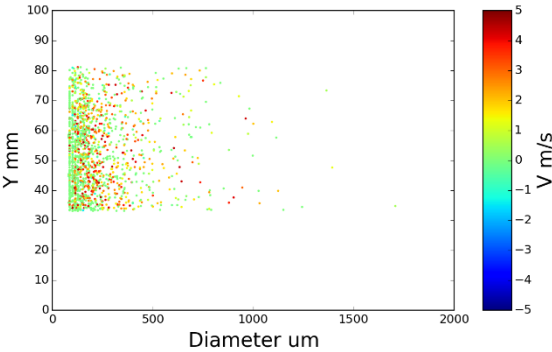


Figure D. 549: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

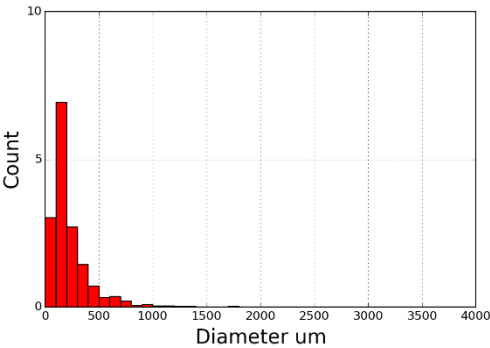


Figure D. 547: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

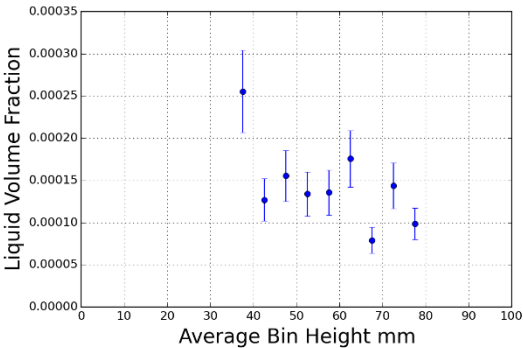


Figure D. 550: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

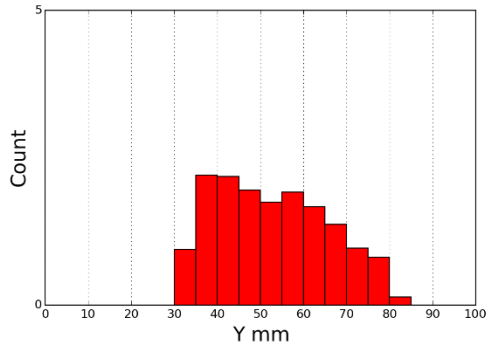


Figure D. 548: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2.1 Matched Only Droplets for .LA Image

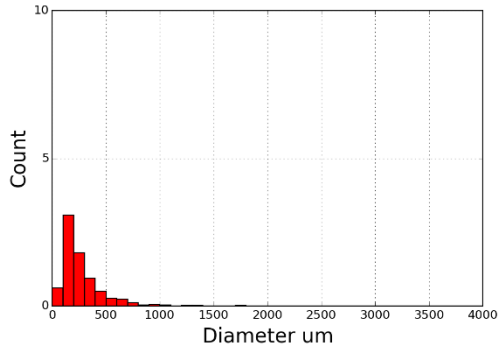


Figure D. 551: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

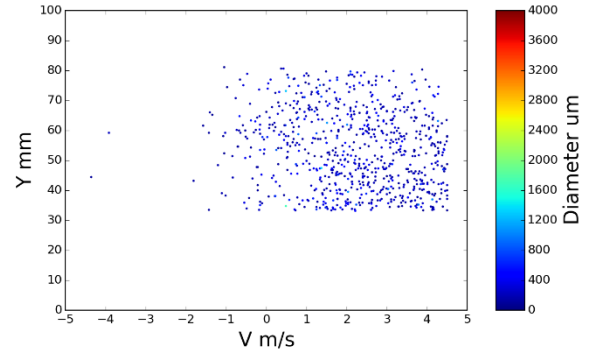


Figure D. 554: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

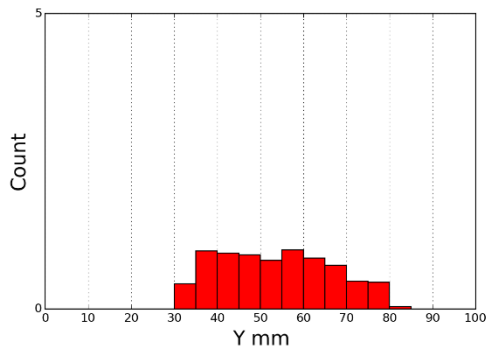


Figure D. 552: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

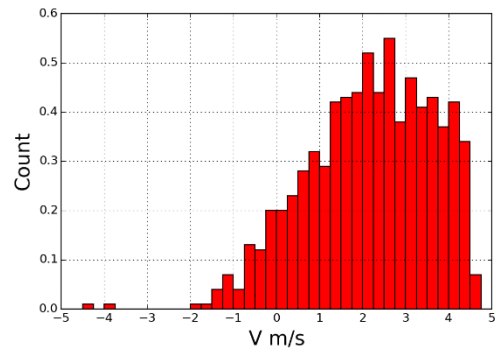


Figure D. 555: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

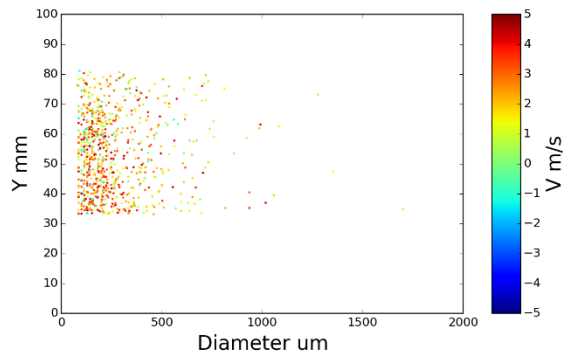


Figure D. 553: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2.1 Matched Only Droplets for .LB Image

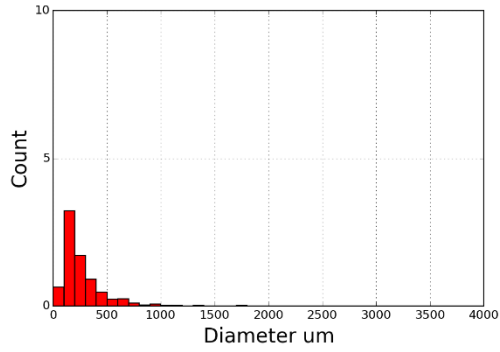


Figure D. 556: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

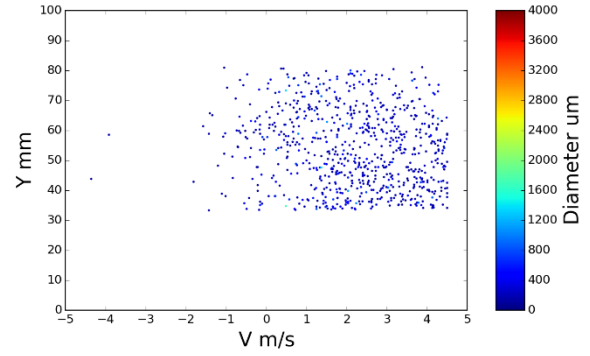


Figure D. 559: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

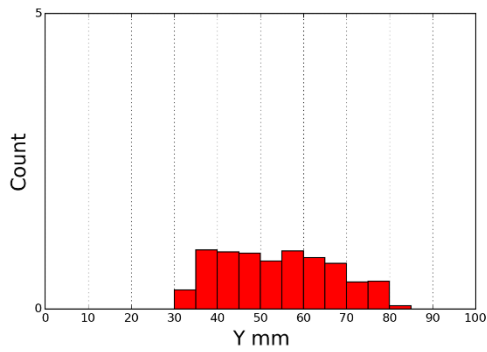


Figure D. 557: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

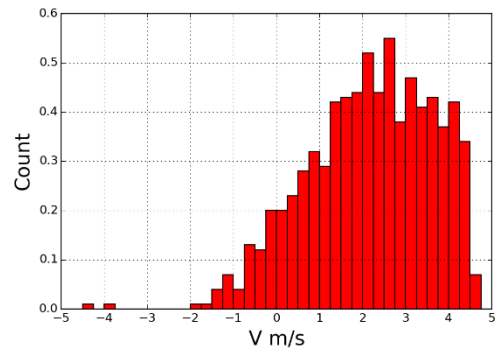


Figure D. 560: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

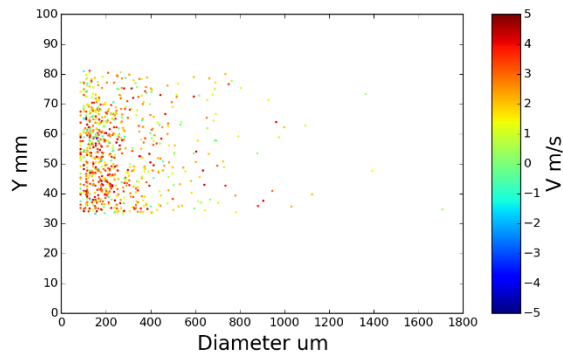


Figure D. 558: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2.2 Lens 50mm Mag 0_13x

D.3.2.2 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	1.89	2.53	182.5	3698	977.8	752.6	193.6	3757	928.8	705.1
20-40mm	2.38	2.22	170.7	2030	490.8	297.2	182.5	2893	507.6	323.7
40-60mm	2.36	2.46	182.5	1313	431.6	229.9	193.6	1437	438.8	244.2
60-80mm	2.79	2.7	182.5	1795	458.5	304.0	193.6	1728	454.4	287.6
80-100mm	1.63	1.81	182.5	1329	437.0	279.6	182.5	1251	412.9	254.3
All	11.05	11.72	170.7	3698	545.4	448.4	182.5	3757	557.2	455.6
			Height A (mm)				Height B (mm)			
Highest Particle			99.9792				99.6757			
Lowest Particle			11.3216				11.2073			

Table D. 63: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.75	193.6	3211	985.5	581.1	223.5	3350	1042	636.8	-2.340	0.880	-0.080	0.410	-1.100	1.980	0.180	0.550
20-40mm	1.54	193.6	2030	535.5	279.9	193.6	1809	523.0	275.6	-3.750	0.590	-0.320	0.650	-1.220	4.380	0.920	1.270
40-60mm	1.51	193.6	1313	490.1	237.6	193.6	1437	505.8	256.6	-2.440	1.390	-0.160	0.560	-2.350	4.340	1.150	1.420
60-80mm	1.42	182.5	1734	516.3	312.9	193.6	1728	498.7	300.3	-2.340	2.490	-0.200	0.630	-2.240	4.180	1.090	1.260
80-100mm	0.79	193.6	1219	525.2	288.8	193.6	1251	514.8	291.1	-3.450	0.660	-0.300	0.600	-0.740	4.330	1.320	1.260
All	6.01	182.5	3211	574.4	367.2	193.6	3350	573.0	382.9	-3.750	2.490	-0.220	0.590	-2.350	4.380	0.980	1.280

Table D. 64: Matched Droplet Info

D.3.2.2 All Droplets for .LA Image

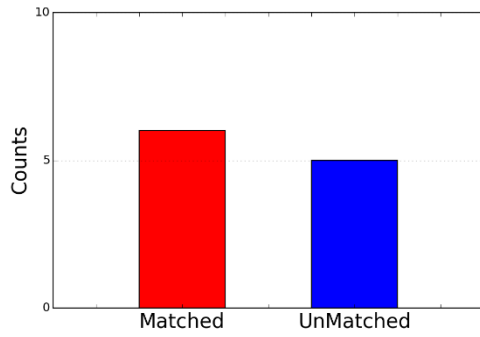


Figure D. 561: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

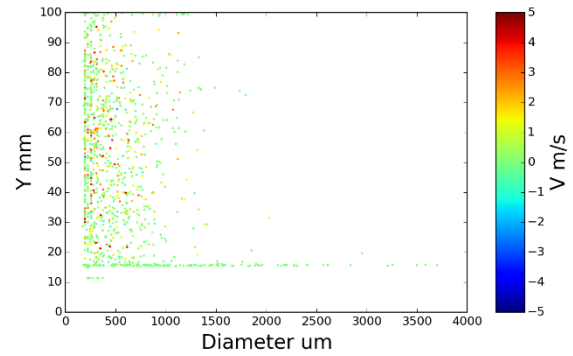


Figure D. 564: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

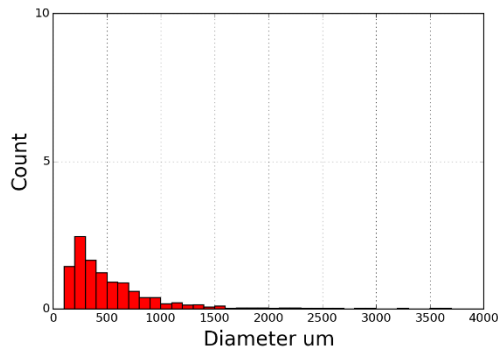


Figure D. 562: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

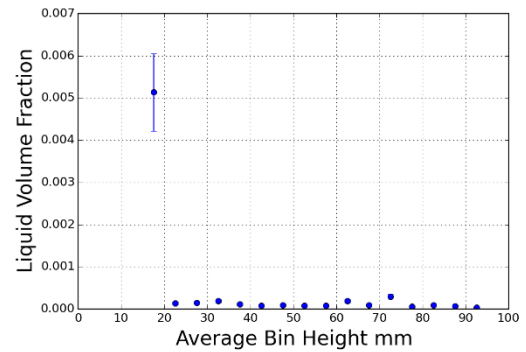


Figure D. 565: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

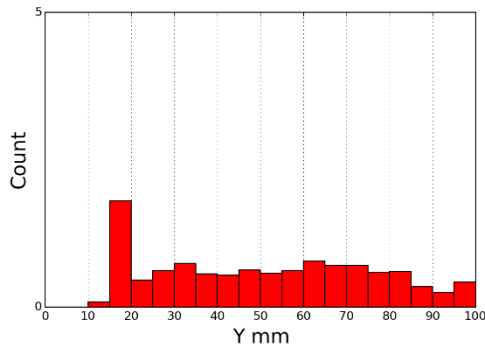


Figure D. 563: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2.2 All Droplets for .LB Image

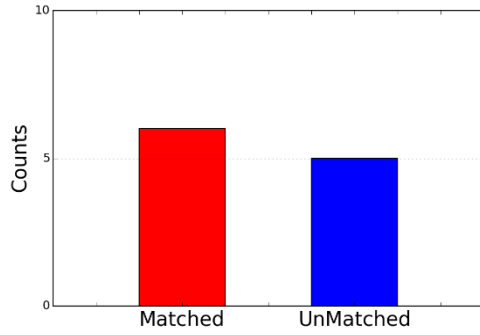


Figure D. 566: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

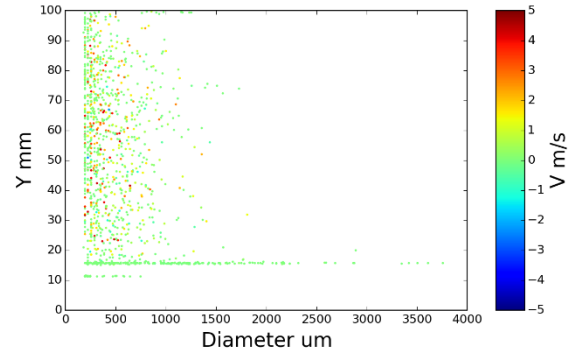


Figure D. 569: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

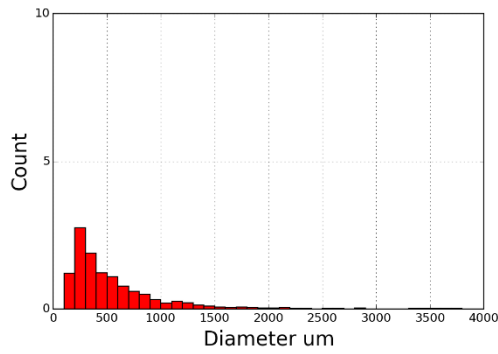


Figure D. 567: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

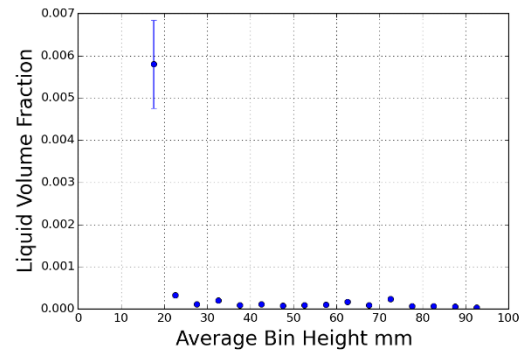


Figure D. 570: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

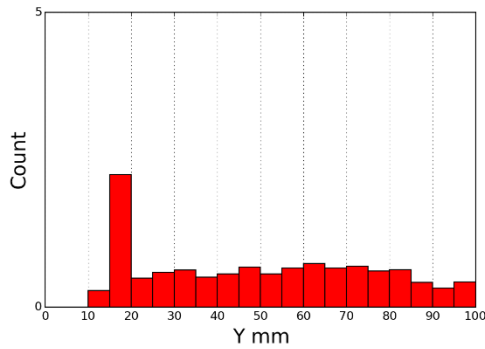


Figure D. 568: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2.2 Matched Only Droplets for .LA Image

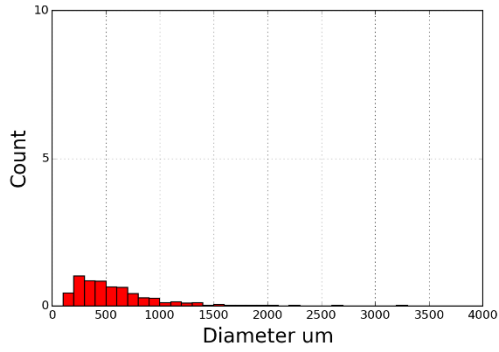


Figure D. 571: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

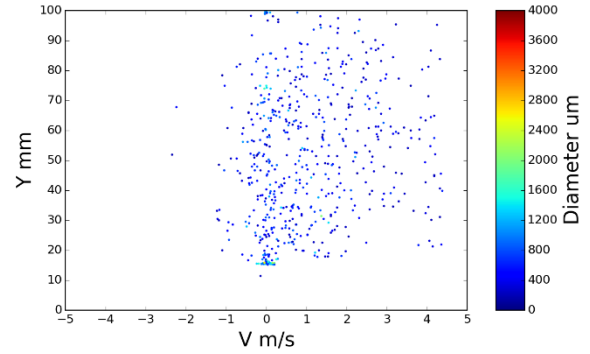


Figure D. 574: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

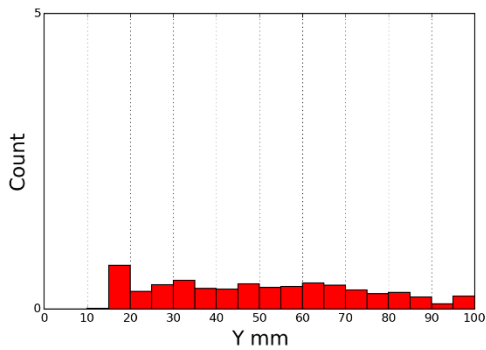


Figure D. 572: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

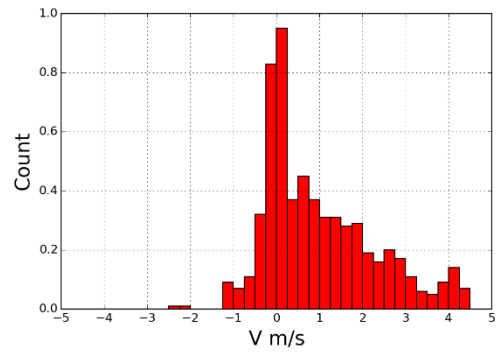


Figure D. 575: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

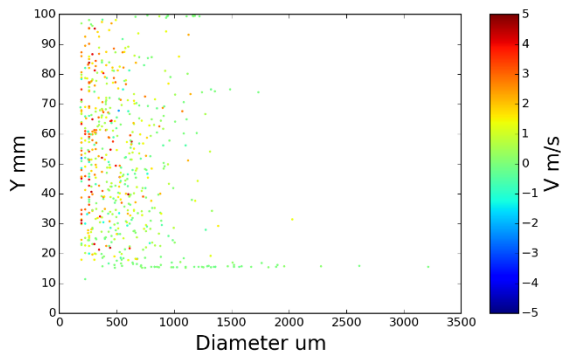


Figure D. 573: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2.2 Matched Only Droplets for .LB Image

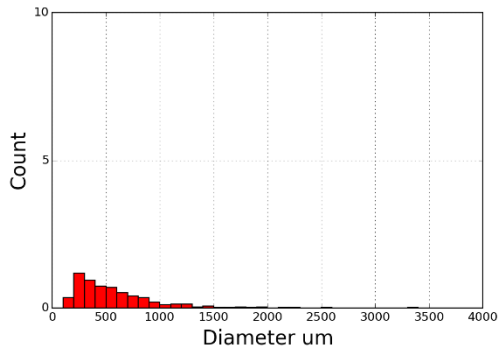


Figure D. 576: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

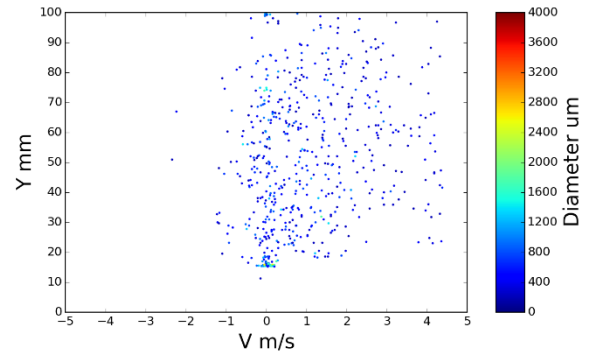


Figure D. 579: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

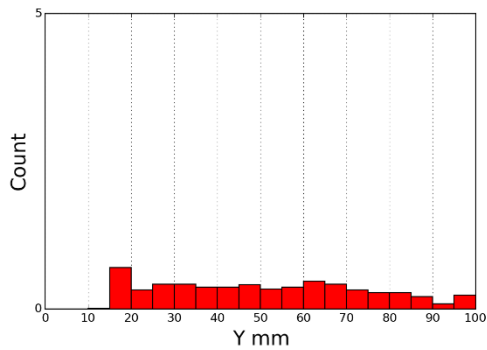


Figure D. 577: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

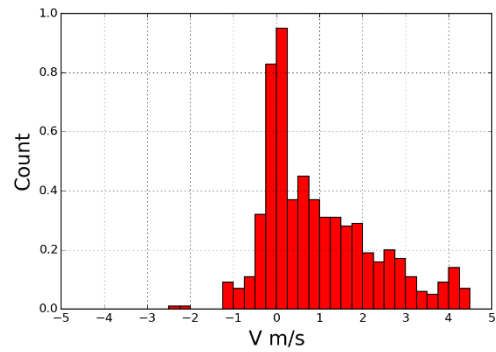


Figure D. 580: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

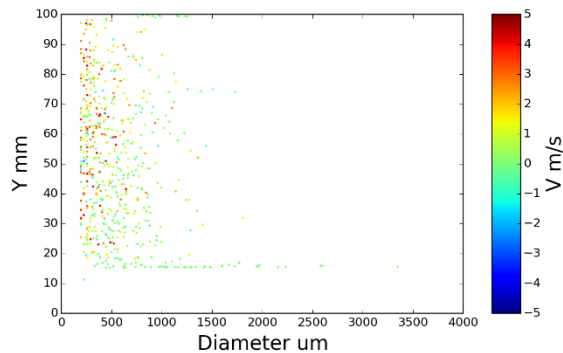


Figure D. 578: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2.2 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	2.56	3.11	182.5	3961	788.3	681.1	182.5	3620	824.1	690.1
20-40mm	3.73	3.85	182.5	1555	521.8	268.6	193.6	1646	516.7	270.7
40-60mm	2.18	2.44	193.6	1605	551.8	322.6	193.6	2106	535.4	322.0
60-80mm	1.96	1.83	193.6	1830	518.0	301.1	182.5	1634	519.5	314.3
80-100mm	1.19	1.33	182.5	1361	484.2	267.6	182.5	1369	496.8	269.0
All	11.62	12.56	182.5	3961	581.6	424.1	182.5	3620	594.7	447.2
			Height A (mm)				Height B (mm)			
Highest Particle			99.8935				99.9792			
Lowest Particle			10.0861				10.1780			

Table D. 65: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.91	193.6	3565	724.8	559.6	193.6	3620	735.1	613.2	-4.240	3.620	-0.440	1.250	-1.470	2.940	0.240	0.720
20-40mm	2.58	193.6	1555	585.5	265.3	193.6	1646	586.5	277.3	-4.360	2.480	-0.210	0.620	-2.440	4.330	0.840	1.170
40-60mm	1.52	193.6	1576	626.1	308.9	193.6	1461	630.2	302.7	-1.730	1.030	-0.280	0.470	-4.250	4.330	0.810	1.240
60-80mm	1.11	193.6	1451	593.1	284.8	193.6	1634	601.9	302.6	-2.030	1.110	-0.230	0.530	-1.320	4.110	1.230	1.180
80-100mm	0.78	193.6	1361	546.6	258.6	223.5	1369	554.3	263.4	-2.290	0.880	-0.100	0.520	-0.530	3.870	1.430	1.060
All	6.9	193.6	3565	609.6	334.3	193.6	3620	613.8	349.8	-4.360	3.620	-0.250	0.690	-4.250	4.330	0.880	1.180

Table D. 66: Matched Droplet Info

D.3.2.2 All Droplets for .LA Image

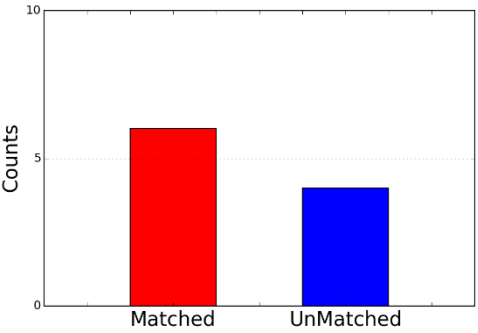


Figure D. 581: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

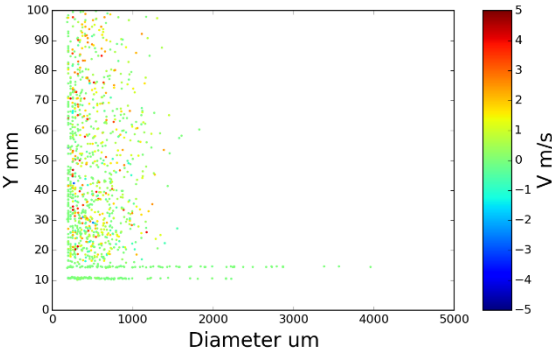


Figure D. 584: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

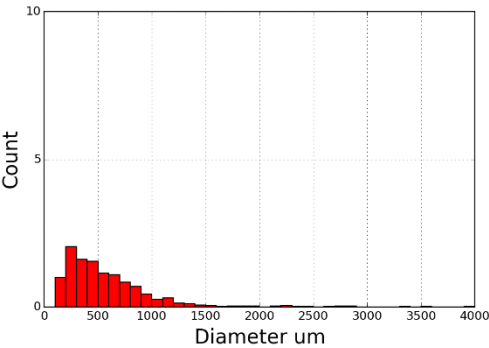


Figure D. 582: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

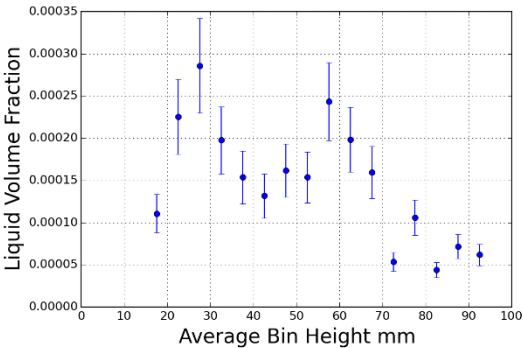


Figure D. 585: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

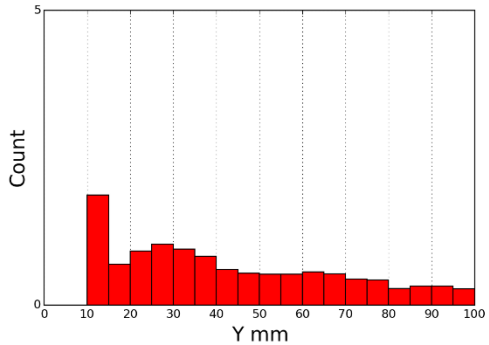


Figure D. 583: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2.2 All Droplets for .LB Image

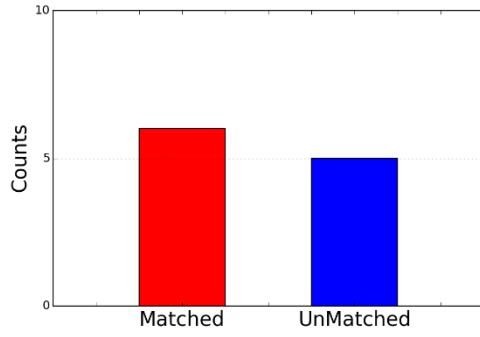


Figure D. 586: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

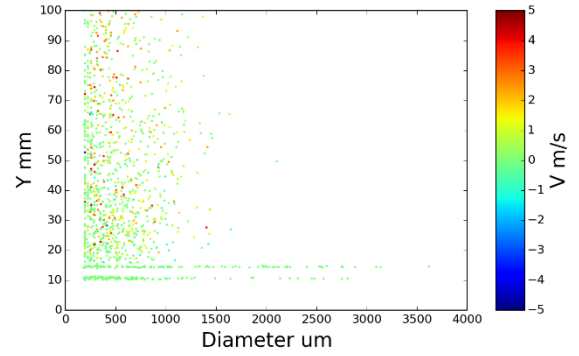


Figure D. 589: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

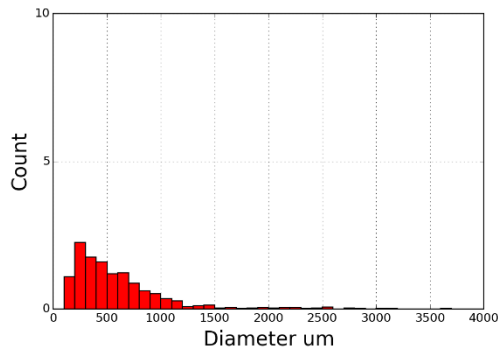


Figure D. 587: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

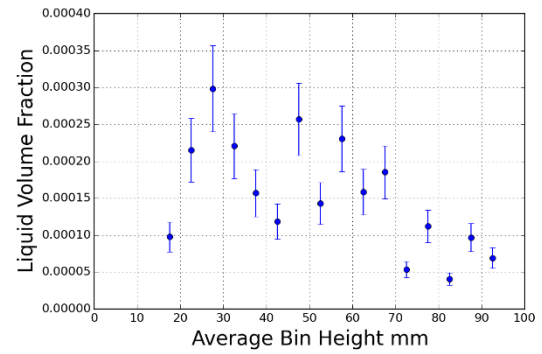


Figure D. 590: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

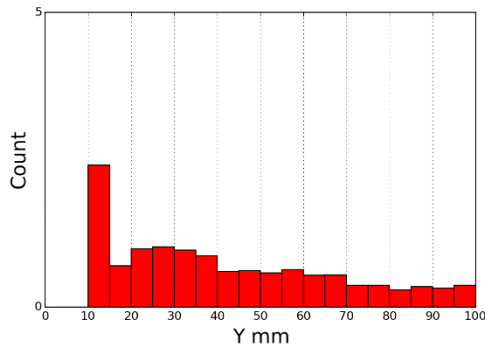


Figure D. 588: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2.2 Matched Only Droplets for .LA Image

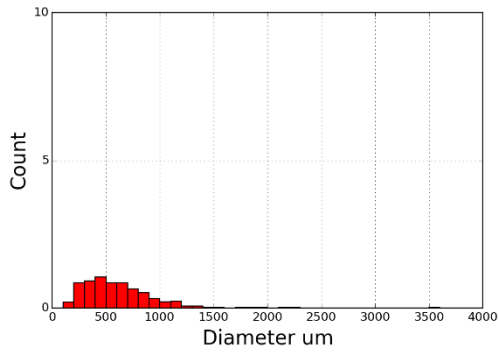


Figure D. 591: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

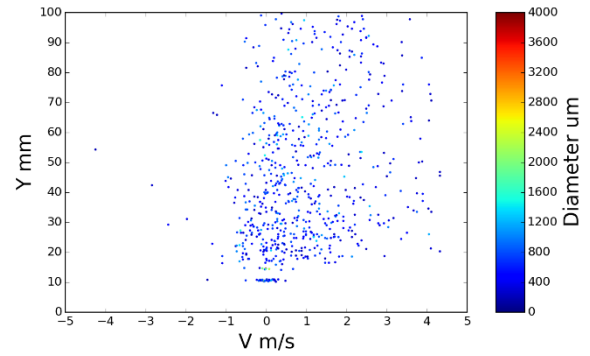


Figure D. 594: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

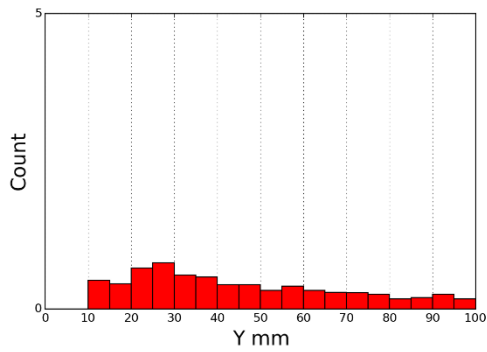


Figure D. 592: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

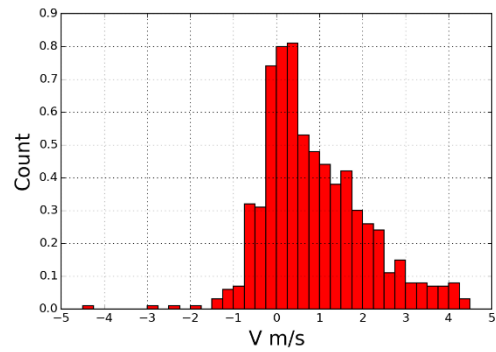


Figure D. 595: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

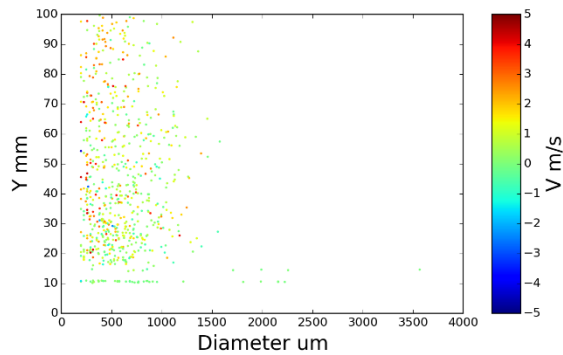


Figure D. 593: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2.2 Matched Only Droplets for .LB Image

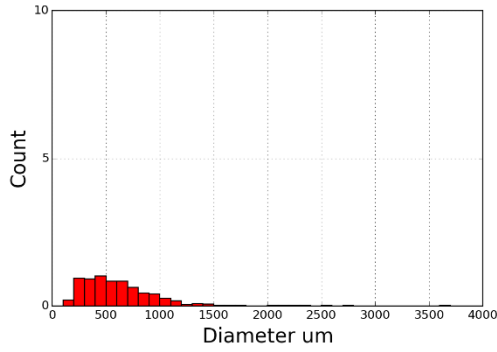


Figure D. 596: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

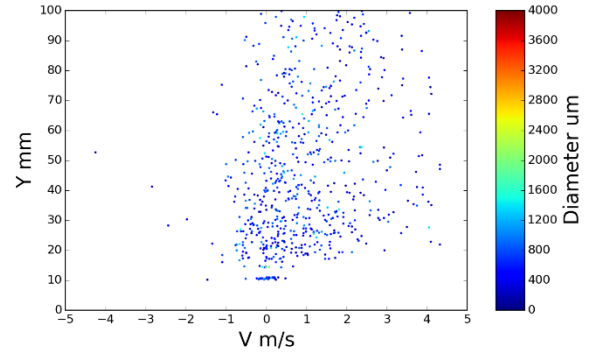


Figure D. 599: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

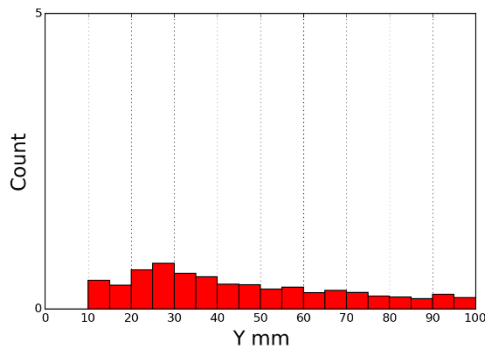


Figure D. 597: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

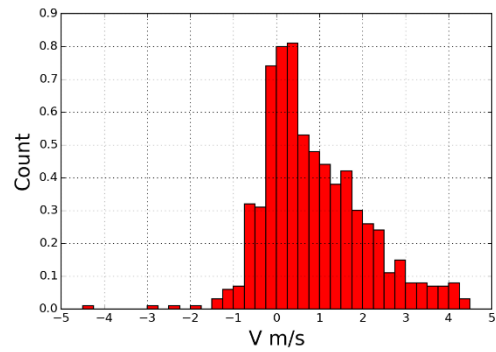


Figure D. 600: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

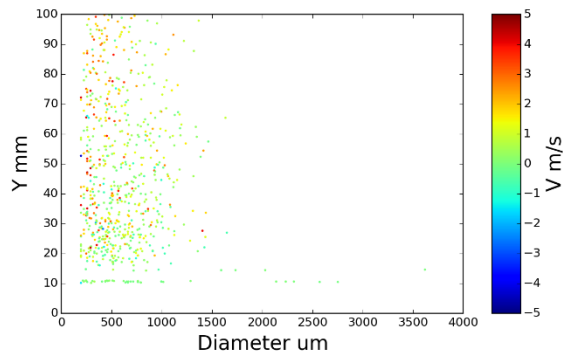


Figure D. 598: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2.2 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	2.77	3.01	182.5	3868	597.6	456.5	182.5	3526	677.4	518.6
20-40mm	5.44	5.42	193.6	2628	528.1	309.9	182.5	2180	526.4	310.9
40-60mm	3.5	3.62	182.5	2038	540.1	345.2	182.5	1899	524.2	328.2
60-80mm	2.1	2.2	182.5	2205	575.0	387.6	170.7	2349	561.2	394.1
80-100mm	1.09	1.27	182.5	2117	561.7	338.5	193.6	2108	543.0	306.8
All	14.9	15.52	182.5	3868	552.9	363.4	170.7	3526	561.5	379.7
			Height A (mm)				Height B (mm)			
Highest Particle			99.9811				99.9792			
Lowest Particle			9.2632				9.2586			

Table D. 67: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	1.24	193.6	1911	590.3	319.9	193.6	2033	601.7	342.6	-3.500	4.170	-0.170	0.810	-0.740	3.740	0.760	0.810
20-40mm	3.73	193.6	1892	581.6	290.9	193.6	1903	579.5	301.1	-3.240	3.890	-0.100	0.650	-1.590	4.380	0.940	1.090
40-60mm	2.08	193.6	1621	603.1	313.0	193.6	1899	603.8	317.9	-3.340	4.050	-0.020	0.680	-4.110	4.330	1.230	1.260
60-80mm	1.29	193.6	2205	653.1	395.5	193.6	2349	656.2	421.9	-1.380	2.200	-0.060	0.450	-1.110	4.320	1.180	1.260
80-100mm	0.69	182.5	1458	609.0	276.2	223.5	1458	611.0	263.4	-1.320	1.920	-0.080	0.460	-0.690	3.650	1.210	1.050
All	9.03	182.5	2205	600.0	316.7	193.6	2349	601.7	328.9	-3.500	4.170	-0.080	0.650	-4.110	4.380	1.040	1.130

Table D. 68: Matched Droplet Info

D.3.2.2 All Droplets for .LA Image

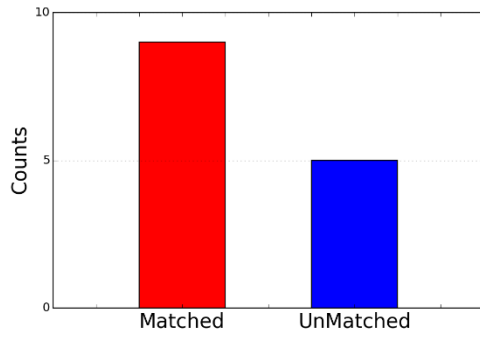


Figure D. 601: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

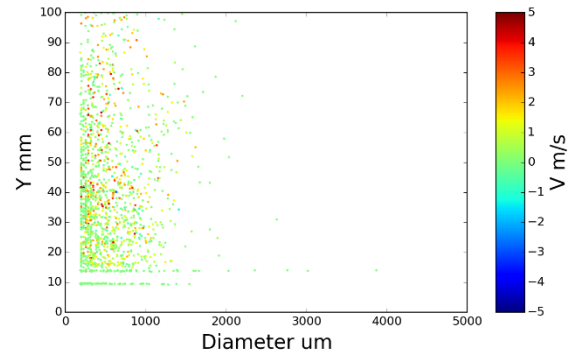


Figure D. 604: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

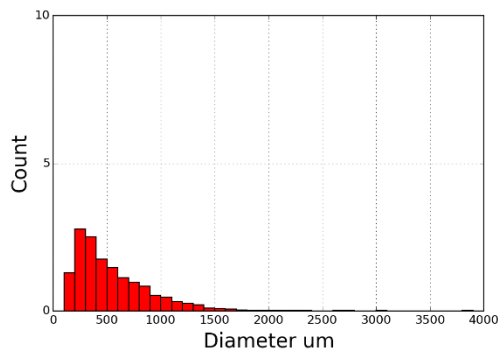


Figure D. 602: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

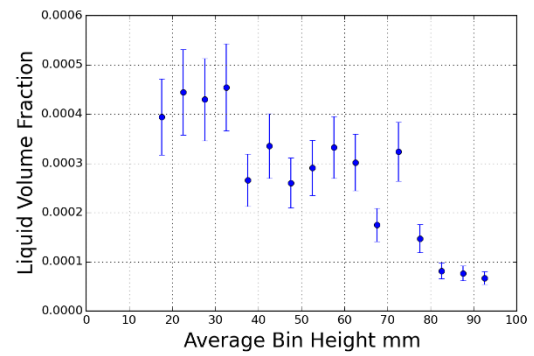


Figure D. 605: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

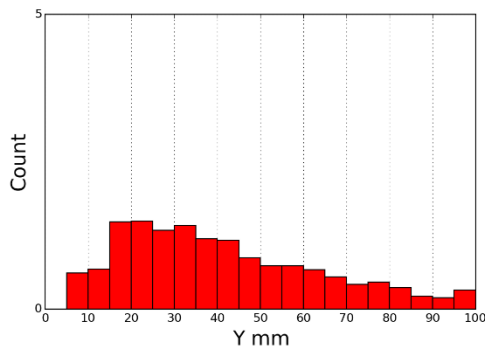


Figure D. 603: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2.2 All Droplets for .LB Image

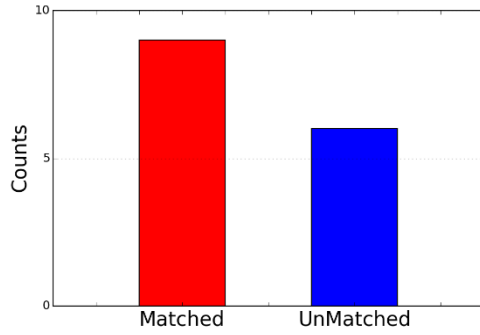


Figure D. 606: CHC Count Comparison R-123 40F 10000Btu 30000Lb Rot Tri

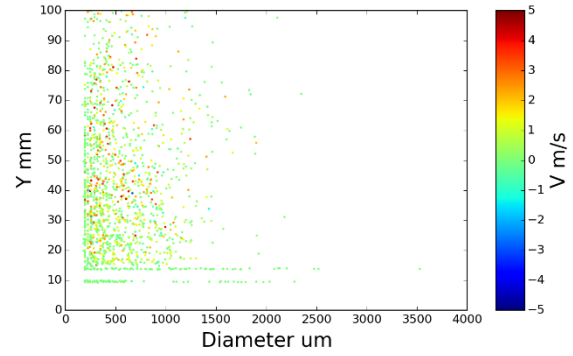


Figure D. 609: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

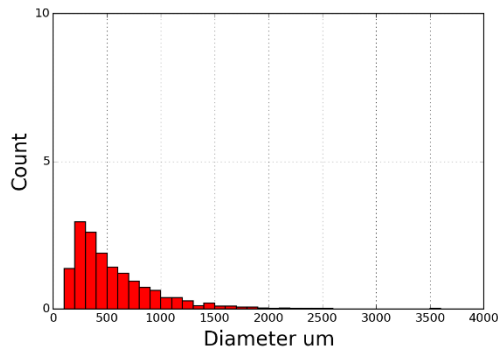


Figure D. 607: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

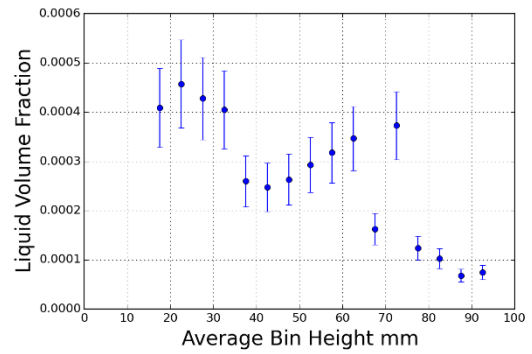


Figure D. 610: Void Fraction R-123 40F 10000Btu 30000Lb Rot Tri

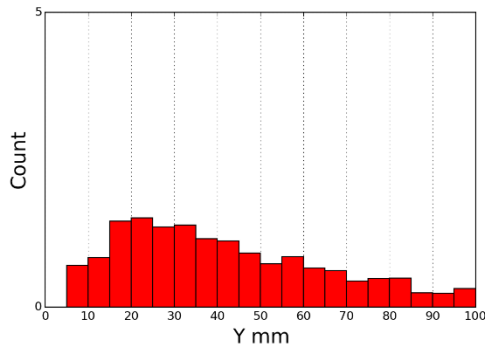


Figure D. 608: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2.2 Matched Only Droplets for .LA Image

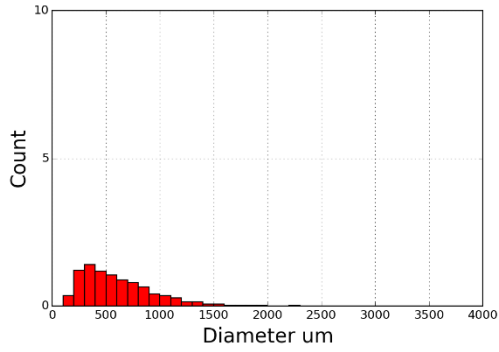


Figure D. 611: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

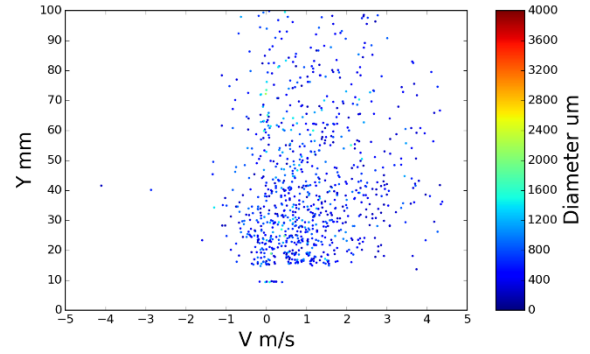


Figure D. 614: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

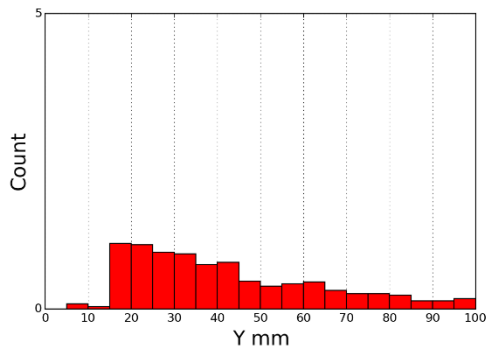


Figure D. 612: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

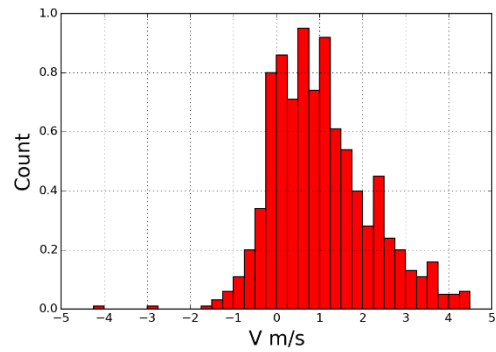


Figure D. 615: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

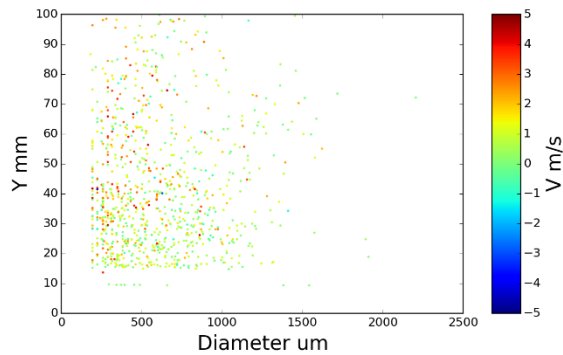


Figure D. 613: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.3.2.2 Matched Only Droplets for .LB Image

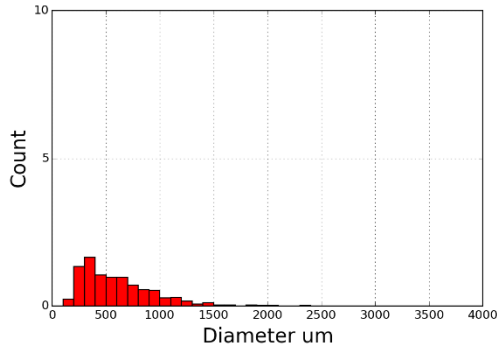


Figure D. 616: Droplet Diameter Histogram R-123 40F 10000Btu 30000Lb Rot Tri

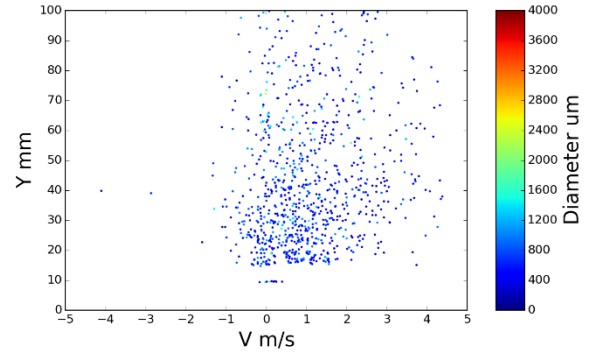


Figure D. 619: Droplet Height vs Vertical Velocity R-123 40F 10000Btu 30000Lb Rot Tri

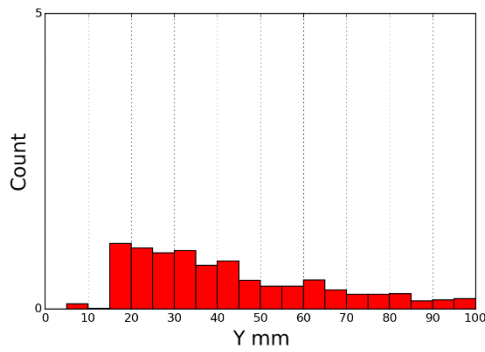


Figure D. 617: Droplet Height Histogram R-123 40F 10000Btu 30000Lb Rot Tri

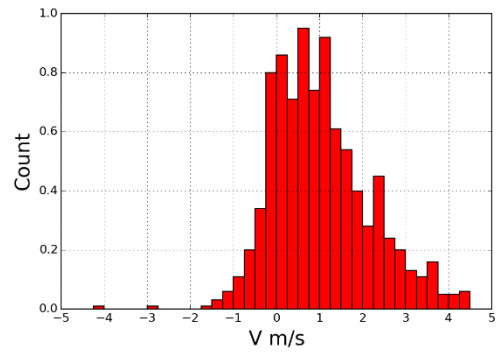


Figure D. 620: Droplet Vertical Velocity Histogram R-123 40F 10000Btu 30000Lb Rot Tri

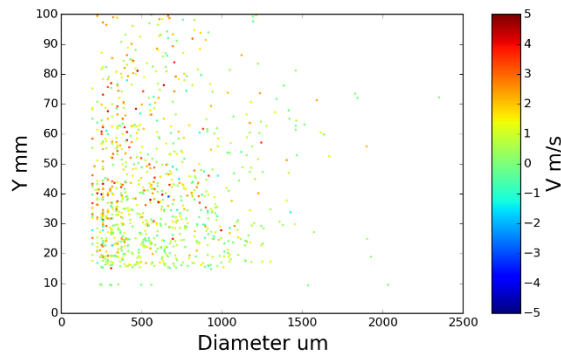


Figure D. 618: Droplet Height vs Diameter R-123 40F 10000Btu 30000Lb Rot Tri

D.4 - 1556 R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1 Liquid Level 2

Thermal Conditions	
H2O Flow Rate (lb/hr) / (kg/s)	16933 / 2.133
Ref Mass Flow (lb/hr) / (kg/s)	277 / 0.035
Ref Mass Flux (lb/hr-ft ²) / (kg/s-m ²)	2699 / 3.661
Top Two Rows Heat Flux (Btu/hr-ft ²) / (kW/m ²)	1036 / 3.27
Bundle Exit Saturation Temp (°F) / (°C)	55.0 / 12.76
Bundle Inlet Saturation Temp (°F) / (°C)	55.9 / 13.27
Total Bundle Q (Btu/hr) / (kW)	21338 / 6.25
Total Bundle & Preboiler Q (Btu/hr) / (kW)	21338 / 6.25
Top Two Rows HTC Ratio	1.165
Bundle Inlet Quality	-0.11
Bundle Exit Quality	0.91

Table D. 69: Thermal Conditions

D.4.1.1 Lens 100mm Mag 0_29x

D.4.1.1 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	15.55	15.93	75.9	3457	365.5	373.0	75.9	3619	359.4	383.1
40-60mm	33.27	33.99	75.9	2748	290.1	274.7	81.1	2597	287.7	267.3
60-80mm	19.52	20.44	75.9	2168	242.4	213.1	81.1	2356	239.8	217.9
80-100mm	0.61	0.54	81.1	548.5	182.8	96.0	81.1	610.2	175.7	113.5
All	68.95	70.9	75.9	3457	292.7	287.6	75.9	3619	289.2	288.0
			Height A (mm)				Height B (mm)			
Highest Particle			80.7911				80.7911			
Lowest Particle			32.8424				32.8297			

Table D. 70: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	10.52	81.1	3457	382.5	351.1	86.0	3619	381.1	367.8	-0.940	0.890	-0.010	0.270	-0.900	0.950	-0.000	0.350
40-60mm	24.09	86.0	2425	303.5	254.0	86.0	2445	304.2	260.7	-0.940	0.900	0.020	0.250	-0.940	0.950	0.030	0.350
60-80mm	14.74	81.1	2168	253.8	211.9	81.1	2356	252.7	218.1	-0.950	0.840	-0.010	0.210	-0.820	0.950	0.020	0.330
80-100mm	0.38	81.1	367.2	165.1	74.0	81.1	403.4	171.2	89.6	-0.390	0.270	-0.020	0.150	-0.390	0.460	-0.100	0.190
All	49.73	81.1	3457	304.4	270.0	81.1	3619	304.1	278.9	-0.950	0.900	0.000	0.240	-0.940	0.950	0.020	0.340

Table D. 71: Matched Droplet Info

D.4.1.1 All Droplets for .LA Image

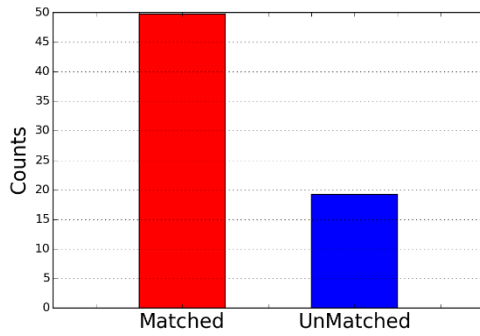


Figure D. 621: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

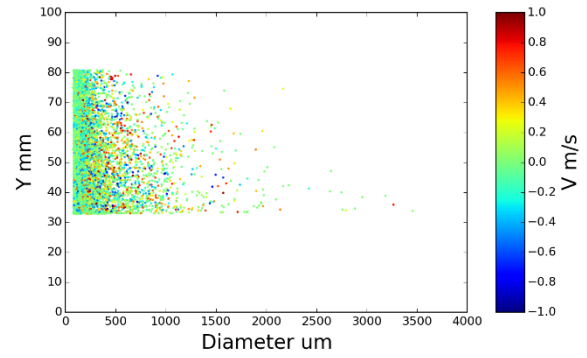


Figure D. 624: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

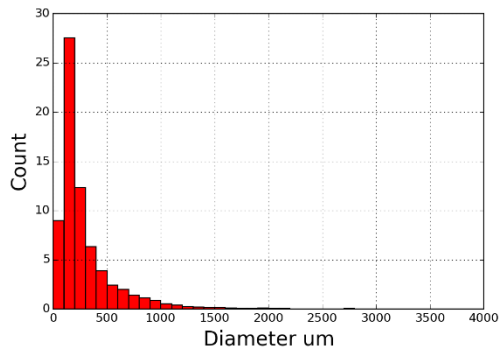


Figure D. 622: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

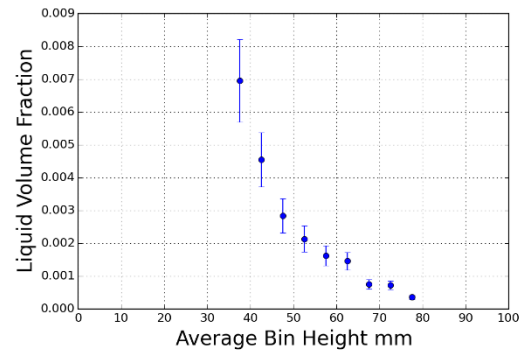


Figure D. 625: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

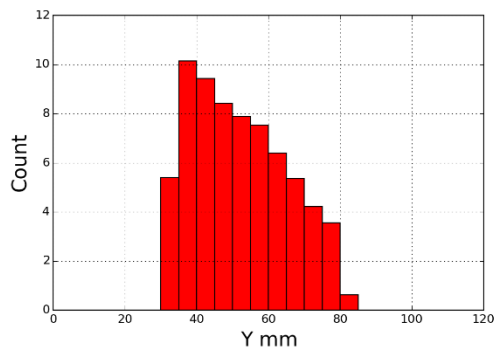


Figure D. 623: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1.1 All Droplets for .LB Image

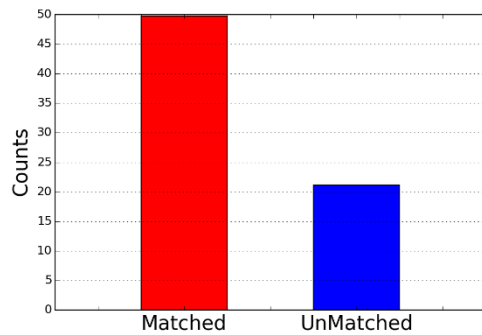


Figure D. 626: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

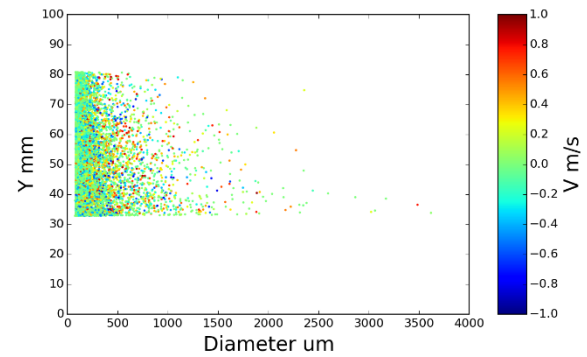


Figure D. 629: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

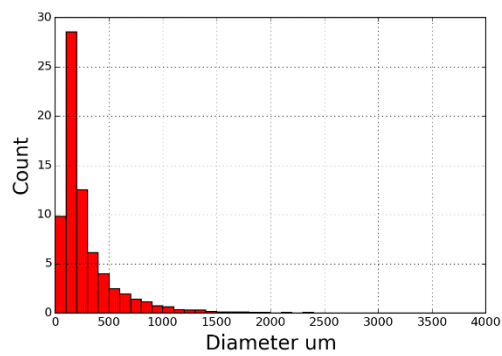


Figure D. 627: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

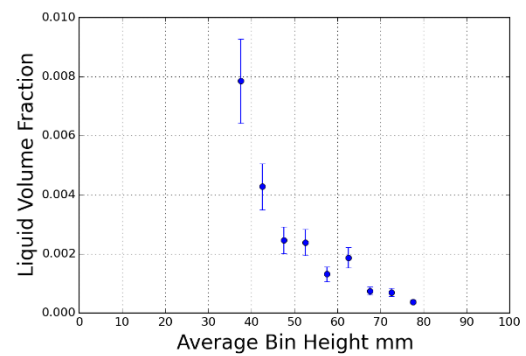


Figure D. 630: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

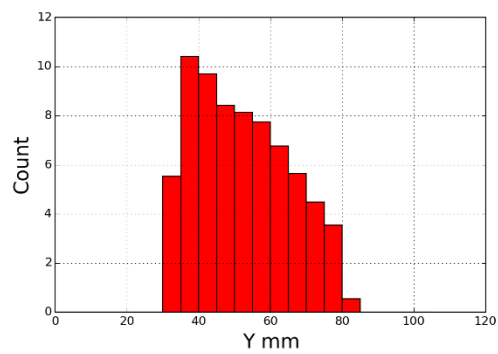


Figure D. 628: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1.1 Matched Only Droplets for .LA Image

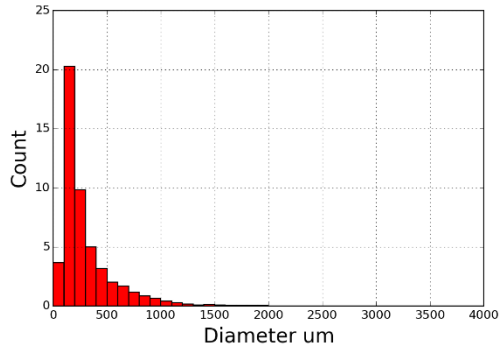


Figure D. 631: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

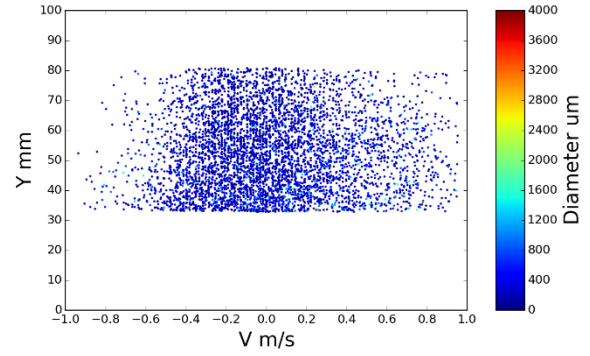


Figure D. 634: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

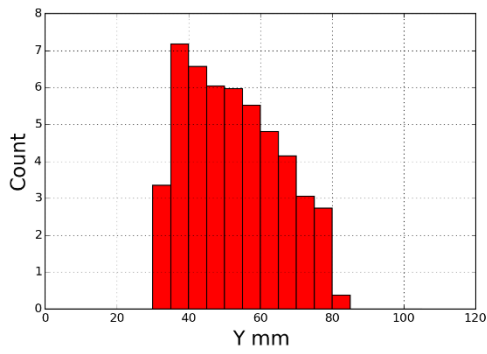


Figure D. 632: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

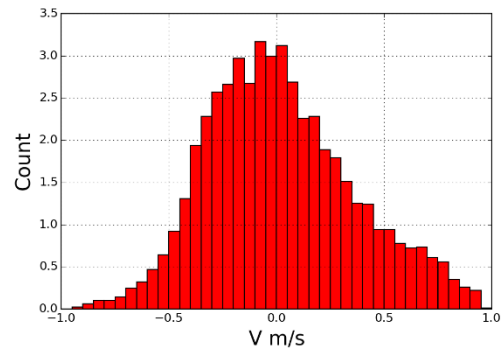


Figure D. 635: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

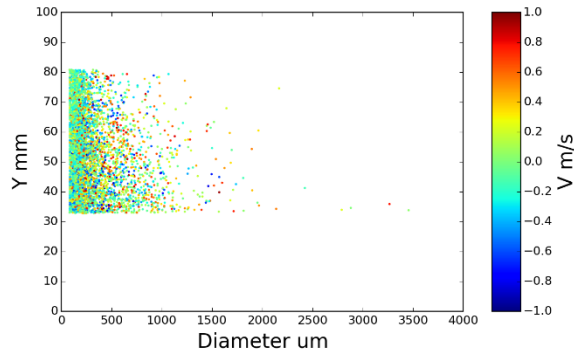


Figure D. 633: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1.1 Matched Only Droplets for .LB Image

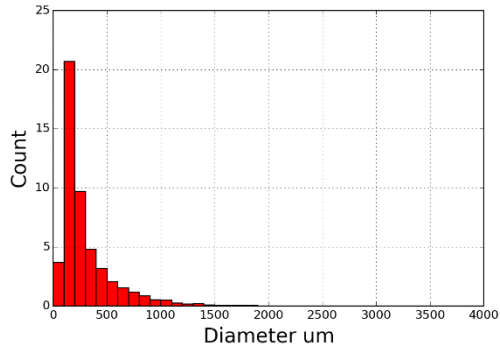


Figure D. 636: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

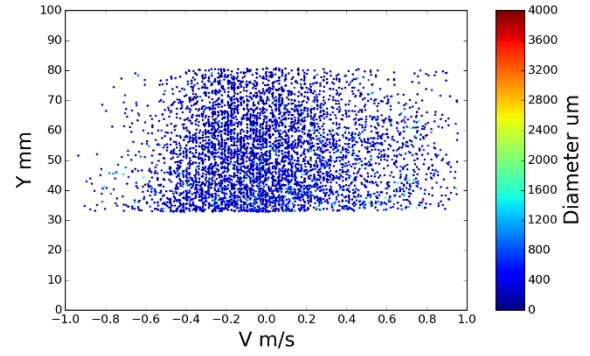


Figure D. 639: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

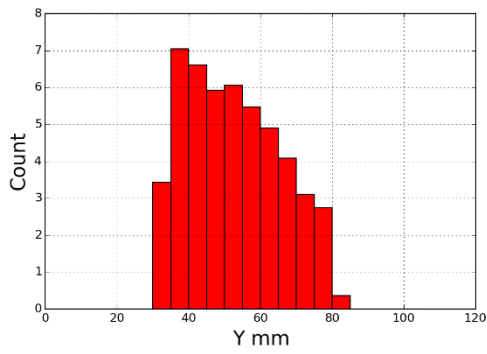


Figure D. 637: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

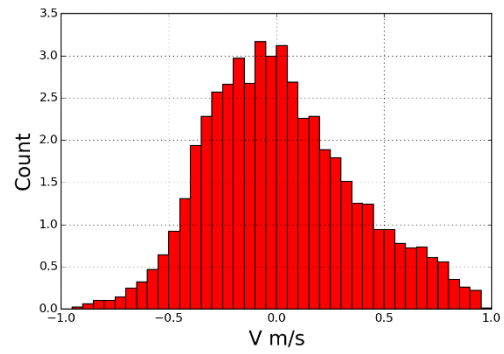


Figure D. 640: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

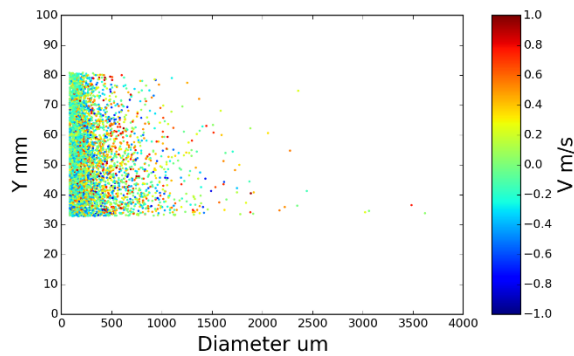


Figure D. 638: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1.1 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	16.92	17.22	81.1	3592	366.8	355.2	81.1	3507	359.0	354.7
40-60mm	35.17	36.59	81.1	3811	305.5	297.9	81.1	3635	302.0	296.7
60-80mm	20.48	21.4	81.1	2593	240.8	208.9	81.1	2719	240.1	212.3
80-100mm	0.48	0.56	86.0	1157	257.1	235.5	81.1	1153	260.0	231.3
All	73.05	75.77	81.1	3811	301.2	294.3	81.1	3635	297.1	293.3
			Height A (mm)				Height B (mm)			
Highest Particle			80.8038				80.7929			
Lowest Particle			32.8424				32.8424			

Table D. 72: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	11.05	86.0	3372	398.1	344.1	81.1	3507	396.0	355.1	-0.910	0.920	-0.010	0.300	-0.880	0.950	0.120	0.380
40-60mm	24.32	81.1	3248	330.9	292.6	81.1	3379	331.3	300.0	-0.950	0.950	-0.020	0.270	-0.950	0.950	0.110	0.370
60-80mm	14.26	86.0	2593	262.2	217.5	81.1	2719	262.2	221.4	-0.850	0.950	-0.010	0.220	-0.840	0.950	0.080	0.350
80-100mm	0.29	86.0	1157	269.1	267.9	86.0	1153	286.1	259.6	-0.760	0.180	-0.050	0.190	-0.950	0.400	-0.030	0.290
All	49.92	81.1	3372	325.8	290.2	81.1	3507	325.4	297.1	-0.950	0.950	-0.010	0.260	-0.950	0.950	0.110	0.370

Table D. 73: Matched Droplet Info

D.4.1.1 All Droplets for .LA Image

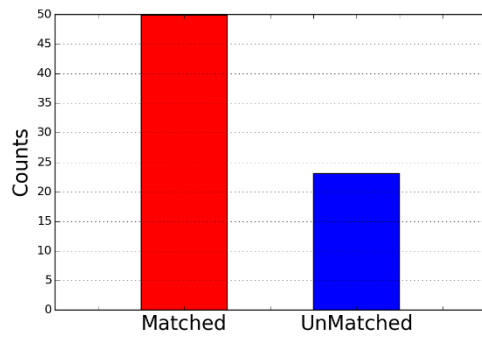


Figure D. 641: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

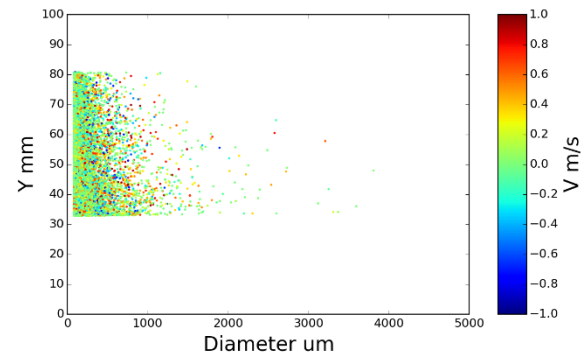


Figure D. 644: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

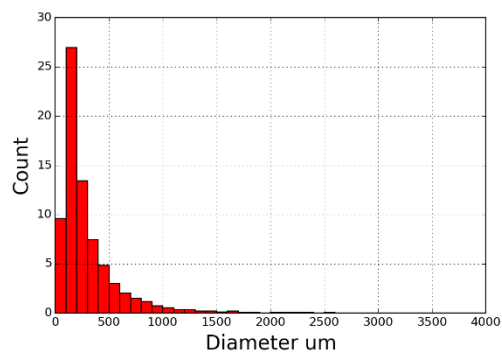


Figure D. 642: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

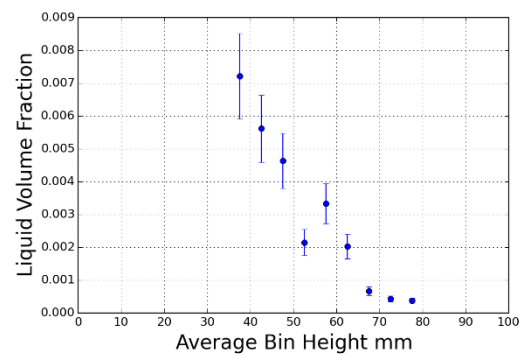


Figure D. 645: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

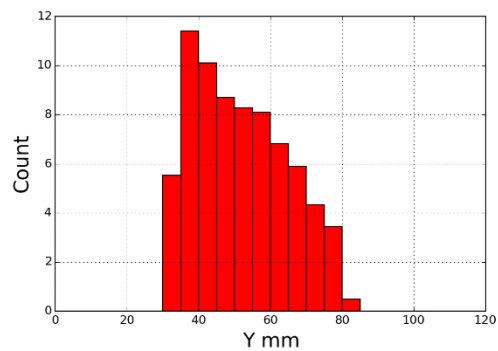


Figure D. 643: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1.1 All Droplets for .LB Image

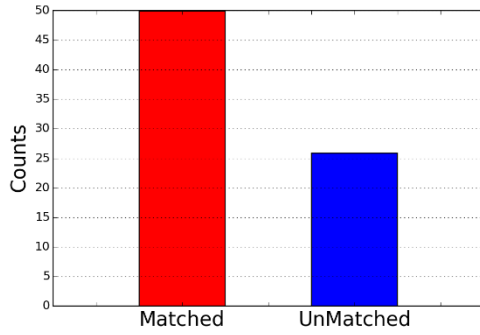


Figure D. 646: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

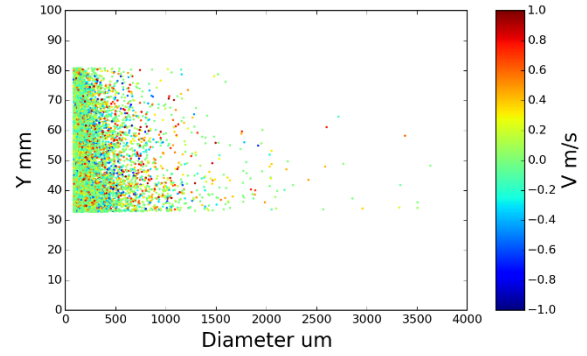


Figure D. 649: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

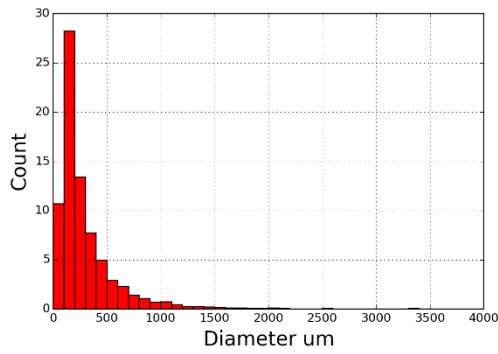


Figure D. 647: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

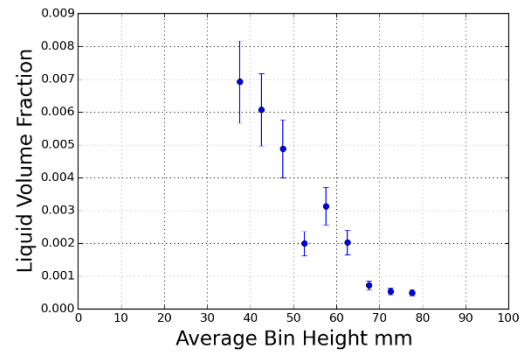


Figure D. 650: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

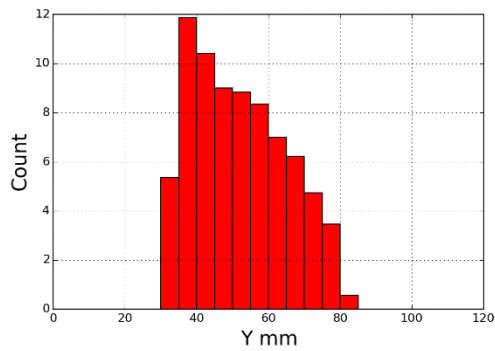


Figure D. 648: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1.1 Matched Only Droplets for .LA Image

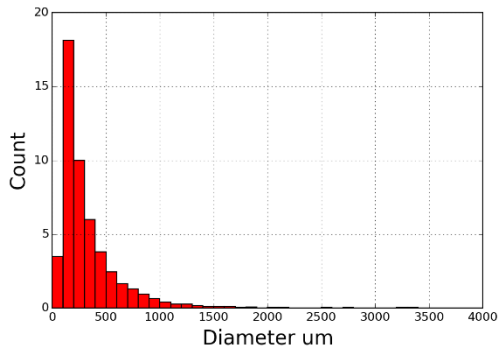


Figure D. 651: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

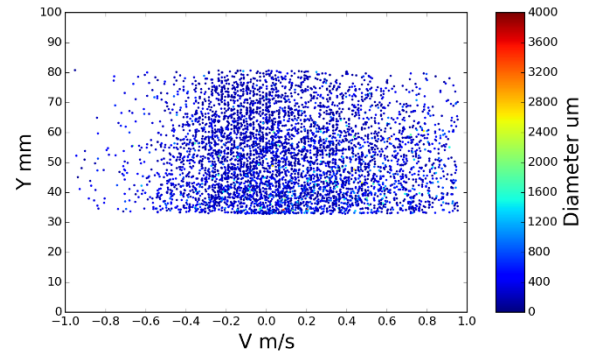


Figure D. 654: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

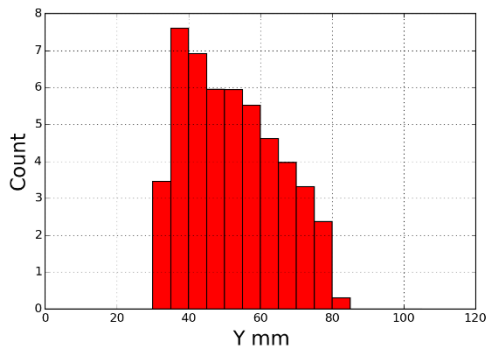


Figure D. 652: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

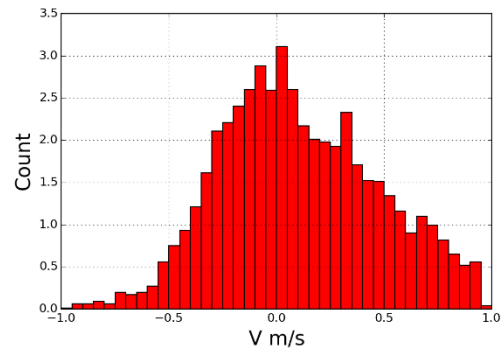


Figure D. 655: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

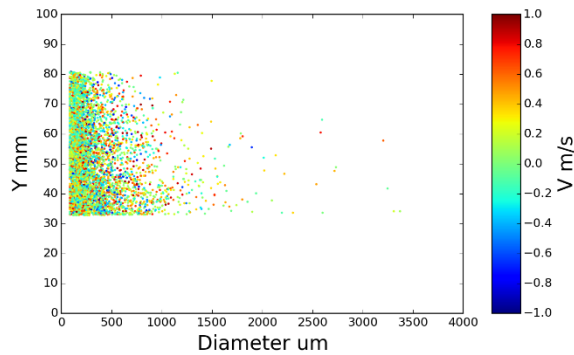


Figure D. 653: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1.1 Matched Only Droplets for .LB Image

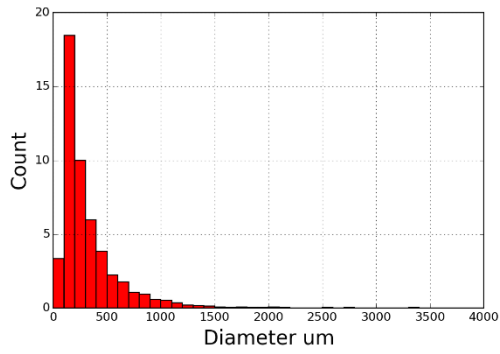


Figure D. 656: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

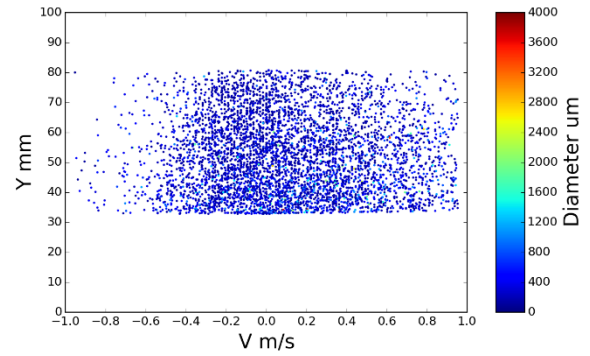


Figure D. 659: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

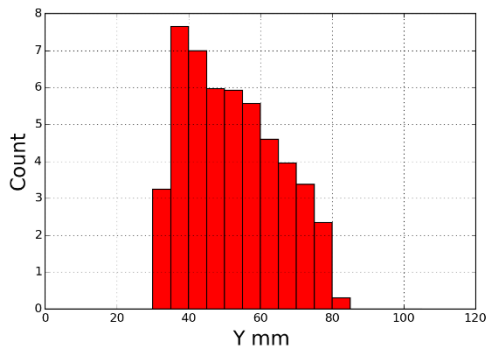


Figure D. 657: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

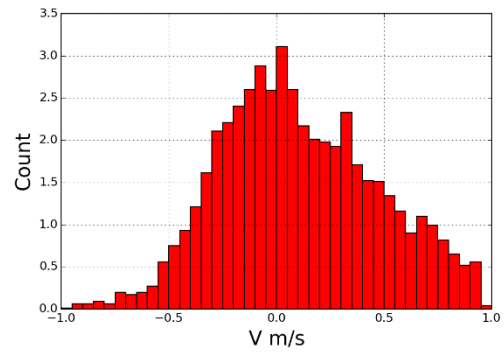


Figure D. 660: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

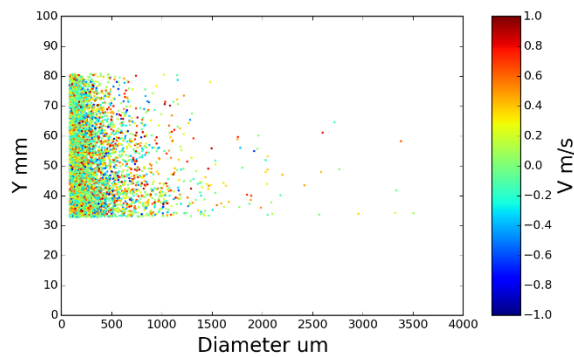


Figure D. 658: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1.1 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	16.35	17.0	81.1	2913	388.1	373.8	75.9	3017	383.8	372.5
40-60mm	30.8	31.82	75.9	3254	304.7	306.3	81.1	3225	300.8	303.0
60-80mm	17.65	18.68	81.1	2560	261.0	240.7	75.9	2642	258.8	240.3
80-100mm	0.4	0.39	86.0	1385	218.1	221.6	86.0	1630	244.7	261.1
All	65.2	67.89	75.9	3254	313.2	312.4	75.9	3225	309.7	310.2
			Height A (mm)				Height B (mm)			
Highest Particle			80.7921				80.7911			
Lowest Particle			32.8405				32.8297			

Table D. 74: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	10.45	81.1	2913	426.9	360.1	81.1	3017	430.7	377.3	-0.950	0.950	-0.010	0.300	-0.930	0.950	0.160	0.380
40-60mm	20.5	86.0	2932	333.7	302.9	81.1	2935	334.1	309.7	-0.950	0.930	-0.010	0.260	-0.940	0.950	0.130	0.380
60-80mm	12.38	81.1	2560	280.6	236.6	81.1	2642	281.9	242.3	-0.920	0.830	-0.000	0.240	-0.890	0.940	0.100	0.360
80-100mm	0.23	86.0	1385	271.5	273.5	86.0	1630	287.5	307.9	-0.470	0.350	-0.060	0.190	-0.550	0.250	-0.090	0.170
All	43.56	81.1	2932	340.6	305.7	81.1	3017	341.9	315.1	-0.950	0.950	-0.010	0.260	-0.940	0.950	0.130	0.370

Table D. 75: Matched Droplet Info

D.4.1.1 All Droplets for .LA Image

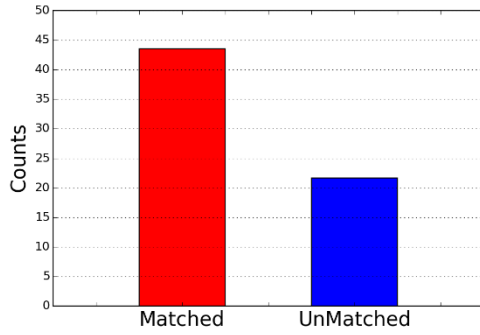


Figure D. 661: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

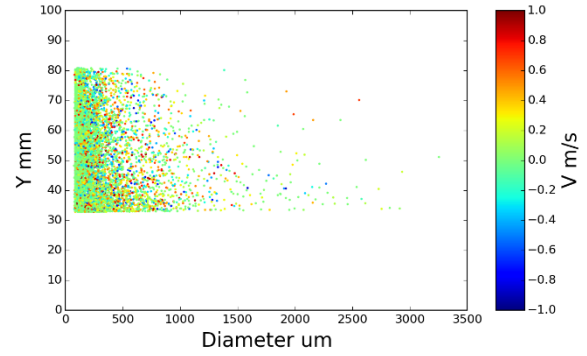


Figure D. 664: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

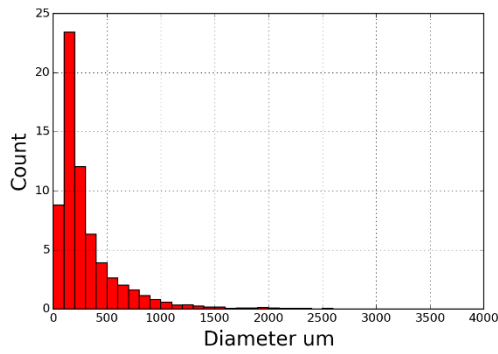


Figure D. 662: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

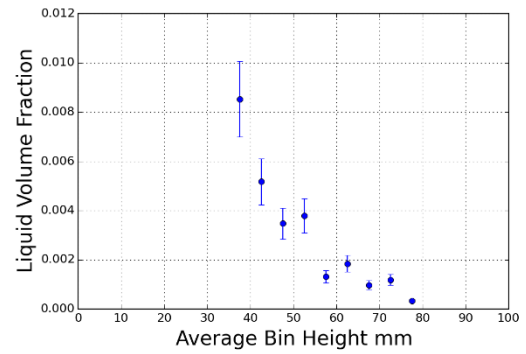


Figure D. 665: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

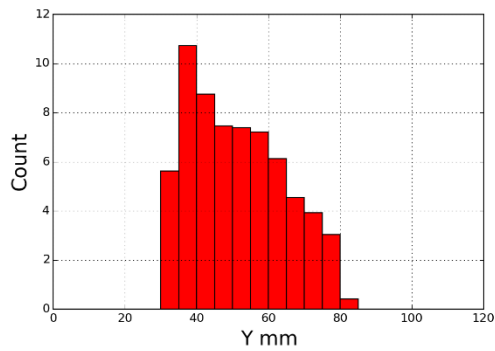


Figure D. 663: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1.1 All Droplets for .LB Image

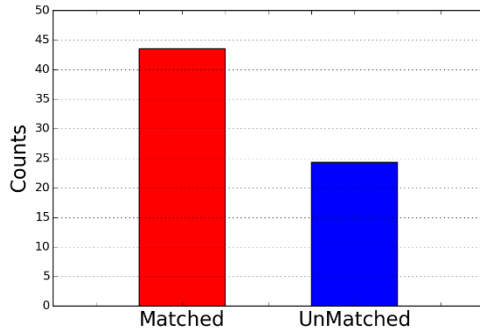


Figure D. 666: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

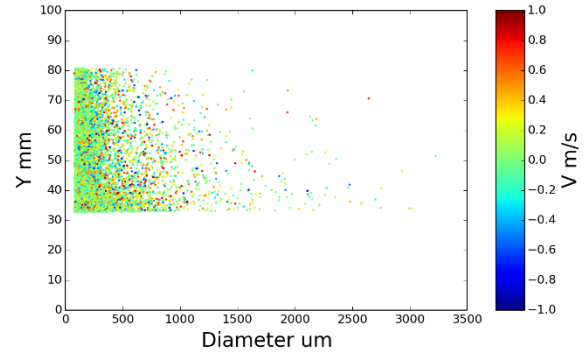


Figure D. 669: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

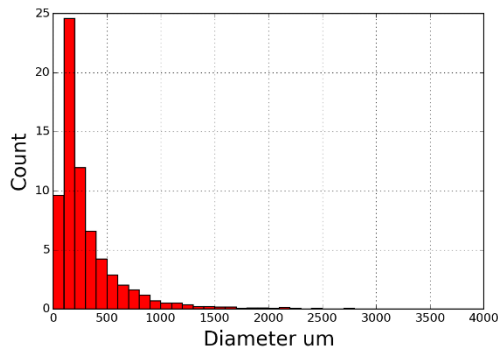


Figure D. 667: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

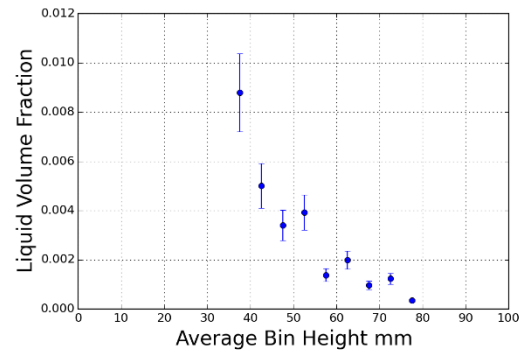


Figure D. 670: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

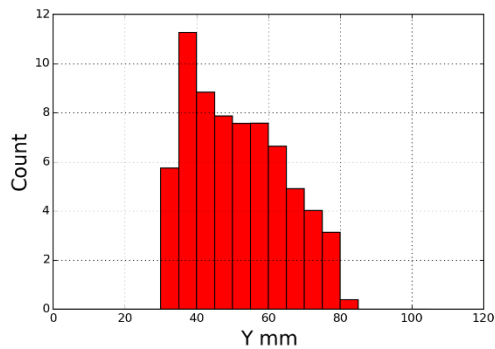


Figure D. 668: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1.1 Matched Only Droplets for .LA Image

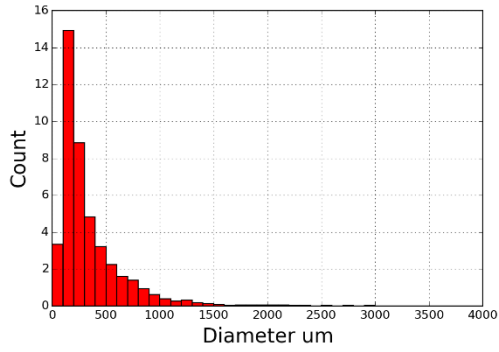


Figure D. 671: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

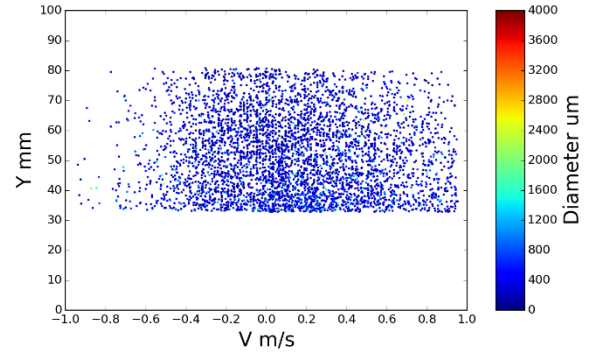


Figure D. 674: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

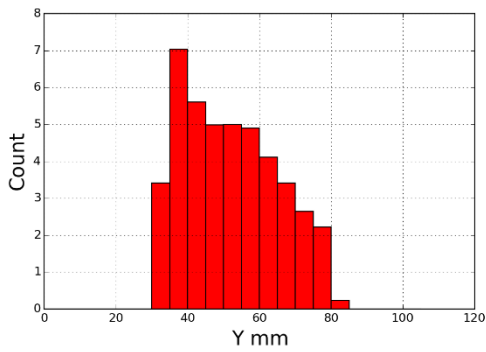


Figure D. 672: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

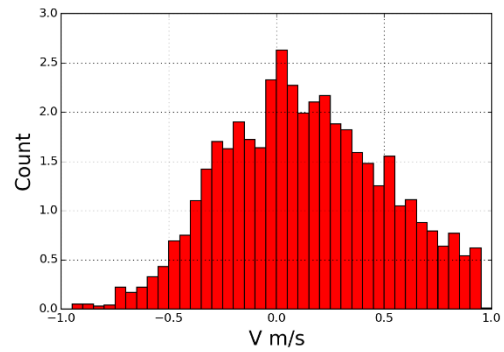


Figure D. 675: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

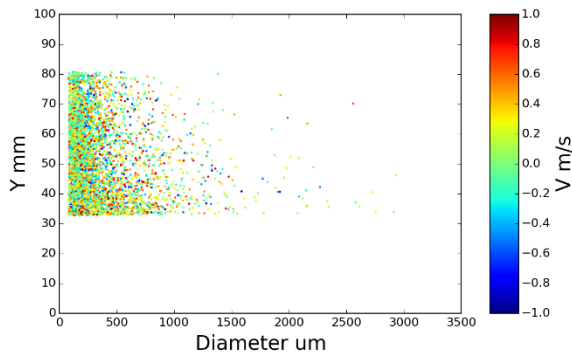


Figure D. 673: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1.1 Matched Only Droplets for .LB Image

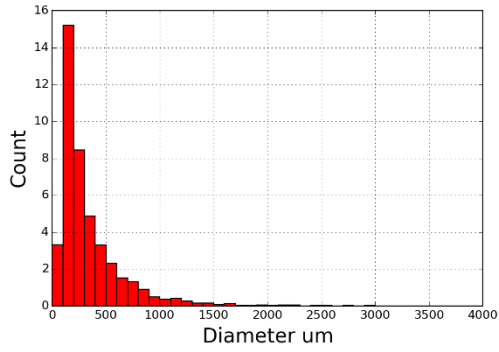


Figure D. 676: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

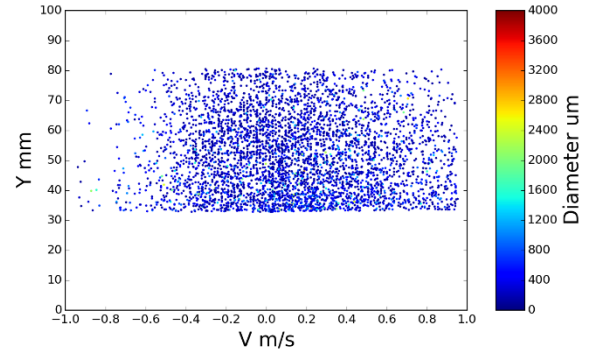


Figure D. 679: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

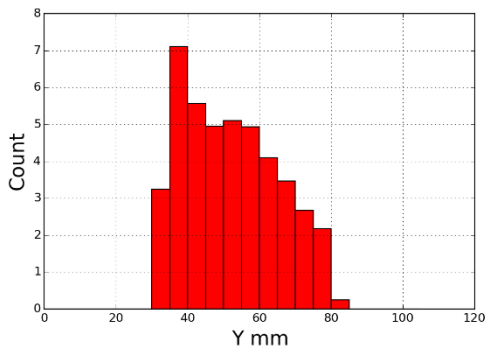


Figure D. 677: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

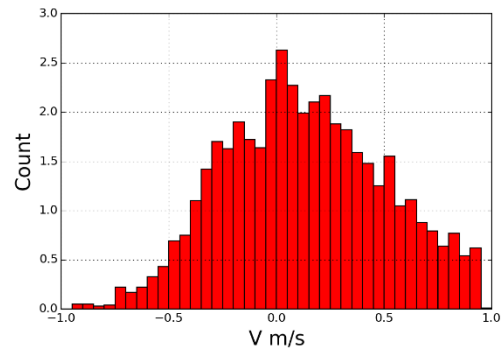


Figure D. 680: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

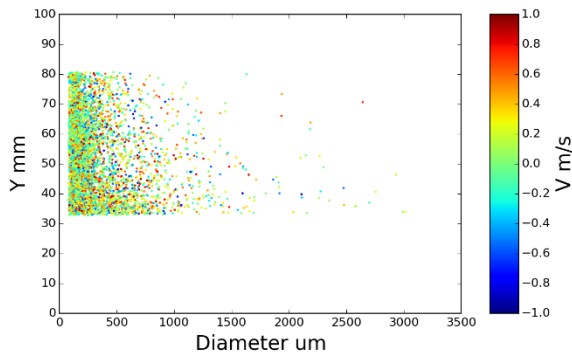


Figure D. 678: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1.2 Lens 50mm Mag 0_13x

D.4.1.2 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	28.15	27.72	170.5	3814	559.5	434.5	182.2	3986	553.2	429.5
40-60mm	14.41	14.3	182.2	2653	449.4	281.7	182.2	2590	452.4	286.5
60-80mm	6.75	6.83	182.2	1803	412.0	236.9	182.2	1855	407.7	230.8
80-100mm	2.32	2.41	182.2	1355	369.6	170.6	182.2	1380	373.3	173.9
All	51.64	51.26	170.5	3814	500.9	371.6	182.2	3986	497.2	367.7
			Height A (mm)				Height B (mm)			
Highest Particle			100.0106				99.8964			
Lowest Particle			20.0992				20.1252			

Table D. 76: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	19.84	182.2	3814	582.3	404.0	182.2	3986	576.2	406.1	-0.950	0.950	0.030	0.350	-0.950	0.950	0.060	0.380
40-60mm	10.59	193.3	2339	479.4	276.2	193.3	2515	477.6	281.6	-0.950	0.920	0.020	0.300	-0.930	0.950	0.050	0.400
60-80mm	5.25	193.3	1610	429.3	228.1	193.3	1855	438.1	236.1	-0.920	0.930	0.050	0.290	-0.910	0.950	0.090	0.410
80-100mm	1.84	193.3	1355	390.5	175.8	193.3	1380	391.4	180.1	-0.860	0.740	0.030	0.260	-0.860	0.920	0.030	0.420
All	37.52	182.2	3814	522.4	348.0	182.2	3986	519.9	350.6	-0.950	0.950	0.030	0.330	-0.950	0.950	0.060	0.390

Table D. 77: Matched Droplet Info

D.4.1.2 All Droplets for .LA Image

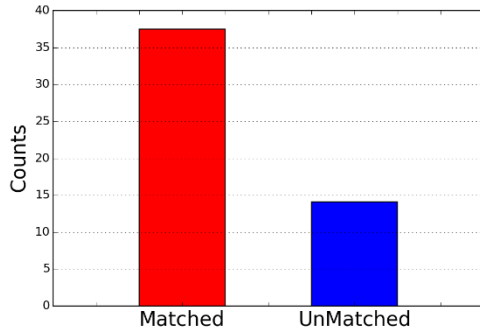


Figure D. 681: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

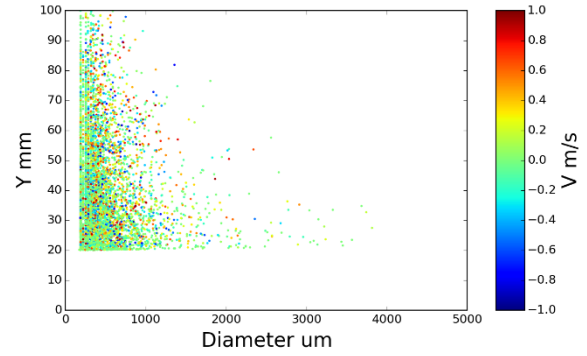


Figure D. 684: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

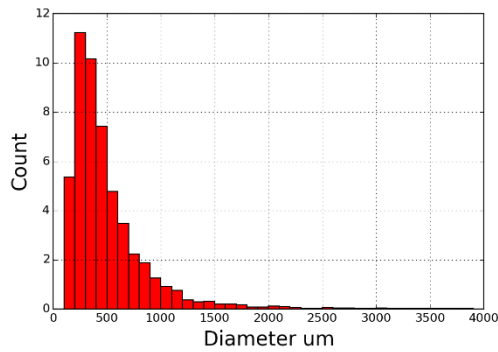


Figure D. 682: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

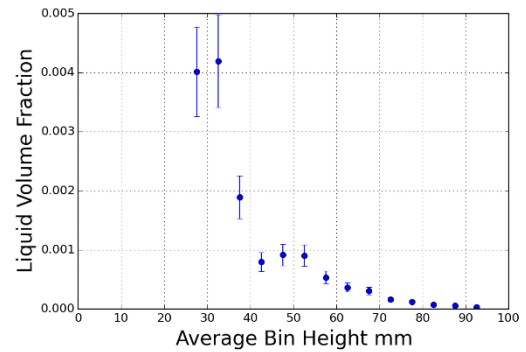


Figure D. 685: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

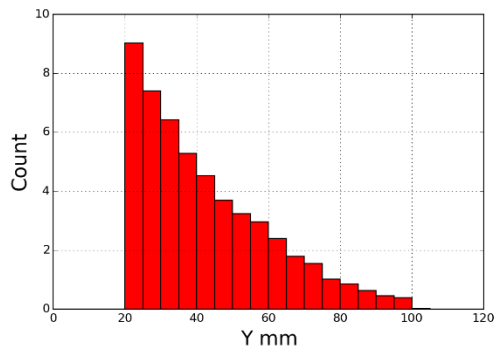


Figure D. 683: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1.2 All Droplets for .LB Image

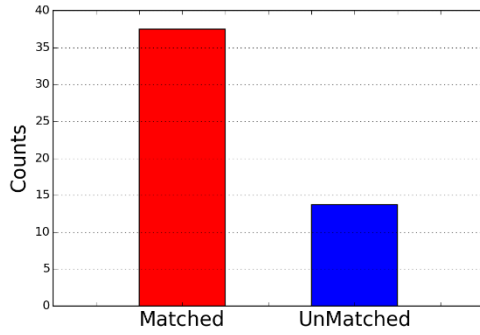


Figure D. 686: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

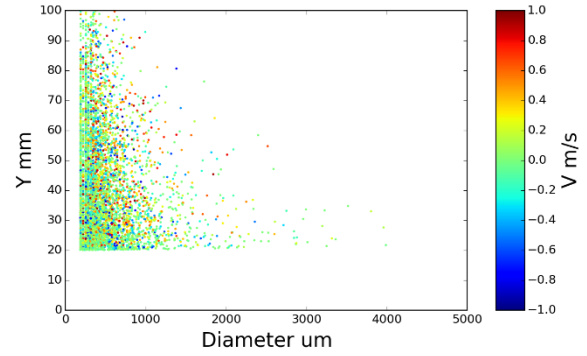


Figure D. 689: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

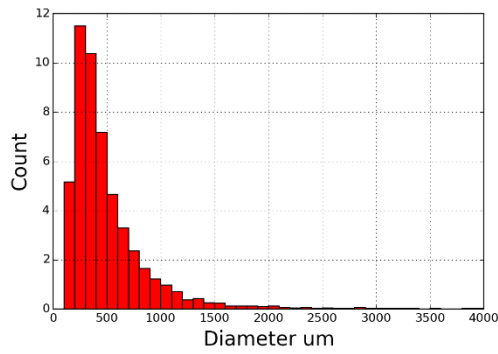


Figure D. 687: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

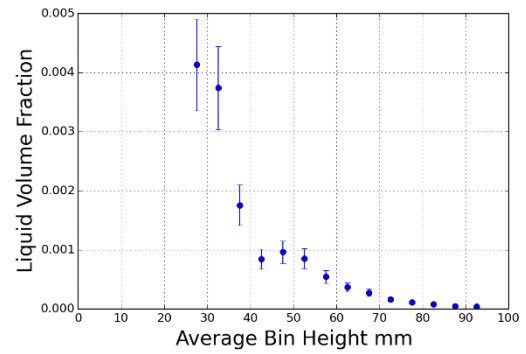


Figure D. 690: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

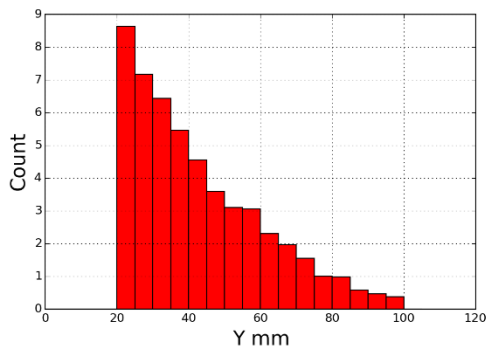


Figure D. 688: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1.2 Matched Only Droplets for .LA Image

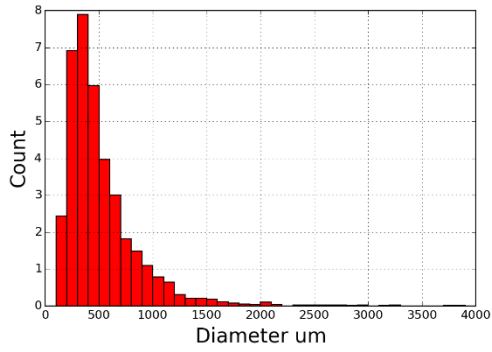


Figure D. 691: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

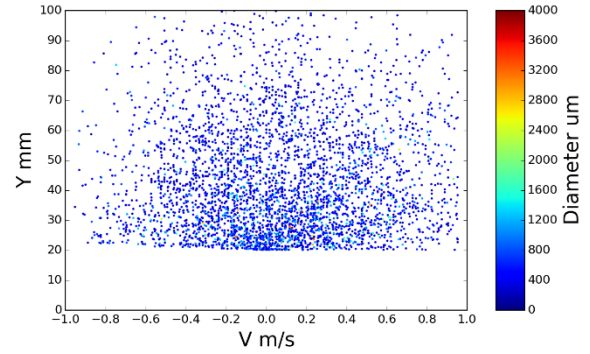


Figure D. 694: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

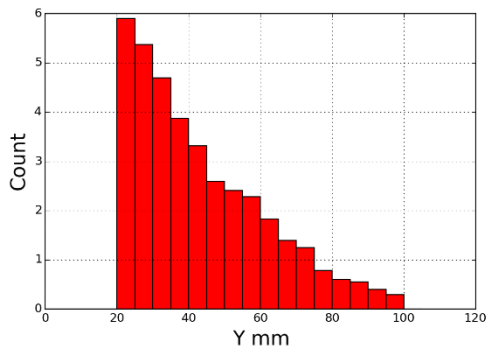


Figure D. 692: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

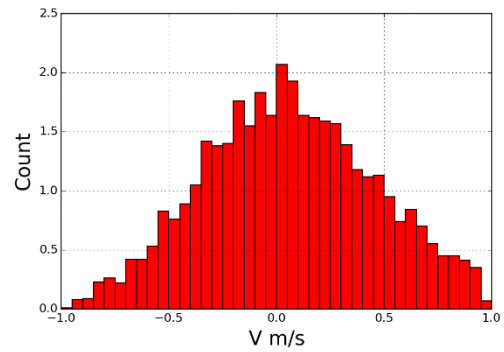


Figure D. 695: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

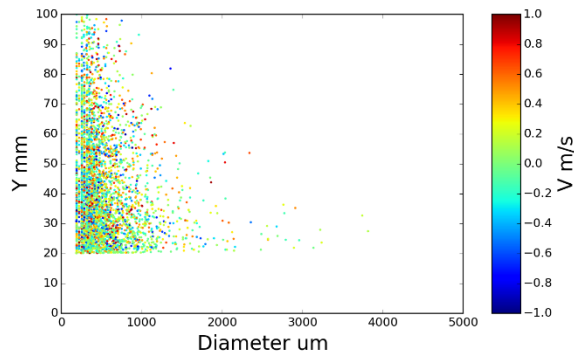


Figure D. 693: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1.2 Matched Only Droplets for .LB Image

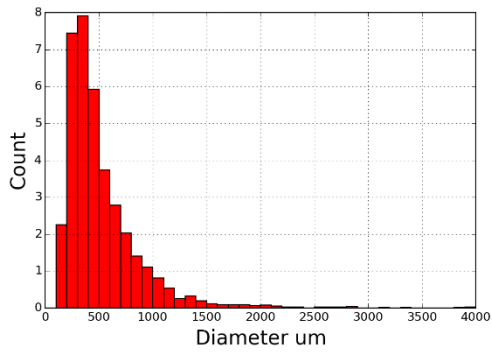


Figure D. 696: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

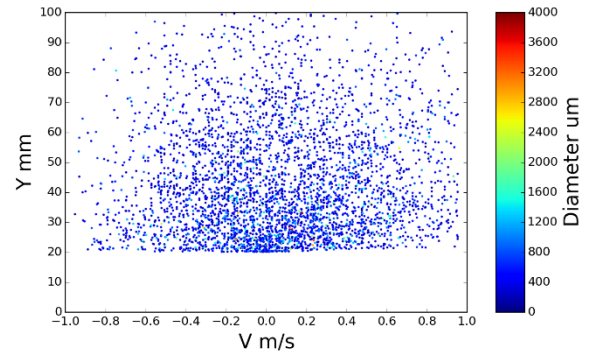


Figure D. 699: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

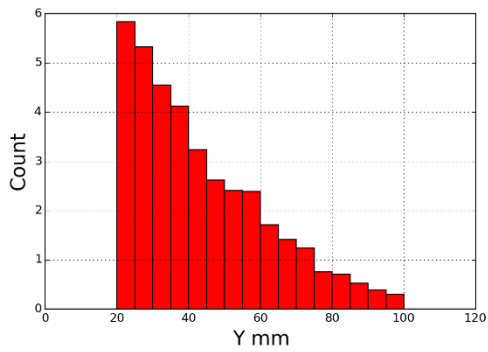


Figure D. 697: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

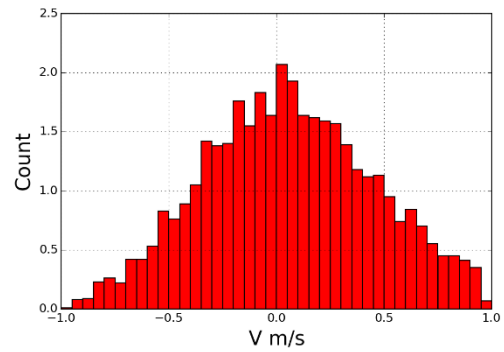


Figure D. 700: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

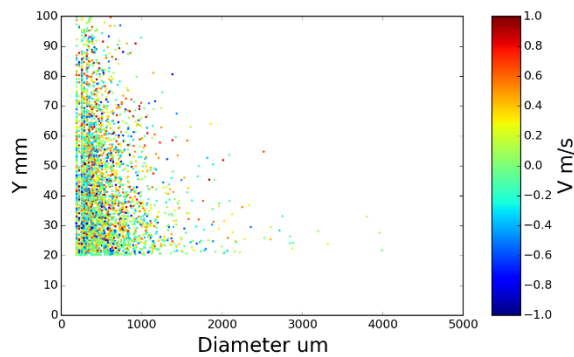


Figure D. 698: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1.2 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	30.88	30.54	170.5	3814	531.8	397.7	182.2	3619	528.9	392.2
40-60mm	15.46	15.58	182.2	3475	460.8	298.5	182.2	3361	460.5	296.7
60-80mm	6.71	6.66	193.3	2042	429.9	261.6	182.2	2091	426.3	255.3
80-100mm	2.3	2.29	182.2	1419	383.9	208.6	193.3	1448	376.4	207.4
All	55.35	55.07	170.5	3814	493.5	354.0	182.2	3619	490.8	349.3
			Height A (mm)				Height B (mm)			
Highest Particle			99.5982				99.9821			
Lowest Particle			20.0992				20.0992			

Table D. 78: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	20.55	182.2	3201	560.4	376.0	182.2	3525	560.1	390.2	-0.950	0.940	0.000	0.350	-0.950	0.950	0.120	0.400
40-60mm	11.3	182.2	2811	486.8	288.7	182.2	2812	485.7	291.4	-0.940	0.940	0.020	0.300	-0.940	0.950	0.100	0.410
60-80mm	5.16	193.3	2042	442.3	240.4	182.2	2091	439.7	243.0	-0.950	0.780	0.000	0.280	-0.950	0.950	0.040	0.400
80-100mm	1.84	182.2	1419	404.2	216.8	193.3	1448	402.2	216.6	-0.570	0.700	0.060	0.240	-0.830	0.950	0.010	0.420
All	38.85	182.2	3201	515.9	334.0	182.2	3525	514.8	343.2	-0.950	0.940	0.010	0.320	-0.950	0.950	0.100	0.400

Table D. 79: Matched Droplet Info

D.4.1.2 All Droplets for .LA Image

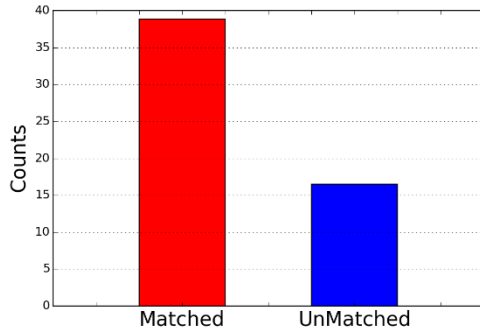


Figure D. 701: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

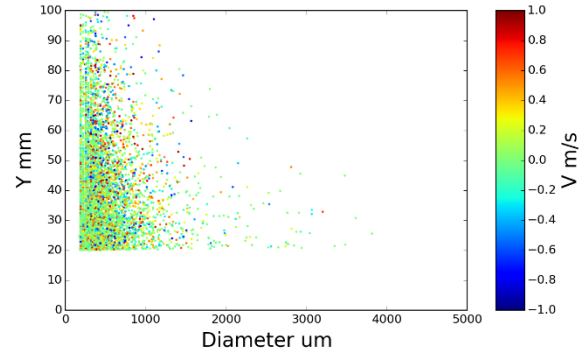


Figure D. 704: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

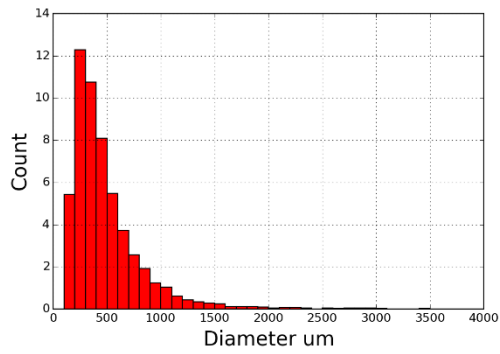


Figure D. 702: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

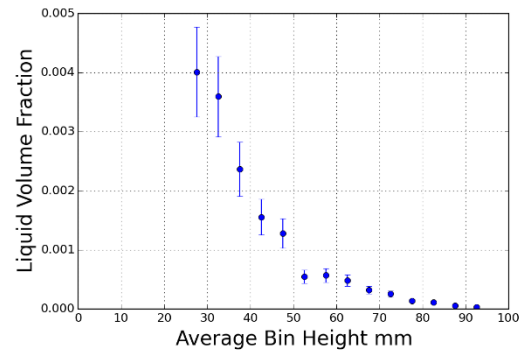


Figure D. 705: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

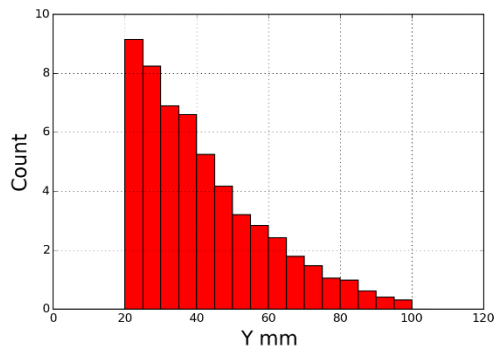


Figure D. 703: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1.2 All Droplets for .LB Image

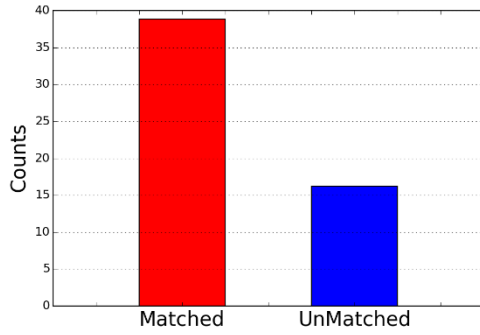


Figure D. 706: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

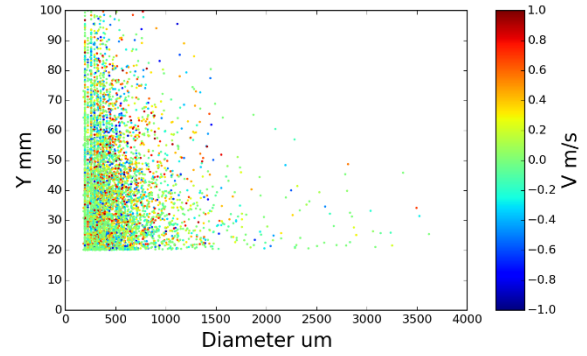


Figure D. 709: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

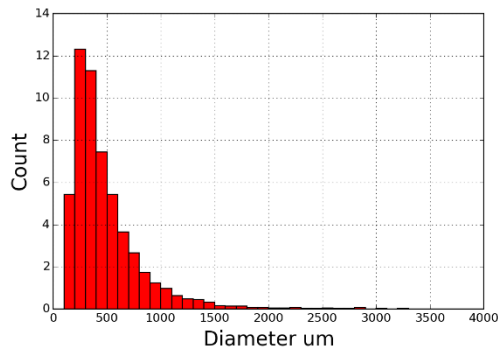


Figure D. 707: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

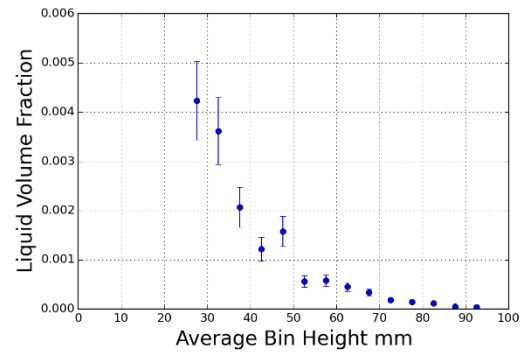


Figure D. 710: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

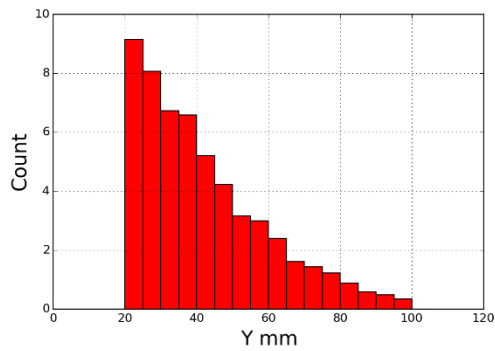


Figure D. 708: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1.2 Matched Only Droplets for .LA Image

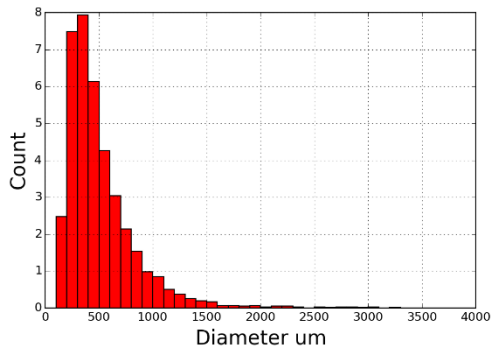


Figure D. 711: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

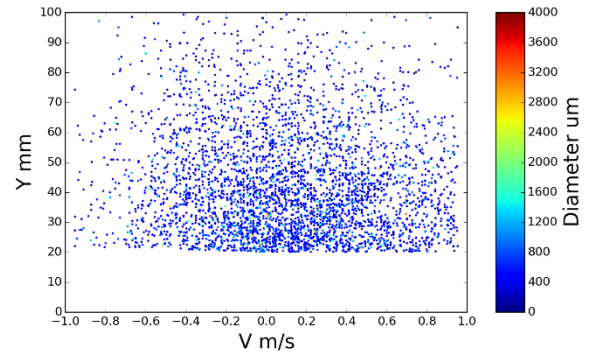


Figure D. 714: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

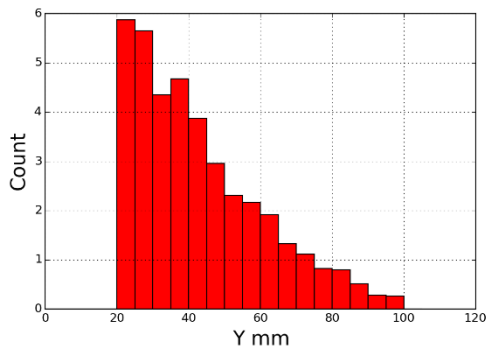


Figure D. 712: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

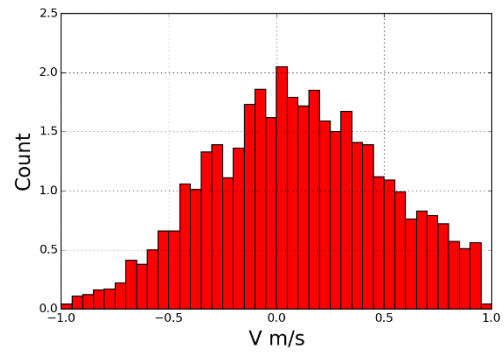


Figure D. 715: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

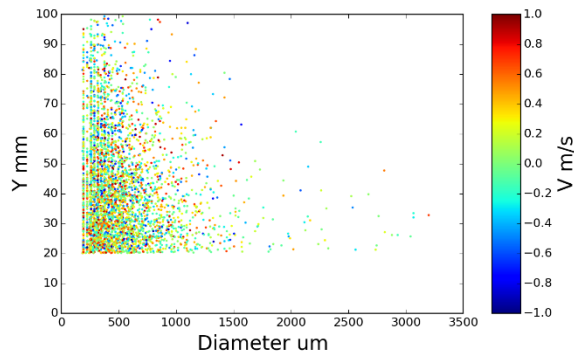


Figure D. 713: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1.2 Matched Only Droplets for .LB Image

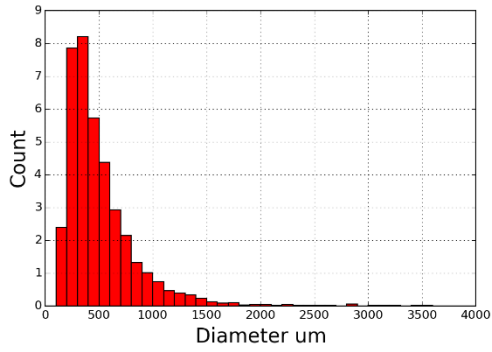


Figure D. 716: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

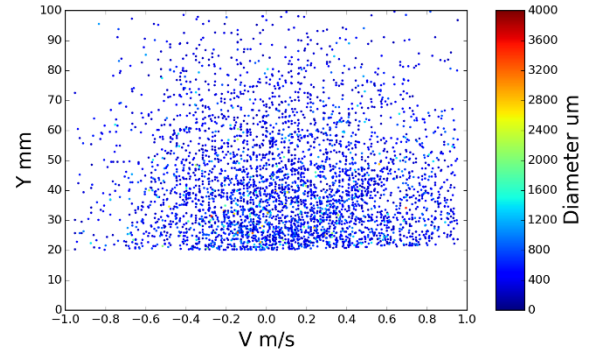


Figure D. 719: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

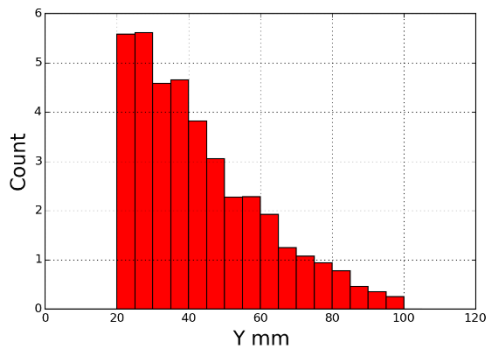


Figure D. 717: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

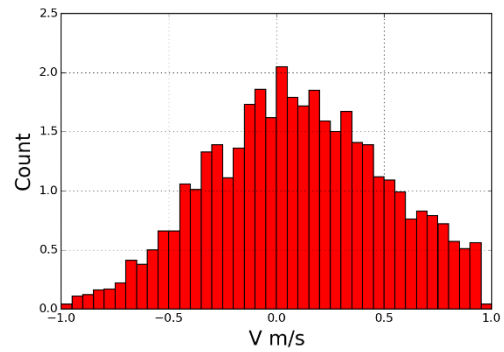


Figure D. 720: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

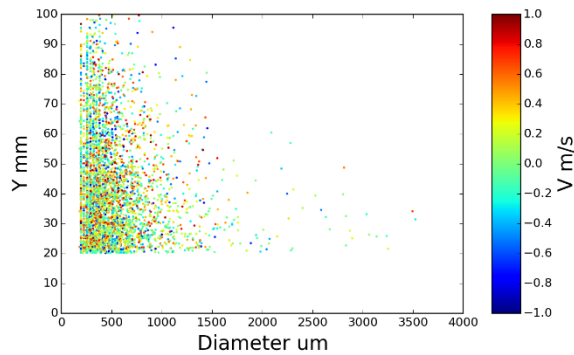


Figure D. 718: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1.2 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	30.34	30.02	170.5	3889	553.3	407.6	170.5	3507	553.6	402.6
40-60mm	13.44	13.42	182.2	3870	479.9	356.5	182.2	3924	477.8	352.0
60-80mm	5.96	6.34	182.2	3954	457.2	350.2	182.2	3883	447.7	345.9
80-100mm	2.28	2.18	182.2	2019	391.0	246.0	193.3	1602	389.4	239.6
All	52.02	51.96	170.5	3954	516.2	385.6	170.5	3924	514.2	380.9
			Height A (mm)				Height B (mm)			
Highest Particle			99.9535				99.9821			
Lowest Particle			20.1277				20.0992			

Table D. 80: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	20.26	182.2	3486	585.9	385.9	193.3	3507	579.6	391.7	-0.950	0.950	-0.000	0.360	-0.950	0.950	0.100	0.400
40-60mm	9.17	193.3	3870	522.4	360.5	182.2	3924	520.8	366.4	-0.890	0.920	0.010	0.300	-0.900	0.950	0.100	0.380
60-80mm	4.44	182.2	3299	487.3	335.9	193.3	3128	481.7	339.3	-0.920	0.900	0.020	0.280	-0.950	0.940	0.090	0.390
80-100mm	1.65	182.2	1591	396.2	216.9	193.3	1602	386.0	215.3	-0.730	0.810	0.070	0.260	-0.720	0.930	0.150	0.370
All	35.52	182.2	3870	548.4	370.5	182.2	3924	542.8	375.6	-0.950	0.950	0.010	0.330	-0.950	0.950	0.100	0.390

Table D. 81: Matched Droplet Info

D.4.1.2 All Droplets for .LA Image

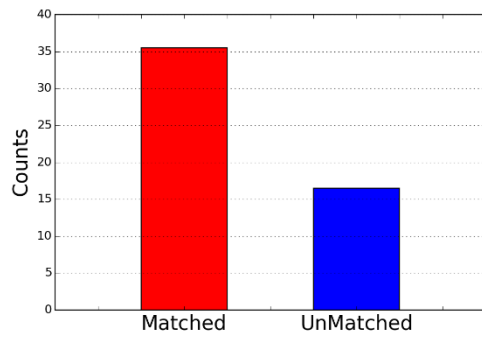


Figure D. 721: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

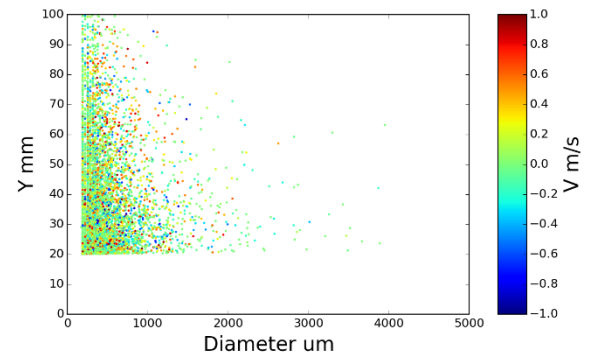


Figure D. 724: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

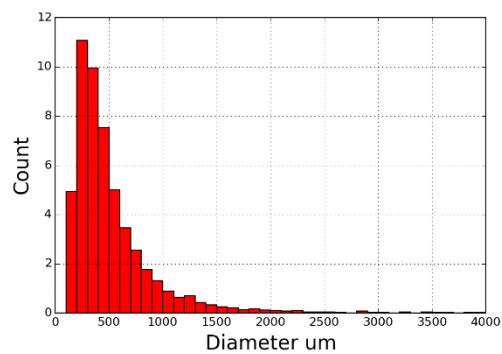


Figure D. 722: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

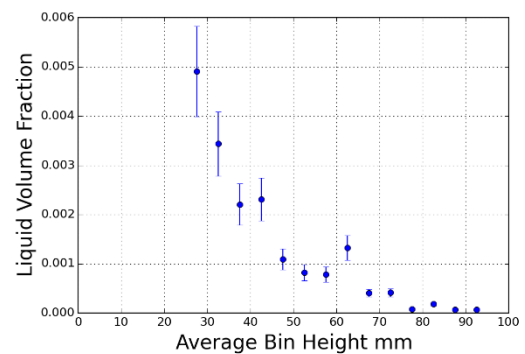


Figure D. 725: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

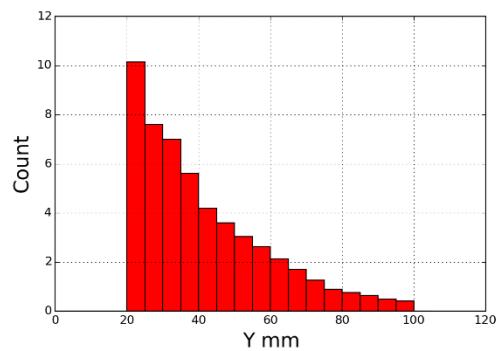


Figure D. 723: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1.2 All Droplets for .LB Image

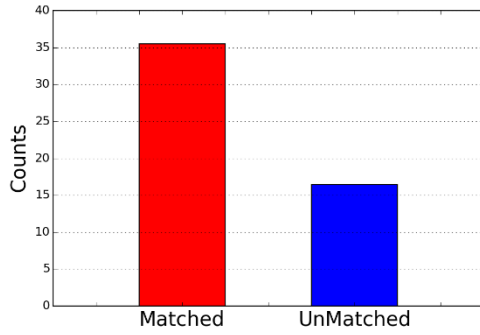


Figure D. 726: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

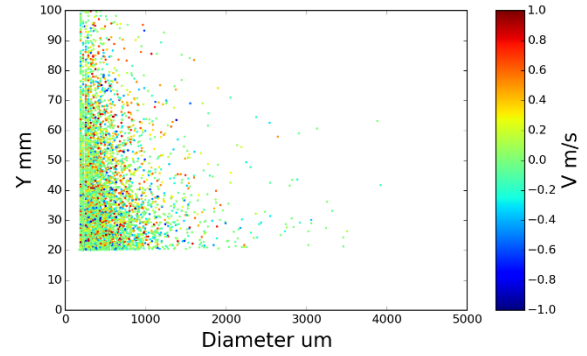


Figure D. 729: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

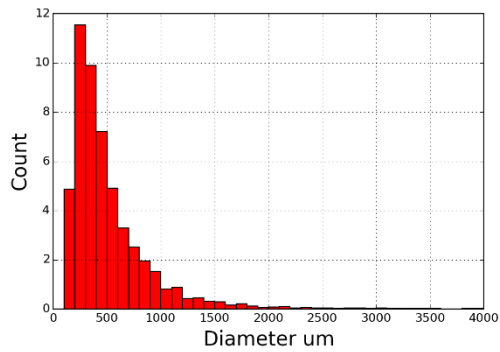


Figure D. 727: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

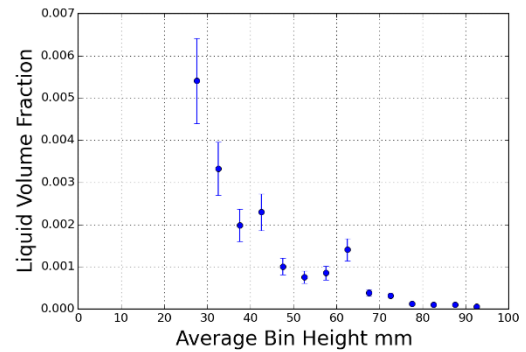


Figure D. 730: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

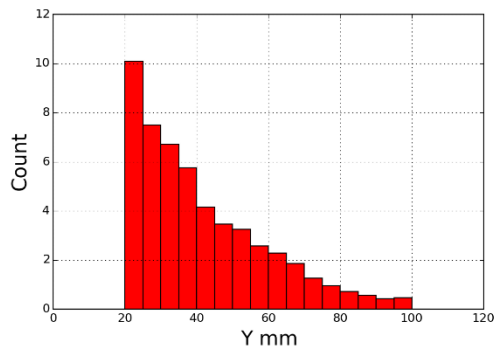


Figure D. 728: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1.2 Matched Only Droplets for .LA Image

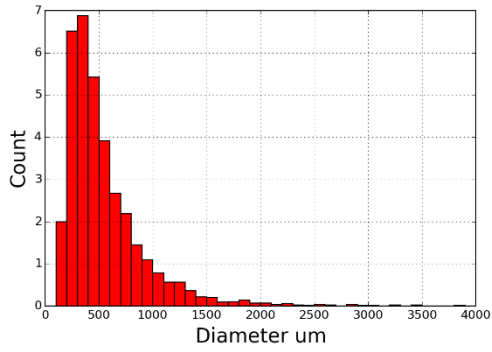


Figure D. 731: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

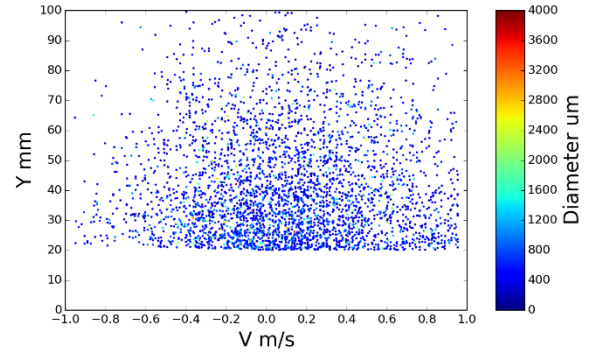


Figure D. 734: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

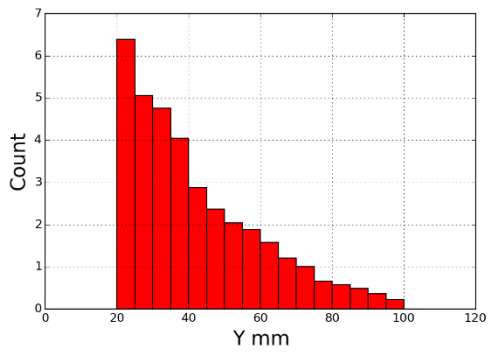


Figure D. 732: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

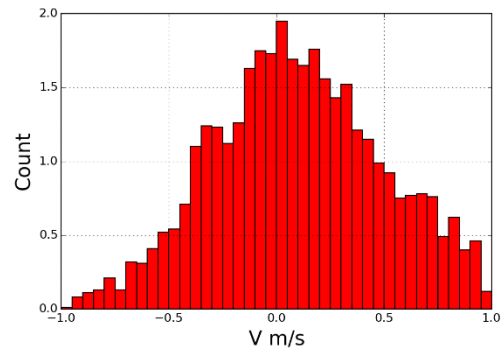


Figure D. 735: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

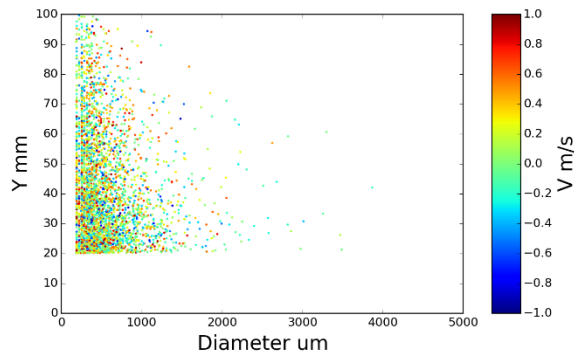


Figure D. 733: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.4.1.2 Matched Only Droplets for .LB Image

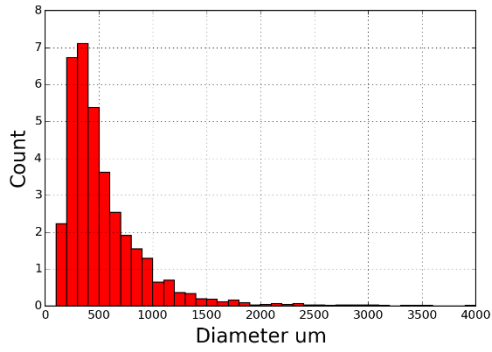


Figure D. 736: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

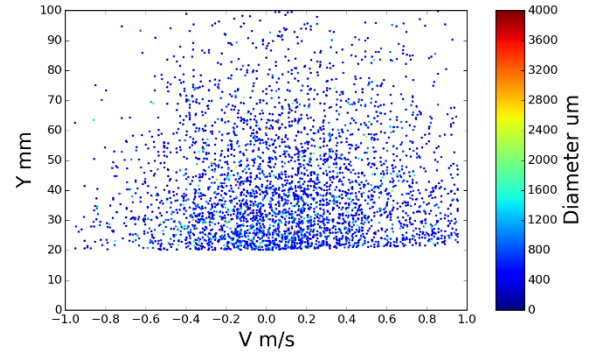


Figure D. 739: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

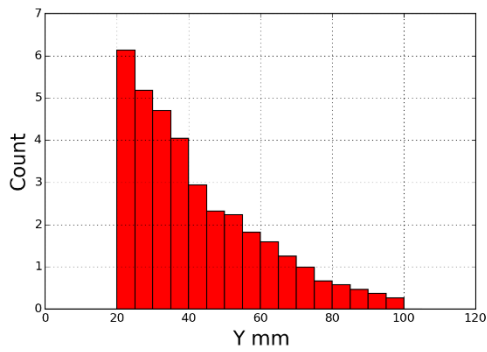


Figure D. 737: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

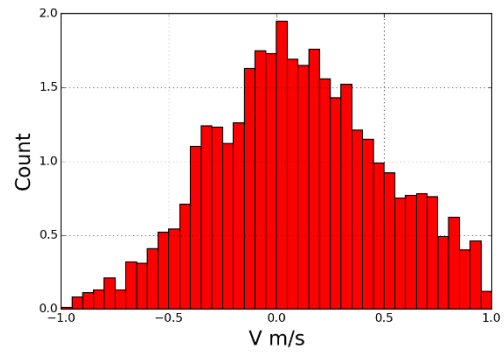


Figure D. 740: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

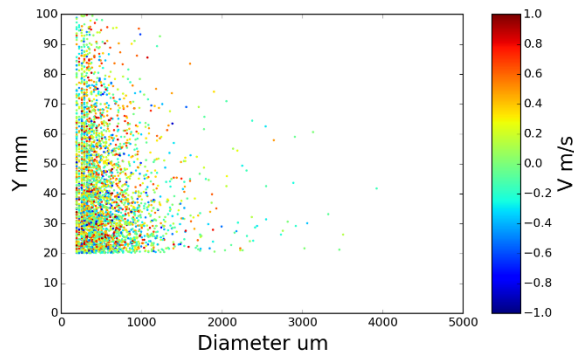


Figure D. 738: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2 Liquid Level 3

Thermal Conditions	
H2O Flow Rate (lb/hr) / (kg/s)	16931 / 2.133
Ref Mass Flow (lb/hr) / (kg/s)	278 / 0.035
Ref Mass Flux (lb/hr-ft ²) / (kg/s-m ²)	2705 / 3.669
Top Two Rows Heat Flux (Btu/hr-ft ²) / (kW/m ²)	534 / 1.68
Bundle Exit Saturation Temp (°F) / (°C)	54.8 / 12.66
Bundle Inlet Saturation Temp (°F) / (°C)	55.6 / 13.08
Total Bundle Q (Btu/hr) / (kW)	21649 / 6.34
Total Bundle & Preboiler Q (Btu/hr) / (kW)	21649 / 6.34
Top Two Rows HTC Ratio	0.209
Bundle Inlet Quality	-0.11
Bundle Exit Quality	0.92

Table D. 82: Thermal Conditions

D.4.2.1 Lens 100mm Mag 0_29x

D.4.2.1 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	0.08	0.09	86.0	914.8	293.1	272.9	86.0	924.2	256.8	258.1
40-60mm	0.22	0.23	86.0	639.8	174.3	117.9	81.1	314.1	144.0	66.2
60-80mm	0.14	0.15	86.0	721.4	248.1	169.9	86.0	691.7	236.9	167.4
80-100mm	0.0	0.01	-	-	-	-	143.4	143.4	143.4	0.0
All	0.44	0.48	86.0	914.8	219.4	178.7	81.1	924.2	194.2	160.9
			Height A (mm)				Height B (mm)			
Highest Particle			78.9731				80.3464			
Lowest Particle			33.0099				32.8678			

Table D. 83: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	0.04	114.7	914.8	331.8	337.2	128.2	924.2	339.3	338.0	-0.120	0.170	0.020	0.130	-0.440	-0.060	-0.240	0.140
40-60mm	0.09	114.7	326.9	199.1	64.0	114.7	314.1	206.0	61.6	-0.180	0.210	0.020	0.120	-0.790	-0.050	-0.410	0.200
60-80mm	0.05	264.3	410.5	326.9	52.9	273.5	424.3	343.3	57.7	-0.440	0.010	-0.160	0.160	-0.330	0.400	-0.070	0.270
80-100mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All	0.18	114.7	914.8	264.1	179.8	114.7	924.2	273.7	181.1	-0.440	0.210	-0.030	0.160	-0.790	0.400	-0.280	0.260

Table D. 84: Matched Droplet Info

D.4.2.1 All Droplets for .LA Image

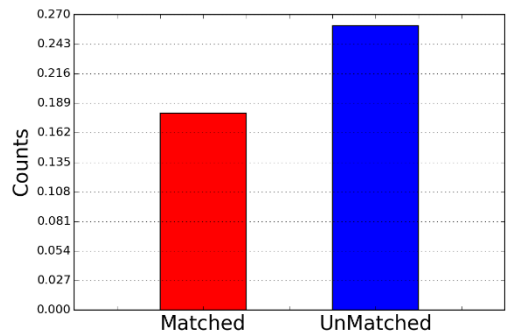


Figure D. 741: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

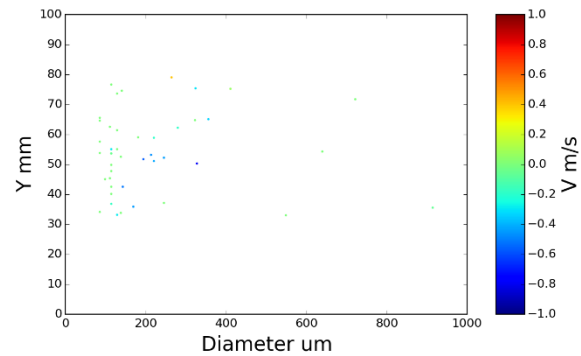


Figure D. 744: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

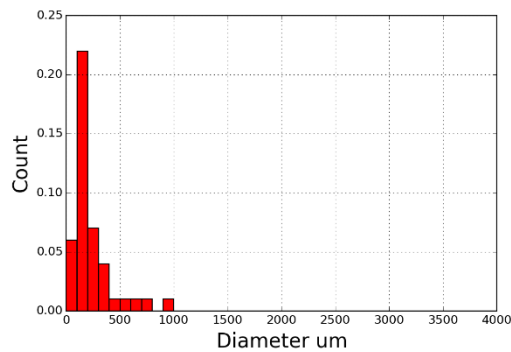


Figure D. 742: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

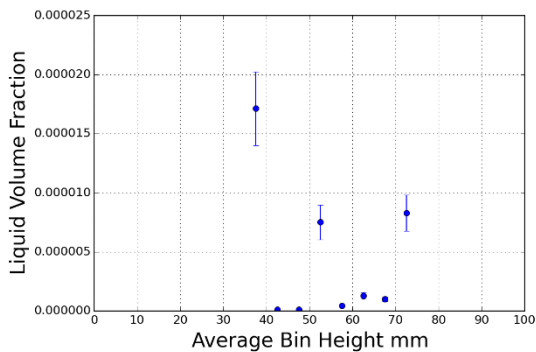


Figure D. 745: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

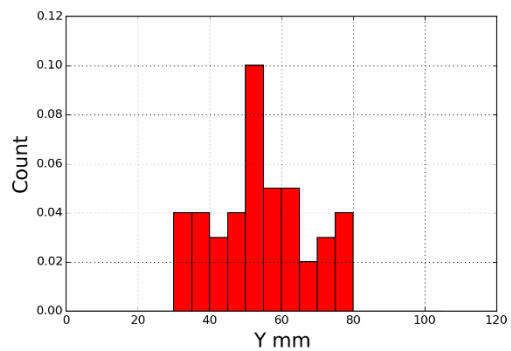


Figure D. 743: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2.1 All Droplets for .LB Image

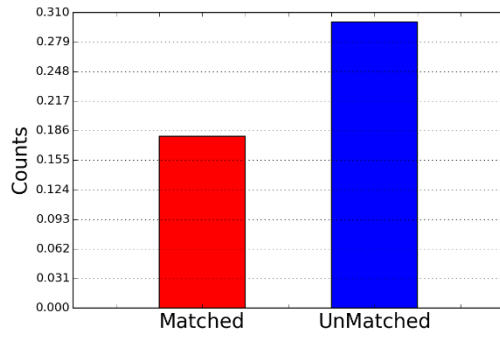


Figure D. 746: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

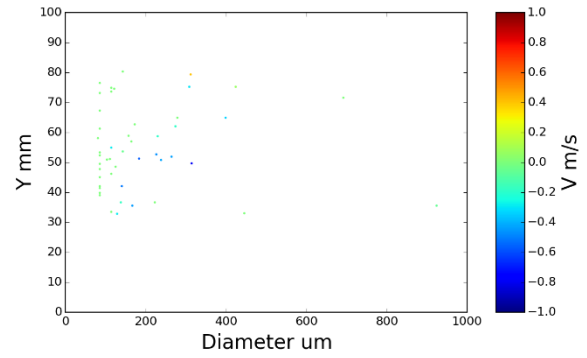


Figure D. 749: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

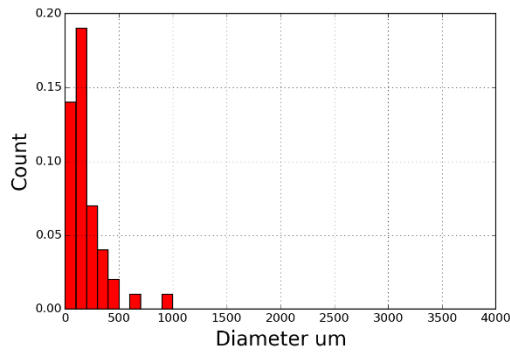


Figure D. 747: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

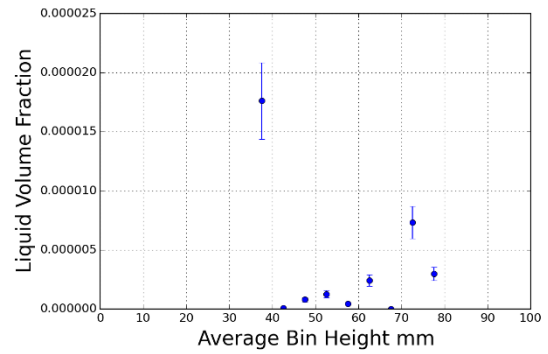


Figure D. 750: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

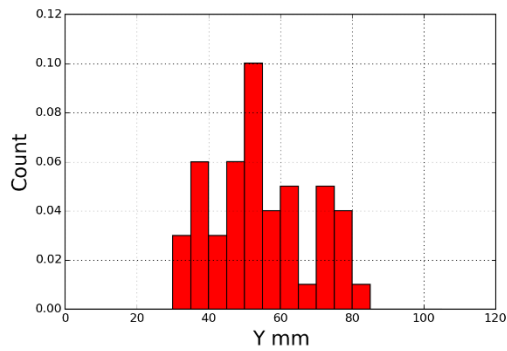


Figure D. 748: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2.1 Matched Only Droplets for .LA Image

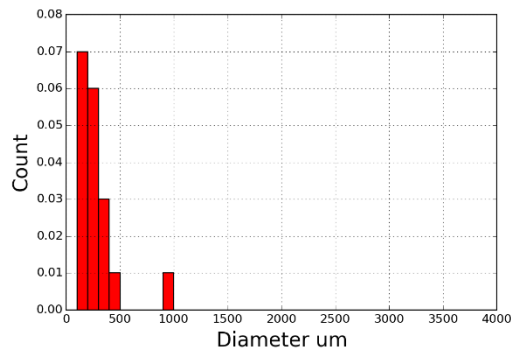


Figure D. 751: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

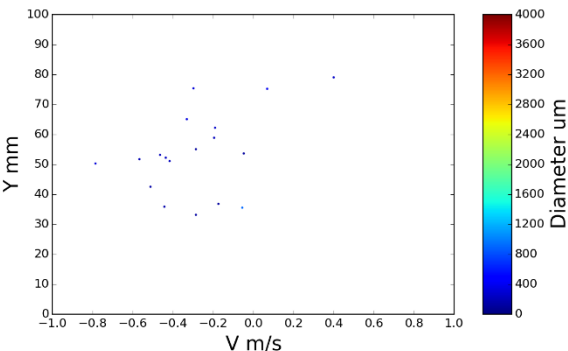


Figure D. 754: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

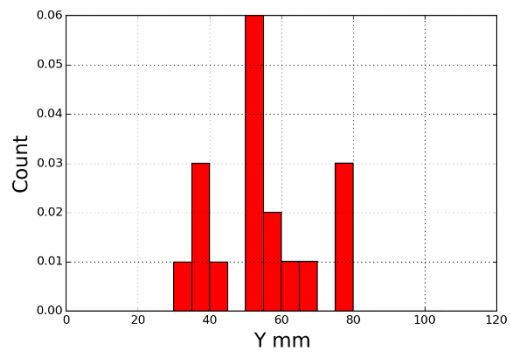


Figure D. 752: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

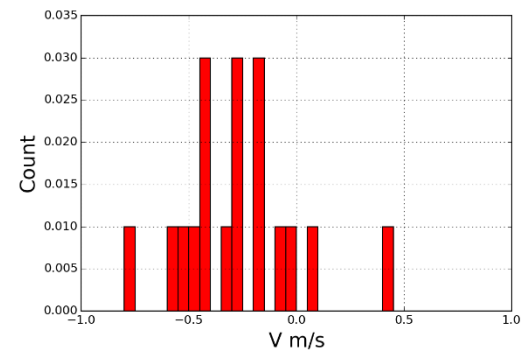


Figure D. 755: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

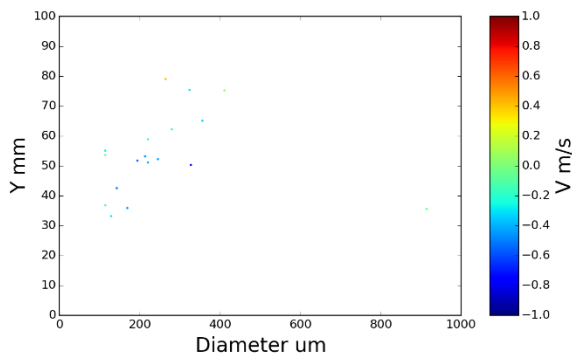


Figure D. 753: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2.1 Matched Only Droplets for .LB Image

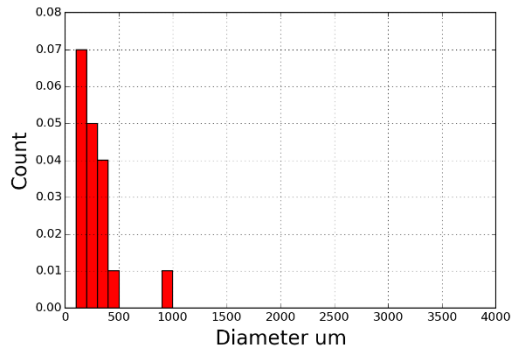


Figure D. 756: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

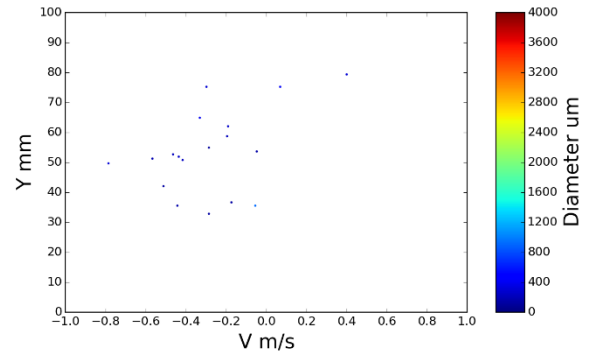


Figure D. 759: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

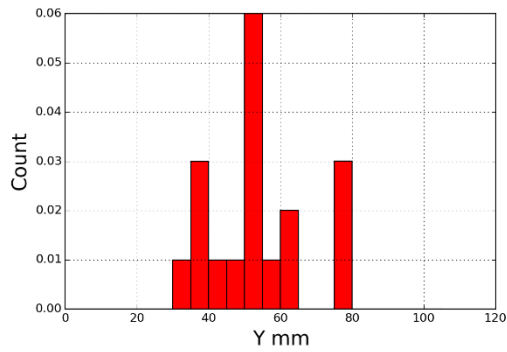


Figure D. 757: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

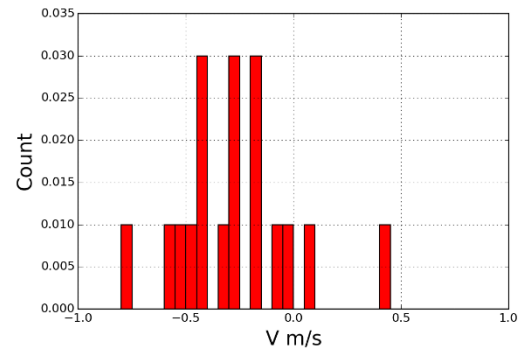


Figure D. 760: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

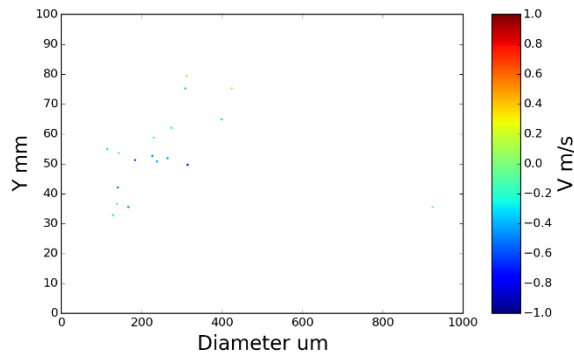


Figure D. 758: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2.1 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	0.21	0.16	86.0	646.9	239.0	153.3	86.0	637.9	249.8	152.1
40-60mm	0.43	0.45	86.0	866.8	221.9	155.1	86.0	819.0	233.4	166.1
60-80mm	0.26	0.26	86.0	650.7	208.2	133.6	86.0	637.9	200.5	130.9
80-100mm	0.01	0.01	390.0	390.0	390.0	0.0	416.5	416.5	416.5	0.0
All	0.91	0.88	86.0	866.8	223.8	149.4	86.0	819.0	228.8	155.2
			Height A (mm)				Height B (mm)			
Highest Particle			80.0791				80.1900			
Lowest Particle			32.9134				33.4629			

Table D. 85: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	0.11	86.0	646.9	269.9	151.8	86.0	637.9	259.9	156.9	-0.330	0.320	-0.050	0.190	-0.190	0.940	0.210	0.350
40-60mm	0.29	86.0	511.3	213.8	123.5	86.0	511.3	222.2	130.7	-0.220	0.500	-0.010	0.180	-0.760	0.760	0.040	0.380
60-80mm	0.16	86.0	650.7	192.1	131.2	86.0	637.9	194.2	131.3	-0.310	0.240	-0.000	0.130	-0.380	0.360	0.030	0.240
80-100mm	0.01	390.0	390.0	390.0	0.0	416.5	416.5	416.5	0.0	-0.170	-0.170	-0.170	0.000	0.140	0.140	0.140	0.000
All	0.57	86.0	650.7	221.6	135.2	86.0	637.9	224.4	138.8	-0.330	0.500	-0.020	0.170	-0.760	0.940	0.070	0.340

Table D. 86: Matched Droplet Info

D.4.2.1 All Droplets for .LA Image

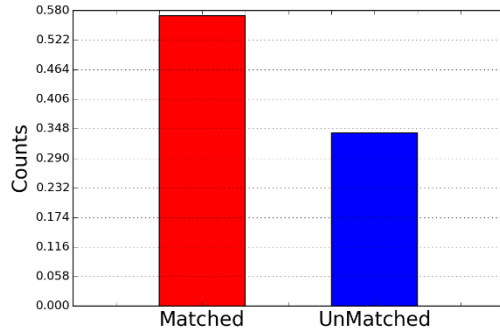


Figure D. 761: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

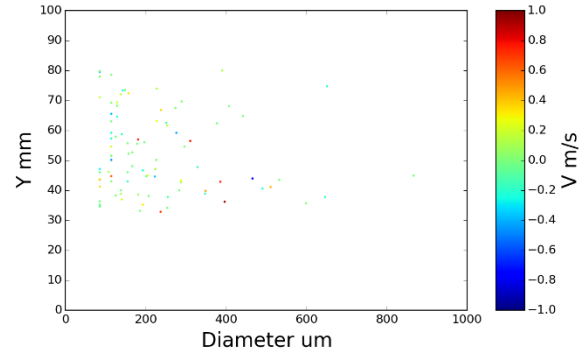


Figure D. 764: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

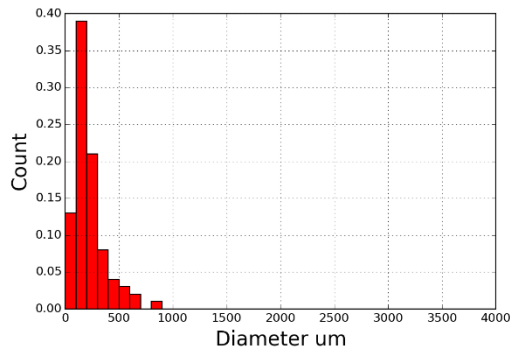


Figure D. 762: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

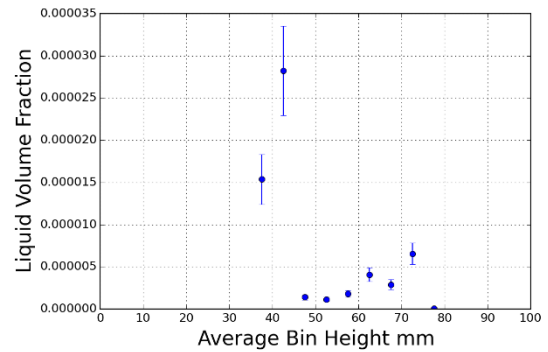


Figure D. 765: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

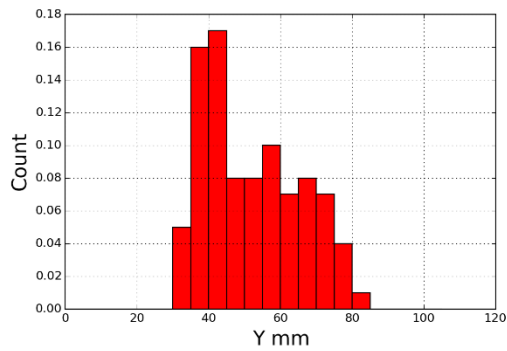


Figure D. 763: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2.1 All Droplets for .LB Image

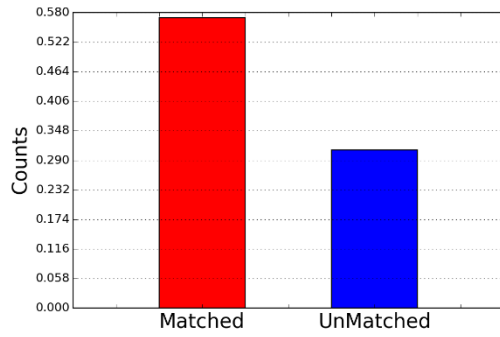


Figure D. 766: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

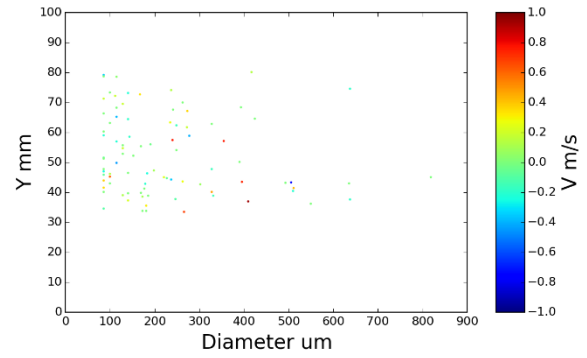


Figure D. 769: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

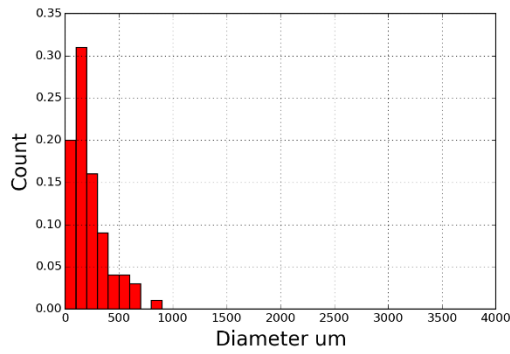


Figure D. 767: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

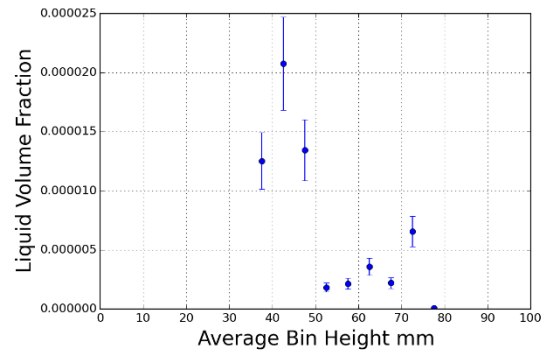


Figure D. 770: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

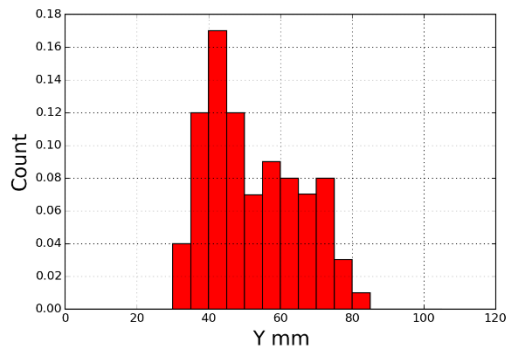


Figure D. 768: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2.1 Matched Only Droplets for .LA Image

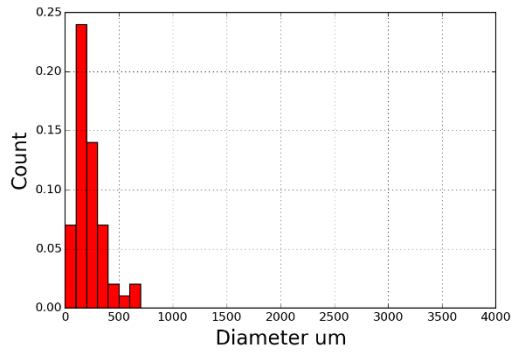


Figure D. 771: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

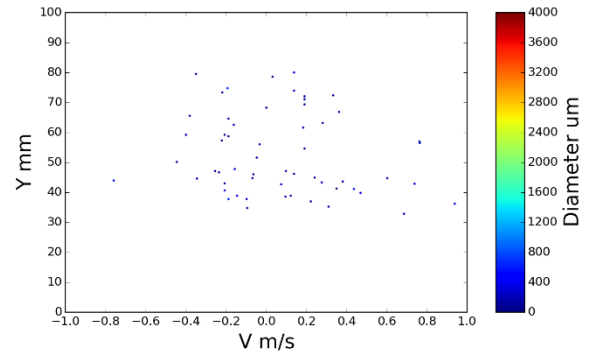


Figure D. 774: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

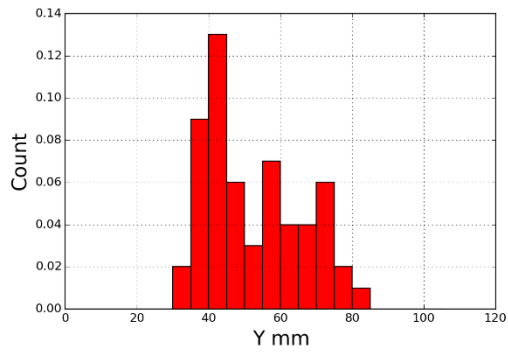


Figure D. 772: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

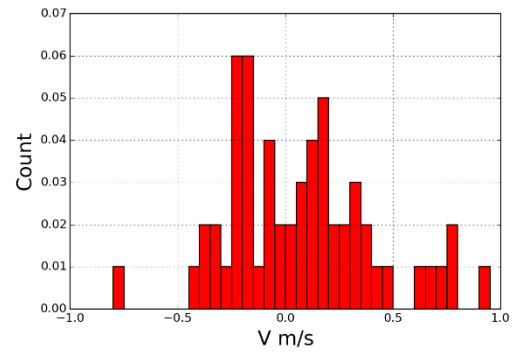


Figure D. 775: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

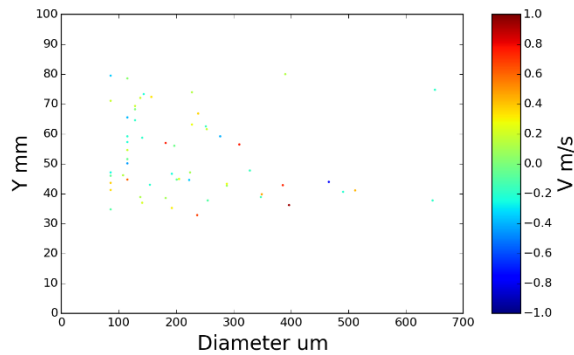


Figure D. 773: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2.1 Matched Only Droplets for .LB Image

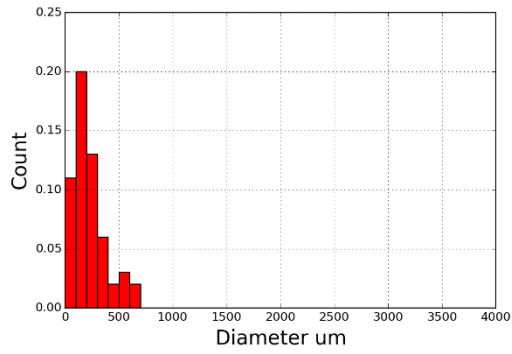


Figure D. 776: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

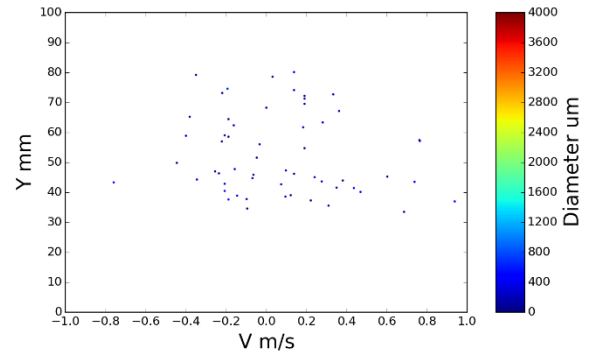


Figure D. 779: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

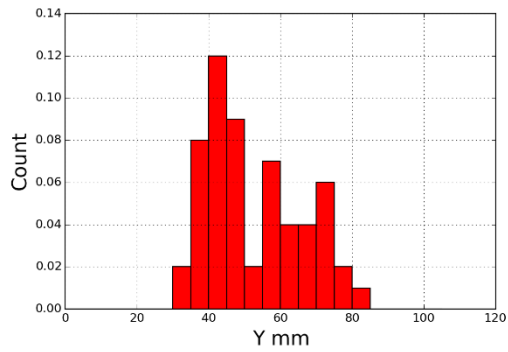


Figure D. 777: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

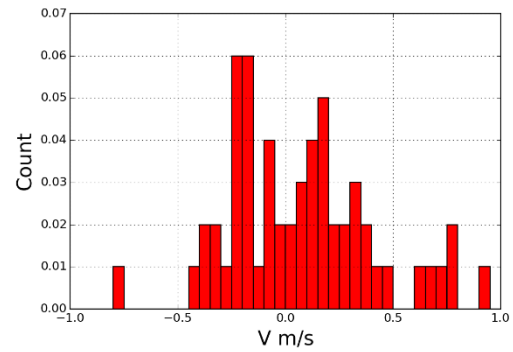


Figure D. 780: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

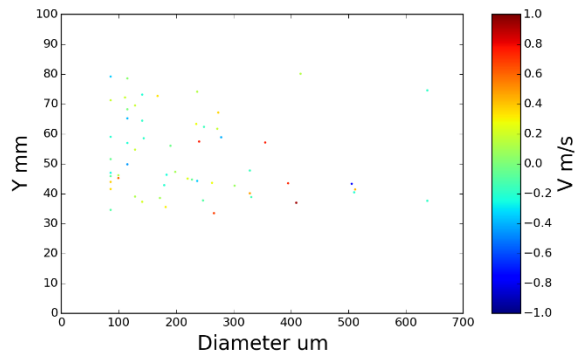


Figure D. 778: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2.1 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	0.35	0.36	86.0	842.8	225.3	160.1	86.0	643.0	220.7	145.8
40-60mm	0.57	0.62	86.0	643.7	219.3	131.3	86.0	657.6	212.7	134.6
60-80mm	0.24	0.24	86.0	491.6	202.8	110.2	86.0	516.1	210.0	114.2
80-100mm	0.0	0.0	-	-	-	-	-	-	-	-
All	1.16	1.22	86.0	842.8	217.7	137.0	86.0	657.6	214.5	134.4
			Height A (mm)				Height B (mm)			
Highest Particle			78.9506				79.0759			
Lowest Particle			33.0050				32.9996			

Table D. 87: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	0.23	111.0	650.7	213.8	132.3	86.0	643.0	211.2	126.9	-0.340	0.510	0.020	0.230	-0.560	0.780	0.130	0.350
40-60mm	0.39	86.0	643.7	240.8	140.9	86.0	657.6	251.6	145.0	-0.650	0.710	-0.010	0.230	-0.460	0.830	0.100	0.300
60-80mm	0.15	86.0	491.6	228.8	113.0	111.0	516.1	233.6	117.7	-0.300	0.100	-0.070	0.130	-0.270	0.770	0.120	0.280
80-100mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All	0.77	86.0	650.7	230.4	133.8	86.0	657.6	236.5	136.1	-0.650	0.710	-0.010	0.220	-0.560	0.830	0.110	0.310

Table D. 88: Matched Droplet Info

D.4.2.1 All Droplets for .LA Image

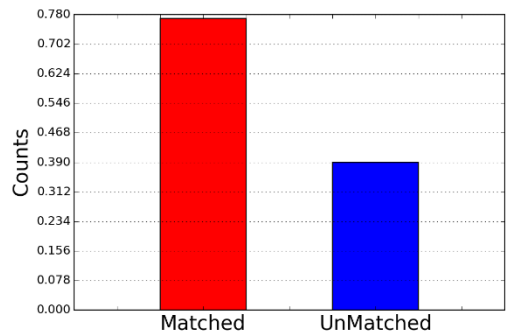


Figure D. 781: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

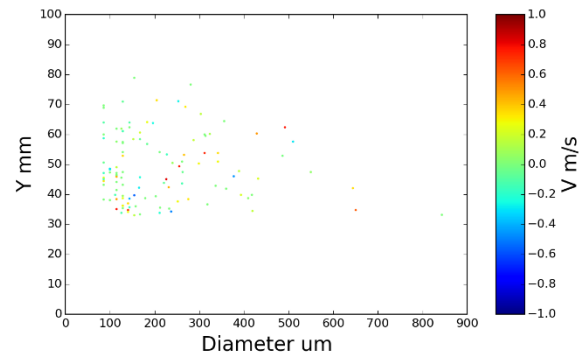


Figure D. 784: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

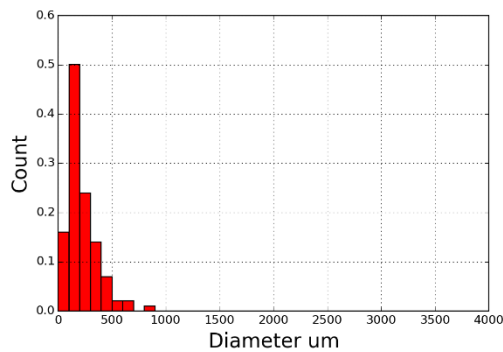


Figure D. 782: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

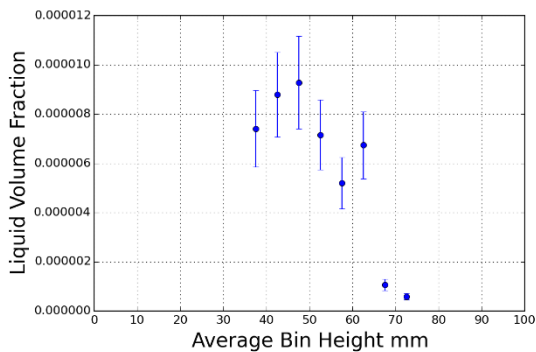


Figure D. 785: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

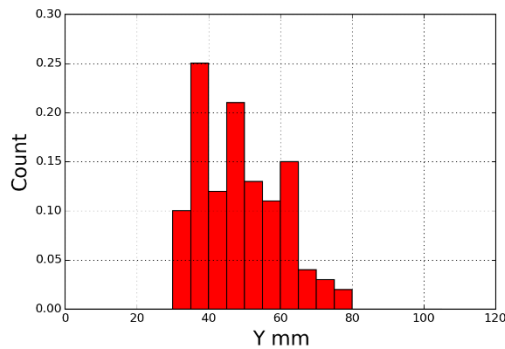


Figure D. 783: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2.1 All Droplets for .LB Image

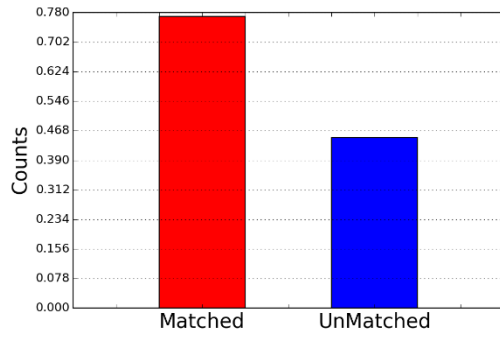


Figure D. 786: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

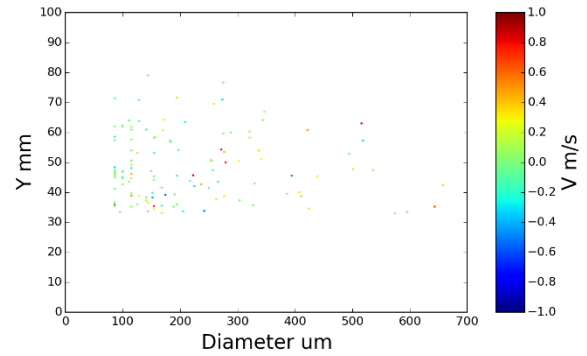


Figure D. 789: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

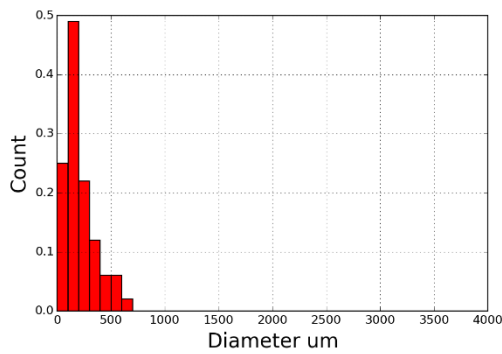


Figure D. 787: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

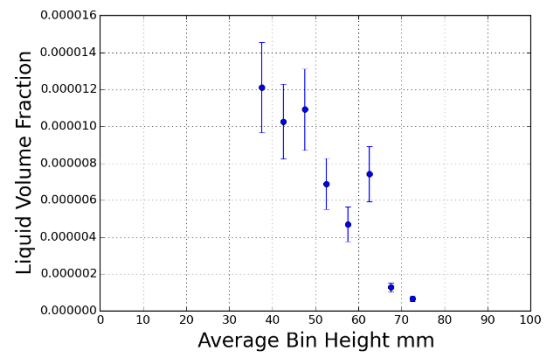


Figure D. 790: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

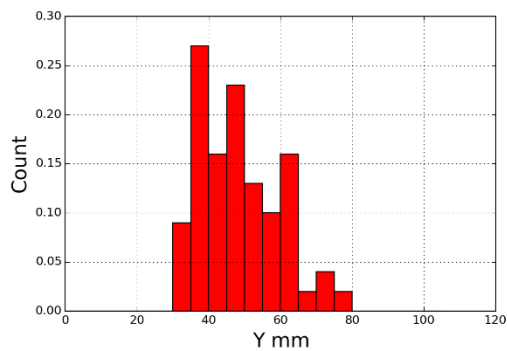


Figure D. 788: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2.1 Matched Only Droplets for .LA Image

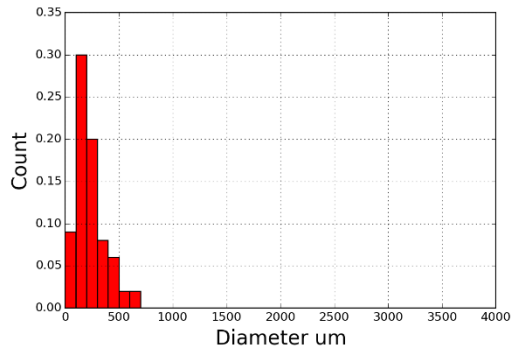


Figure D. 791: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

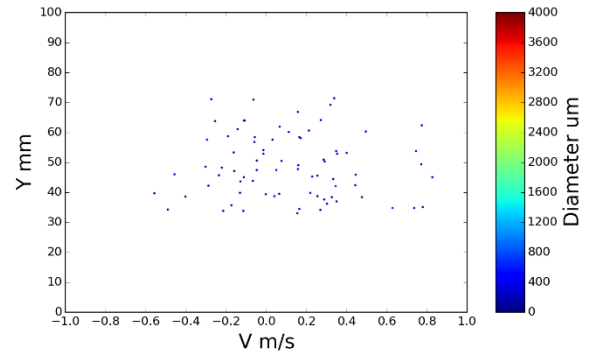


Figure D. 794: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

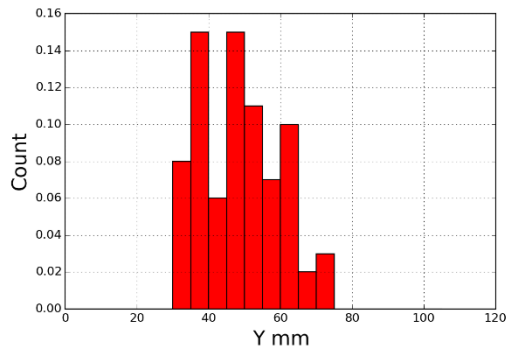


Figure D. 792: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

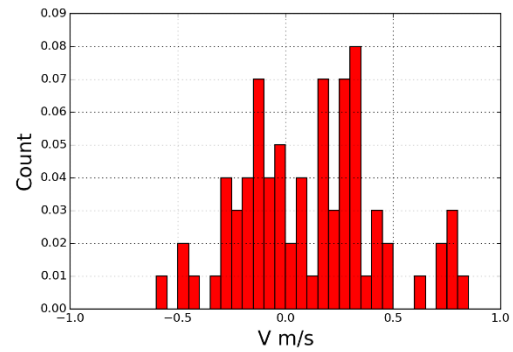


Figure D. 795: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

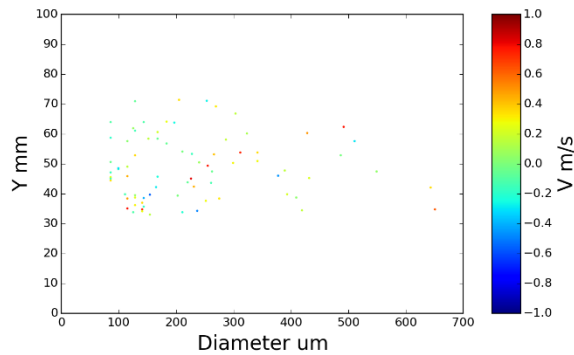


Figure D. 793: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2.1 Matched Only Droplets for .LB Image

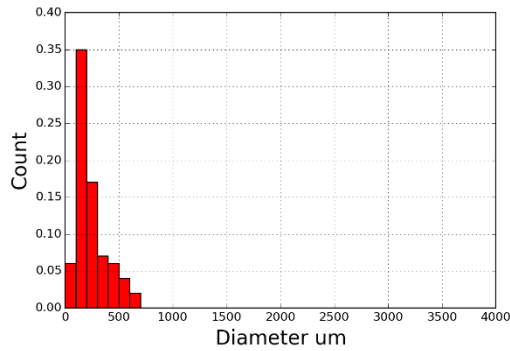


Figure D. 796: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

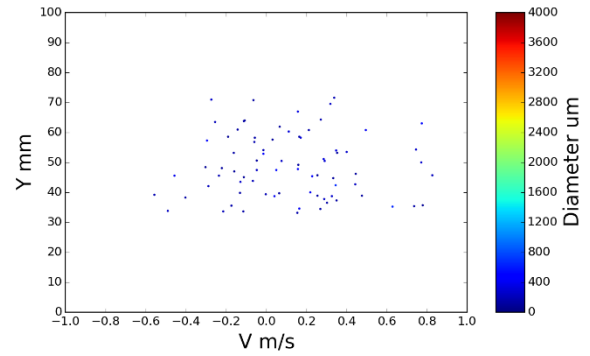


Figure D. 799: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

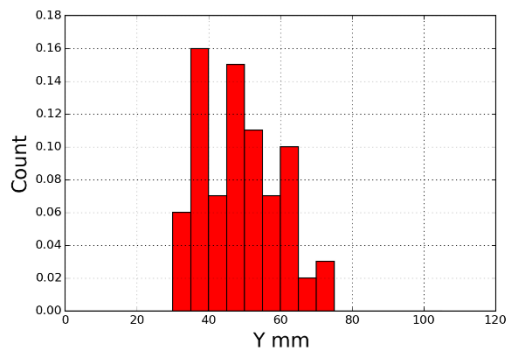


Figure D. 797: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

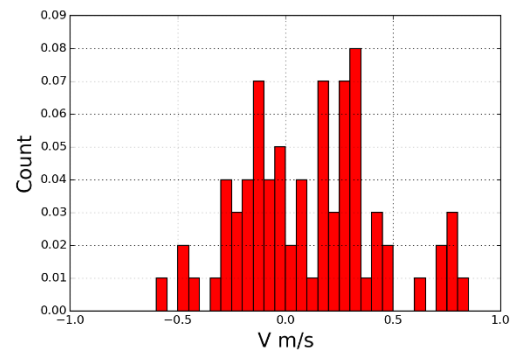


Figure D. 800: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

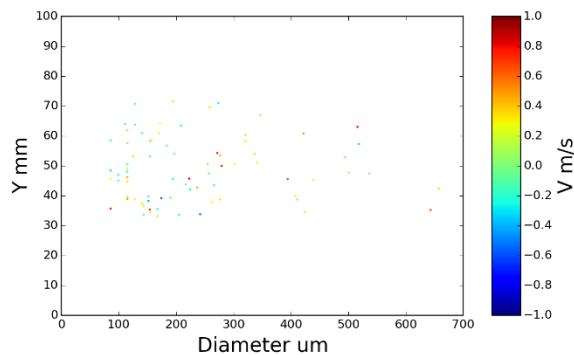


Figure D. 798: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2.2 Lens 50mm Mag 0_13x

D.4.2.2 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.02	-	-	-	-	273.4	352.9	313.1	39.8
20-40mm	0.09	0.08	193.3	711.7	438.6	135.9	295.3	783.8	450.5	150.9
40-60mm	0.12	0.11	193.3	637.8	322.2	130.1	193.3	614.6	326.3	117.9
60-80mm	0.03	0.05	386.6	650.7	493.0	113.8	193.3	717.5	383.4	193.3
80-100mm	0.0	0.01	-	-	-	-	315.6	315.6	315.6	0.0
All	0.24	0.27	193.3	711.7	387.2	146.7	193.3	783.8	372.3	150.0
			Height A (mm)				Height B (mm)			
Highest Particle			74.9437				91.1268			
Lowest Particle			20.6782				15.6168			

Table D. 89: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	0.06	322.1	711.7	473.2	127.0	347.0	783.8	498.9	144.8	-0.320	0.280	0.120	0.210	-0.350	-0.220	-0.300	0.040
40-60mm	0.06	193.3	375.7	274.0	76.8	223.2	386.6	300.1	58.1	-0.560	0.110	-0.190	0.260	-0.590	0.430	-0.010	0.310
60-80mm	0.03	386.6	650.7	493.0	113.8	375.7	717.5	510.1	148.8	-0.280	0.190	-0.020	0.200	-0.420	0.220	-0.130	0.260
80-100mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All	0.15	193.3	711.7	397.5	147.1	223.2	783.8	421.6	155.0	-0.560	0.280	-0.030	0.270	-0.590	0.430	-0.150	0.270

Table D. 90: Matched Droplet Info

D.4.2.2 All Droplets for .LA Image

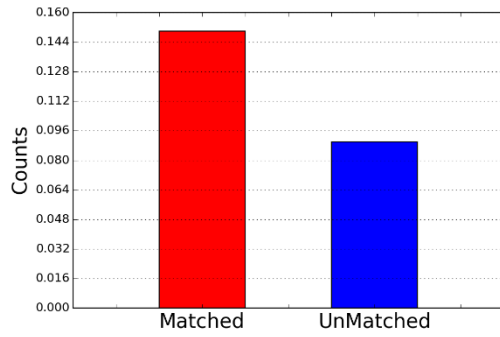


Figure D. 801: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

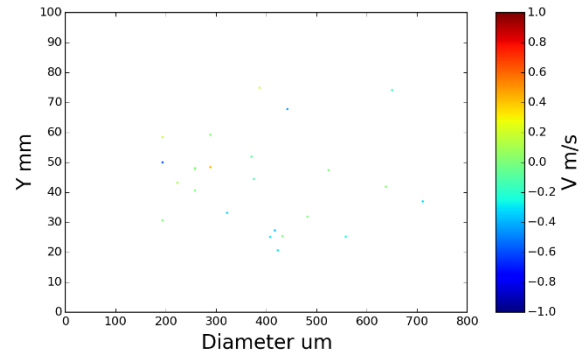


Figure D. 804: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

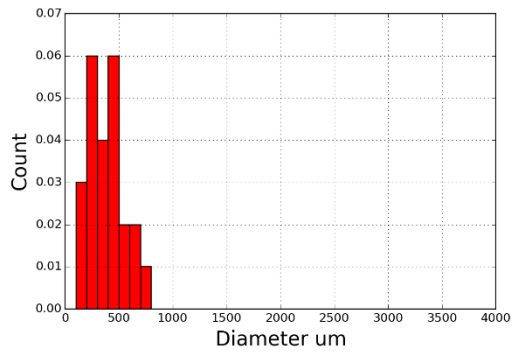


Figure D. 802: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

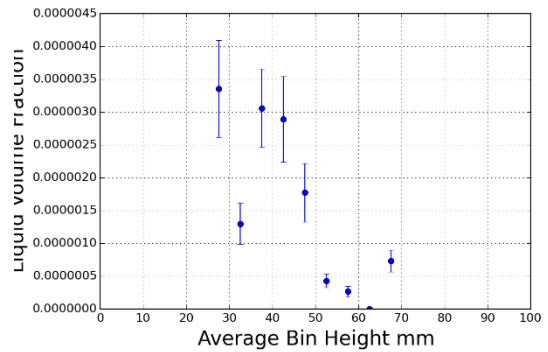


Figure D. 805: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

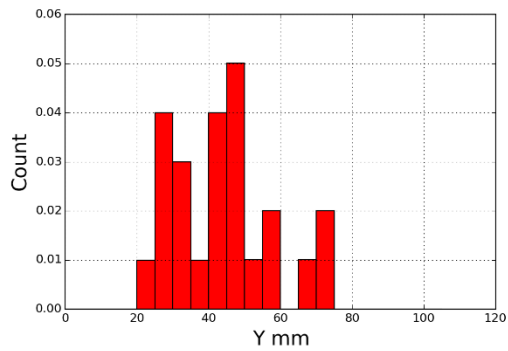


Figure D. 803: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2.2 All Droplets for .LB Image

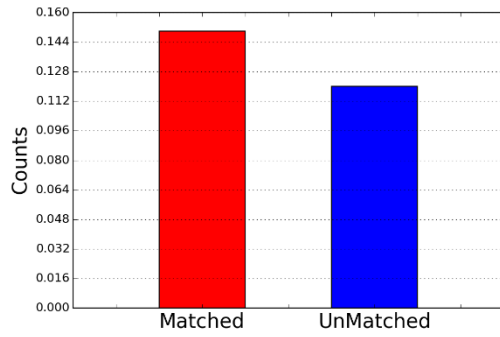


Figure D. 806: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

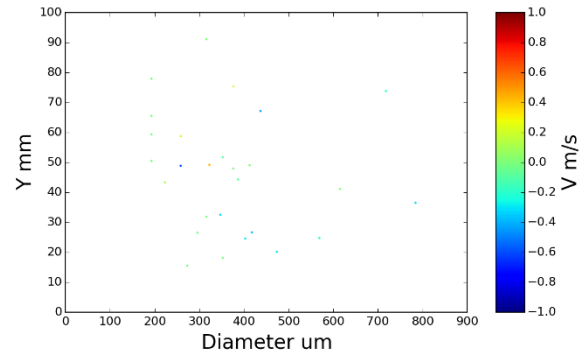


Figure D. 809: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

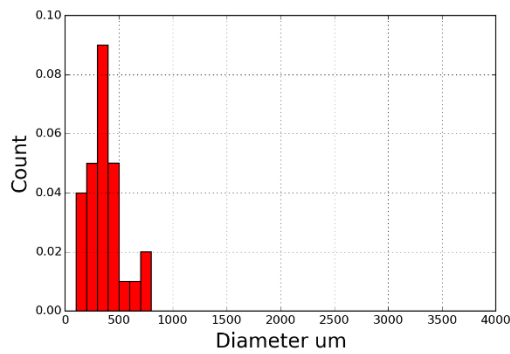


Figure D. 807: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

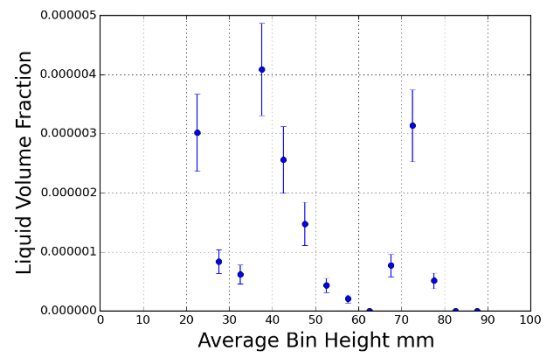


Figure D. 810: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

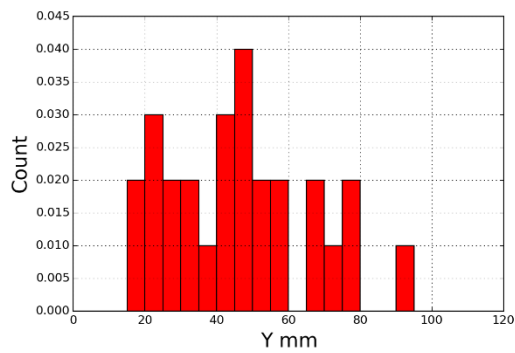


Figure D. 808: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2.2 Matched Only Droplets for .LA Image

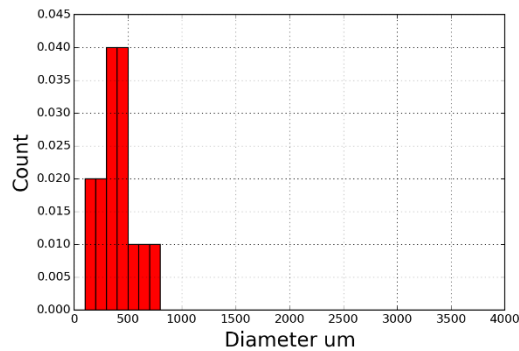


Figure D. 811: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

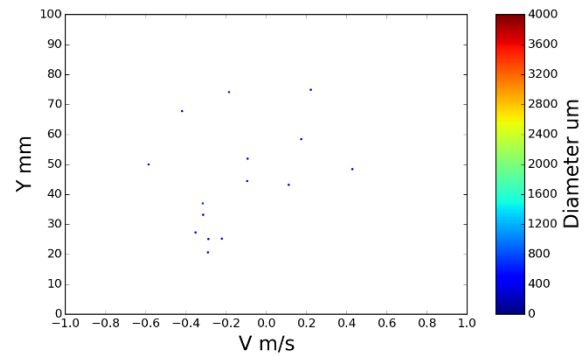


Figure D. 814: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

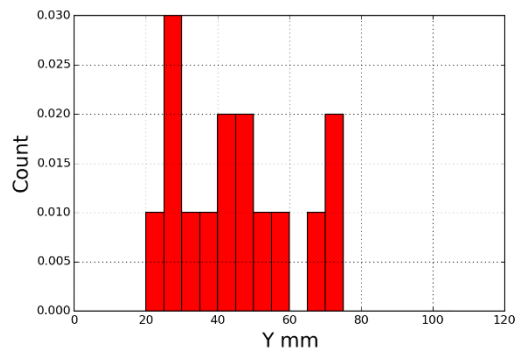


Figure D. 812: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

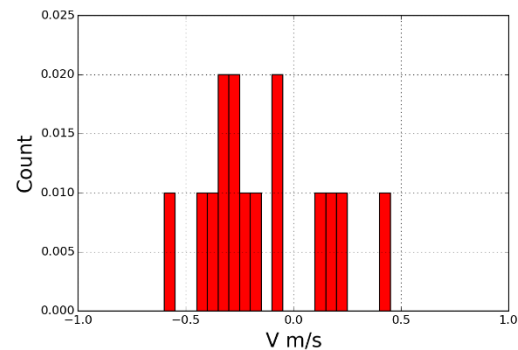


Figure D. 815: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

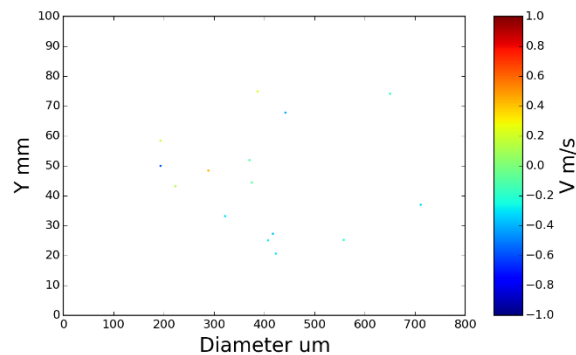


Figure D. 813: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2.2 Matched Only Droplets for .LB Image

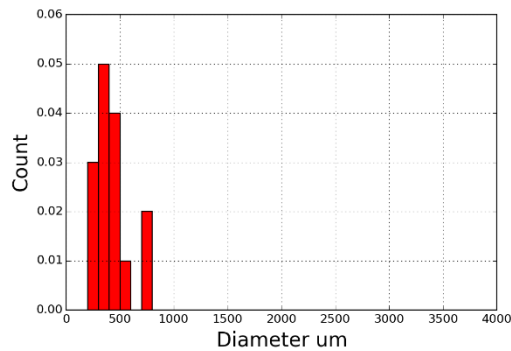


Figure D. 816: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

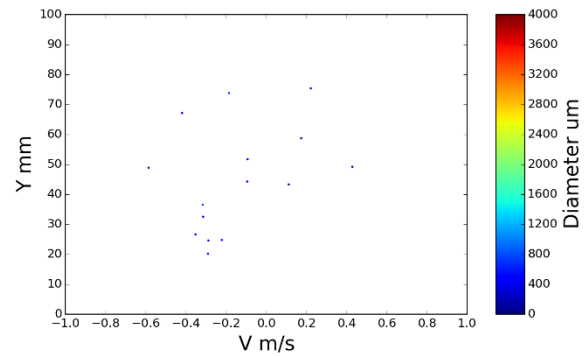


Figure D. 819: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

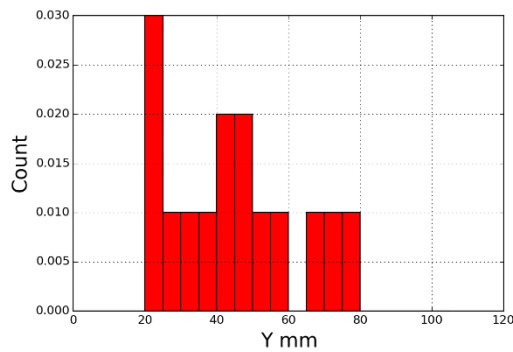


Figure D. 817: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

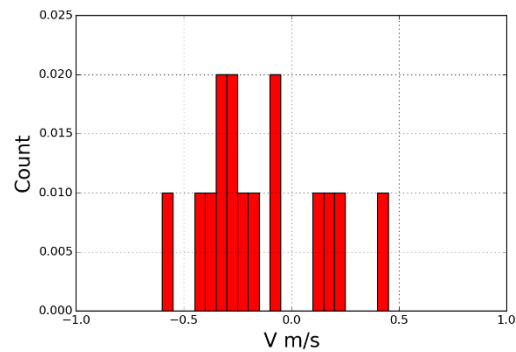


Figure D. 820: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

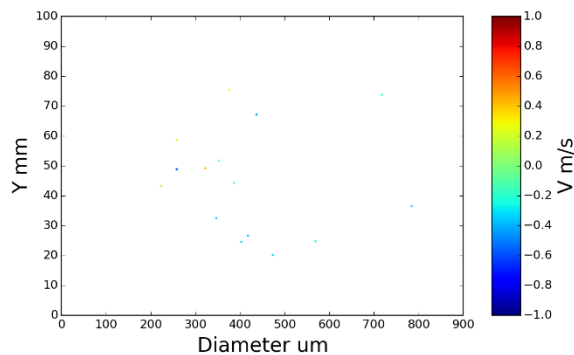


Figure D. 818: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2.2 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.04	0.04	288.1	618.0	467.6	148.8	397.2	614.6	527.4	85.1
20-40mm	0.17	0.09	193.3	432.2	258.1	72.0	193.3	417.6	288.2	71.1
40-60mm	0.13	0.19	193.3	762.4	346.3	182.7	193.3	644.3	297.6	149.7
60-80mm	0.1	0.1	193.3	614.6	356.4	115.1	257.7	587.0	352.4	107.4
80-100mm	0.04	0.03	193.3	257.7	209.4	27.9	193.3	257.7	236.2	30.4
All	0.48	0.45	193.3	762.4	315.9	142.1	193.3	644.3	324.2	136.6
			Height A (mm)				Height B (mm)			
Highest Particle			95.0144				96.2706			
Lowest Particle			15.6584				15.5285			

Table D. 91: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.02	611.2	618.0	614.6	3.4	590.5	614.6	602.6	12.1	-0.080	0.220	0.070	0.150	-0.190	0.090	-0.050	0.140
20-40mm	0.06	193.3	432.2	281.1	82.2	223.2	417.6	293.6	71.8	-0.270	0.300	-0.060	0.220	-0.700	0.360	-0.080	0.350
40-60mm	0.09	193.3	650.7	333.4	159.3	193.3	641.1	334.0	150.0	-0.190	0.490	0.080	0.210	-0.530	0.320	0.000	0.270
60-80mm	0.07	193.3	614.6	351.2	131.3	257.7	587.0	365.6	120.9	-0.170	0.310	0.040	0.180	-0.600	0.760	0.000	0.410
80-100mm	0.03	193.3	257.7	214.8	30.4	193.3	257.7	236.2	30.4	-0.190	0.000	-0.070	0.090	0.140	0.700	0.460	0.230
All	0.27	193.3	650.7	334.0	150.5	193.3	641.1	343.7	141.7	-0.270	0.490	0.020	0.200	-0.700	0.760	0.030	0.360

Table D. 92: Matched Droplet Info

D.4.2.2 All Droplets for .LA Image

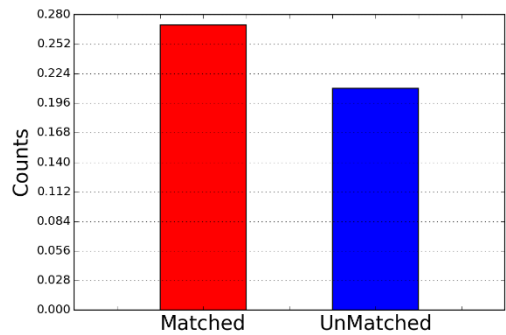


Figure D. 821: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

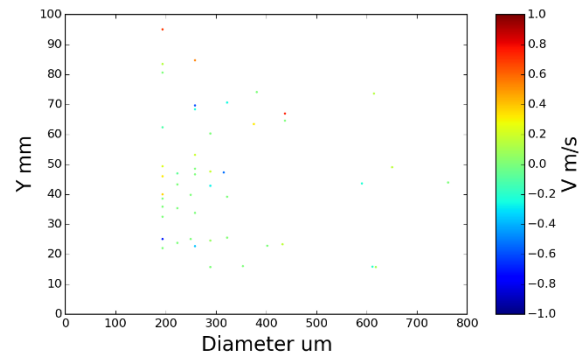


Figure D. 824: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

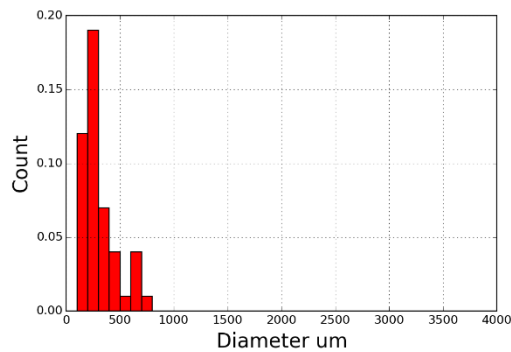


Figure D. 822: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

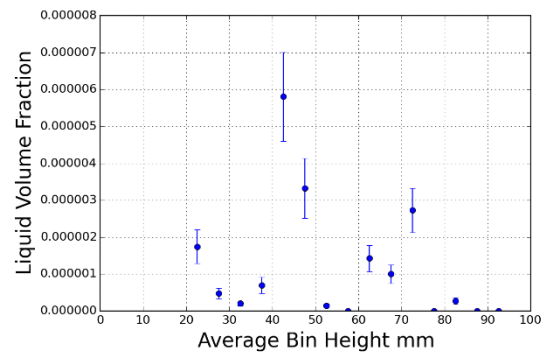


Figure D. 825: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

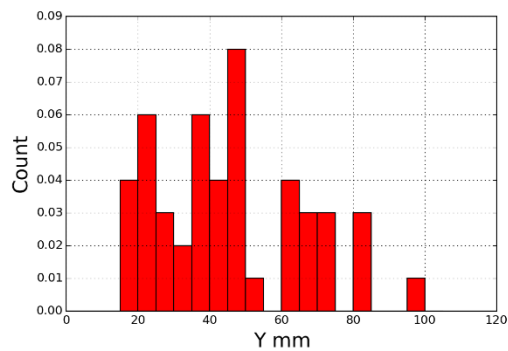


Figure D. 823: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2.2 All Droplets for .LB Image

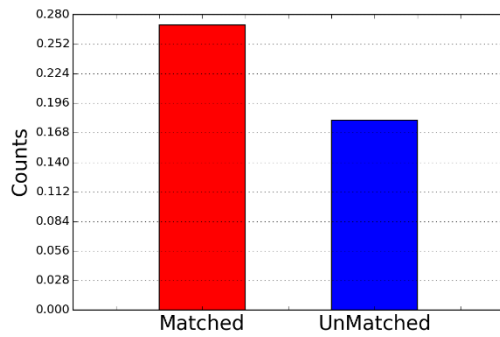


Figure D. 826: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

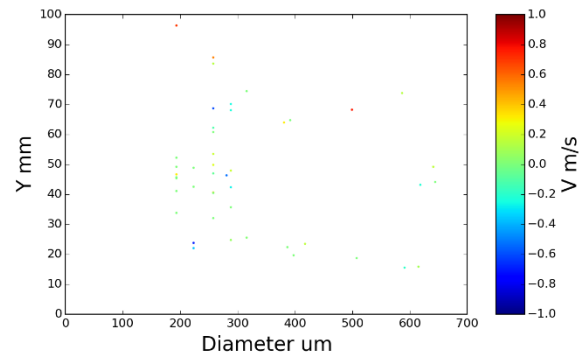


Figure D. 829: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

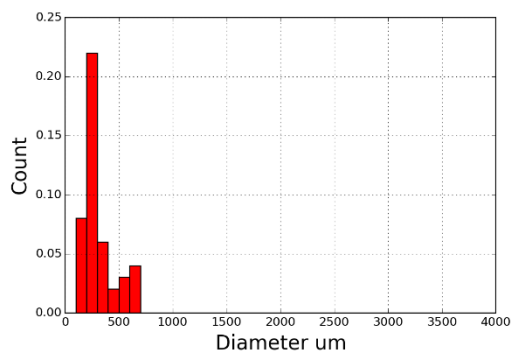


Figure D. 827: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

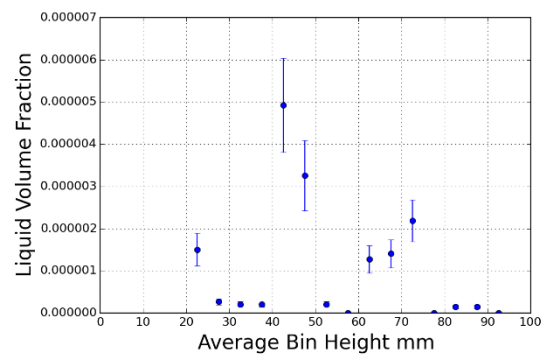


Figure D. 830: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

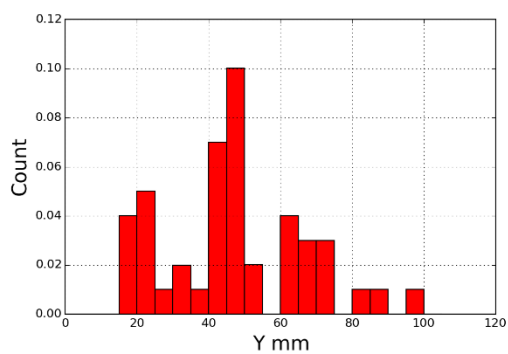


Figure D. 828: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2.2 Matched Only Droplets for .LA Image

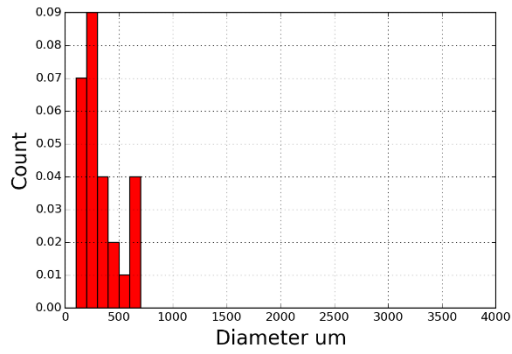


Figure D. 831: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

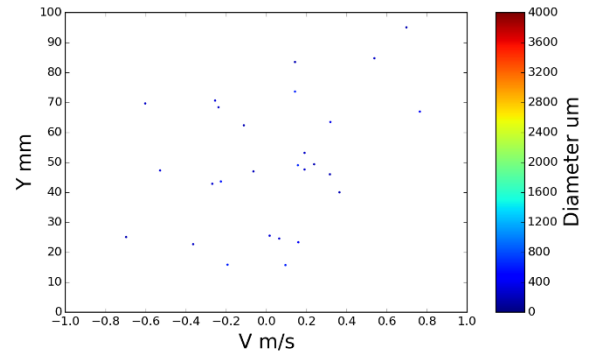


Figure D. 834: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

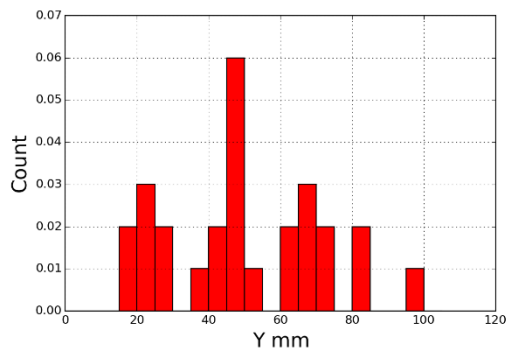


Figure D. 832: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

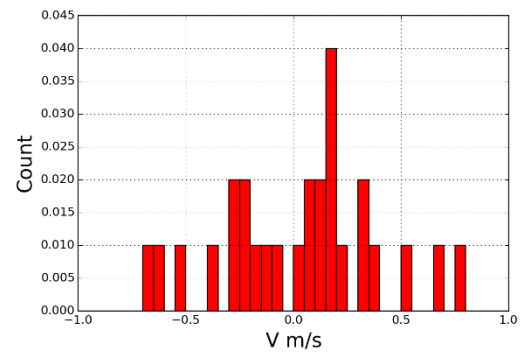


Figure D. 835: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

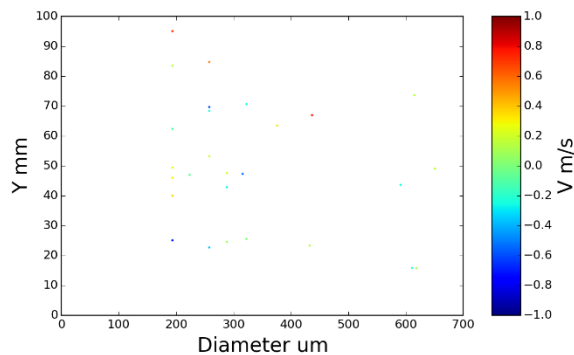


Figure D. 833: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2.2 Matched Only Droplets for .LB Image

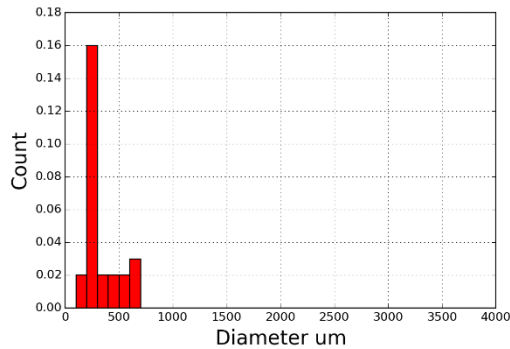


Figure D. 836: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

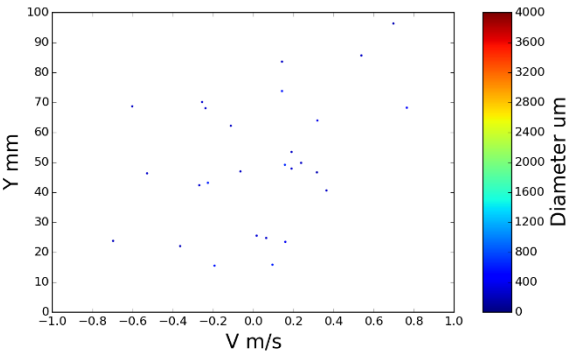


Figure D. 839: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

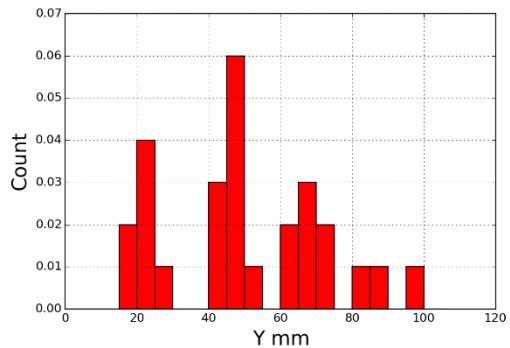


Figure D. 837: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

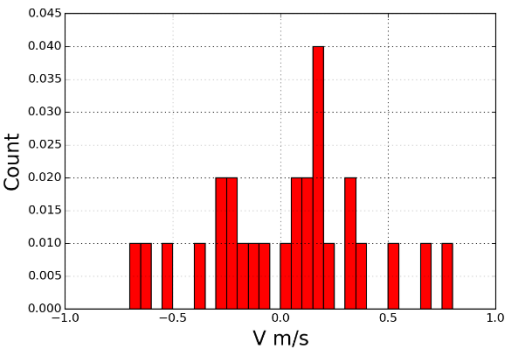


Figure D. 840: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

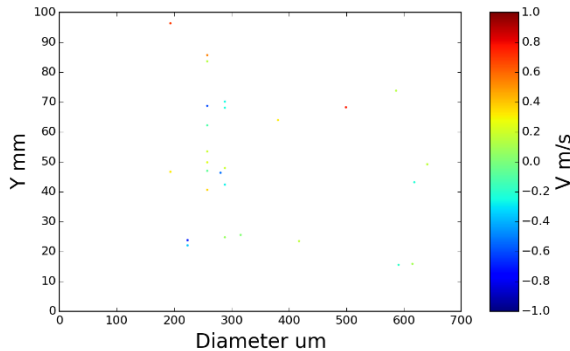


Figure D. 838: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2.2 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.1	0.07	193.3	847.5	429.0	208.4	257.7	911.2	503.8	262.3
20-40mm	0.27	0.29	193.3	1025	377.4	201.7	193.3	1095	369.1	177.7
40-60mm	0.2	0.19	193.3	618.0	382.4	122.6	182.2	590.5	394.4	135.4
60-80mm	0.04	0.05	193.3	322.1	249.1	48.0	223.2	322.1	274.0	36.5
80-100mm	0.0	0.01	-	-	-	-	257.7	257.7	257.7	0.0
All	0.61	0.61	193.3	1025	379.1	178.2	182.2	1095	382.8	178.2
			Height A (mm)				Height B (mm)			
Highest Particle			70.1188				80.4253			
Lowest Particle			13.4874				15.5597			

Table D. 93: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.06	257.7	847.5	457.4	188.9	257.7	888.1	471.6	223.5	-0.570	0.310	-0.080	0.300	-0.530	0.620	0.120	0.420
20-40mm	0.18	193.3	1025	376.1	193.6	193.3	1095	386.6	198.8	-0.610	0.320	-0.060	0.260	-0.470	0.630	0.050	0.330
40-60mm	0.12	193.3	587.0	395.4	114.7	223.2	590.5	401.9	120.7	-0.350	0.410	-0.030	0.240	-0.480	0.760	0.100	0.390
60-80mm	0.02	193.3	322.1	257.7	64.4	257.7	309.0	283.4	25.6	0.020	0.060	0.040	0.020	0.020	0.440	0.230	0.210
80-100mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All	0.38	193.3	1025	388.8	171.8	193.3	1095	397.2	180.1	-0.610	0.410	-0.050	0.250	-0.530	0.760	0.090	0.360

Table D. 94: Matched Droplet Info

D.4.2.2 All Droplets for .LA Image

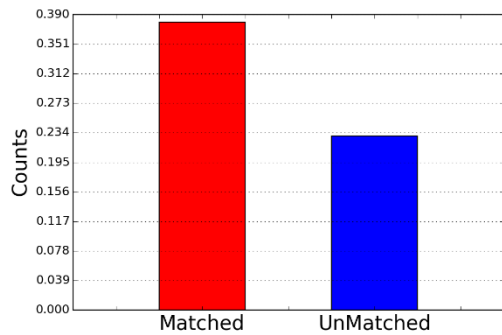


Figure D. 841: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

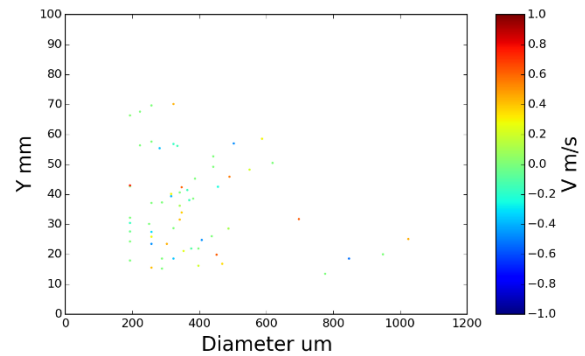


Figure D. 844: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

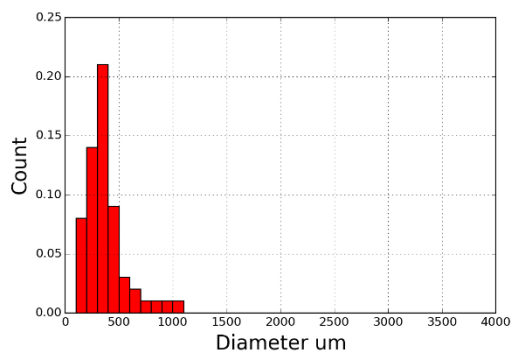


Figure D. 842: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

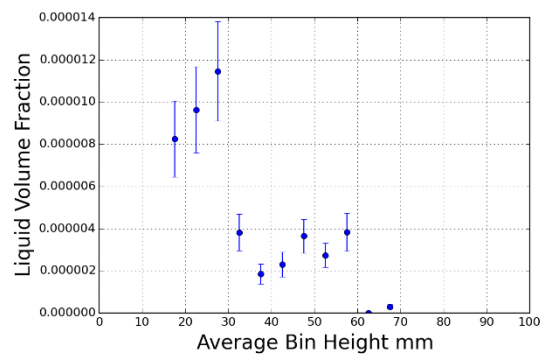


Figure D. 845: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

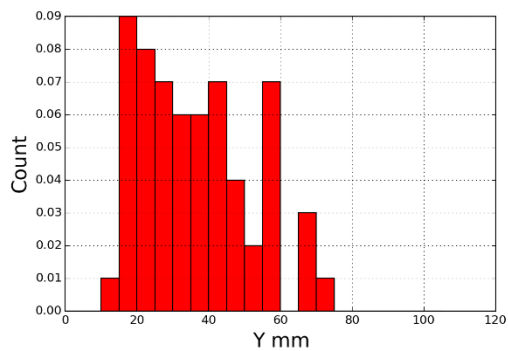


Figure D. 843: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2.2 All Droplets for .LB Image

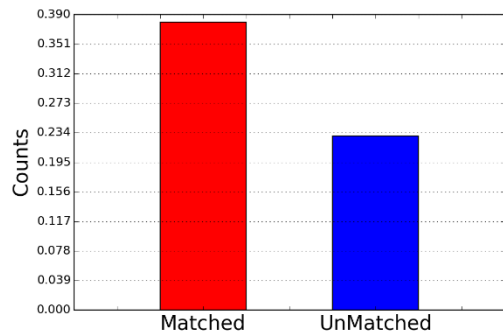


Figure D. 846: CHC Count Comparison R-123 55F 1100Btu 2250Lb Rot Tri

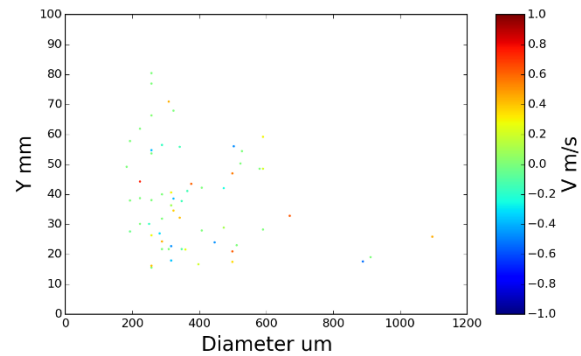


Figure D. 849: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

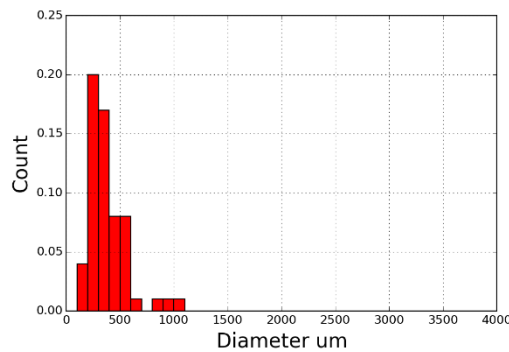


Figure D. 847: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

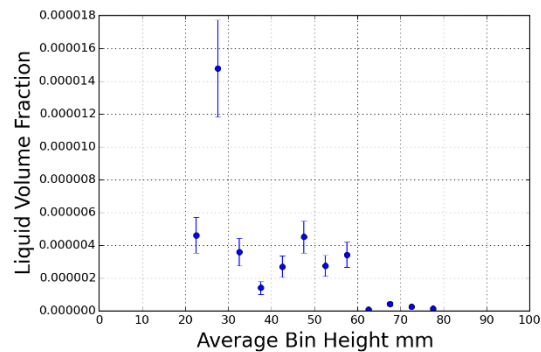


Figure D. 850: Void Fraction R-123 55F 1100Btu 2250Lb Rot Tri

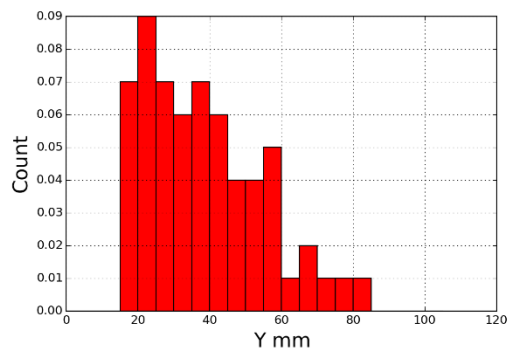


Figure D. 848: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2.2 Matched Only Droplets for .LA Image

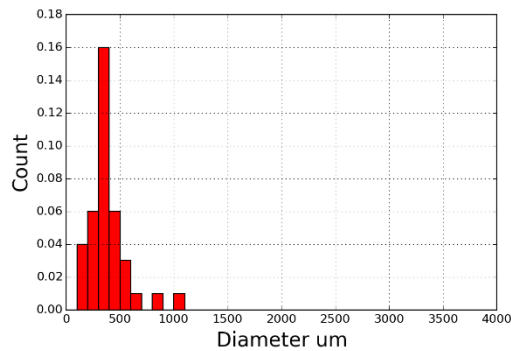


Figure D. 851: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

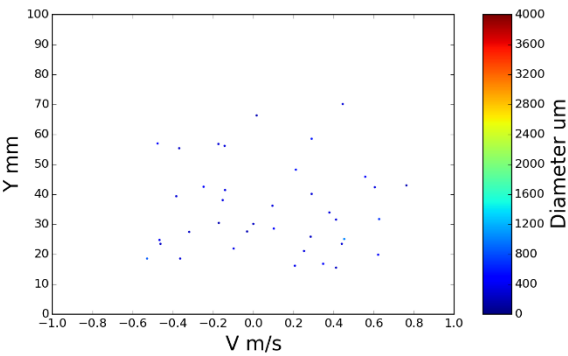


Figure D. 854: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

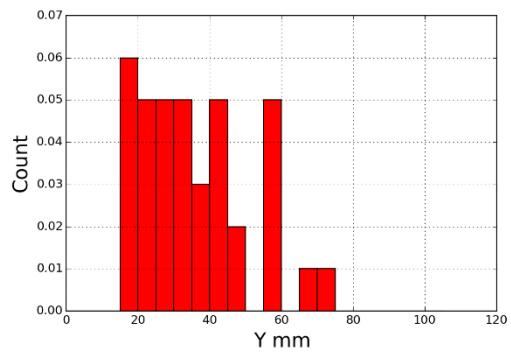


Figure D. 852: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

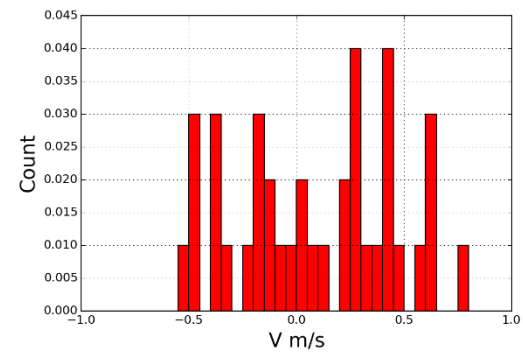


Figure D. 855: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

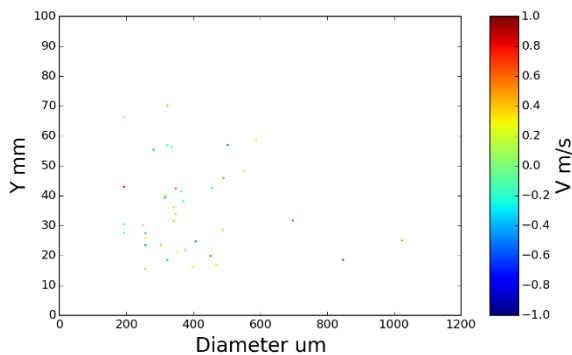


Figure D. 853: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.4.2.2 Matched Only Droplets for .LB Image

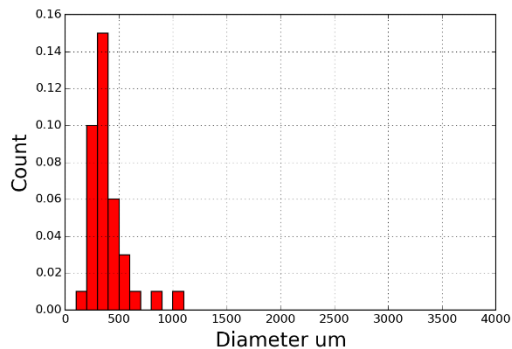


Figure D. 856: Droplet Diameter Histogram R-123 55F 1100Btu 2250Lb Rot Tri

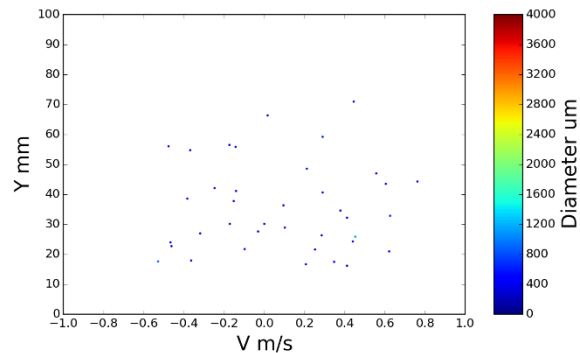


Figure D. 859: Droplet Height vs Vertical Velocity R-123 55F 1100Btu 2250Lb Rot Tri

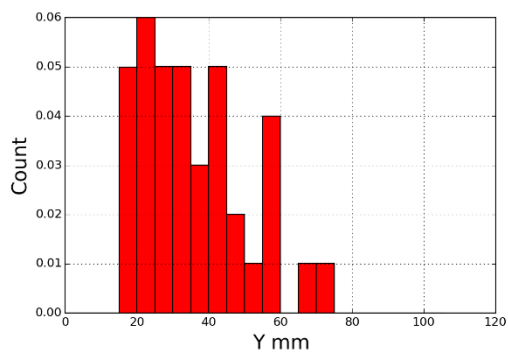


Figure D. 857: Droplet Height Histogram R-123 55F 1100Btu 2250Lb Rot Tri

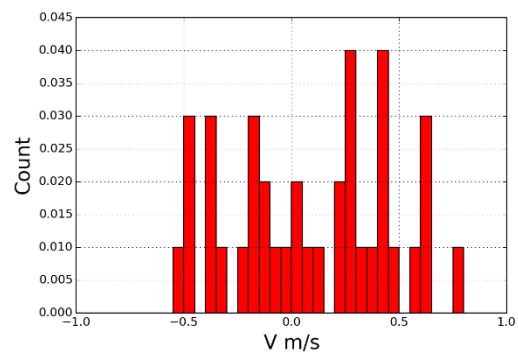


Figure D. 860: Droplet Vertical Velocity Histogram R-123 55F 1100Btu 2250Lb Rot Tri

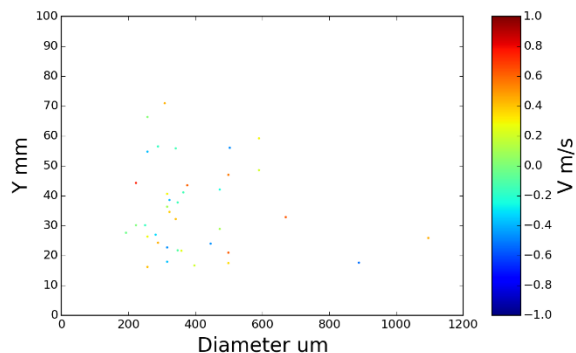


Figure D. 858: Droplet Height vs Diameter R-123 55F 1100Btu 2250Lb Rot Tri

D.5 - 1556 R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1 Liquid Level 2

Thermal Conditions	
H2O Flow Rate (lb/hr) / (kg/s)	25381 / 3.198
Ref Mass Flow (lb/hr) / (kg/s)	539 / 0.068
Ref Mass Flux (lb/hr-ft ²) / (kg/s-m ²)	5247 / 7.116
Top Two Rows Heat Flux (Btu/hr-ft ²) / (kW/m ²)	1983 / 6.26
Bundle Exit Saturation Temp (°F) / (°C)	55.1 / 12.83
Bundle Inlet Saturation Temp (°F) / (°C)	56.0 / 13.32
Total Bundle Q (Btu/hr) / (kW)	43387 / 12.72
Total Bundle & Preboiler Q (Btu/hr) / (kW)	43387 / 12.72
Top Two Rows HTC Ratio	1.064
Bundle Inlet Quality	-0.12
Bundle Exit Quality	0.94

Table D. 95: Thermal Conditions

D.5.1.1 Lens 100mm Mag 0_29x

D.5.1.1 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	30.29	30.31	75.1	3872	533.5	589.8	75.1	3929	532.1	591.6
40-60mm	84.23	85.18	75.1	3939	438.1	480.6	75.1	3882	436.7	479.1
60-80mm	64.9	66.36	75.1	3584	342.9	348.1	75.1	3862	339.0	348.5
80-100mm	2.49	2.55	85.2	2271	272.6	271.2	85.2	2110	273.8	257.3
All	181.91	184.4	75.1	3939	417.7	462.4	75.1	3929	415.0	461.5
			Height A (mm)				Height B (mm)			
Highest Particle			81.1545				81.1438			
Lowest Particle			33.1860				33.1860			

Table D. 96: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	21.33	85.2	3872	607.2	588.9	80.3	3929	605.4	601.2	-1.860	1.820	0.040	0.360	-1.840	1.860	0.050	0.510
40-60mm	63.19	80.3	3831	490.1	484.8	75.1	3846	485.8	482.7	-1.860	1.830	0.020	0.340	-1.880	1.860	0.060	0.530
60-80mm	51.51	80.3	3510	373.7	349.7	80.3	3516	369.8	349.0	-1.890	1.840	0.000	0.300	-1.880	1.890	0.060	0.480
80-100mm	1.78	85.2	2271	313.8	298.8	85.2	2110	311.0	287.0	-1.260	0.450	-0.050	0.260	-1.890	1.610	0.020	0.420
All	137.81	80.3	3872	462.4	463.8	75.1	3929	458.5	464.9	-1.890	1.840	0.010	0.330	-1.890	1.890	0.060	0.510

Table D. 97: Matched Droplet Info

D.5.1.1 All Droplets for .LA Image

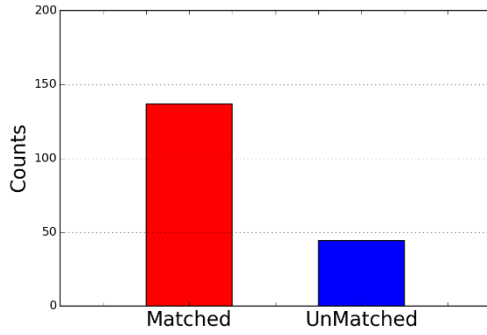


Figure D. 861: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

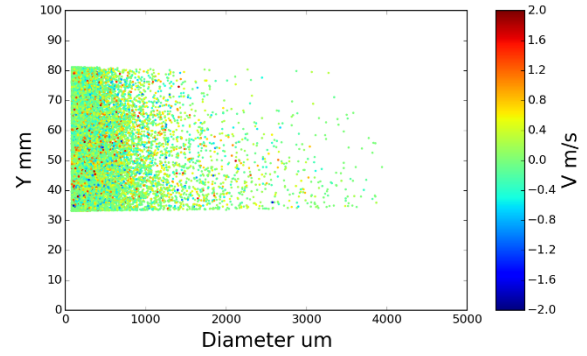


Figure D. 864: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

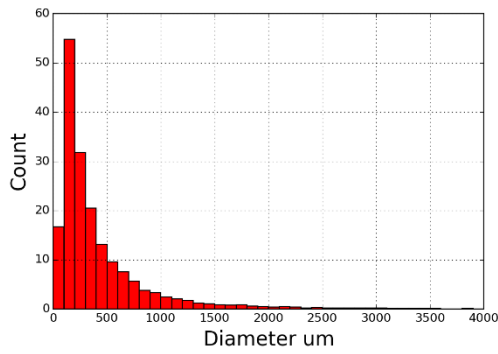


Figure D. 862: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

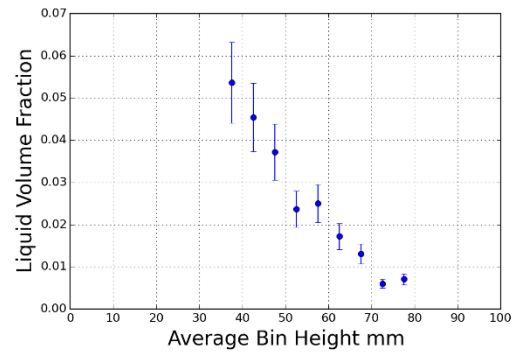


Figure D. 865: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

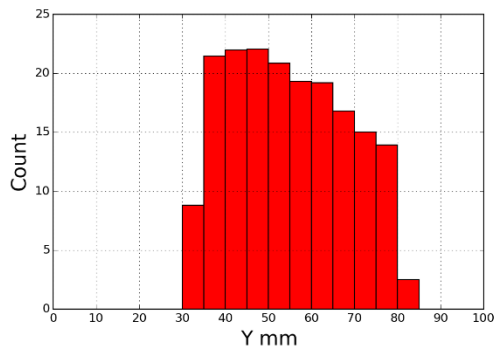


Figure D. 863: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1.1 All Droplets for .LB Image

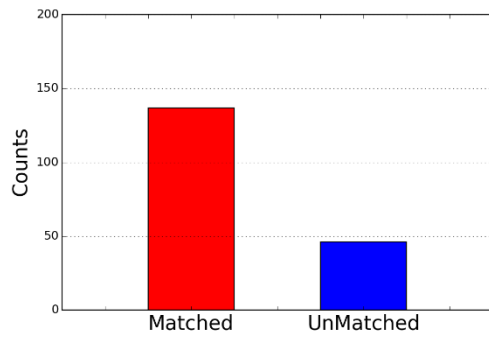


Figure D. 866: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

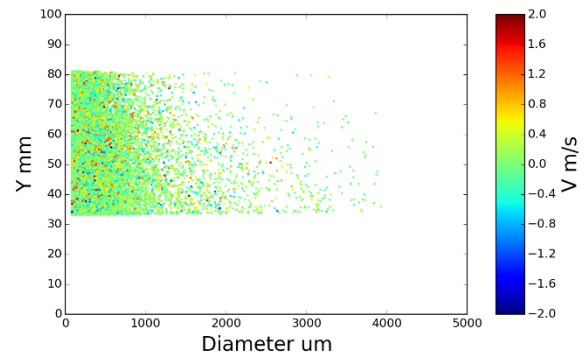


Figure D. 869: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

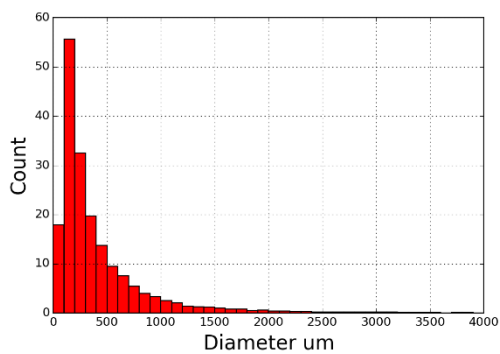


Figure D. 867: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

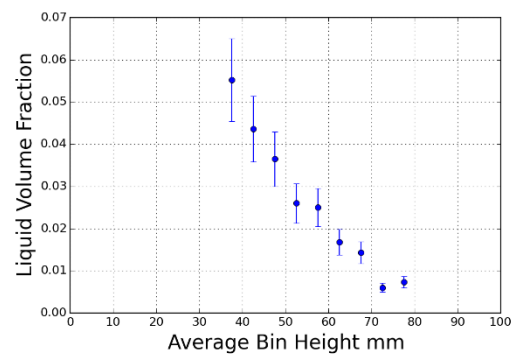


Figure D. 870: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

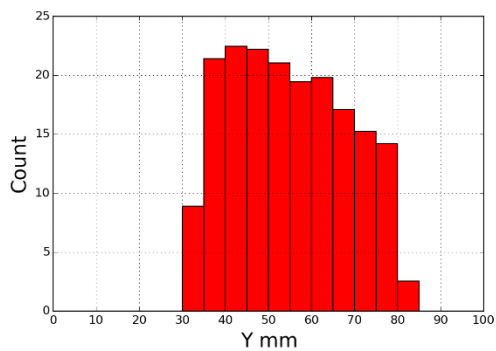


Figure D. 868: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1.1 Matched Only Droplets for .LA Image

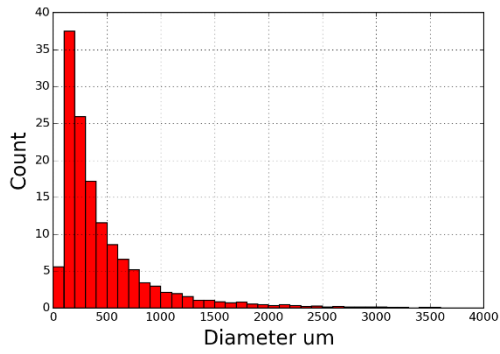


Figure D. 871: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

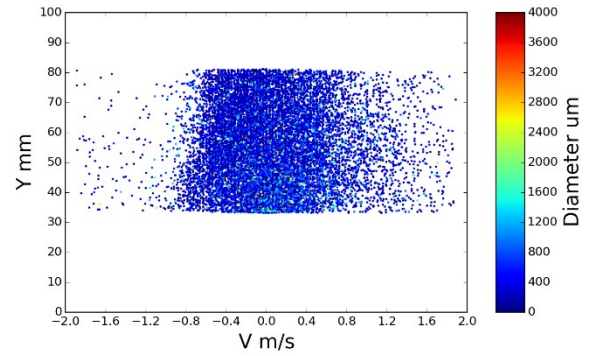


Figure D. 874: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

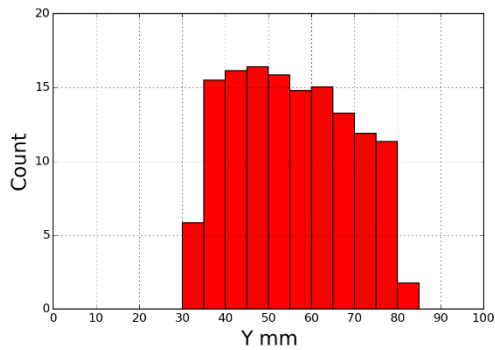


Figure D. 872: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

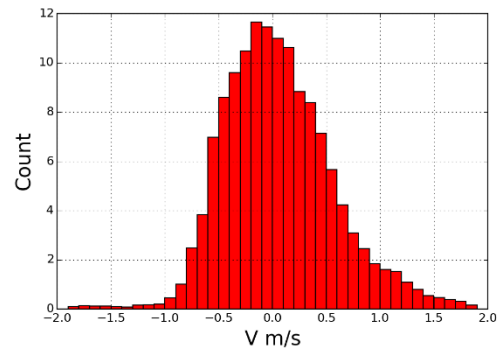


Figure D. 875: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

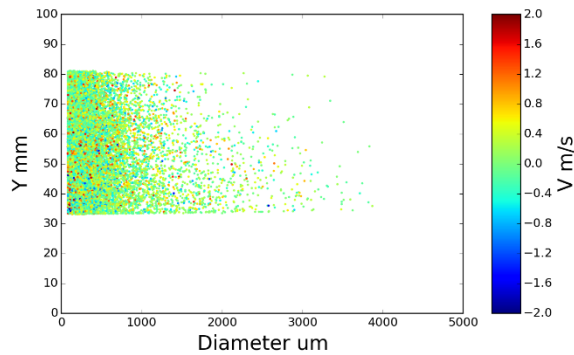


Figure D. 873: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1.1 Matched Only Droplets for .LB Image

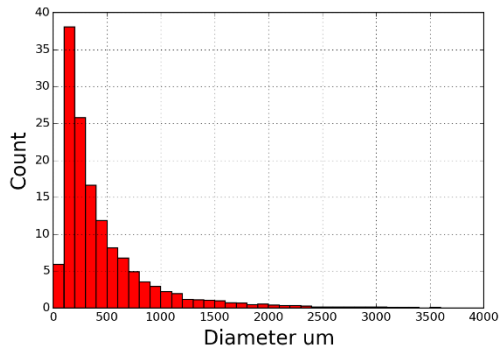


Figure D. 876: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

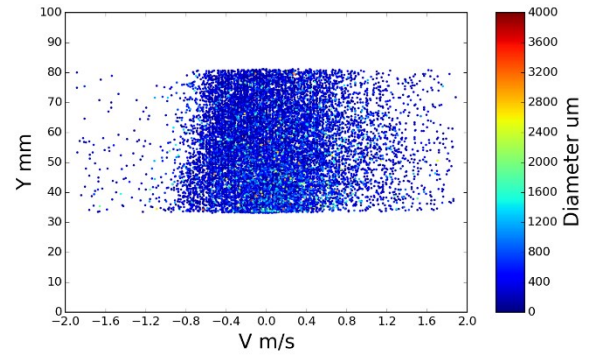


Figure D. 879: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

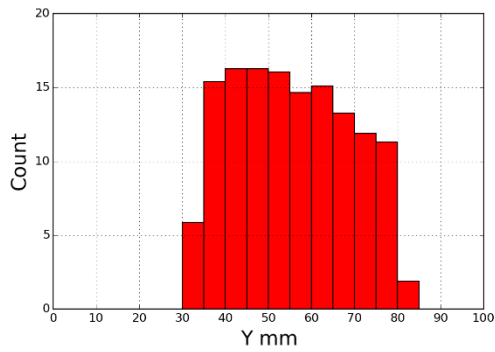


Figure D. 877: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

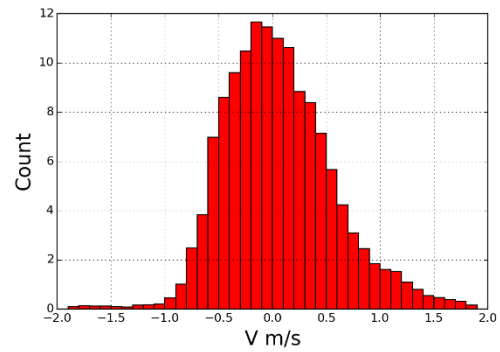


Figure D. 880: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

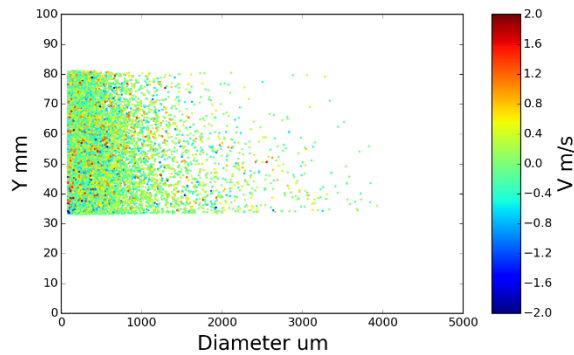


Figure D. 878: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1.1 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	32.41	32.58	75.1	3953	543.4	571.4	75.1	3958	541.7	572.6
40-60mm	84.6	85.51	75.1	3968	476.5	503.1	75.1	3970	472.6	505.2
60-80mm	67.93	69.22	80.3	3463	367.8	368.7	75.1	3572	363.6	371.2
80-100mm	2.85	2.65	80.3	1682	293.4	248.6	85.2	1817	303.5	267.8
All	187.79	189.96	75.1	3968	445.9	474.5	75.1	3970	442.4	476.4
			Height A (mm)				Height B (mm)			
Highest Particle			81.1536				81.1540			
Lowest Particle			33.1860				33.1860			

Table D. 98: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	23.67	80.3	3945	615.3	573.2	80.3	3958	611.0	574.4	-1.870	1.870	0.020	0.380	-1.800	1.840	0.180	0.530
40-60mm	64.54	80.3	3861	525.8	499.4	80.3	3970	522.1	503.4	-1.820	1.840	0.000	0.340	-1.860	1.880	0.190	0.530
60-80mm	53.57	80.3	3463	408.8	384.9	80.3	3572	404.5	386.1	-1.820	1.820	0.010	0.300	-1.820	1.890	0.170	0.520
80-100mm	1.86	85.2	1682	341.0	274.8	85.2	1817	333.1	275.2	-1.750	1.030	0.020	0.290	-1.820	1.660	0.010	0.470
All	143.64	80.3	3945	494.5	477.8	80.3	3970	490.1	480.0	-1.870	1.870	0.010	0.330	-1.860	1.890	0.180	0.530

Table D. 99: Matched Droplet Info

D.5.1.1 All Droplets for .LA Image

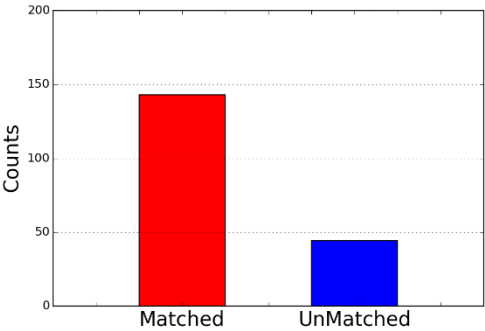


Figure D. 881: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

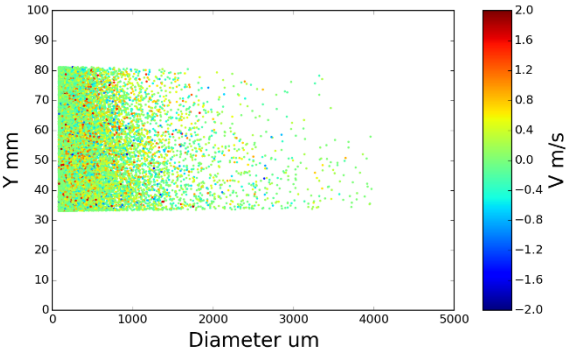


Figure D. 884: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

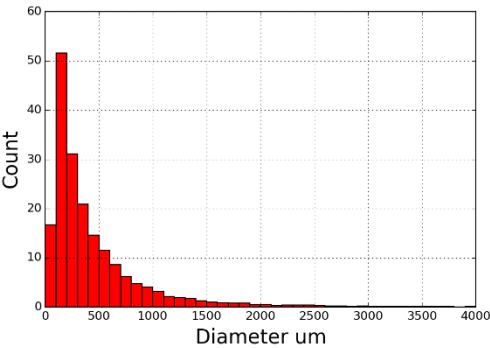


Figure D. 882: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

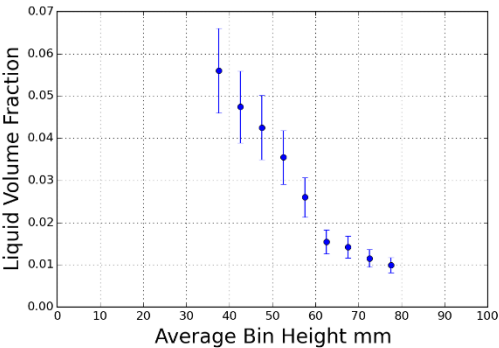


Figure D. 885: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

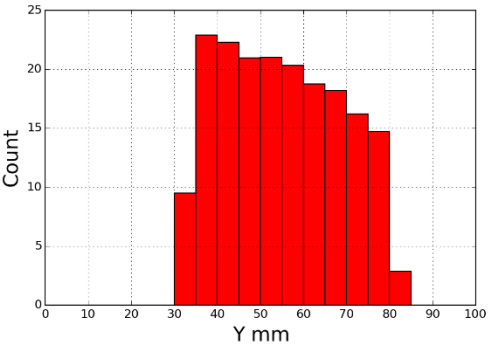


Figure D. 883: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1.1 All Droplets for .LB Image

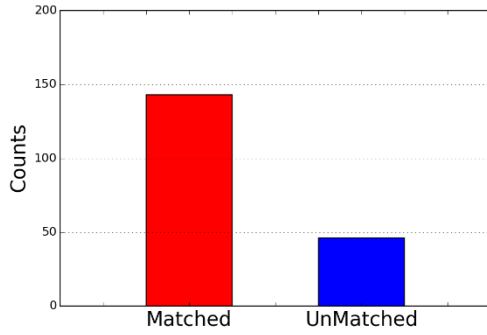


Figure D. 886: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

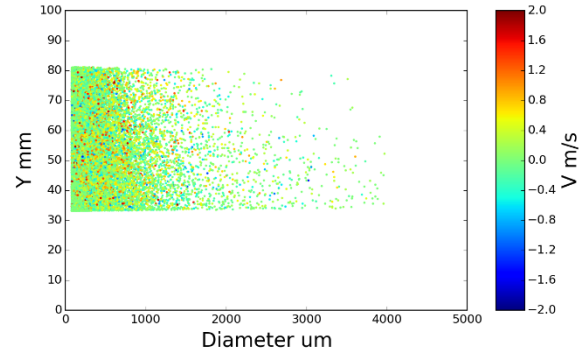


Figure D. 889: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

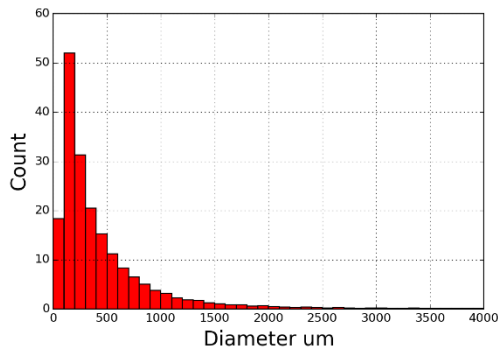


Figure D. 887: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

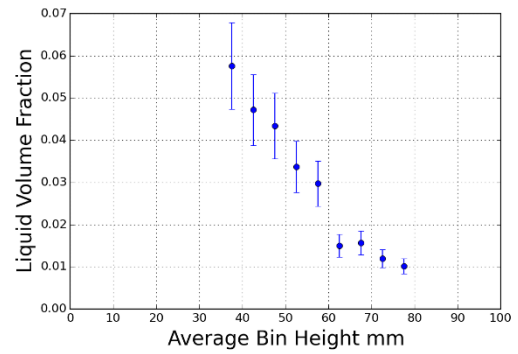


Figure D. 890: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

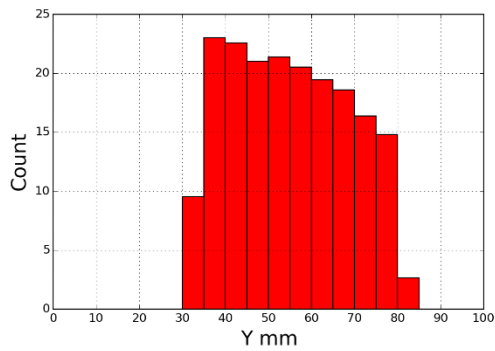


Figure D. 888: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1.1 Matched Only Droplets for .LA Image

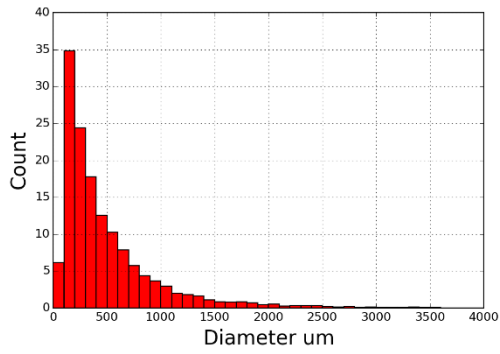


Figure D. 891: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

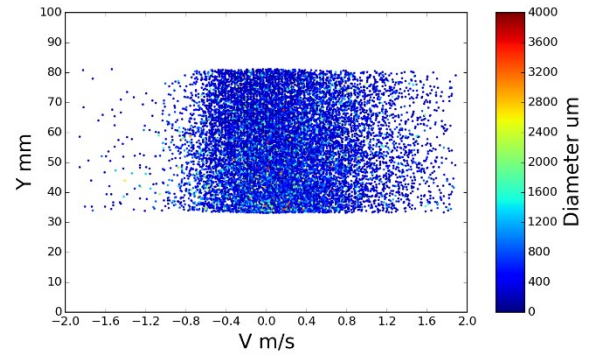


Figure D. 894: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

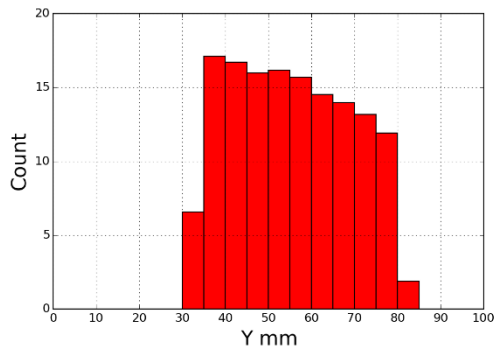


Figure D. 892: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

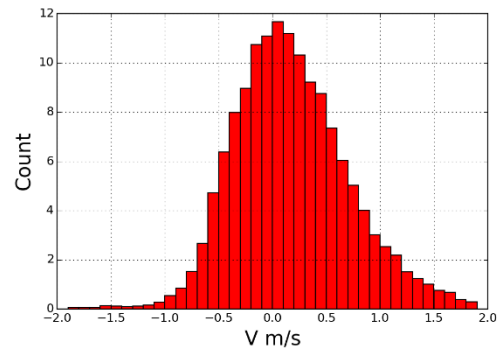


Figure D. 895: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

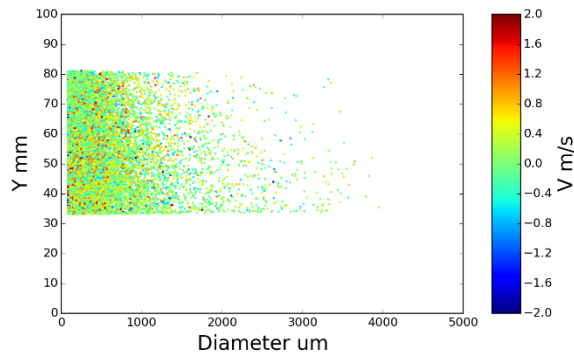


Figure D. 893: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1.1 Matched Only Droplets for .LB Image

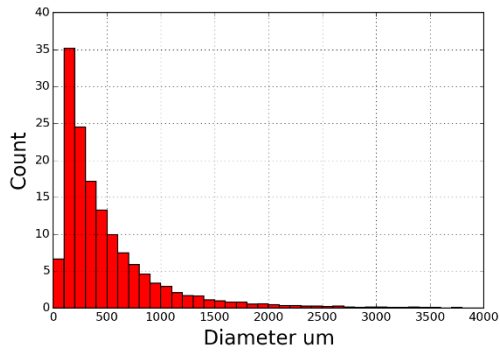


Figure D. 896: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

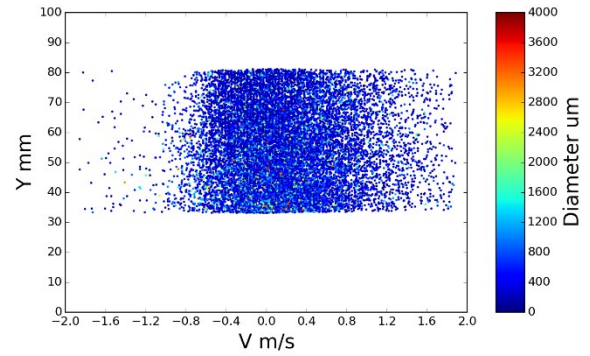


Figure D. 899: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

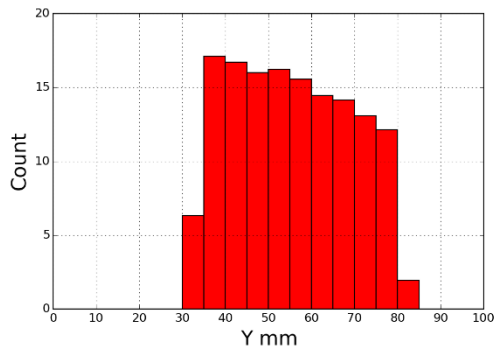


Figure D. 897: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

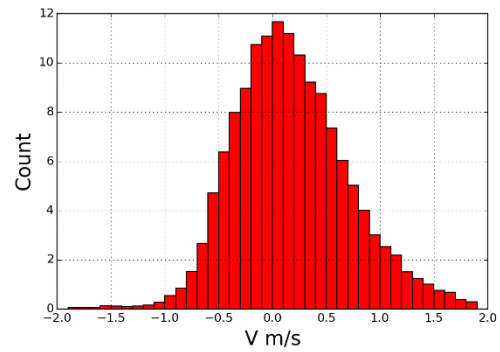


Figure D. 900: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

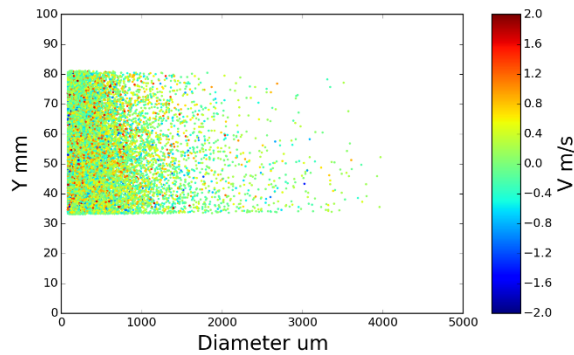


Figure D. 898: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1.1 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	32.88	32.84	75.1	3958	564.8	589.0	80.3	3951	569.0	588.3
40-60mm	85.99	87.61	75.1	3948	480.7	508.0	75.1	3945	475.9	509.1
60-80mm	64.49	64.96	75.1	3853	356.6	371.2	80.3	3791	354.5	366.8
80-100mm	2.39	2.48	85.2	1752	272.5	254.0	80.3	1844	257.1	223.5
All	185.75	187.89	75.1	3958	449.8	485.6	75.1	3951	447.3	484.7
			Height A (mm)				Height B (mm)			
Highest Particle			81.1410				81.1536			
Lowest Particle			33.1860				33.1966			

Table D. 100: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	23.29	80.3	3889	655.1	587.8	80.3	3951	657.8	595.6	-1.880	1.860	0.010	0.390	-1.840	1.860	0.300	0.540
40-60mm	65.55	80.3	3948	544.5	519.7	75.1	3945	541.9	522.4	-1.890	1.870	0.010	0.350	-1.890	1.890	0.300	0.560
60-80mm	50.59	80.3	3790	399.1	388.9	80.3	3791	395.8	389.2	-1.880	1.890	0.000	0.310	-1.820	1.890	0.210	0.540
80-100mm	1.64	85.2	1752	301.9	261.4	85.2	1844	289.3	242.0	-0.610	1.620	0.050	0.250	-1.590	1.380	-0.010	0.420
All	141.07	80.3	3948	507.8	496.5	75.1	3951	504.8	499.0	-1.890	1.890	0.010	0.340	-1.890	1.890	0.260	0.550

Table D. 101: Matched Droplet Info

D.5.1.1 All Droplets for .LA Image

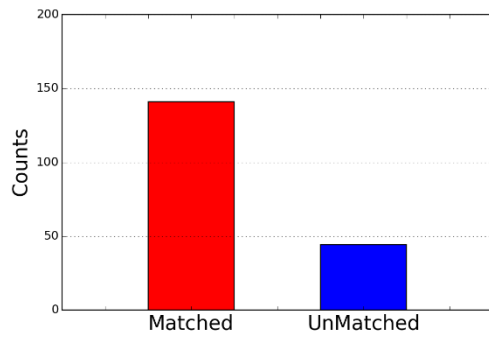


Figure D. 901: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

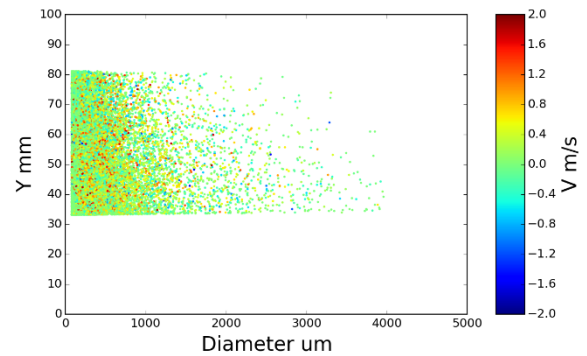


Figure D. 904: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

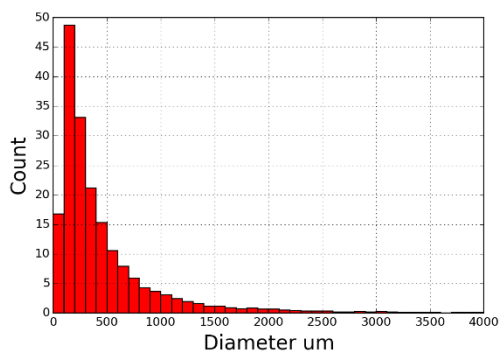


Figure D. 902: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

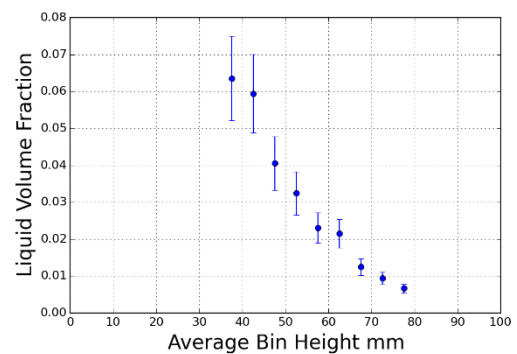


Figure D. 905: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

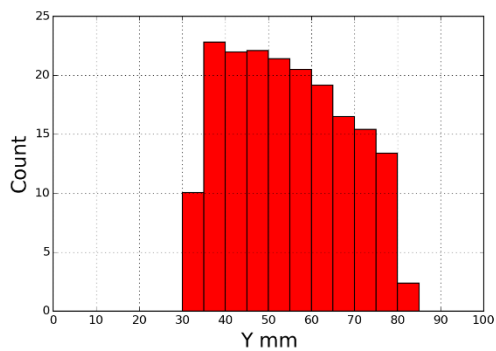


Figure D. 903: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1.1 All Droplets for .LB Image

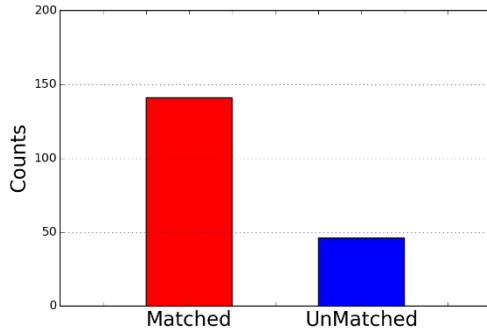


Figure D. 906: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

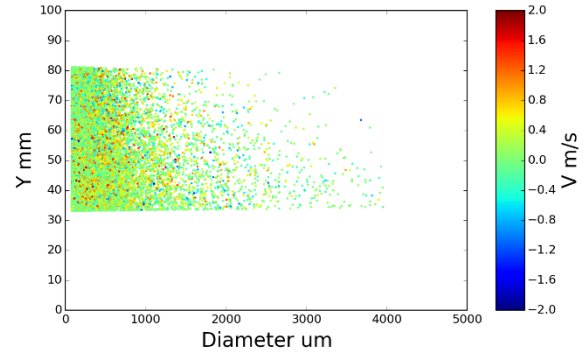


Figure D. 909: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

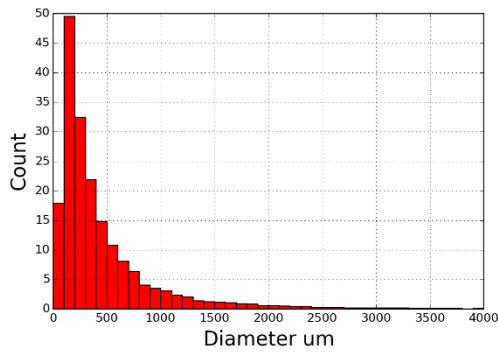


Figure D. 907: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

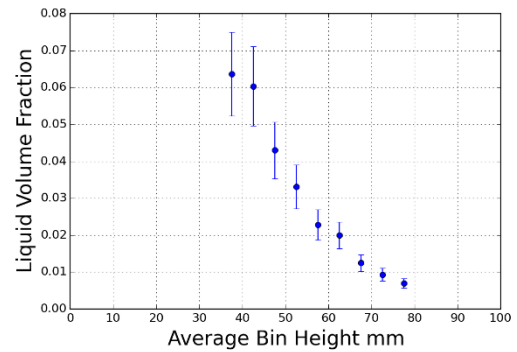


Figure D. 910: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

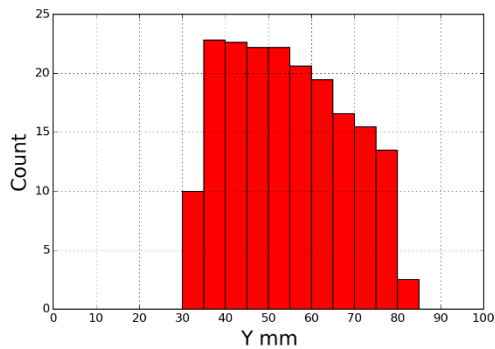


Figure D. 908: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1.1 Matched Only Droplets for .LA Image

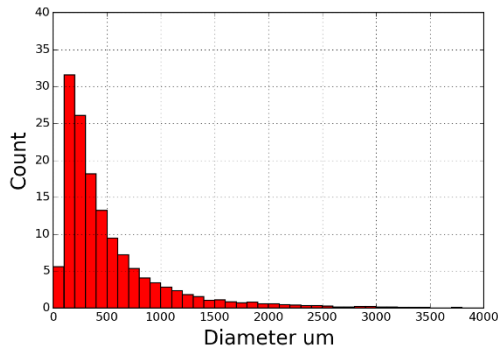


Figure D. 911: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

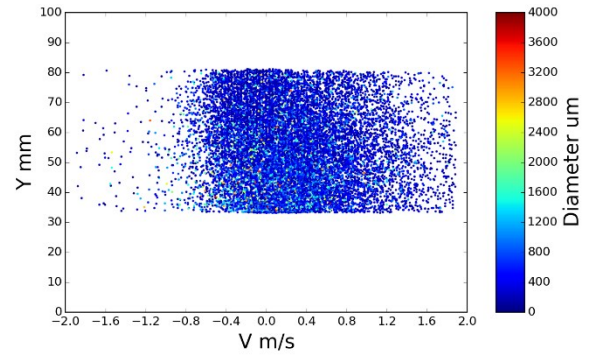


Figure D. 914: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

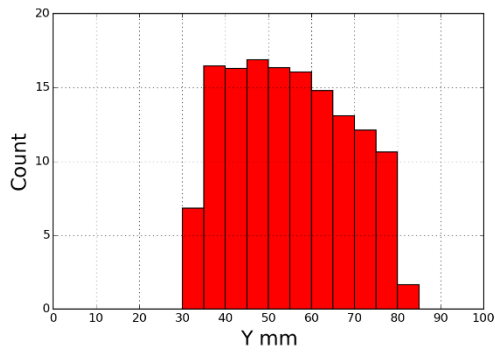


Figure D. 912: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

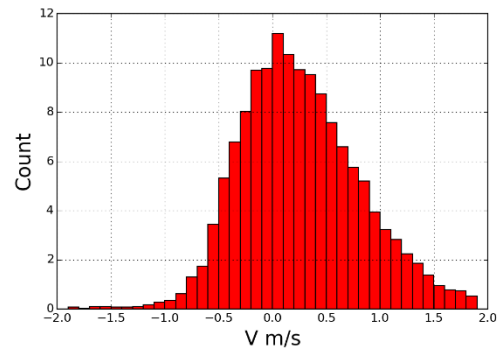


Figure D. 915: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

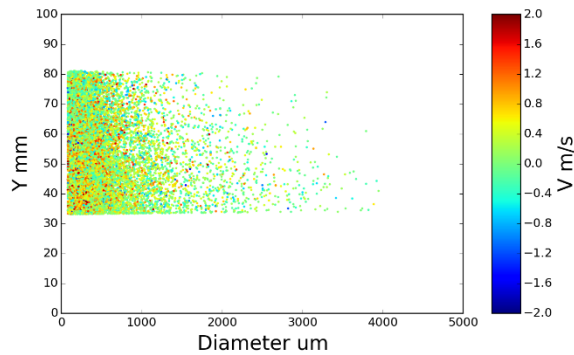


Figure D. 913: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1.1 Matched Only Droplets for .LB Image

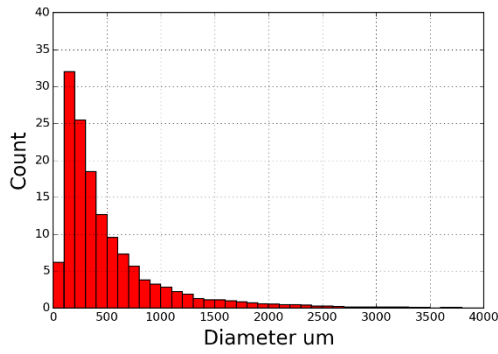


Figure D. 916: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

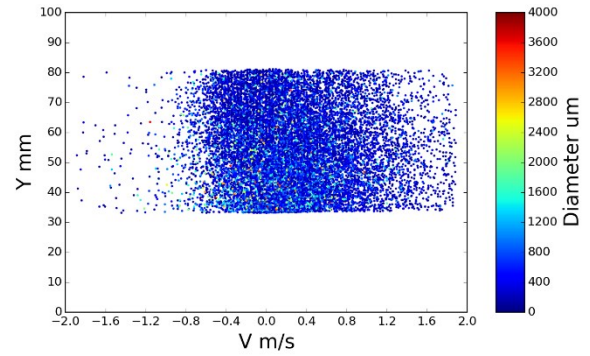


Figure D. 919: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

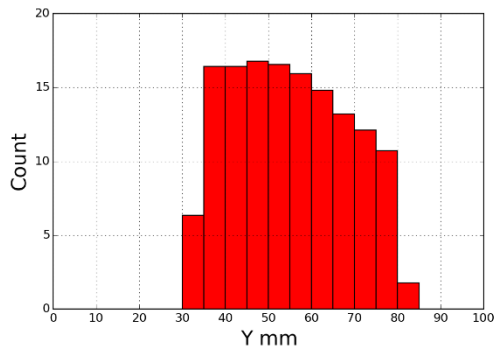


Figure D. 917: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

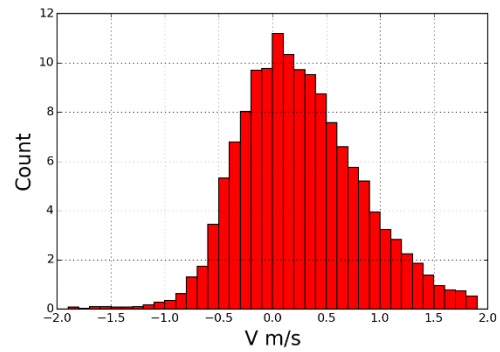


Figure D. 920: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

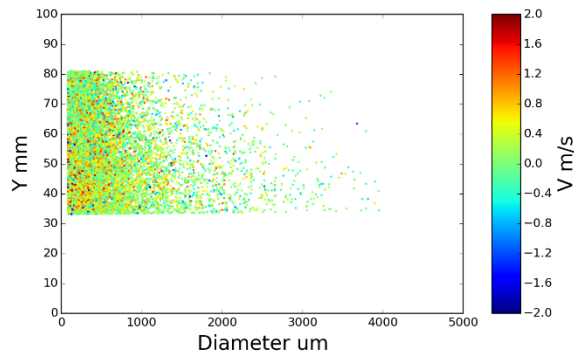


Figure D. 918: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1.2 Lens 50mm Mag 0_13x

D.5.1.2 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	65.59	65.28	182.4	3985	736.5	647.4	170.7	3993	728.7	642.7
40-60mm	53.96	52.9	170.7	3905	594.5	477.1	170.7	3906	598.9	478.2
60-80mm	33.64	33.24	182.4	3412	502.8	349.6	182.4	3405	504.5	352.1
80-100mm	17.76	17.57	170.7	3251	423.9	260.8	182.4	3254	425.4	260.4
All	170.98	168.99	170.7	3985	613.1	525.2	170.7	3993	612.4	523.2
			Height A (mm)				Height B (mm)			
Highest Particle			100.0014				99.9789			
Lowest Particle			20.1203				20.1203			

Table D. 102: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	45.4	182.4	3841	802.8	641.2	182.4	3993	795.6	646.9	-1.910	1.910	0.000	0.450	-1.910	1.910	0.080	0.550
40-60mm	41.16	182.4	3898	642.6	487.2	182.4	3906	638.8	491.5	-1.910	1.910	0.000	0.400	-1.910	1.910	0.140	0.560
60-80mm	26.99	182.4	3412	543.6	366.8	182.4	3405	540.0	366.2	-1.910	1.870	0.000	0.330	-1.880	1.870	0.090	0.530
80-100mm	14.67	182.4	3251	451.5	267.6	182.4	3254	450.6	266.6	-1.910	1.800	0.020	0.310	-1.820	1.840	0.090	0.490
All	128.22	182.4	3898	656.6	522.9	182.4	3993	651.6	525.6	-1.910	1.910	0.010	0.400	-1.910	1.910	0.100	0.550

Table D. 103: Matched Droplet Info

D.5.1.2 All Droplets for .LA Image

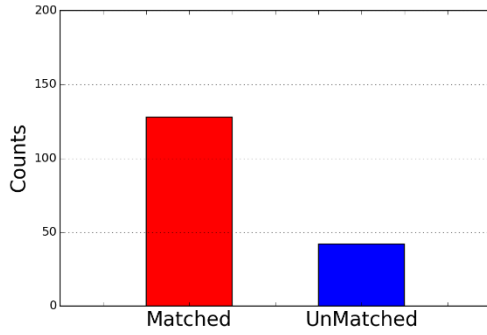


Figure D. 921: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

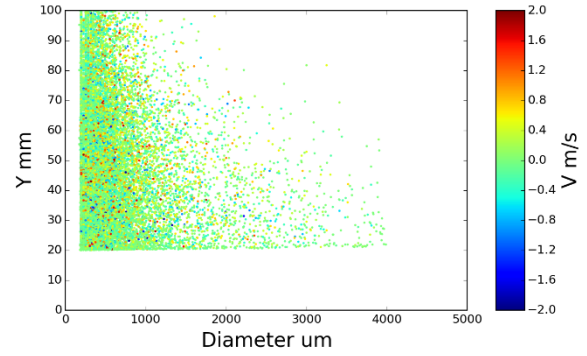


Figure D. 924: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

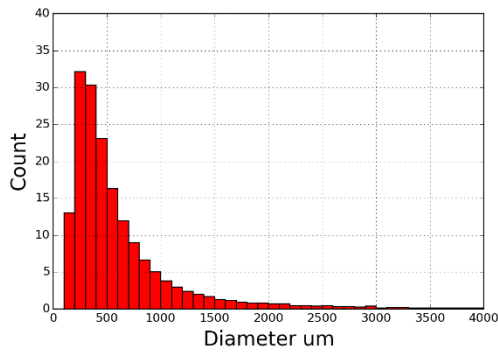


Figure D. 922: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

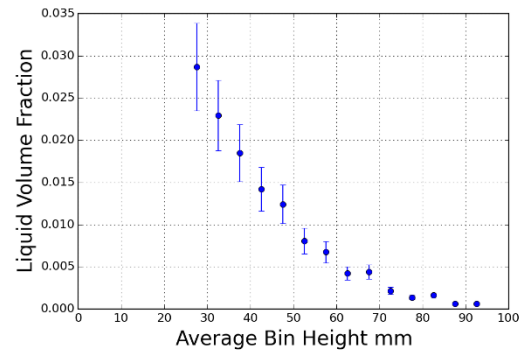


Figure D. 925: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

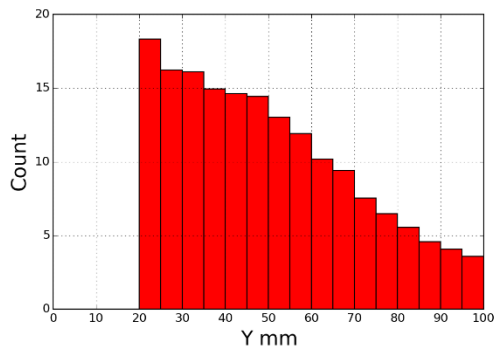


Figure D. 923: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1.2 All Droplets for .LB Image

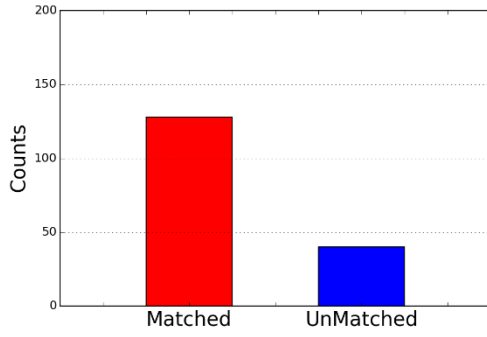


Figure D. 926: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

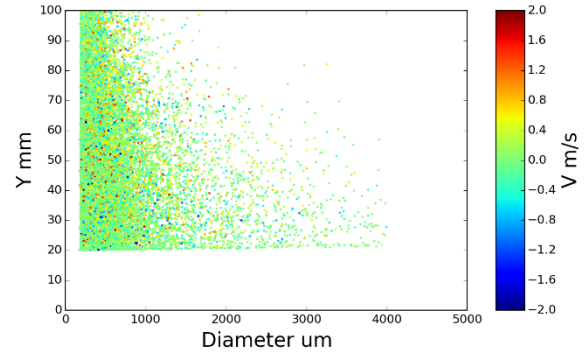


Figure D. 929: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

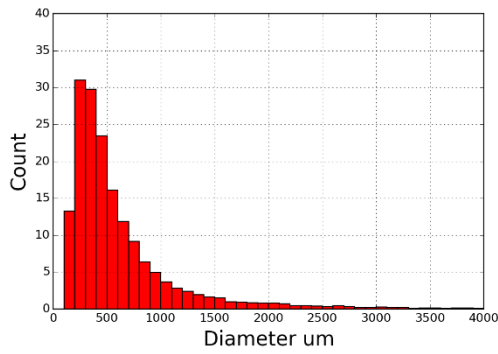


Figure D. 927: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

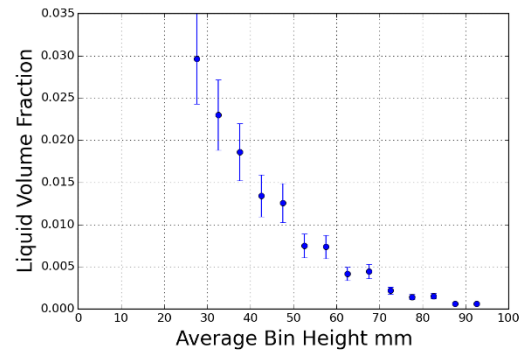


Figure D. 930: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

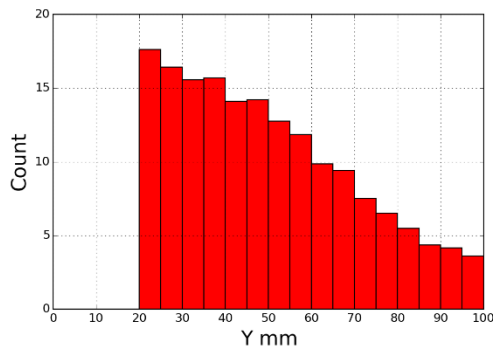


Figure D. 928: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1.2 Matched Only Droplets for .LA Image

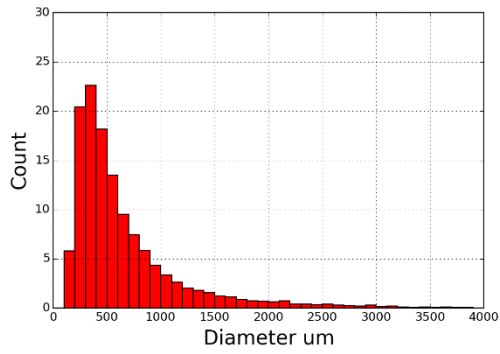


Figure D. 931: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

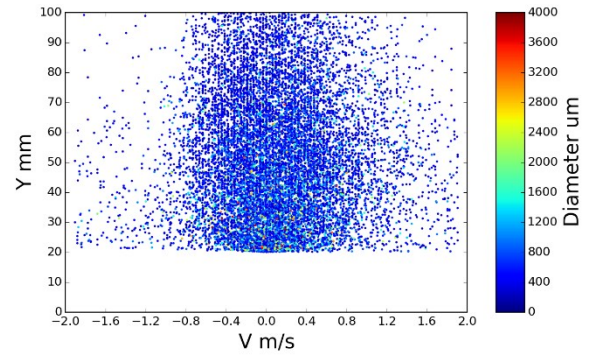


Figure D. 934: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

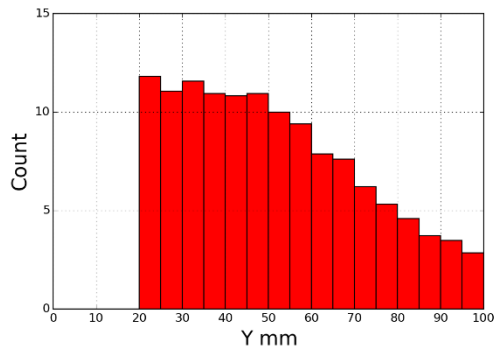


Figure D. 932: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

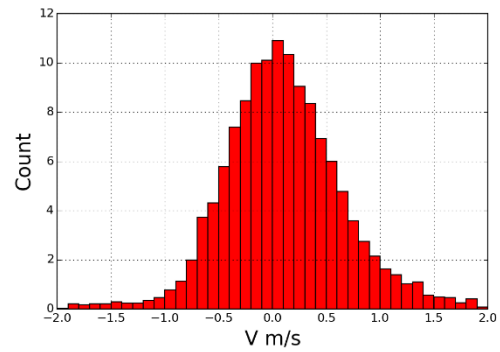


Figure D. 935: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

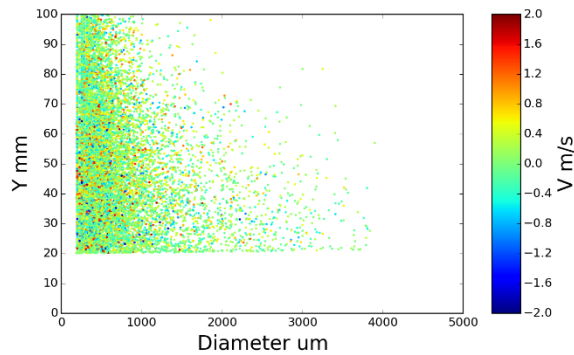


Figure D. 933: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1.2 Matched Only Droplets for .LB Image

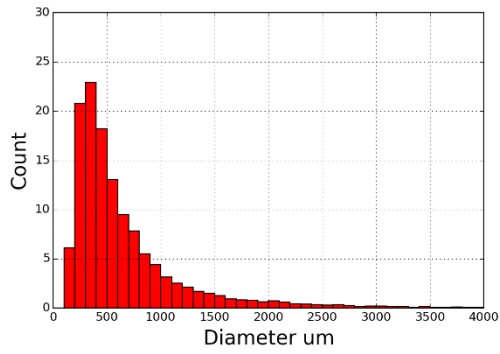


Figure D. 936: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

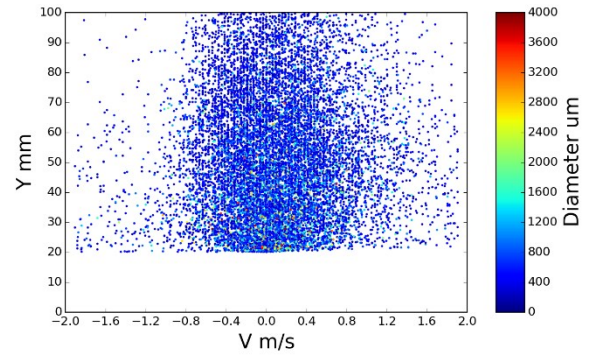


Figure D. 939: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

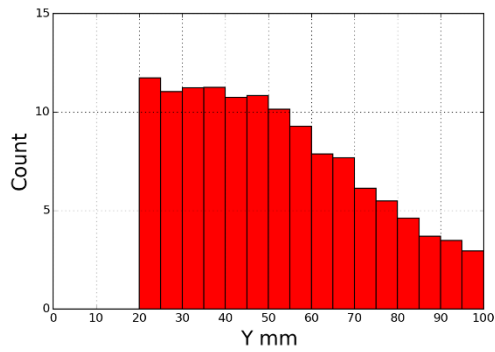


Figure D. 937: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

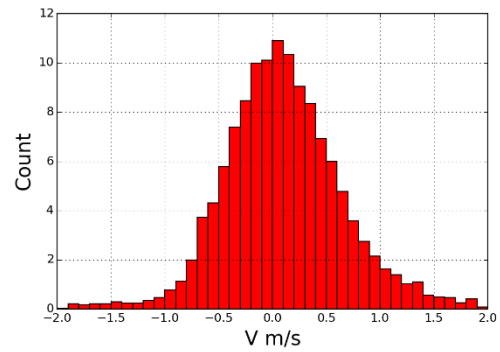


Figure D. 940: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

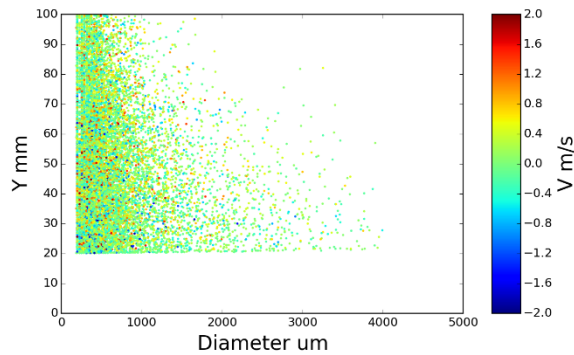


Figure D. 938: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1.2 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	74.39	73.6	170.7	3981	710.2	593.6	170.7	3999	715.0	595.2
40-60mm	58.56	58.44	170.7	3956	600.6	462.1	170.7	3985	603.7	462.6
60-80mm	38.85	38.68	170.7	3771	512.3	370.0	170.7	3742	512.1	367.9
80-100mm	19.18	19.13	182.4	3220	442.7	278.8	182.4	3117	441.4	277.5
All	191.04	189.92	170.7	3981	609.4	497.0	170.7	3999	611.7	497.6
			Height A (mm)				Height B (mm)			
Highest Particle			100.0033				100.0014			
Lowest Particle			20.1203				20.1203			

Table D. 104: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	50.92	182.4	3979	787.5	596.0	182.4	3966	777.6	595.7	-1.900	1.890	-0.000	0.480	-1.910	1.910	0.160	0.570
40-60mm	44.0	182.4	3956	661.2	479.4	182.4	3985	658.9	478.9	-1.910	1.910	-0.000	0.420	-1.910	1.910	0.180	0.570
60-80mm	30.91	182.4	3771	557.1	391.3	182.4	3742	550.4	388.4	-1.900	1.910	0.010	0.350	-1.910	1.910	0.150	0.540
80-100mm	15.55	182.4	3220	471.0	282.9	182.4	3117	469.6	283.4	-1.840	1.640	-0.000	0.320	-1.910	1.860	0.130	0.530
All	141.4	182.4	3979	662.9	503.8	182.4	3985	656.1	501.8	-1.910	1.910	0.000	0.420	-1.910	1.910	0.160	0.560

Table D. 105: Matched Droplet Info

D.5.1.2 All Droplets for .LA Image

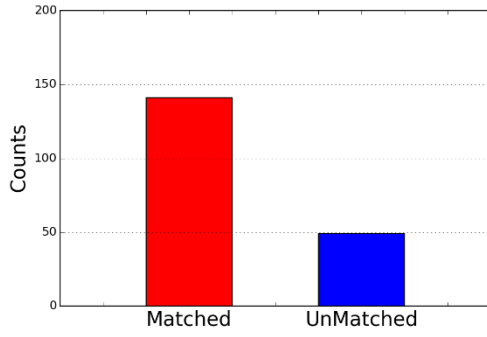


Figure D. 941: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

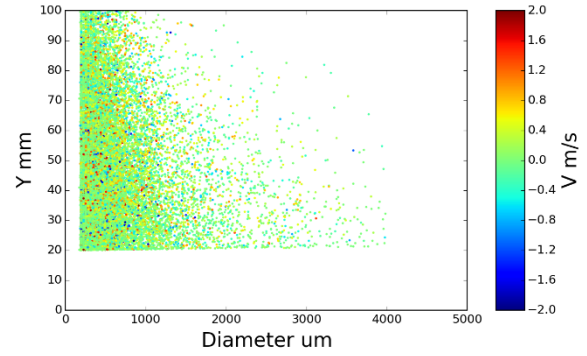


Figure D. 944: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

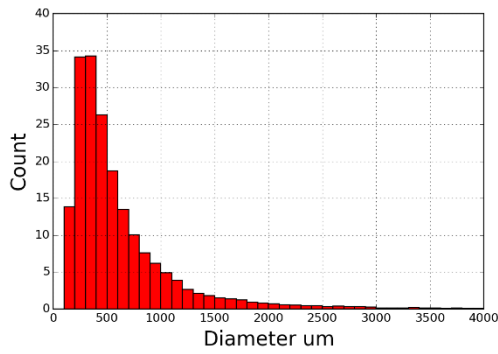


Figure D. 942: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

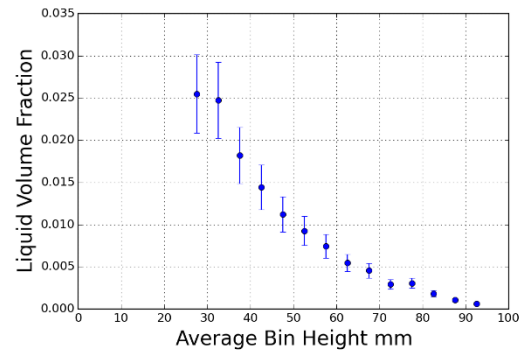


Figure D. 945: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

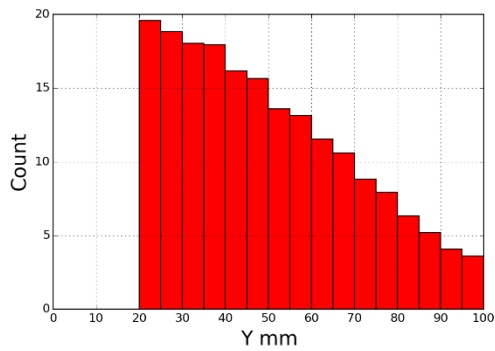


Figure D. 943: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1.2 All Droplets for .LB Image

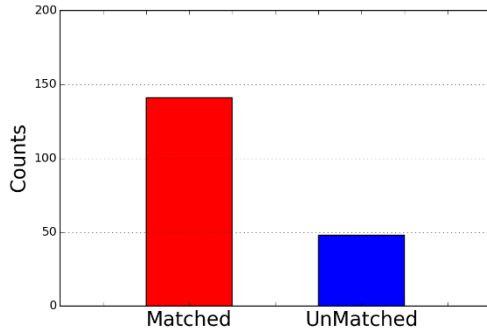


Figure D. 946: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

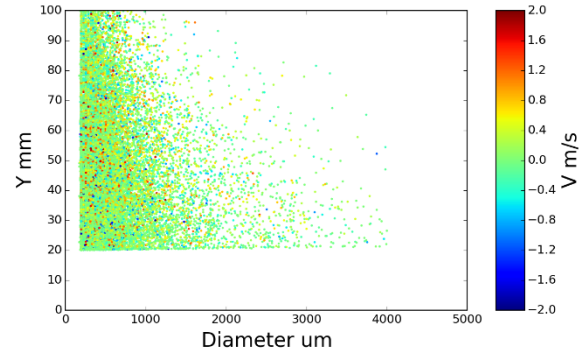


Figure D. 949: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

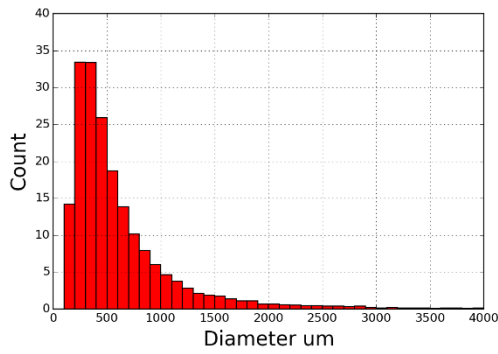


Figure D. 947: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

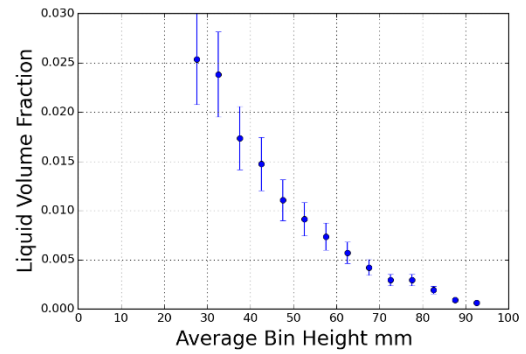


Figure D. 950: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

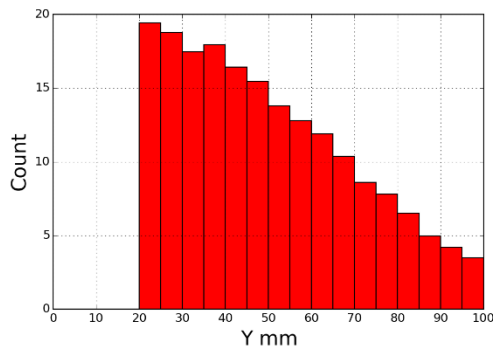


Figure D. 948: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1.2 Matched Only Droplets for .LA Image

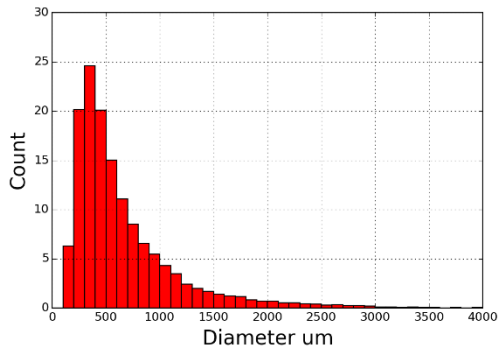


Figure D. 951: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

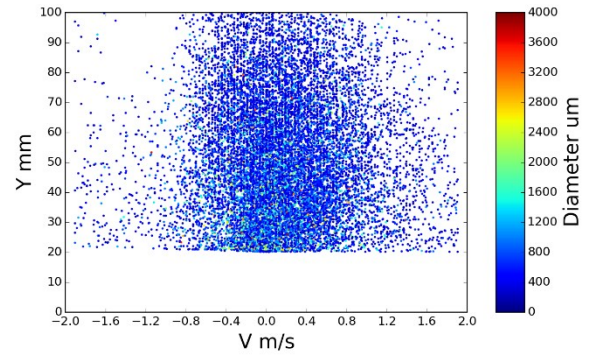


Figure D. 954: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

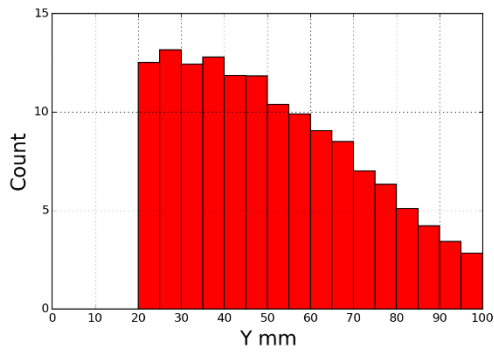


Figure D. 952: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

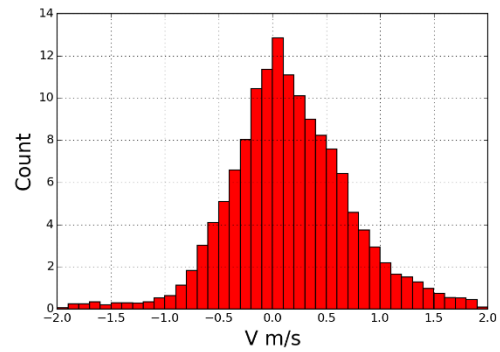


Figure D. 955: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

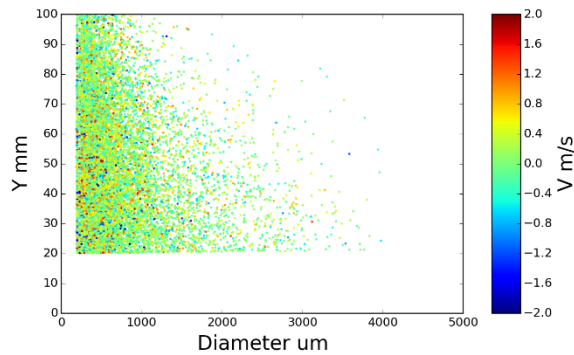


Figure D. 953: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1.2 Matched Only Droplets for .LB Image

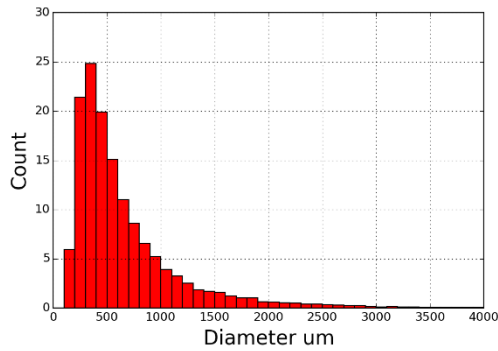


Figure D. 956: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

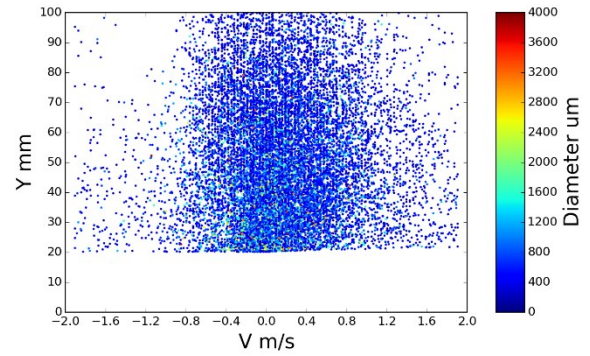


Figure D. 959: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

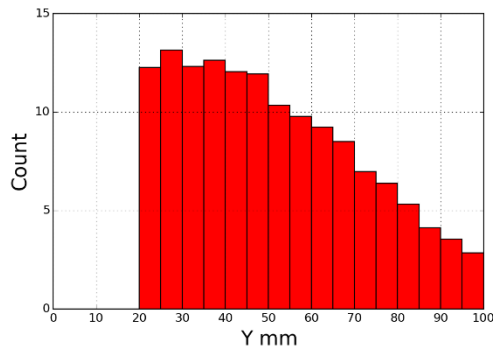


Figure D. 957: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

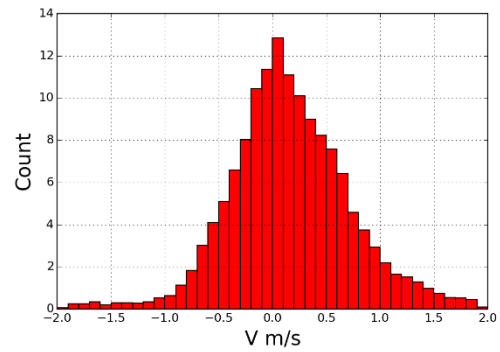


Figure D. 960: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

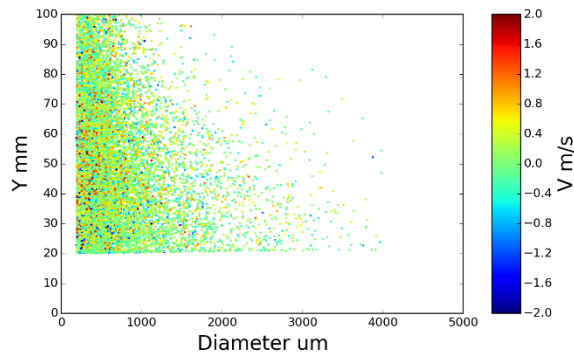


Figure D. 958: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1.2 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	70.73	69.99	170.7	3994	744.7	626.2	170.7	3993	750.5	627.1
40-60mm	57.82	57.48	182.4	3919	622.1	498.6	170.7	3972	624.2	507.9
60-80mm	37.58	37.46	170.7	2968	519.5	375.7	170.7	3038	516.8	373.1
80-100mm	18.86	18.96	182.4	2587	459.6	302.7	182.4	2572	455.8	302.6
All	185.0	183.92	170.7	3994	631.5	525.5	170.7	3993	633.0	528.5
			Height A (mm)				Height B (mm)			
Highest Particle			100.0300				100.0033			
Lowest Particle			20.1203				20.1418			

Table D. 106: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	47.59	182.4	3918	839.2	631.9	182.4	3993	830.5	637.3	-1.910	1.910	-0.020	0.490	-1.850	1.910	0.180	0.580
40-60mm	42.25	182.4	3797	686.5	511.0	182.4	3972	679.0	515.8	-1.870	1.880	-0.010	0.410	-1.910	1.910	0.230	0.570
60-80mm	29.46	182.4	2968	566.1	395.0	182.4	3038	560.5	392.9	-1.910	1.910	0.010	0.360	-1.910	1.910	0.180	0.550
80-100mm	15.62	193.5	2587	490.4	317.6	182.4	2572	486.6	316.4	-1.880	1.590	0.030	0.310	-1.730	1.830	0.140	0.510
All	134.92	182.4	3918	691.4	533.1	182.4	3993	683.5	535.2	-1.910	1.910	-0.000	0.420	-1.910	1.910	0.190	0.560

Table D. 107: Matched Droplet Info

D.5.1.2 All Droplets for .LA Image

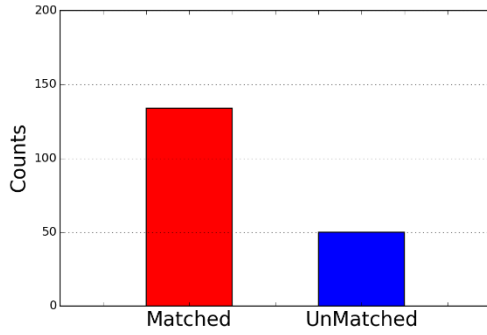


Figure D. 961: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

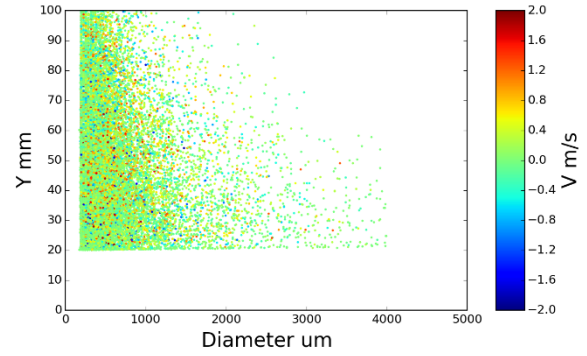


Figure D. 964: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

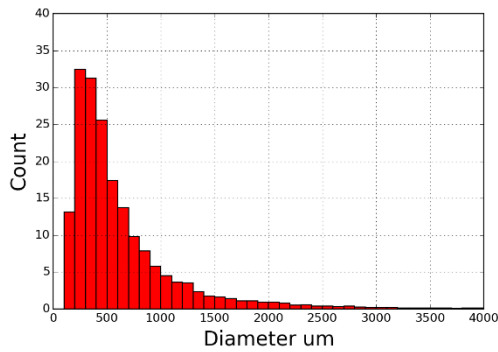


Figure D. 962: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

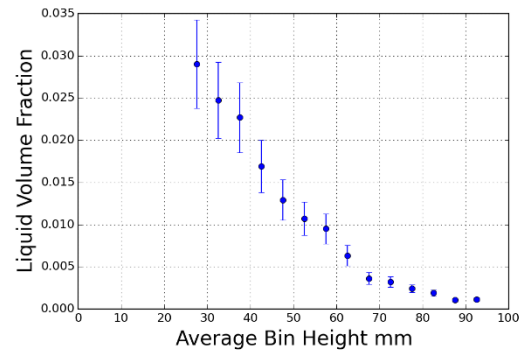


Figure D. 965: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

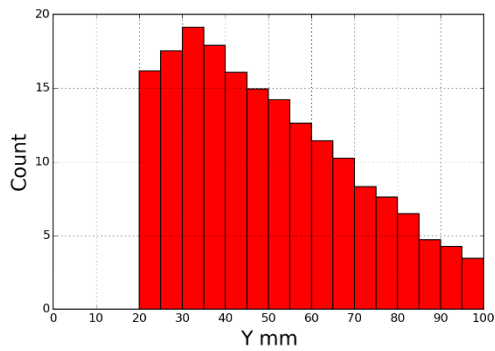


Figure D. 963: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1.2 All Droplets for .LB Image

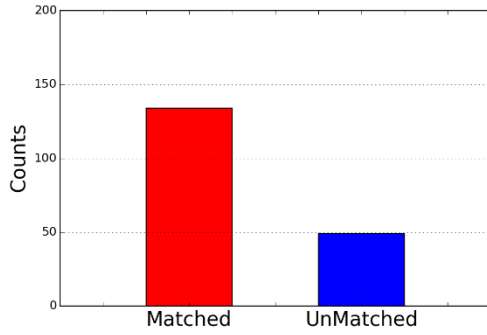


Figure D. 966: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

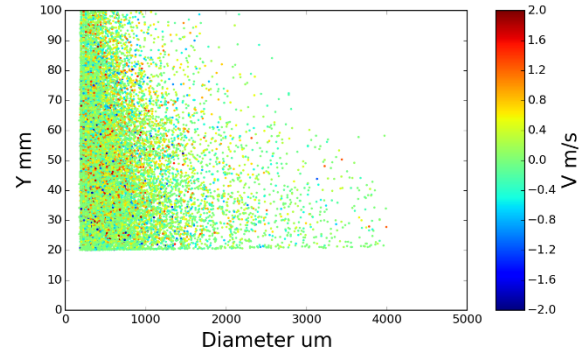


Figure D. 969: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

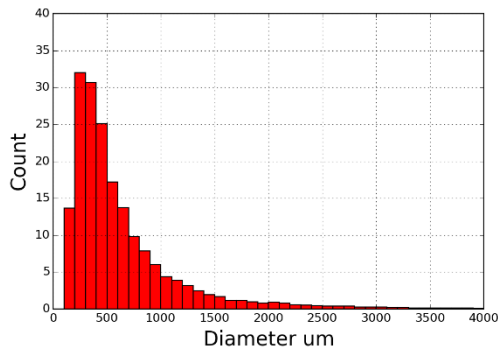


Figure D. 967: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

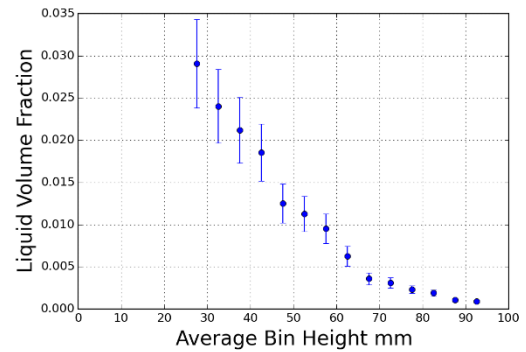


Figure D. 970: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

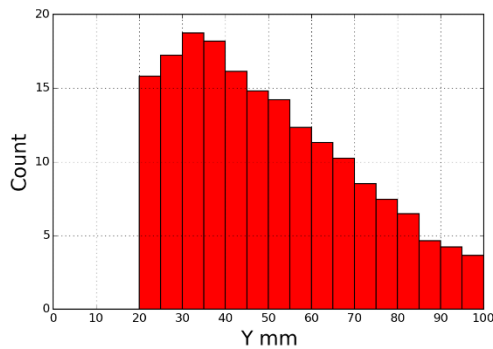


Figure D. 968: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1.2 Matched Only Droplets for .LA Image

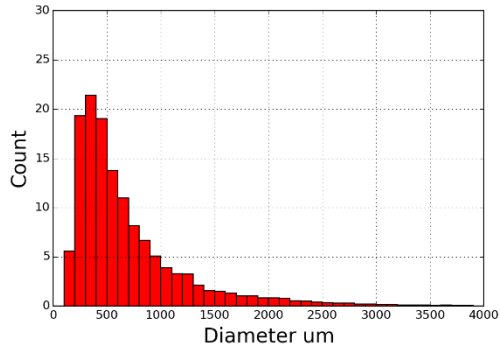


Figure D. 971: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

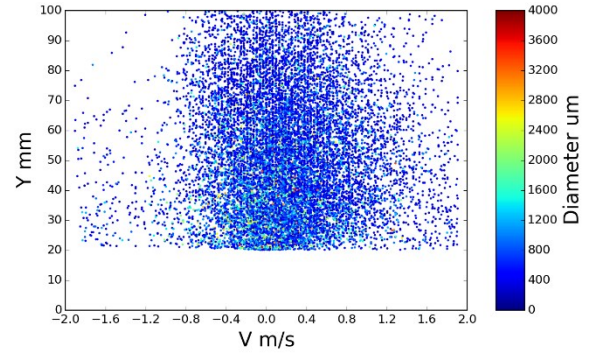


Figure D. 974: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

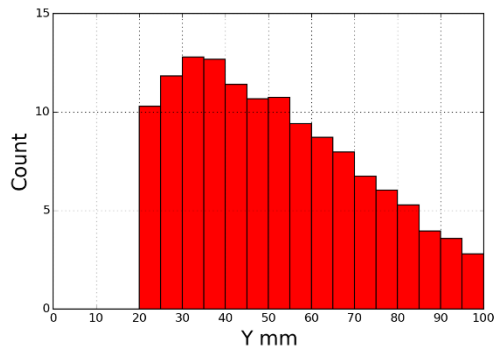


Figure D. 972: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

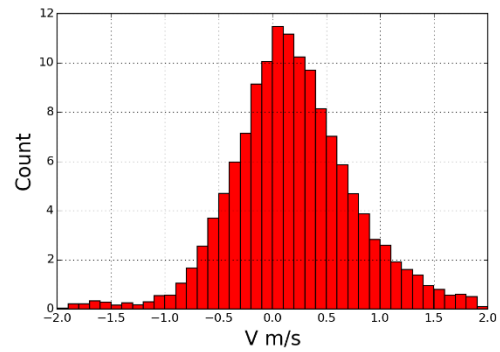


Figure D. 975: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

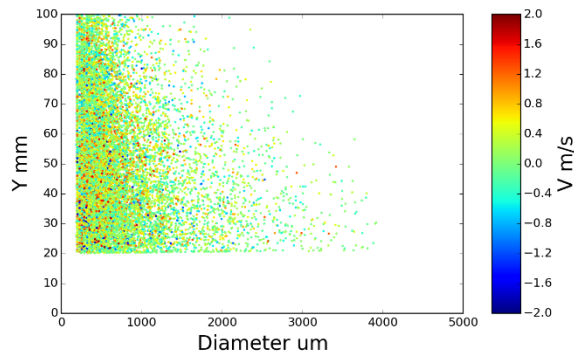


Figure D. 973: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.5.1.2 Matched Only Droplets for .LB Image

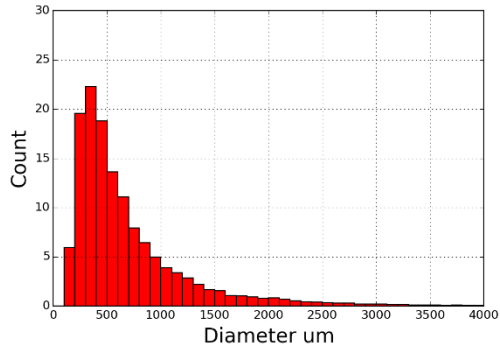


Figure D. 976: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

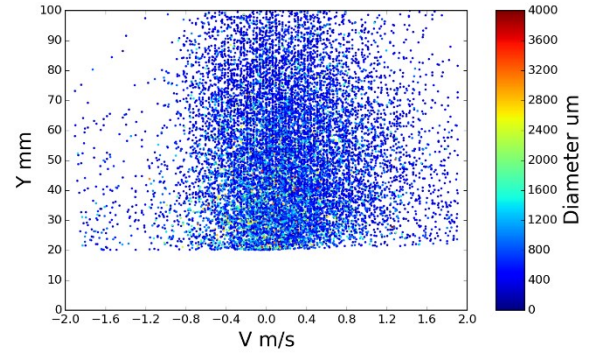


Figure D. 979: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

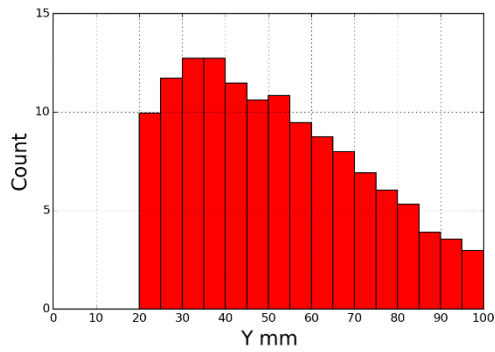


Figure D. 977: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

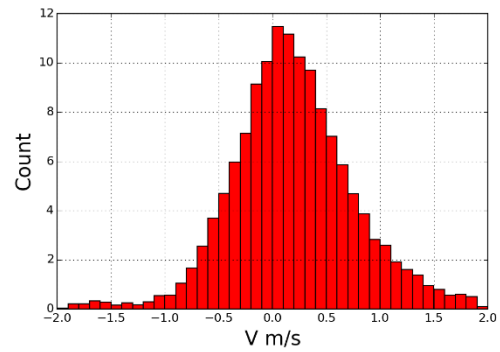


Figure D. 980: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

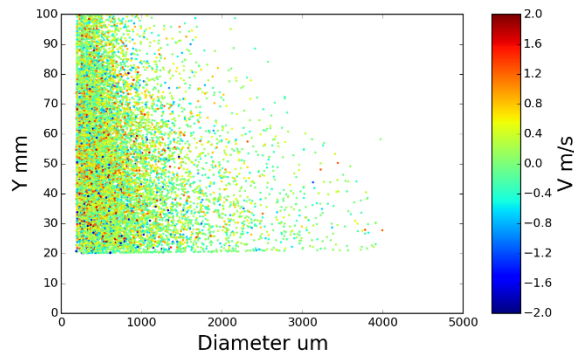


Figure D. 978: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2 Liquid Level 3

Thermal Conditions	
H2O Flow Rate (lb/hr) / (kg/s)	22385 / 2.820
Ref Mass Flow (lb/hr) / (kg/s)	541 / 0.068
Ref Mass Flux (lb/hr-ft ²) / (kg/s-m ²)	5262 / 7.137
Top Two Rows Heat Flux (Btu/hr-ft ²) / (kW/m ²)	1392 / 4.39
Bundle Exit Saturation Temp (°F) / (°C)	53.8 / 12.09
Bundle Inlet Saturation Temp (°F) / (°C)	54.6 / 12.55
Total Bundle Q (Btu/hr) / (kW)	43665 / 12.80
Total Bundle & Preboiler Q (Btu/hr) / (kW)	43665 / 12.80
Top Two Rows HTC Ratio	0.567
Bundle Inlet Quality	-0.12
Bundle Exit Quality	0.95

Table D. 108: Thermal Conditions

D.5.2.1 Lens 100mm Mag 0_29x

D.5.2.1 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	3.74	3.99	80.3	2328	294.6	260.5	80.3	2402	290.6	254.1
40-60mm	9.72	10.01	80.3	1992	269.3	225.6	75.1	1935	263.6	222.4
60-80mm	7.47	7.46	80.3	1862	221.4	182.8	80.3	1815	224.4	177.2
80-100mm	0.19	0.19	85.2	455.1	192.9	127.2	98.3	475.9	214.6	123.3
All	21.12	21.65	80.3	2328	256.2	219.6	75.1	2402	254.6	215.2
			Height A (mm)				Height B (mm)			
Highest Particle			81.0907				81.1033			
Lowest Particle			33.1976				33.1977			

Table D. 109: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	2.72	80.3	2328	312.0	249.9	85.2	2402	312.1	255.0	-1.070	1.550	0.020	0.330	-1.820	1.890	-0.020	0.550
40-60mm	7.28	80.3	1423	274.4	196.0	80.3	1427	271.4	197.2	-1.890	1.260	-0.030	0.250	-1.670	1.850	-0.030	0.460
60-80mm	5.82	85.2	1196	226.9	149.1	85.2	1198	225.1	148.2	-0.880	1.170	-0.020	0.210	-1.350	1.600	-0.040	0.380
80-100mm	0.13	85.2	455.1	218.0	133.0	98.3	475.9	230.5	137.4	-0.250	0.400	0.020	0.190	-0.680	0.330	-0.030	0.280
All	15.95	80.3	2328	263.0	193.4	80.3	2402	261.1	194.8	-1.890	1.550	-0.020	0.250	-1.820	1.890	-0.030	0.450

Table D. 110: Matched Droplet Info

D.5.2.1 All Droplets for .LA Image

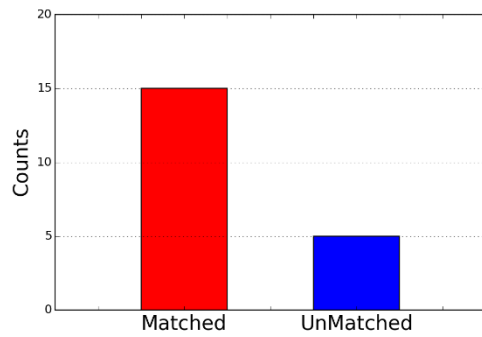


Figure D. 981: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

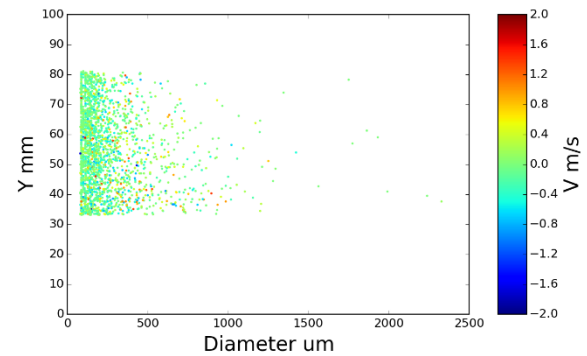


Figure D. 984: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

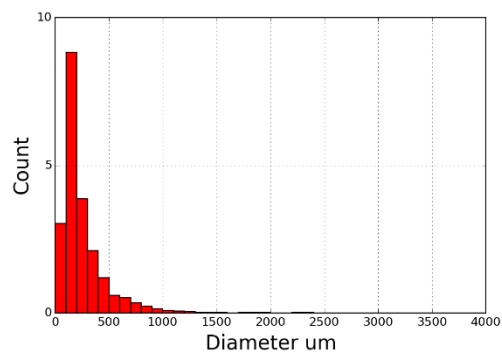


Figure D. 982: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

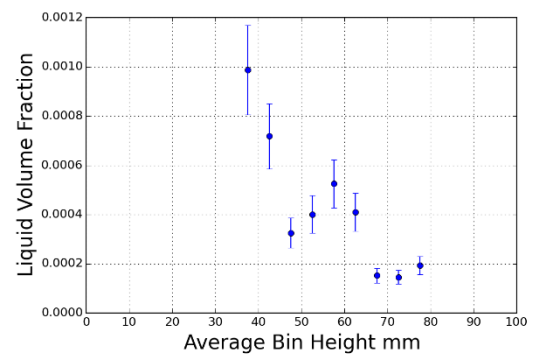


Figure D. 985: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

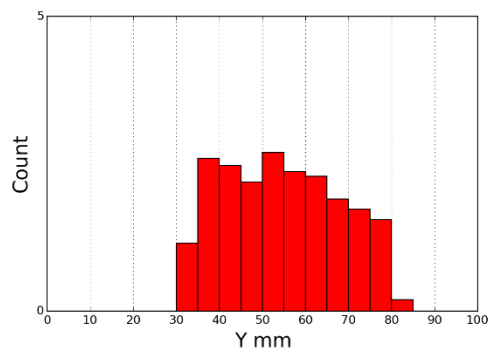


Figure D. 983: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2.1 All Droplets for .LB Image

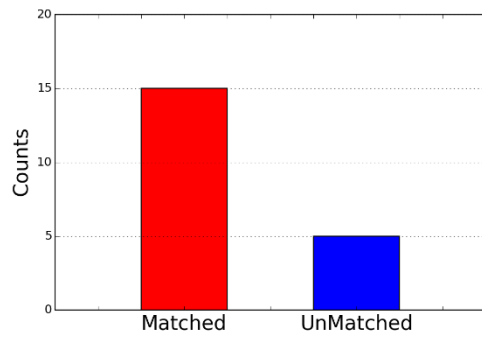


Figure D. 986: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

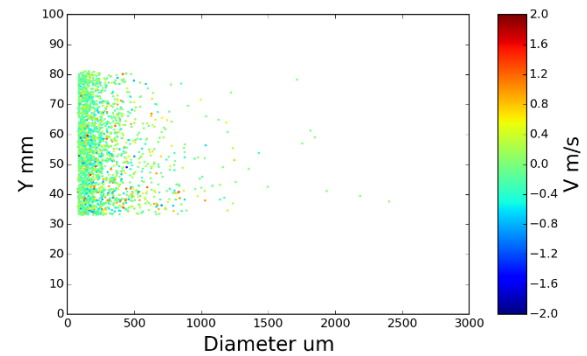


Figure D. 989: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

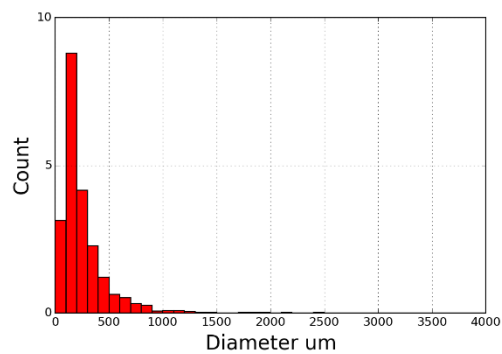


Figure D. 987: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

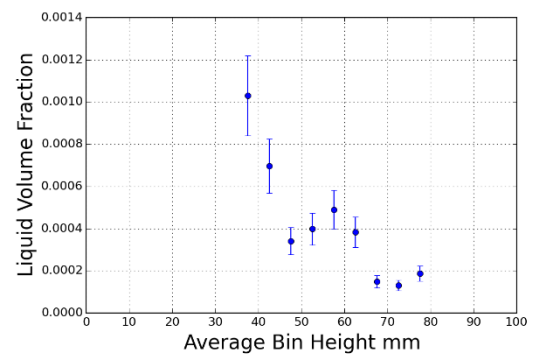


Figure D. 990: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

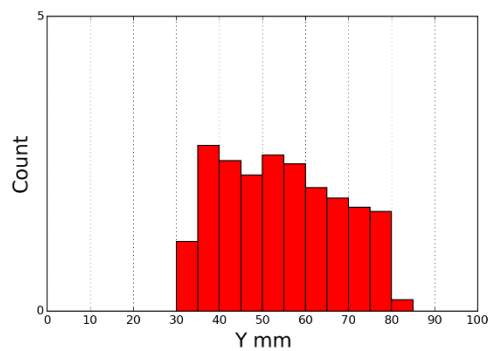


Figure D. 988: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2.1 Matched Only Droplets for .LA Image

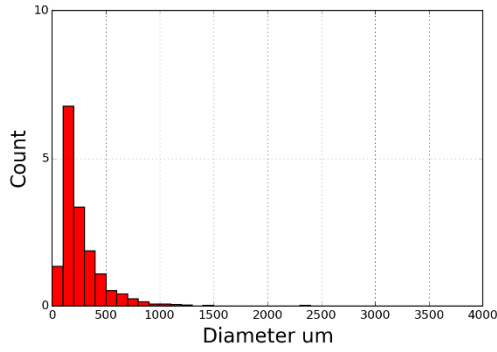


Figure D. 991: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

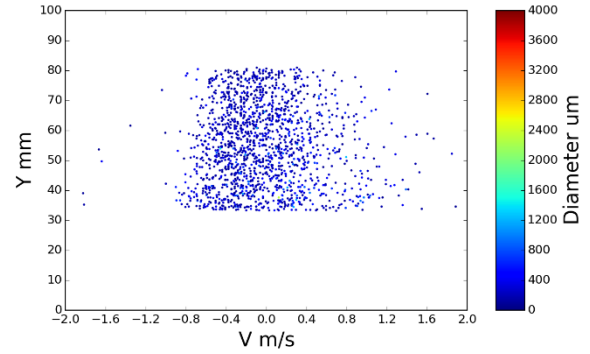


Figure D. 994: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

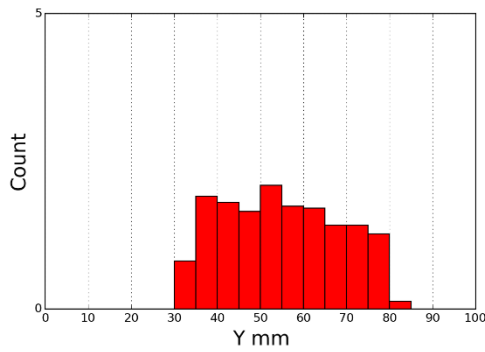


Figure D. 992: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

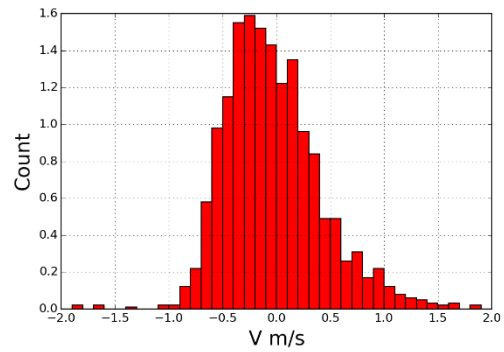


Figure D. 995: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

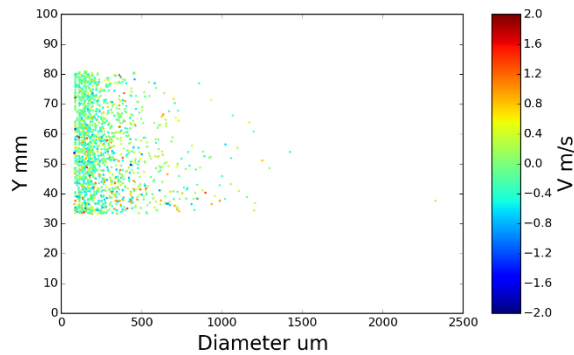


Figure D. 993: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2.1 Matched Only Droplets for .LB Image

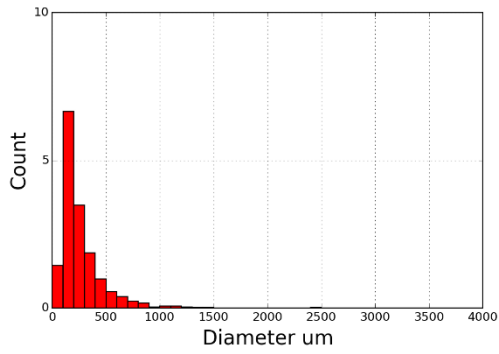


Figure D. 996: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

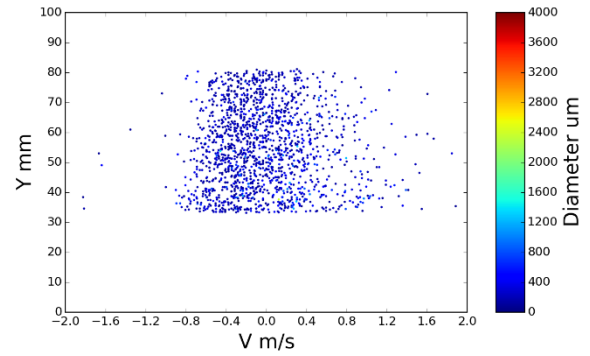


Figure D. 999: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

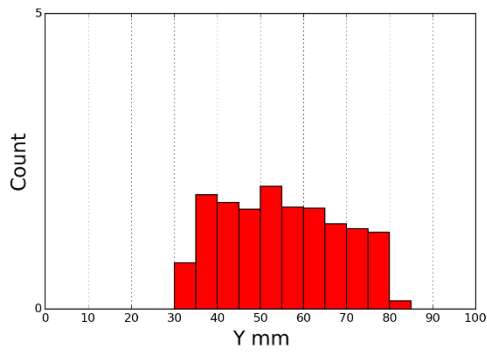


Figure D. 997: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

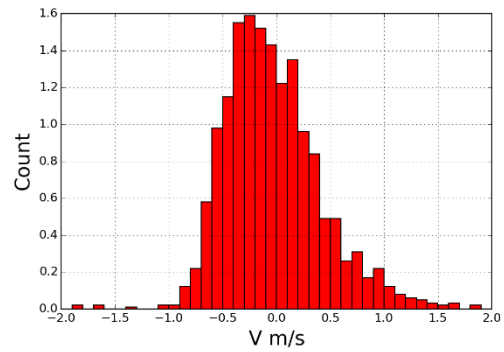


Figure D. 1000: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

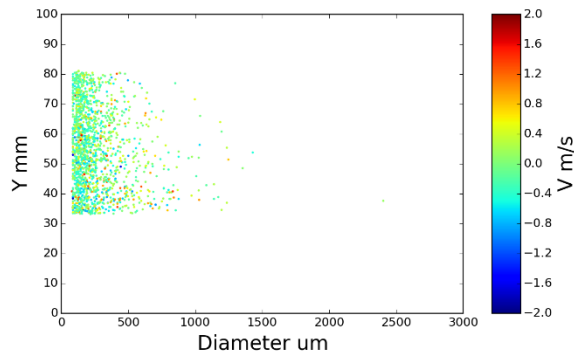


Figure D. 998: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2.1 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	5.02	5.29	75.1	2565	328.8	296.7	80.3	2719	320.4	292.9
40-60mm	10.38	10.38	75.1	2263	274.7	239.4	80.3	2186	274.6	239.0
60-80mm	7.29	7.34	80.3	1534	224.6	168.9	80.3	1702	229.8	179.7
80-100mm	0.24	0.25	85.2	679.6	215.9	148.8	85.2	638.6	192.7	120.0
All	22.93	23.26	75.1	2565	270.0	236.6	80.3	2719	270.0	237.7
			Height A (mm)				Height B (mm)			
Highest Particle			81.0033				80.8768			
Lowest Particle			33.1860				33.1860			

Table D. 111: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	3.6	85.2	2565	348.1	274.3	80.3	2719	351.8	289.4	-1.420	1.320	-0.010	0.310	-1.500	1.730	0.180	0.500
40-60mm	7.73	80.3	2065	288.8	222.1	80.3	2090	287.1	226.7	-1.880	1.820	0.030	0.340	-1.860	1.810	0.190	0.490
60-80mm	5.79	80.3	1534	239.9	166.9	80.3	1569	240.4	170.6	-0.740	1.100	-0.000	0.240	-0.890	1.820	0.130	0.430
80-100mm	0.15	85.2	679.6	222.2	147.8	98.3	638.6	219.8	132.5	-0.380	0.360	-0.040	0.200	-0.320	0.910	0.150	0.260
All	17.27	80.3	2565	284.2	221.1	80.3	2719	284.2	227.9	-1.880	1.820	0.010	0.310	-1.860	1.820	0.170	0.470

Table D. 112: Matched Droplet Info

D.5.2.1 All Droplets for .LA Image

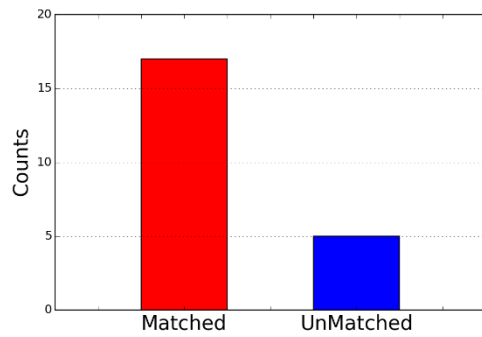


Figure D. 1001: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

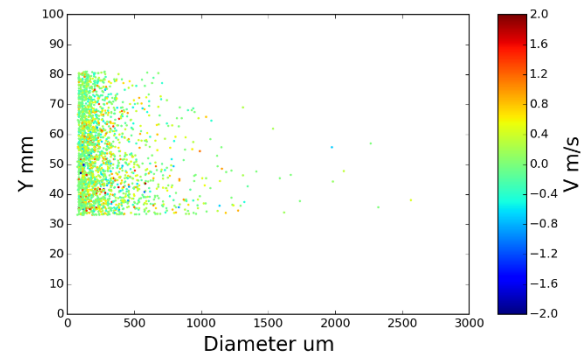


Figure D. 1004: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

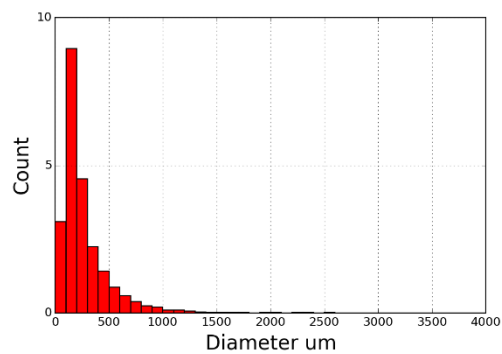


Figure D. 1002: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

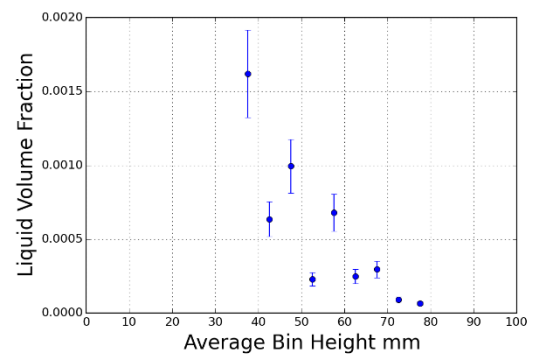


Figure D. 1005: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

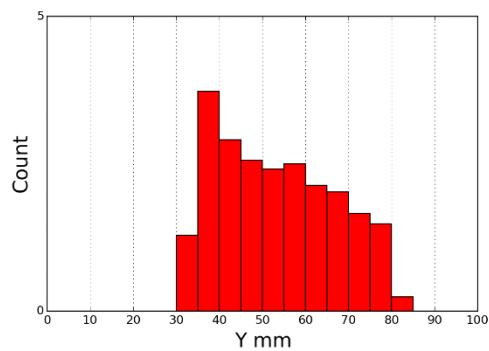


Figure D. 1003: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2.1 All Droplets for .LB Image

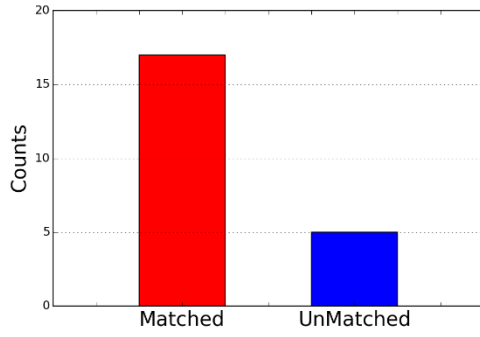


Figure D. 1006: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

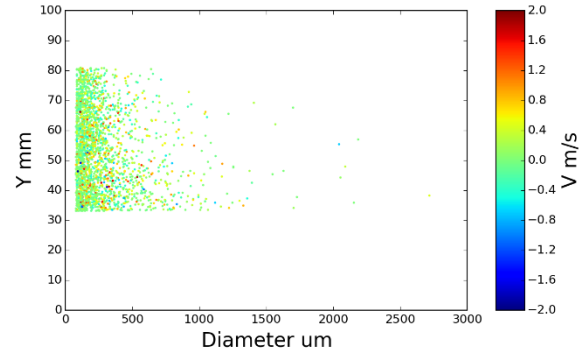


Figure D. 1009: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

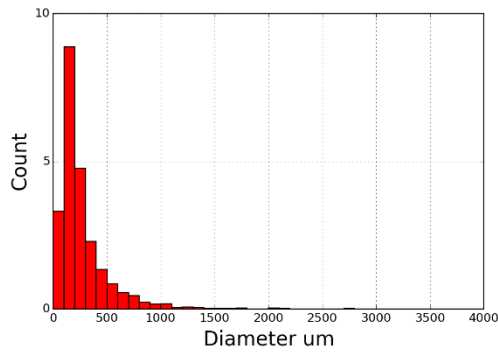


Figure D. 1007: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

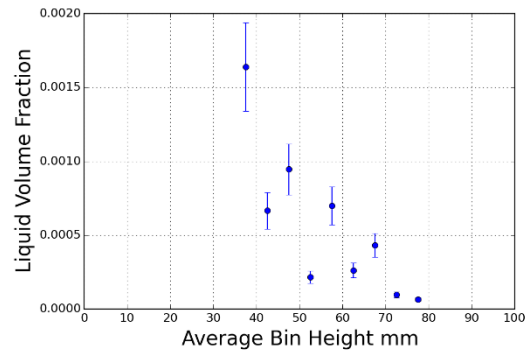


Figure D. 1010: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

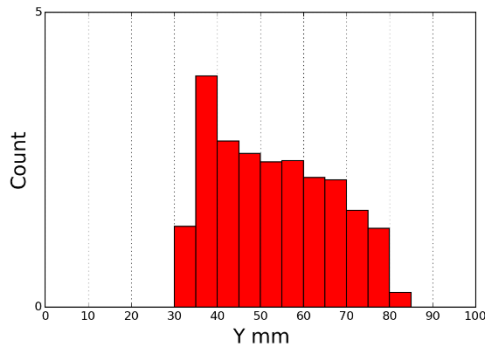


Figure D. 1008: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2.1 Matched Only Droplets for .LA Image

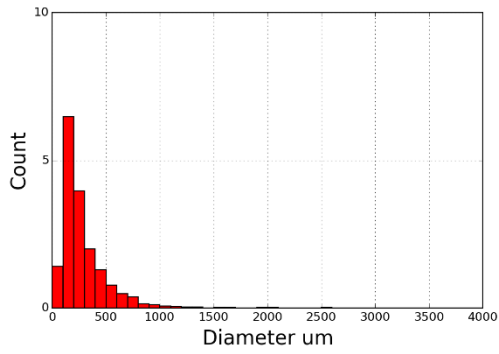


Figure D. 1011: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

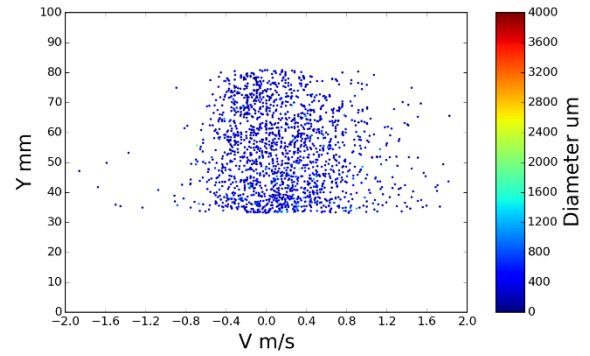


Figure D. 1014: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

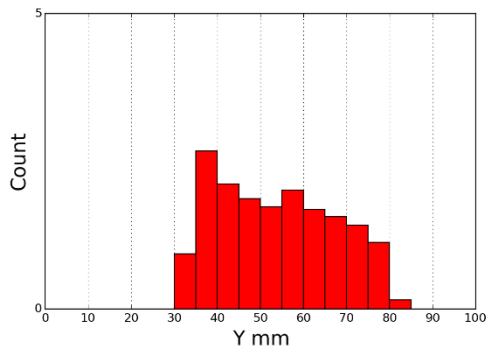


Figure D. 1012: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

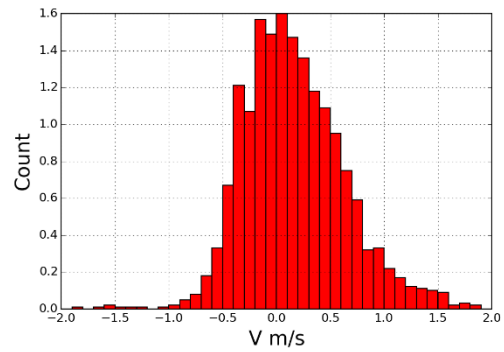


Figure D. 1015: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

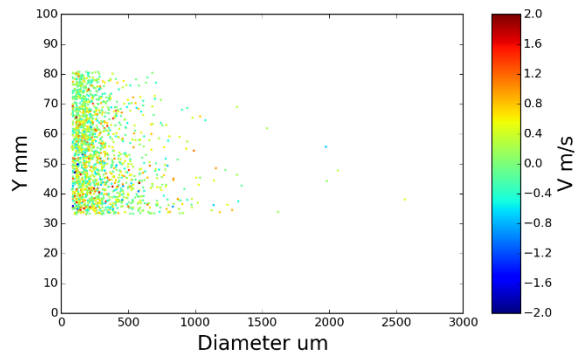


Figure D. 1013: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2.1 Matched Only Droplets for .LB Image

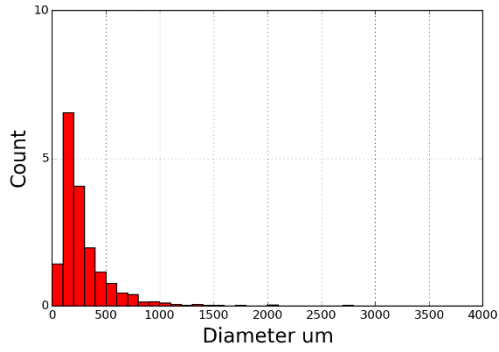


Figure D. 1016: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

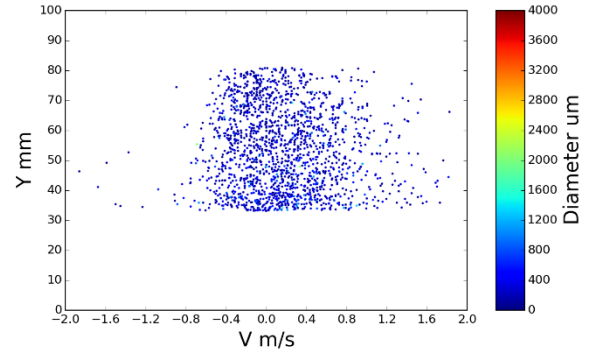


Figure D. 1019: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

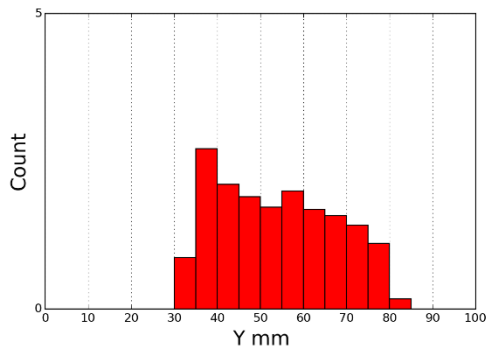


Figure D. 1017: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

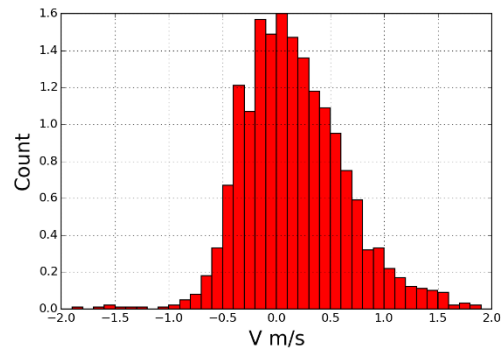


Figure D. 1020: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

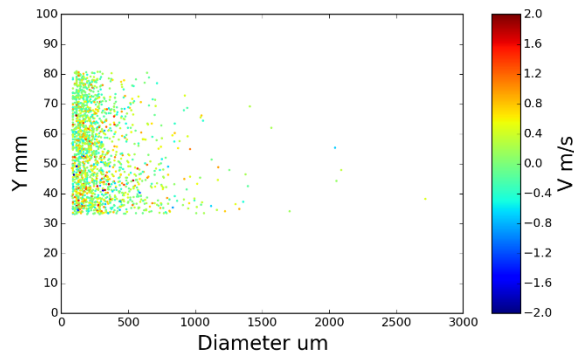


Figure D. 1018: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2.1 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	3.98	4.25	80.3	2406	372.1	306.7	85.2	2430	360.5	311.9
40-60mm	7.98	7.89	80.3	1945	303.9	258.0	80.3	2161	302.6	262.9
60-80mm	5.79	5.73	80.3	1774	249.0	202.1	80.3	1827	248.2	204.6
80-100mm	0.29	0.22	85.2	523.5	177.7	98.6	85.2	655.4	233.4	164.8
All	18.04	18.09	80.3	2406	299.3	256.3	80.3	2430	298.1	261.5
			Height A (mm)				Height B (mm)			
Highest Particle			80.9775				80.8259			
Lowest Particle			33.1986				33.1860			

Table D. 113: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	2.92	80.3	2406	410.7	317.5	85.2	2430	414.4	330.8	-1.580	1.400	0.060	0.320	-1.280	1.740	0.370	0.480
40-60mm	6.03	80.3	1772	323.1	244.4	80.3	2161	324.5	254.6	-1.640	1.670	0.040	0.330	-1.500	1.830	0.320	0.490
60-80mm	4.49	85.2	1774	265.0	203.7	80.3	1827	264.7	209.1	-1.740	1.000	0.020	0.240	-1.800	1.480	0.200	0.450
80-100mm	0.16	85.2	523.5	191.4	109.9	85.2	655.4	245.8	173.3	-0.600	0.400	-0.040	0.260	-0.600	0.810	0.170	0.380
All	13.6	80.3	2406	321.2	254.8	80.3	2430	322.8	264.3	-1.740	1.670	0.030	0.300	-1.800	1.830	0.290	0.480

Table D. 114: Matched Droplet Info

D.5.2.1 All Droplets for .LA Image

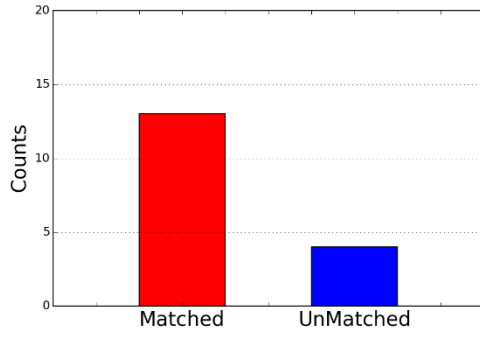


Figure D. 1021: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

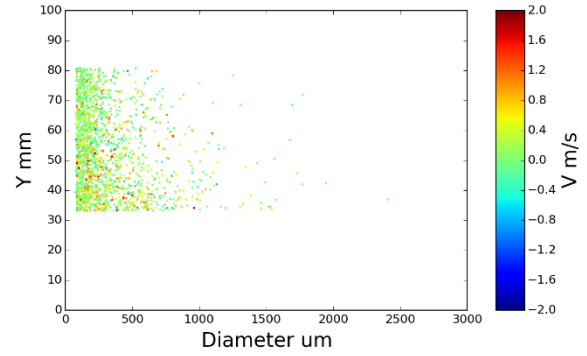


Figure D. 1024: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

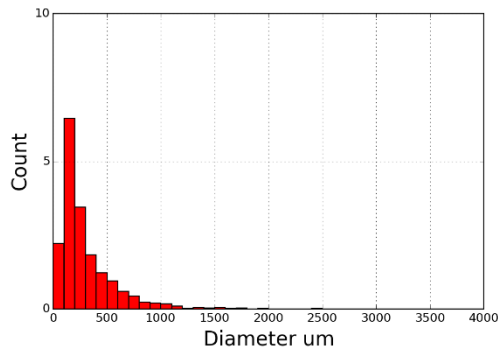


Figure D. 1022: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

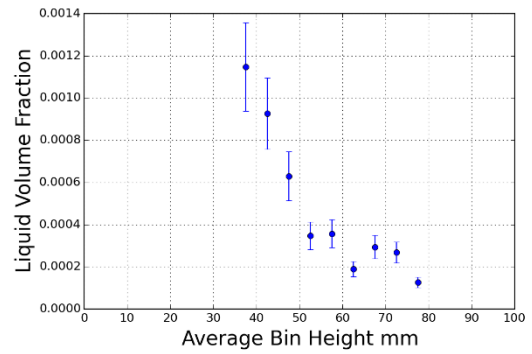


Figure D. 1025: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

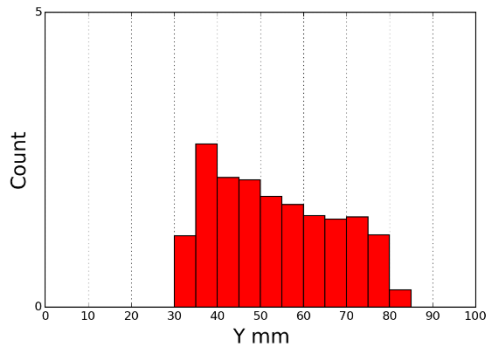


Figure D. 1023: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2.1 All Droplets for .LB Image

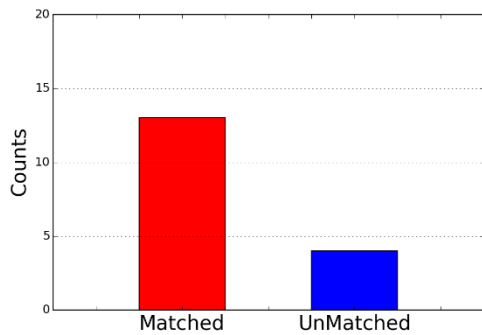


Figure D. 1026: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

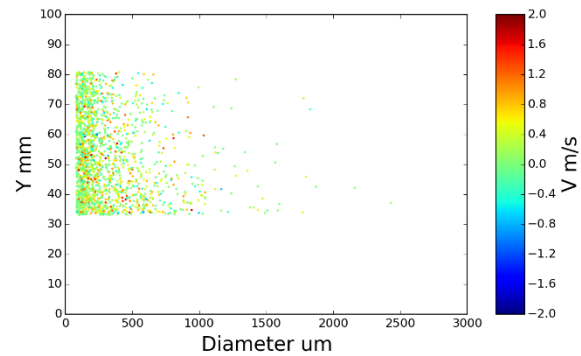


Figure D. 1029: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

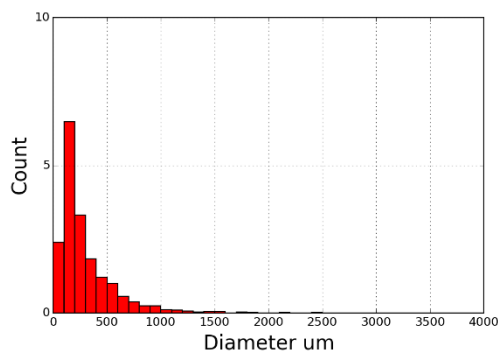


Figure D. 1027: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

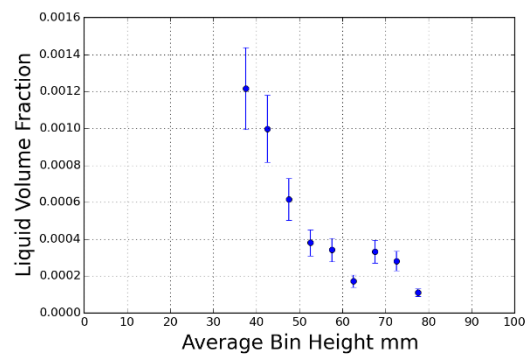


Figure D. 1030: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

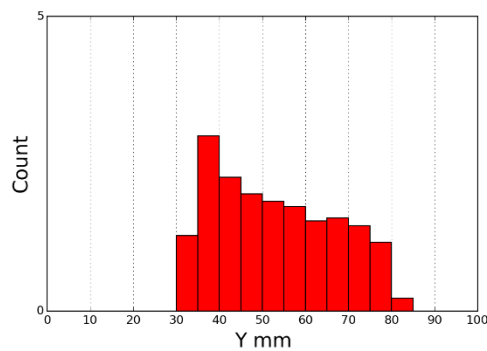


Figure D. 1028: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2.1 Matched Only Droplets for .LA Image

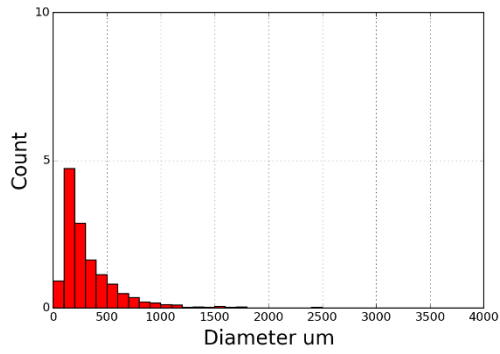


Figure D. 1031: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

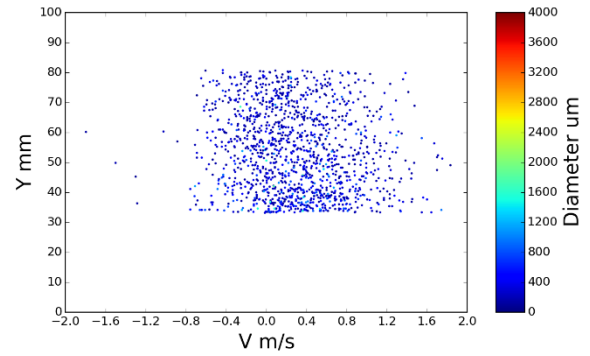


Figure D. 1034: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

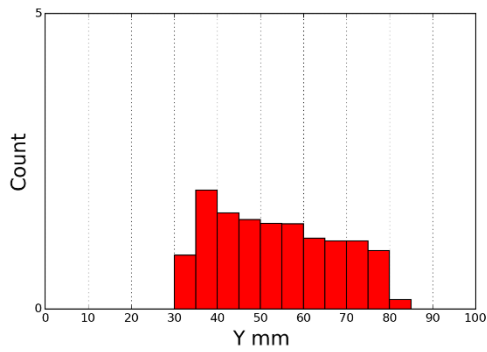


Figure D. 1032: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

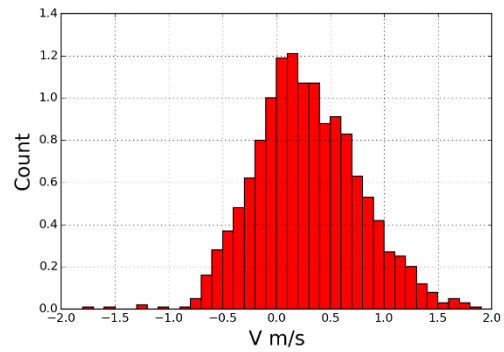


Figure D. 1035: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

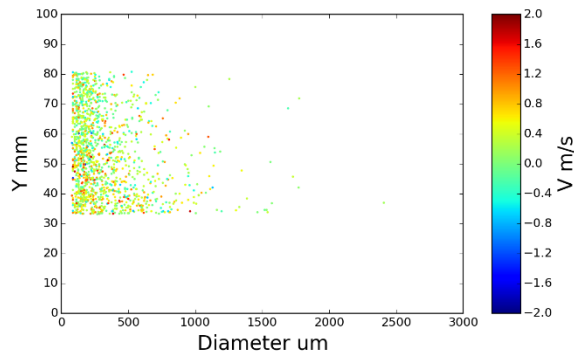


Figure D. 1033: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2.1 Matched Only Droplets for .LB Image

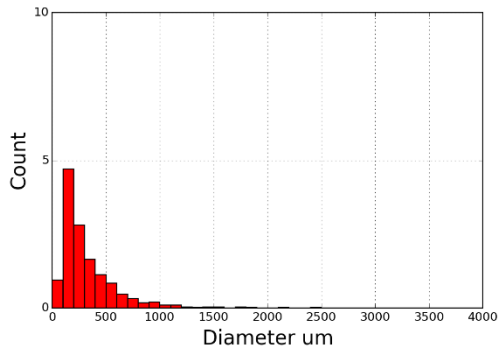


Figure D. 1036: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

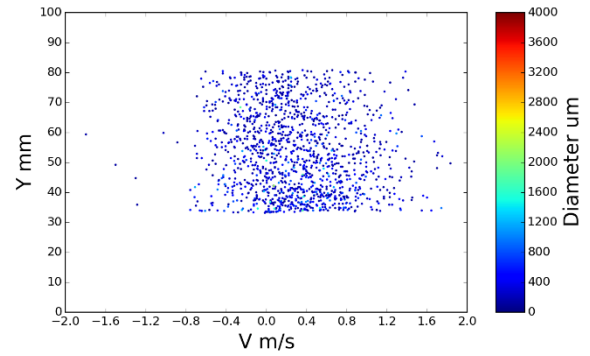


Figure D. 1039: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

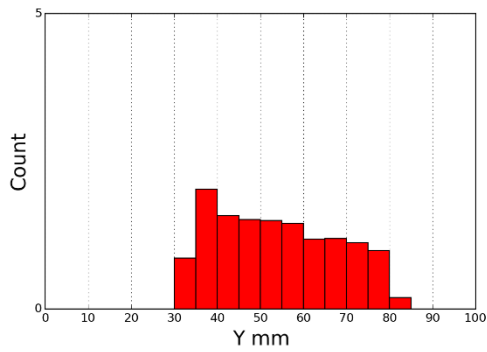


Figure D. 1037: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

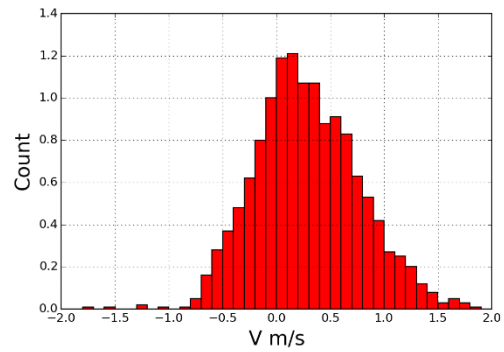


Figure D. 1040: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

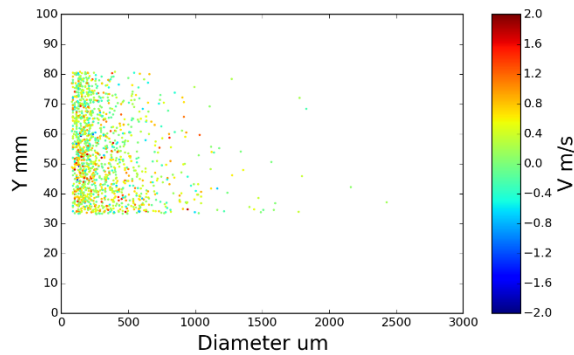


Figure D. 1038: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2.2 Lens 50mm Mag 0_13x

D.5.2.2 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	2.03	2.21	193.5	2346	577.2	364.9	182.4	2333	561.4	359.3
20-40mm	3.15	3.08	182.4	2441	484.9	318.4	182.4	2444	480.4	313.8
40-60mm	2.27	2.35	182.4	1839	407.3	233.1	182.4	2020	399.9	237.5
60-80mm	1.4	1.43	193.5	1682	387.4	225.4	182.4	1679	385.5	217.8
80-100mm	0.57	0.54	182.4	721.1	365.4	158.5	193.5	691.7	356.2	146.3
All	9.42	9.61	182.4	2441	464.4	299.8	182.4	2444	458.2	296.9
			Height A (mm)				Height B (mm)			
Highest Particle			99.8613				99.8014			
Lowest Particle			14.8285				14.9916			

Table D. 115: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	1.53	193.5	1825	574.5	313.7	193.5	1858	577.6	319.8	-1.320	1.490	-0.010	0.300	-0.820	1.780	0.090	0.320
20-40mm	2.34	182.4	2441	517.7	316.1	193.5	2444	511.0	323.0	-1.120	0.750	0.020	0.260	-1.040	1.440	0.070	0.460
40-60mm	1.9	193.5	1839	411.4	229.9	193.5	2020	412.9	240.0	-0.730	0.720	-0.010	0.220	-0.890	1.710	0.040	0.430
60-80mm	1.2	193.5	1682	385.6	203.2	193.5	1679	392.3	212.2	-0.730	0.720	0.000	0.250	-0.830	1.750	0.130	0.430
80-100mm	0.47	182.4	721.1	365.8	151.6	193.5	691.7	359.5	141.1	-0.480	0.590	-0.050	0.220	-0.670	0.900	0.050	0.390
All	7.44	182.4	2441	471.3	281.0	193.5	2444	471.2	287.6	-1.320	1.490	-0.000	0.250	-1.040	1.780	0.080	0.420

Table D. 116: Matched Droplet Info

D.5.2.2 All Droplets for .LA Image

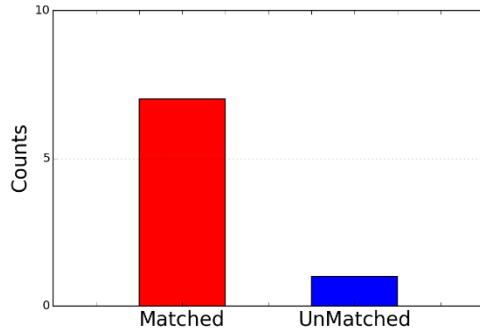


Figure D. 1041: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

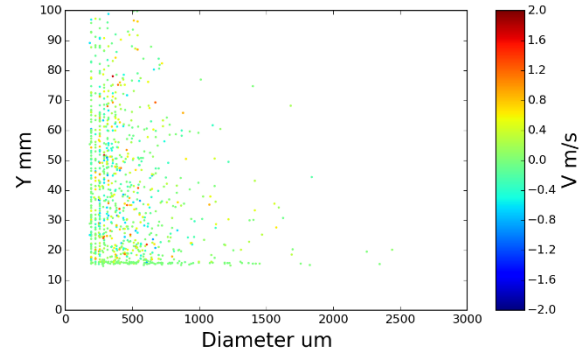


Figure D. 1044: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

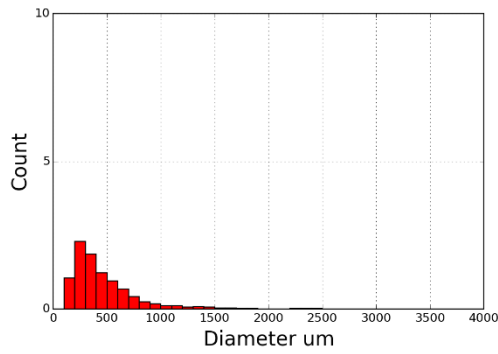


Figure D. 1042: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

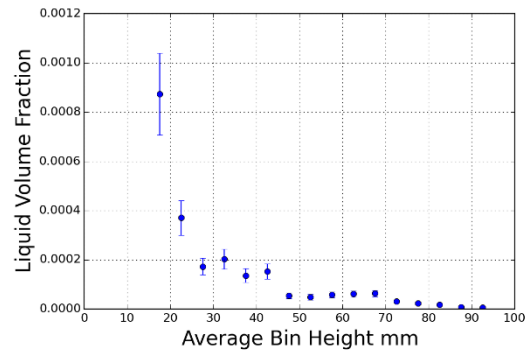


Figure D. 1045: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

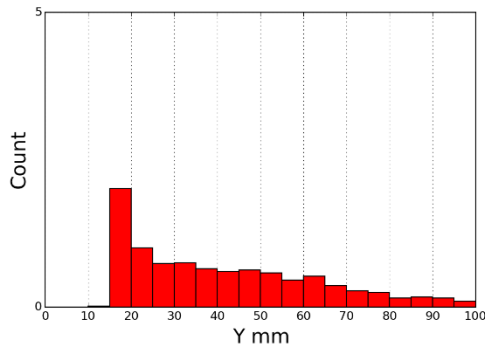


Figure D. 1043: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2.2 All Droplets for .LB Image

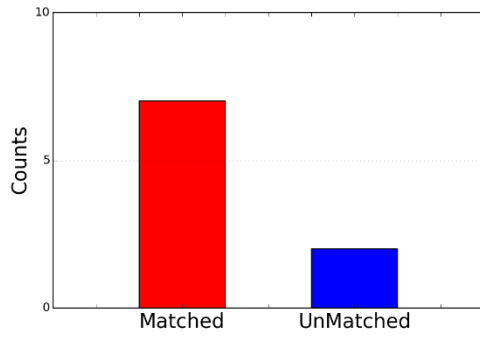


Figure D. 1046: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

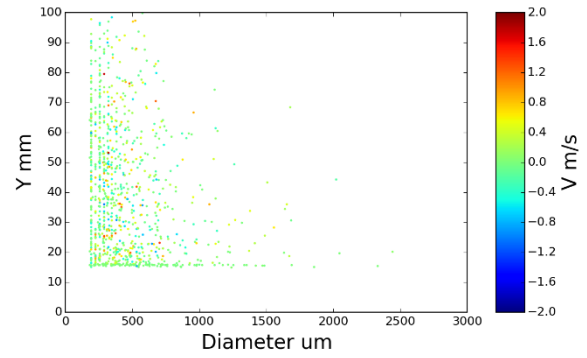


Figure D. 1049: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

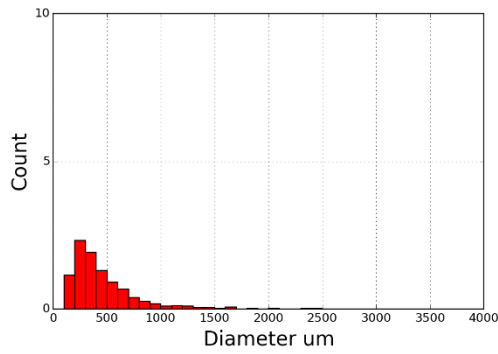


Figure D. 1047: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

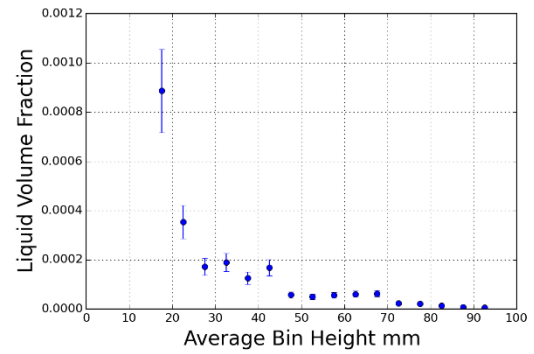


Figure D. 1050: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

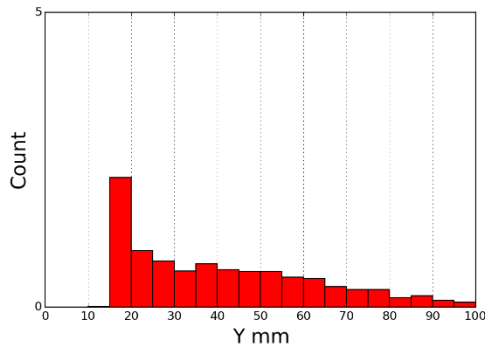


Figure D. 1048: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2.2 Matched Only Droplets for .LA Image

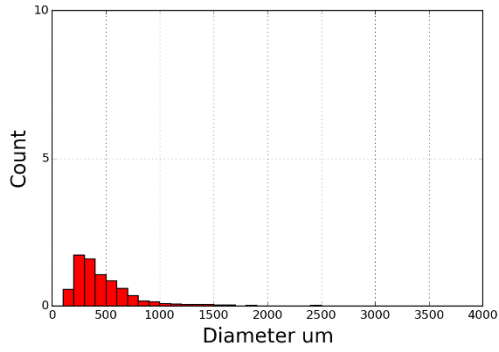


Figure D. 1051: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

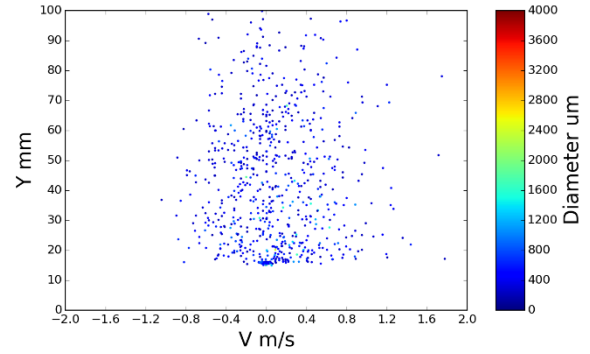


Figure D. 1054: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

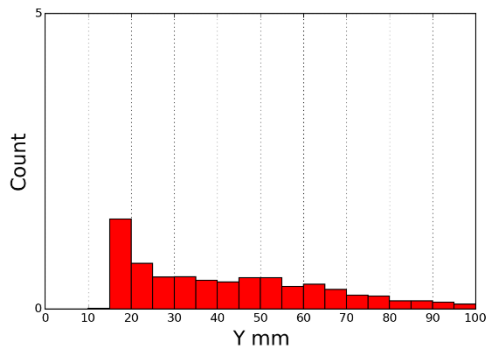


Figure D. 1052: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

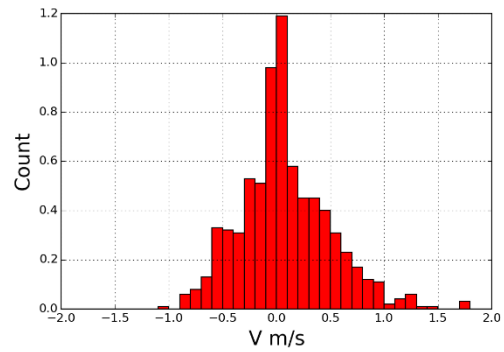


Figure D. 1055: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

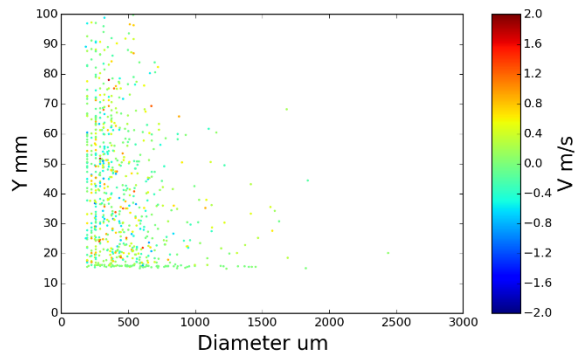


Figure D. 1053: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2.2 Matched Only Droplets for .LB Image

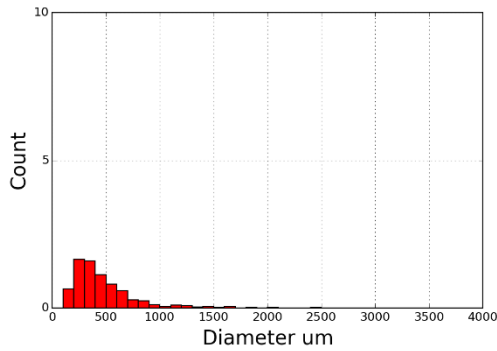


Figure D. 1056: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

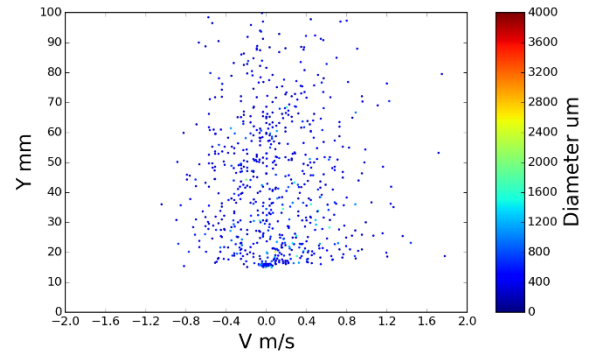


Figure D. 1059: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

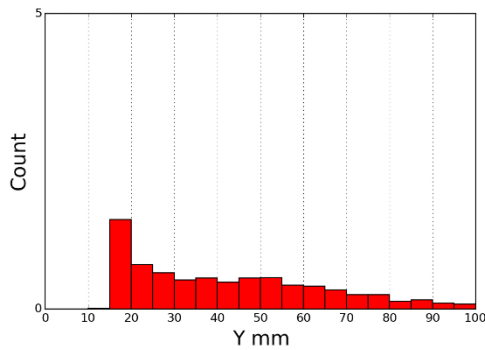


Figure D. 1057: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

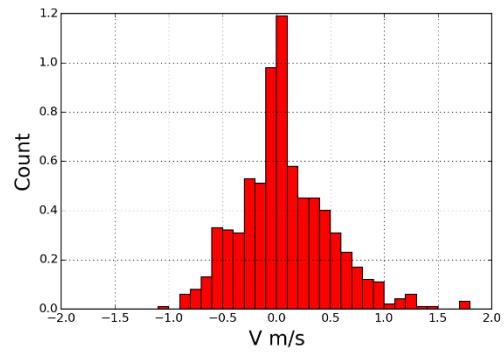


Figure D. 1060: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

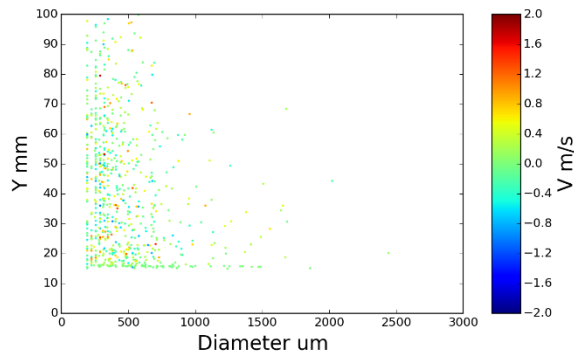


Figure D. 1058: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2.2 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	2.41	2.45	193.5	2661	525.7	343.8	193.5	2585	499.8	345.8
20-40mm	5.5	5.48	170.7	1590	462.9	270.9	170.7	1697	463.9	268.0
40-60mm	3.43	3.43	182.4	1909	426.5	256.3	182.4	1790	424.2	252.2
60-80mm	1.77	1.73	193.5	1239	374.7	203.5	182.4	1259	379.6	208.0
80-100mm	0.63	0.58	193.5	963.2	371.1	181.1	193.5	867.7	378.1	180.8
All	13.74	13.68	170.7	2661	449.3	274.9	170.7	2585	445.9	273.0
			Height A (mm)				Height B (mm)			
Highest Particle			97.6253				100.0014			
Lowest Particle			13.9527				14.0635			

Table D. 117: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	1.78	193.5	2362	535.8	308.1	193.5	2390	539.0	323.5	-1.430	1.220	-0.000	0.330	-0.720	1.480	0.180	0.400
20-40mm	4.14	193.5	1590	479.5	260.6	182.4	1697	478.0	265.6	-1.520	1.750	0.020	0.310	-1.590	1.870	0.210	0.480
40-60mm	2.66	182.4	1493	446.9	238.0	182.4	1682	445.9	243.1	-0.920	0.990	0.010	0.280	-0.950	1.860	0.180	0.500
60-80mm	1.41	193.5	1239	406.7	208.3	193.5	1259	409.9	215.8	-0.670	0.510	-0.010	0.220	-0.770	1.390	0.060	0.410
80-100mm	0.47	193.5	963.2	408.4	187.1	193.5	867.7	402.5	184.3	-0.740	0.590	0.010	0.300	-0.570	1.340	0.110	0.440
All	10.46	182.4	2362	467.8	257.8	182.4	2390	467.1	264.4	-1.520	1.750	0.010	0.300	-1.590	1.870	0.170	0.460

Table D. 118: Matched Droplet Info

D.5.2.2 All Droplets for .LA Image

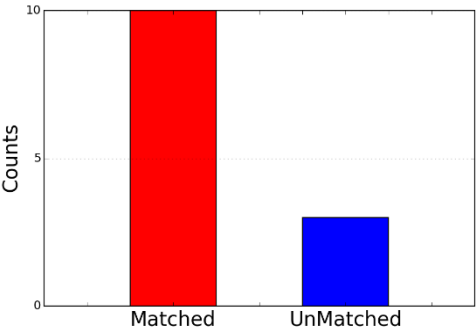


Figure D. 1061: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

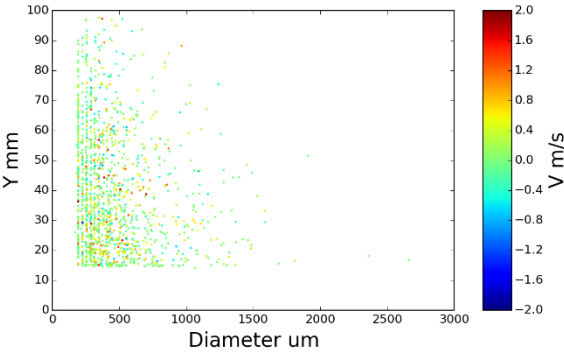


Figure D. 1064: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

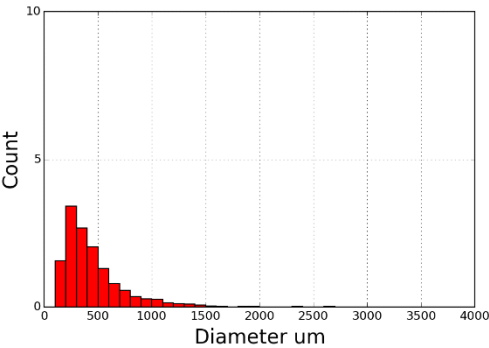


Figure D. 1062: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

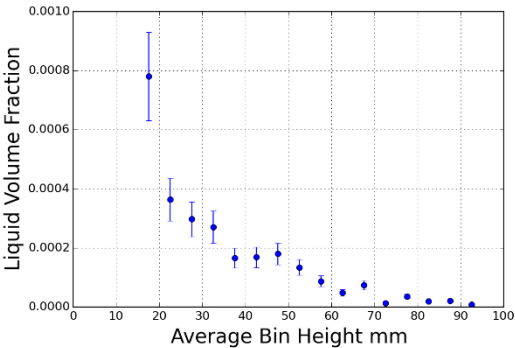


Figure D. 1065: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

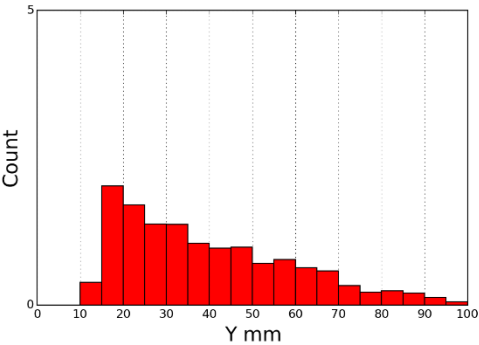


Figure D. 1063: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2.2 All Droplets for .LB Image

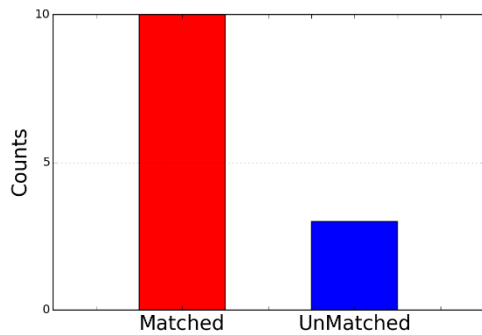


Figure D. 1066: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

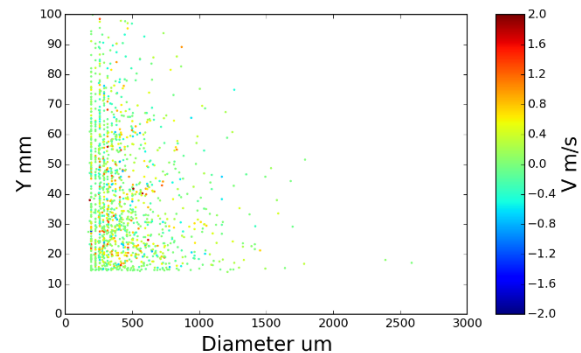


Figure D. 1069: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

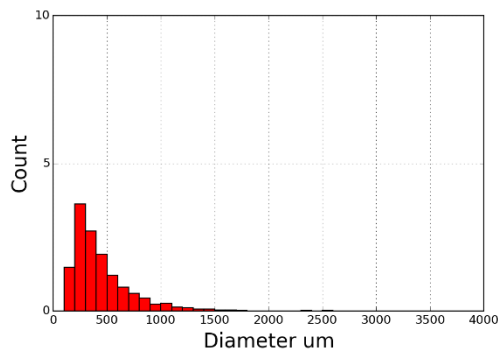


Figure D. 1067: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

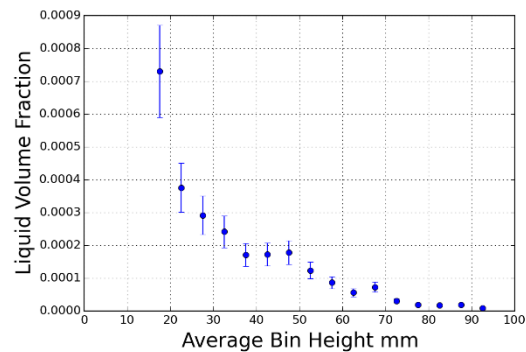


Figure D. 1070: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

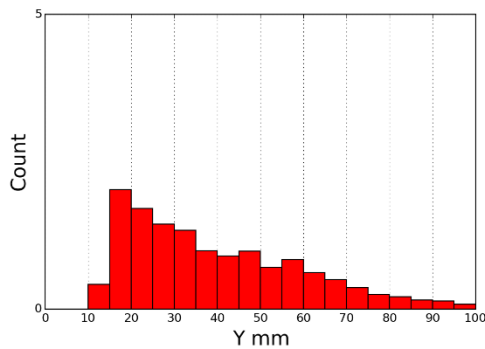


Figure D. 1068: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2.2 Matched Only Droplets for .LA Image

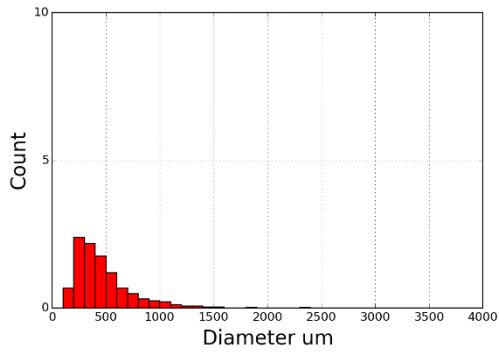


Figure D. 1071: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

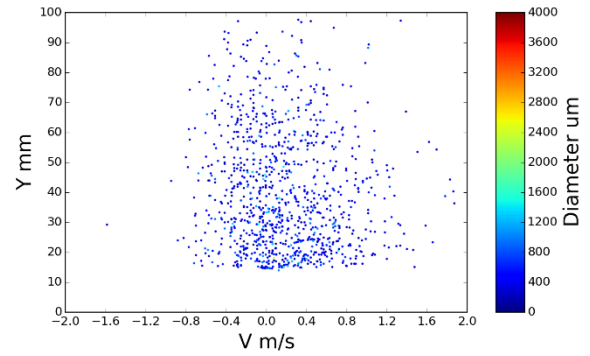


Figure D. 1074: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

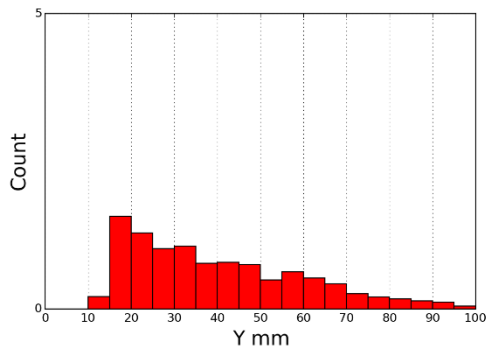


Figure D. 1072: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

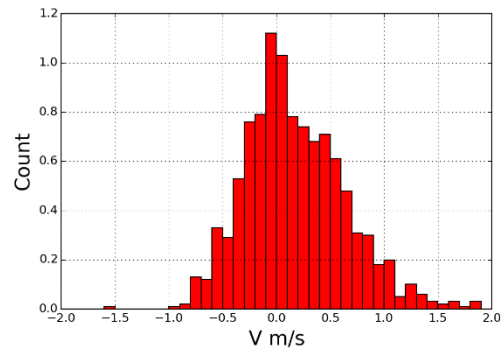


Figure D. 1075: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

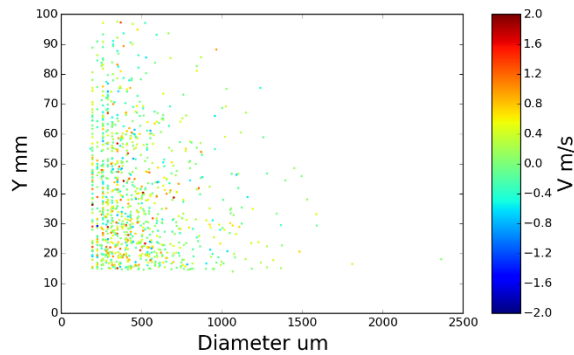


Figure D. 1073: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2.2 Matched Only Droplets for .LB Image

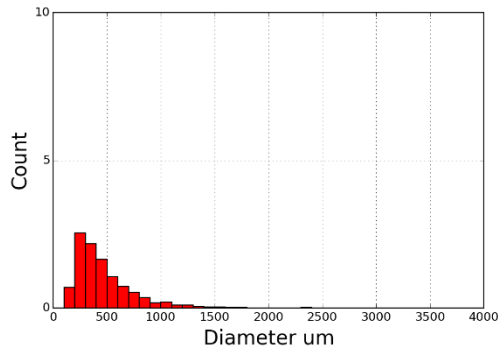


Figure D. 1076: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

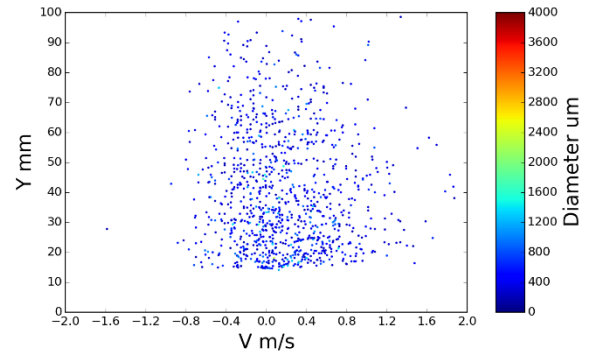


Figure D. 1079: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

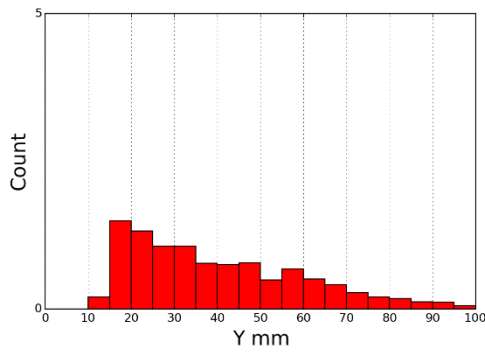


Figure D. 1077: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

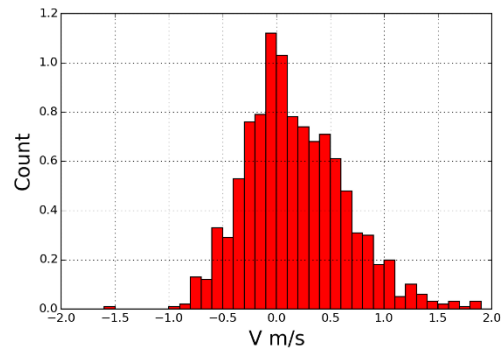


Figure D. 1080: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

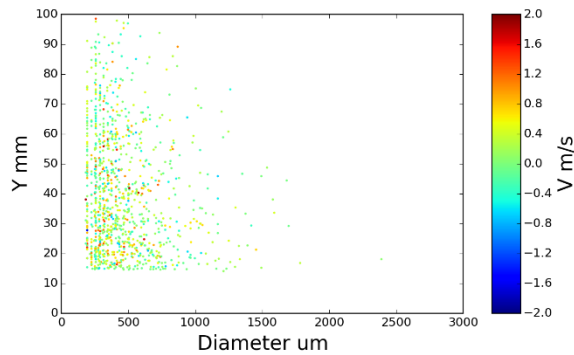


Figure D. 1078: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2.2 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	2.83	2.7	182.4	3522	547.7	378.9	182.4	3528	558.8	385.0
20-40mm	4.96	4.99	193.5	2680	506.1	293.6	182.4	2448	499.4	290.8
40-60mm	2.62	2.68	170.7	2727	456.8	282.7	170.7	2726	451.3	286.8
60-80mm	1.68	1.64	182.4	1364	394.7	197.6	193.5	1376	407.0	200.6
80-100mm	0.69	0.7	193.5	896.0	367.7	149.6	193.5	921.2	358.6	133.3
All	12.79	12.71	170.7	3522	482.9	301.6	170.7	3528	482.2	302.2
			Height A (mm)				Height B (mm)			
Highest Particle			100.0014				99.9728			
Lowest Particle			13.5151				13.5469			

Table D. 119: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	1.91	193.5	3522	566.9	372.3	193.5	3528	574.1	387.1	-1.440	1.120	-0.010	0.300	-1.350	1.760	0.090	0.430
20-40mm	3.65	193.5	1853	528.3	264.7	193.5	1918	526.5	271.1	-1.190	1.040	0.030	0.300	-0.780	1.530	0.190	0.440
40-60mm	2.08	170.7	2727	475.5	267.7	170.7	2726	482.1	274.5	-1.590	0.780	-0.020	0.330	-0.910	1.710	0.220	0.460
60-80mm	1.3	182.4	1364	432.8	205.9	193.5	1376	436.5	206.1	-0.690	0.890	0.030	0.270	-0.960	1.810	0.170	0.450
80-100mm	0.58	193.5	896.0	376.6	144.0	193.5	921.2	365.7	128.7	-0.440	1.010	0.060	0.260	-0.590	1.560	0.230	0.440
All	9.53	170.7	3522	501.9	283.3	170.7	3528	503.6	290.1	-1.590	1.120	0.010	0.300	-1.350	1.810	0.180	0.440

Table D. 120: Matched Droplet Info

D.5.2.2 All Droplets for .LA Image

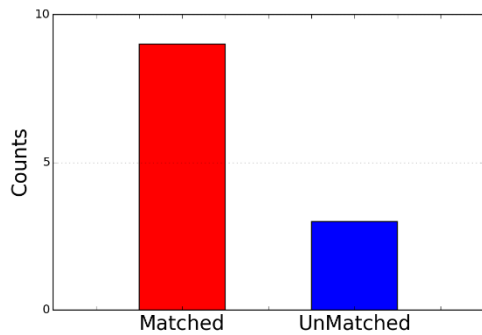


Figure D. 1081: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

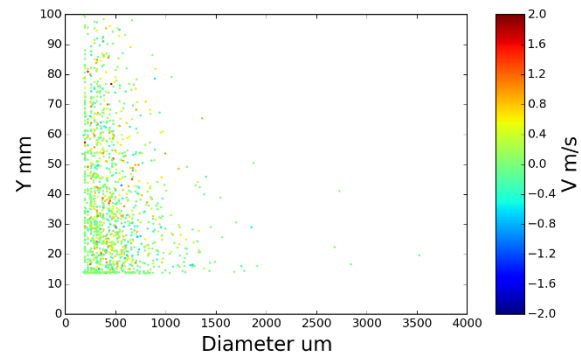


Figure D. 1084: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

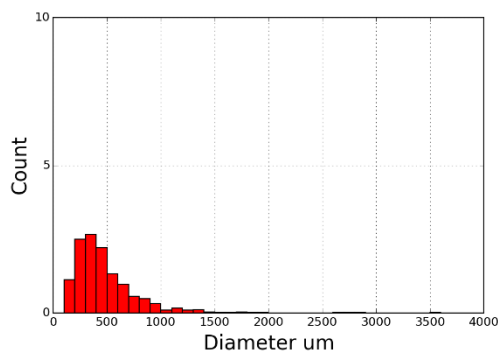


Figure D. 1082: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

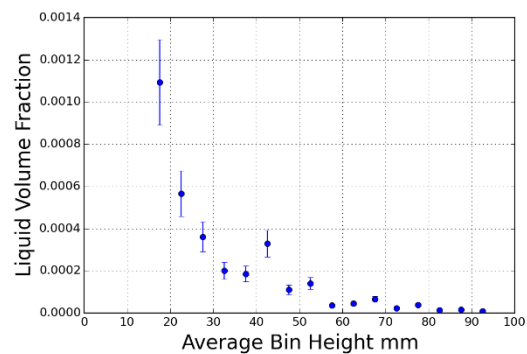


Figure D. 1085: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

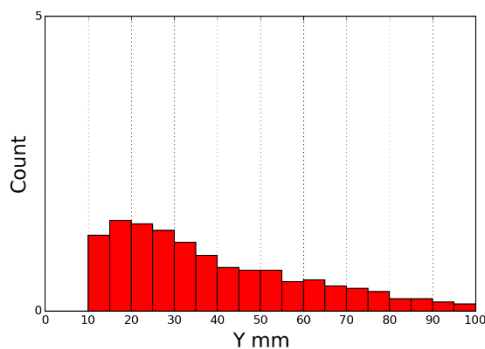


Figure D. 1083: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2.2 All Droplets for .LB Image

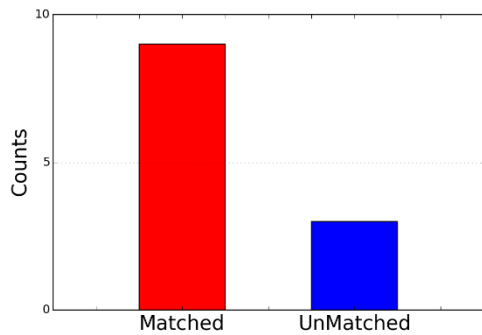


Figure D. 1086: CHC Count Comparison R-123 55F 1900Btu 5200Lb Rot Tri

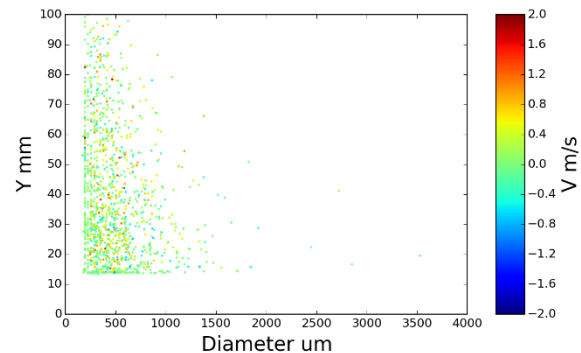


Figure D. 1089: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

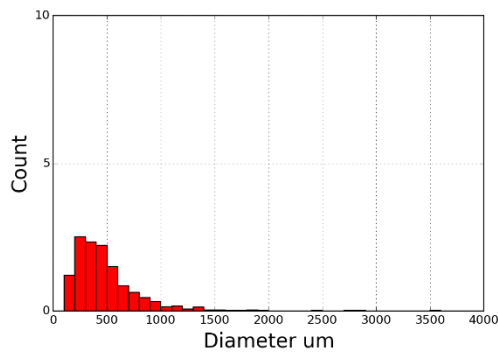


Figure D. 1087: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

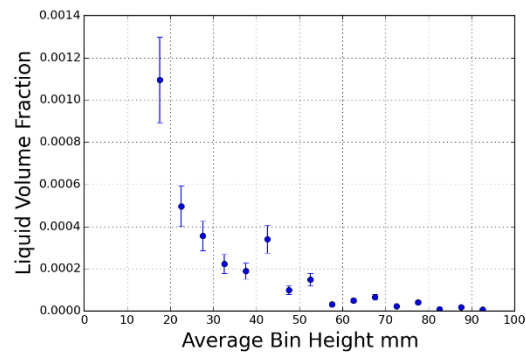


Figure D. 1090: Void Fraction R-123 55F 1900Btu 5200Lb Rot Tri

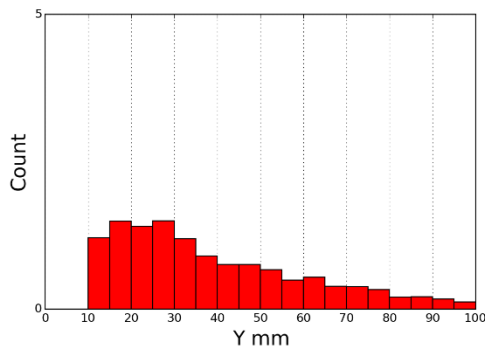


Figure D. 1088: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2.2 Matched Only Droplets for .LA Image

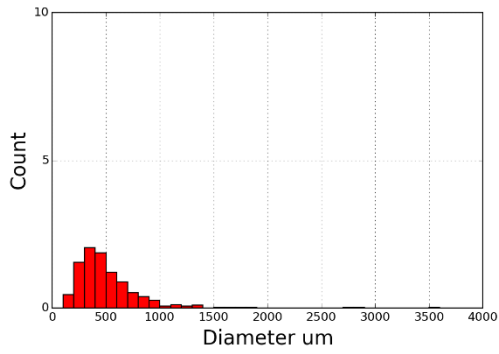


Figure D. 1091: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

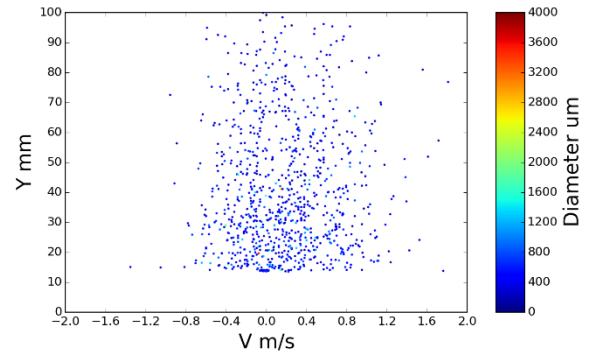


Figure D. 1094: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

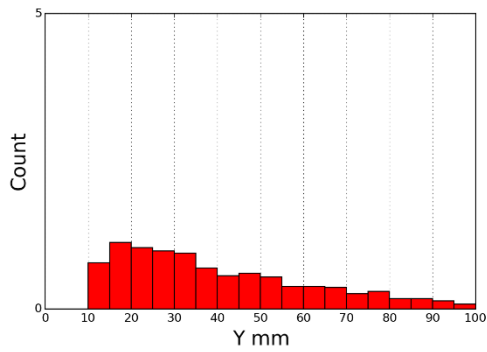


Figure D. 1092: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

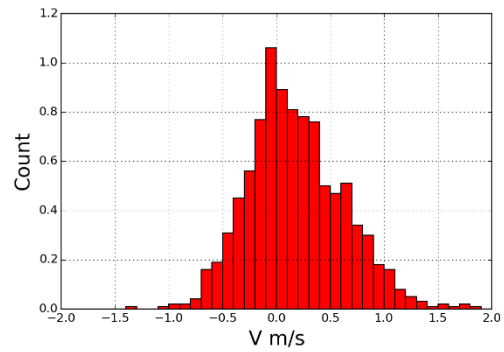


Figure D. 1095: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

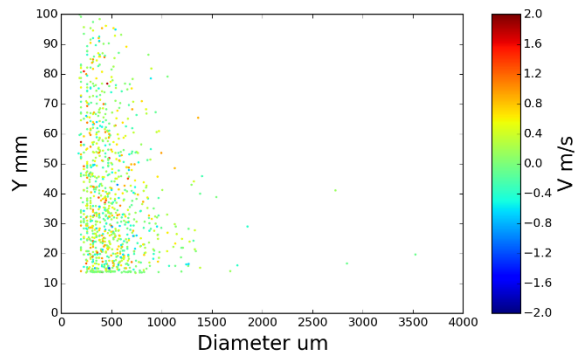


Figure D. 1093: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.5.2.2 Matched Only Droplets for .LB Image

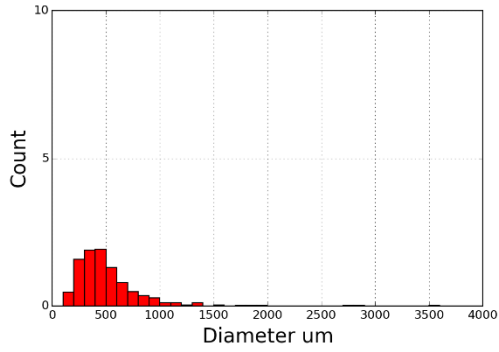


Figure D. 1096: Droplet Diameter Histogram R-123 55F 1900Btu 5200Lb Rot Tri

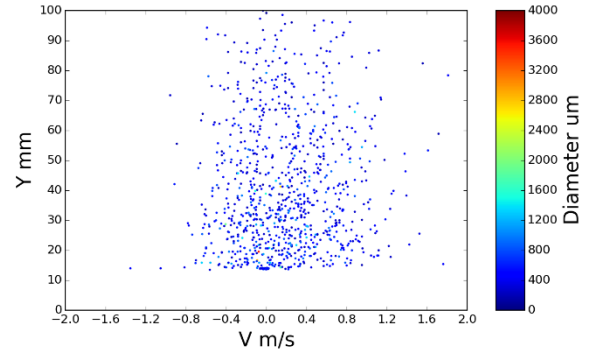


Figure D. 1099: Droplet Height vs Vertical Velocity R-123 55F 1900Btu 5200Lb Rot Tri

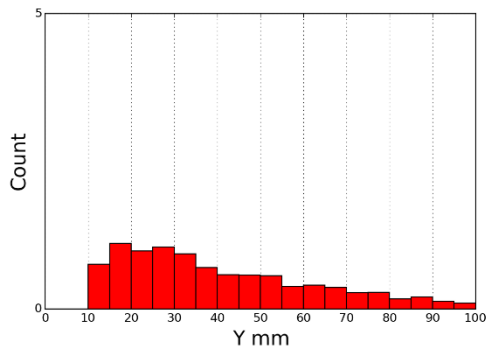


Figure D. 1097: Droplet Height Histogram R-123 55F 1900Btu 5200Lb Rot Tri

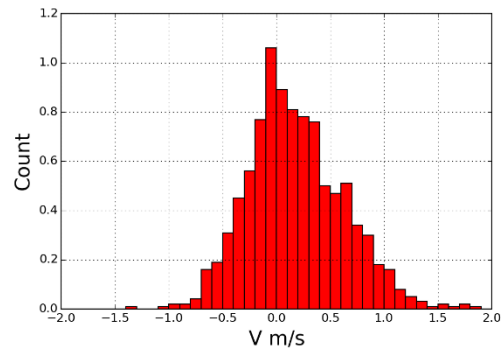


Figure D. 1100: Droplet Vertical Velocity Histogram R-123 55F 1900Btu 5200Lb Rot Tri

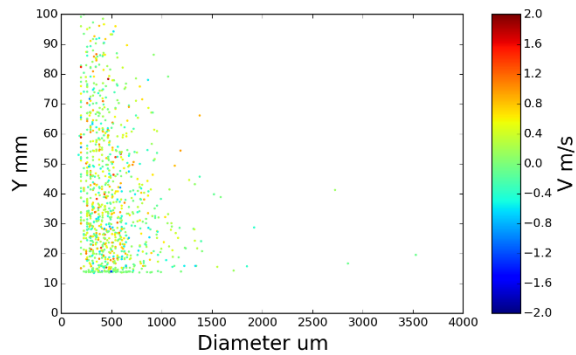


Figure D. 1098: Droplet Height vs Diameter R-123 55F 1900Btu 5200Lb Rot Tri

D.6 - 1556 R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1 Liquid Level 2

Thermal Conditions	
H2O Flow Rate (lb/hr) / (kg/s)	26106 / 3.289
Ref Mass Flow (lb/hr) / (kg/s)	1518 / 0.191
Ref Mass Flux (lb/hr-ft ²) / (kg/s-m ²)	14776 / 20.039
Top Two Rows Heat Flux (Btu/hr-ft ²) / (kW/m ²)	5022 / 15.84
Bundle Exit Saturation Temp (°F) / (°C)	54.5 / 12.48
Bundle Inlet Saturation Temp (°F) / (°C)	55.9 / 13.29
Total Bundle Q (Btu/hr) / (kW)	123786 / 36.28
Total Bundle & Preboiler Q (Btu/hr) / (kW)	123786 / 36.28
Top Two Rows HTC Ratio	1.087
Bundle Inlet Quality	-0.13
Bundle Exit Quality	0.95

Table D. 121: Thermal Conditions

D.6.1.1 Lens 100mm Mag 0_29x

D.6.1.1 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	48.58	49.68	75.9	4008	550.5	633.5	75.9	4007	539.4	619.6
40-60mm	140.78	137.98	75.9	4016	533.0	612.2	75.9	4007	532.1	611.9
60-80mm	146.92	150.69	75.9	4015	530.1	602.0	75.9	3989	514.9	587.8
80-100mm	10.03	9.81	81.2	2959	462.4	440.5	75.9	2980	466.4	437.5
All	346.73	348.28	75.9	4016	532.2	606.8	75.9	4007	523.8	598.6
			Height A (mm)				Height B (mm)			
Highest Particle			81.0200				81.0200			
Lowest Particle			33.0336				33.0336			

Table D. 122: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	20.93	81.2	3945	727.5	670.5	81.2	3949	715.6	673.5	-1.590	1.590	-0.070	0.490	-1.580	1.590	0.070	0.670
40-60mm	62.06	81.2	3942	724.2	680.6	81.2	4007	714.2	683.8	-1.590	1.590	-0.050	0.470	-1.590	1.590	0.080	0.720
60-80mm	73.13	81.2	3806	685.7	649.0	75.9	3962	672.1	648.9	-1.590	1.590	-0.040	0.460	-1.590	1.590	0.090	0.710
80-100mm	4.41	81.2	2959	637.3	511.6	81.2	2980	633.7	503.0	-1.530	1.570	-0.030	0.450	-1.560	1.570	-0.080	0.590
All	160.53	81.2	3945	704.7	661.3	75.9	4007	692.9	662.6	-1.590	1.590	-0.050	0.470	-1.590	1.590	0.080	0.700

Table D. 123: Matched Droplet Info

D.6.1.1 All Droplets for .LA Image

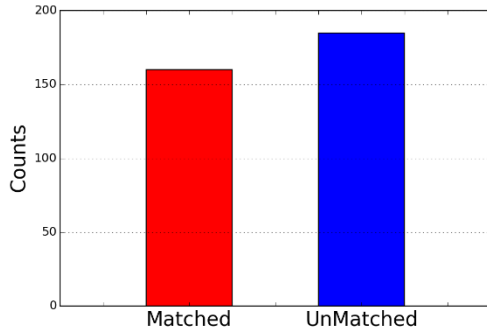


Figure D. 1101: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

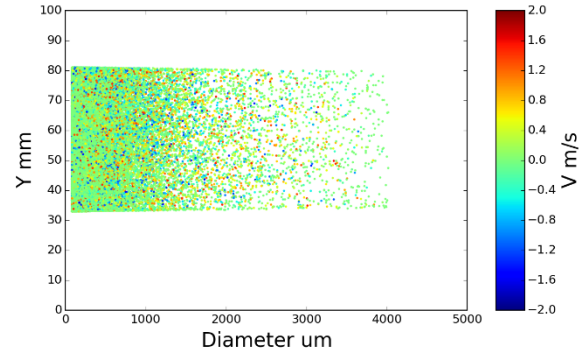


Figure D. 1104: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

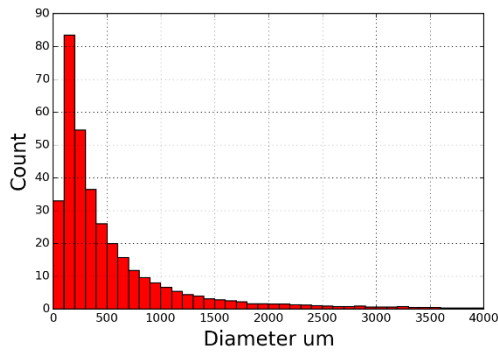


Figure D. 1102: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

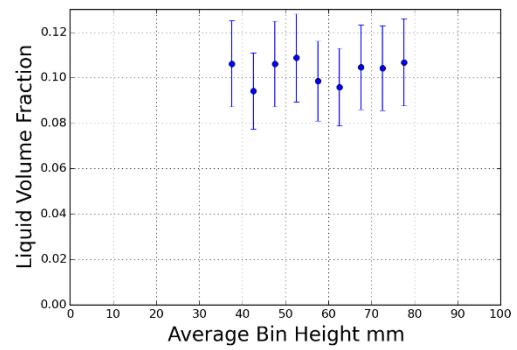


Figure D. 1105: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

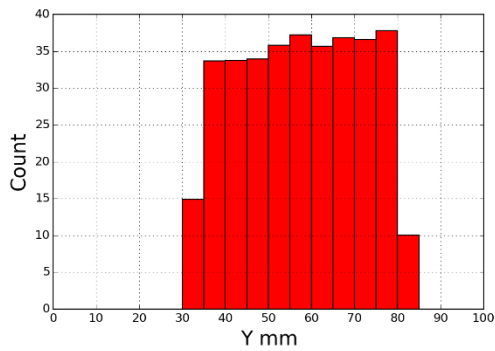


Figure D. 1103: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1.1 All Droplets for .LB Image

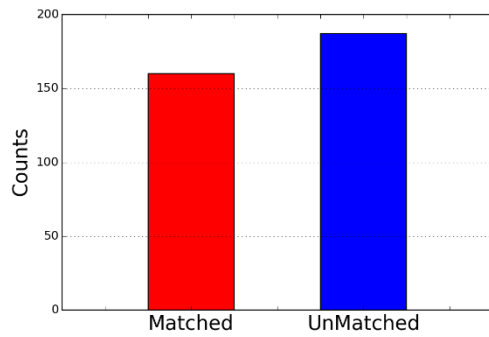


Figure D. 1106: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

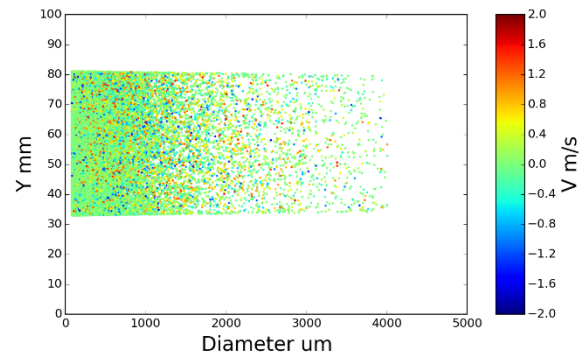


Figure D. 1109: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

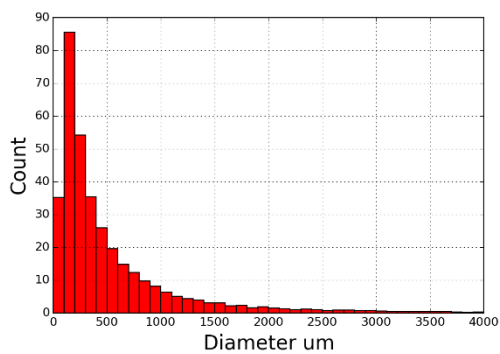


Figure D. 1107: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

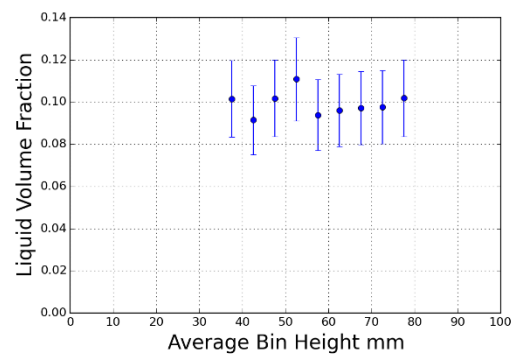


Figure D. 1110: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

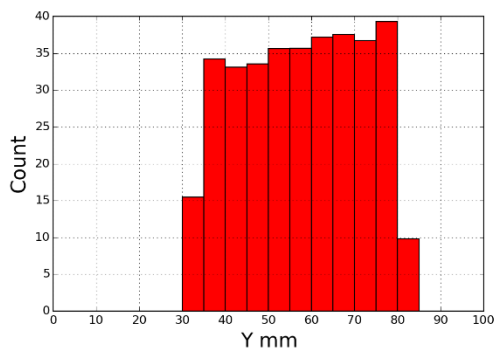


Figure D. 1108: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1.1 Matched Only Droplets for .LA Image

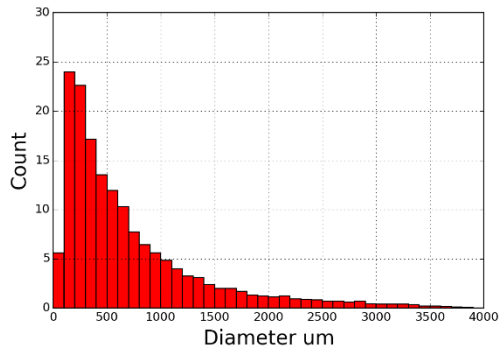


Figure D. 1111: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

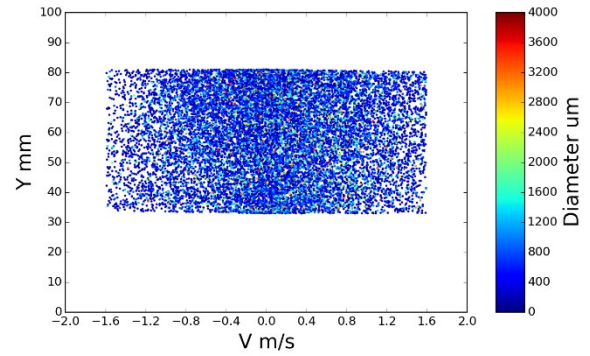


Figure D. 1114: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

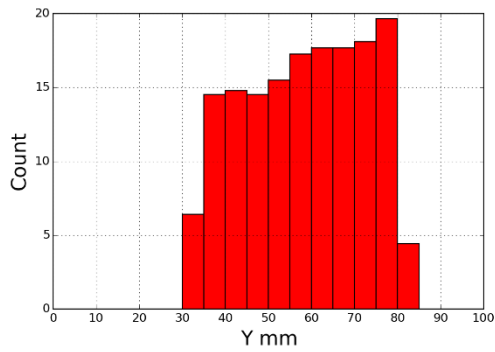


Figure D. 1112: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

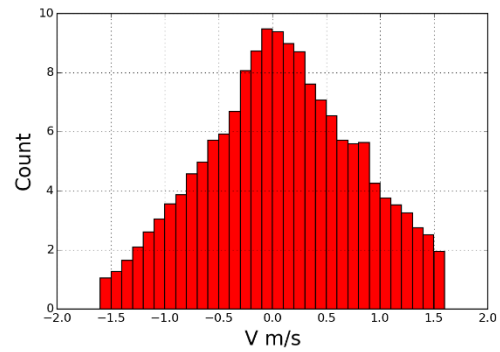


Figure D. 1115: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

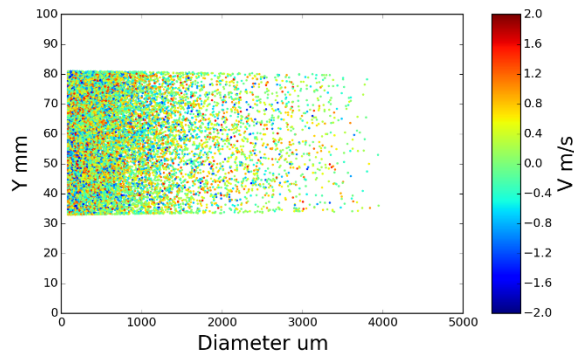


Figure D. 1113: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1.1 Matched Only Droplets for .LB Image

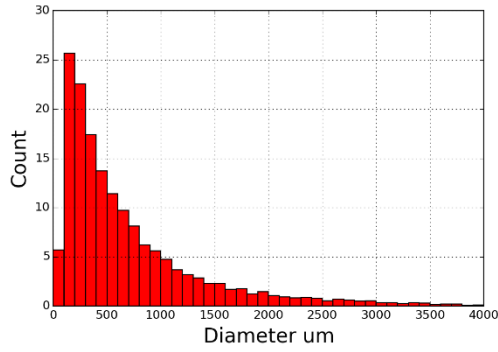


Figure D. 1116: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

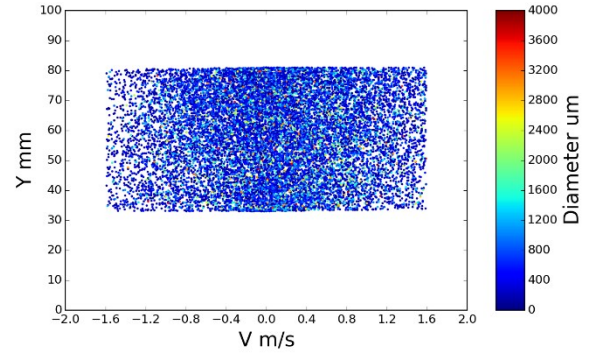


Figure D. 1119: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

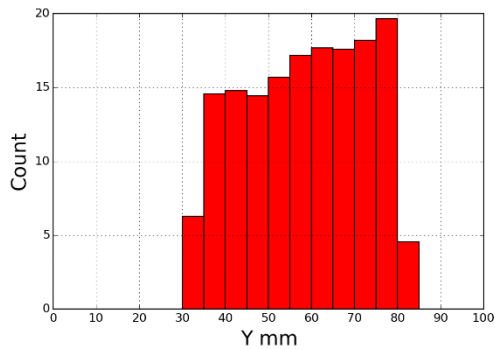


Figure D. 1117: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

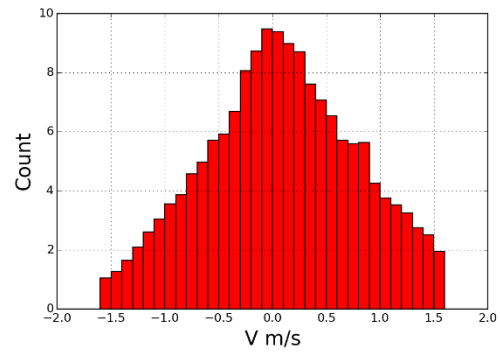


Figure D. 1120: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

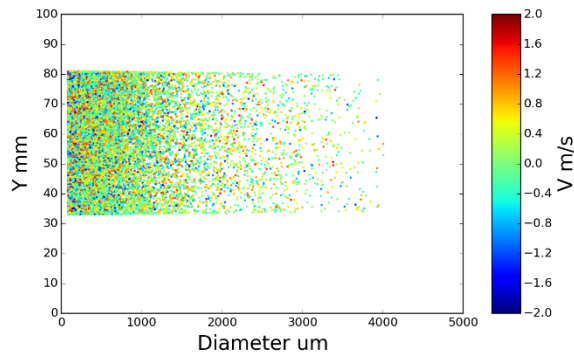


Figure D. 1118: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1.1 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	37.15	38.21	75.9	3995	676.5	717.0	75.9	4000	660.6	704.0
40-60mm	106.43	109.15	75.9	4017	651.2	694.6	75.9	4007	642.3	690.5
60-80mm	113.74	116.68	75.9	4005	630.2	667.8	75.9	3992	625.6	665.5
80-100mm	7.79	7.56	75.9	3659	575.5	515.4	75.9	3470	558.3	504.0
All	265.13	271.64	75.9	4017	643.5	682.1	75.9	4007	635.4	677.5
			Height A (mm)				Height B (mm)			
Highest Particle			81.0200				81.0200			
Lowest Particle			33.0336				33.0336			

Table D. 124: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	16.25	86.1	3982	938.6	732.1	81.2	3997	938.8	754.7	-1.590	1.560	-0.050	0.450	-1.570	1.590	0.260	0.660
40-60mm	46.41	81.2	3910	916.8	734.8	81.2	4007	902.9	739.4	-1.590	1.580	-0.030	0.430	-1.590	1.590	0.250	0.700
60-80mm	54.62	81.2	3864	835.1	699.7	81.2	3984	825.6	701.3	-1.590	1.590	-0.040	0.420	-1.590	1.590	0.230	0.690
80-100mm	3.09	86.1	3659	827.6	584.8	86.1	3470	780.0	565.4	-1.490	1.430	-0.030	0.410	-1.580	1.490	0.010	0.530
All	120.37	81.2	3982	880.4	716.5	81.2	4007	869.1	721.5	-1.590	1.590	-0.040	0.430	-1.590	1.590	0.240	0.680

Table D. 125: Matched Droplet Info

D.6.1.1 All Droplets for .LA Image

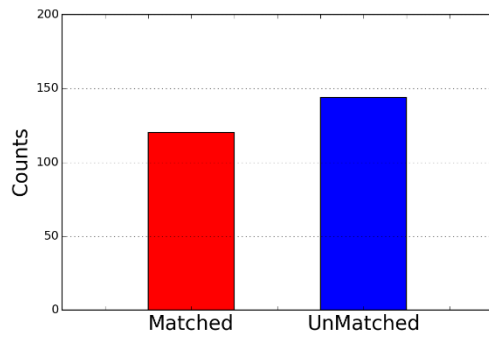


Figure D. 1121: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

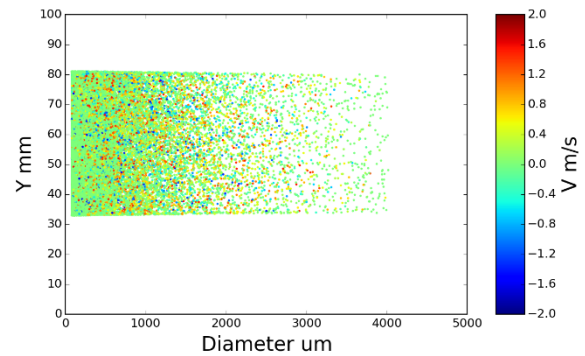


Figure D. 1124: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

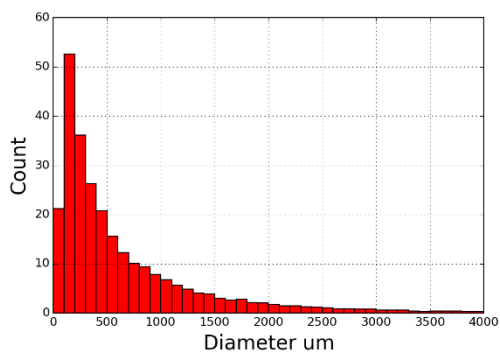


Figure D. 1122: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

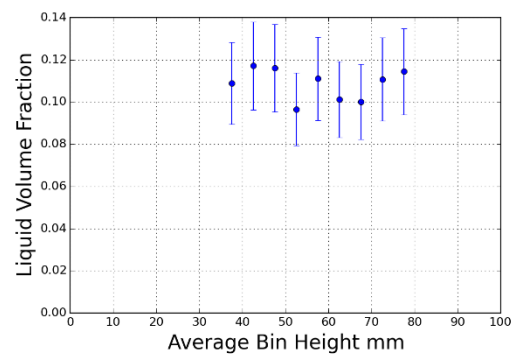


Figure D. 1125: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

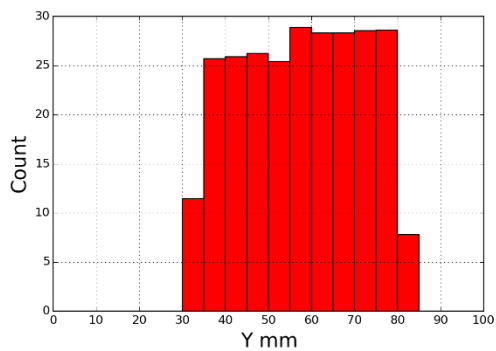


Figure D. 1123: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1.1 All Droplets for .LB Image

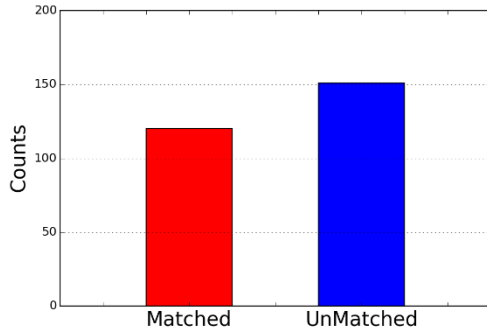


Figure D. 1126: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

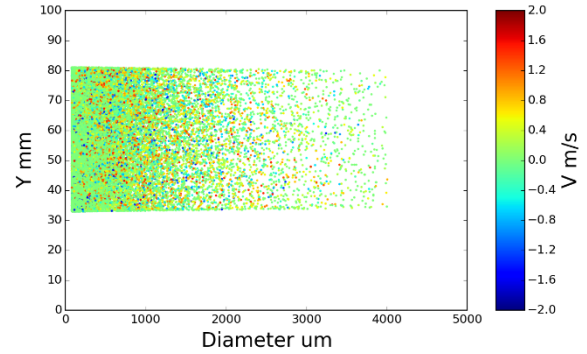


Figure D. 1129: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

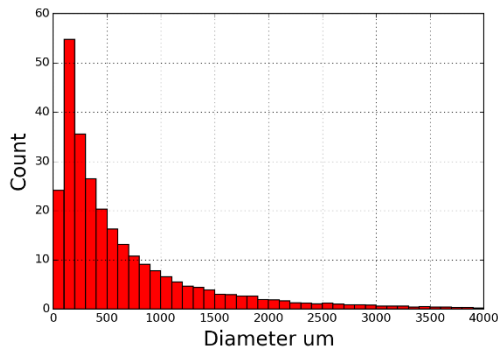


Figure D. 1127: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

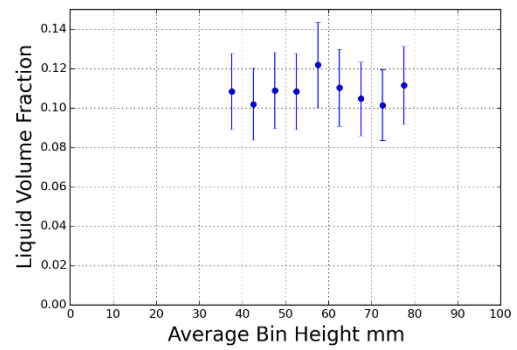


Figure D. 1130: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

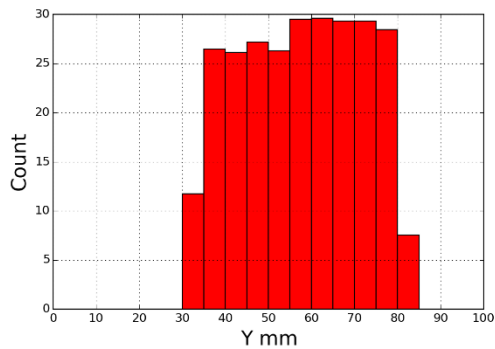


Figure D. 1128: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1.1 Matched Only Droplets for .LA Image

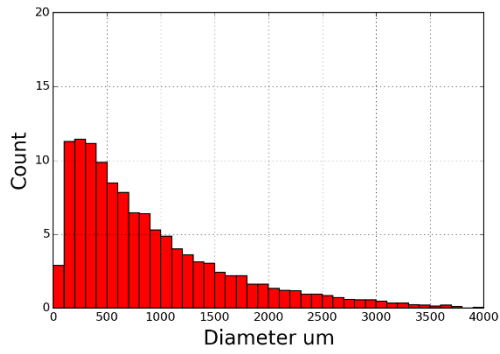


Figure D. 1131: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

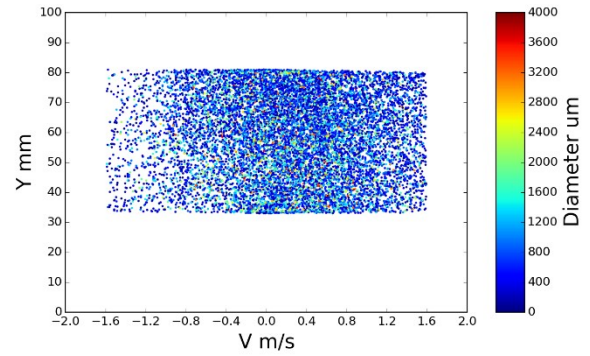


Figure D. 1134: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

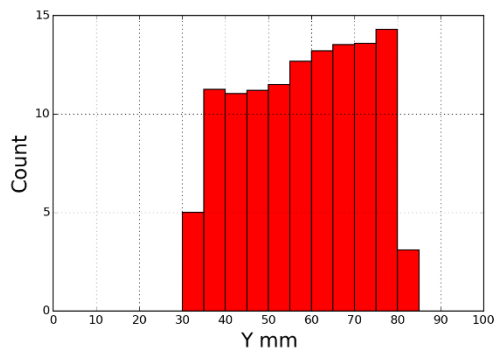


Figure D. 1132: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

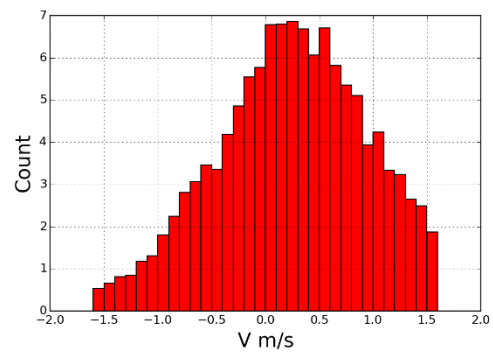


Figure D. 1135: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

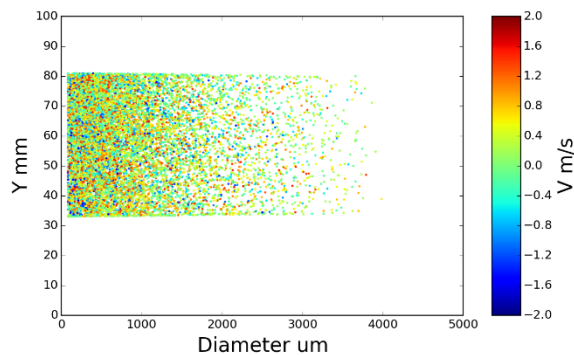


Figure D. 1133: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1.1 Matched Only Droplets for .LB Image

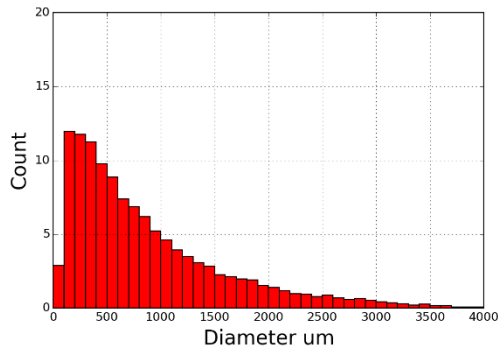


Figure D. 1136: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

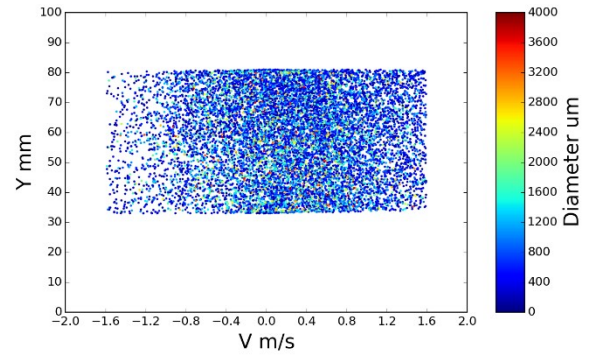


Figure D. 1139: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

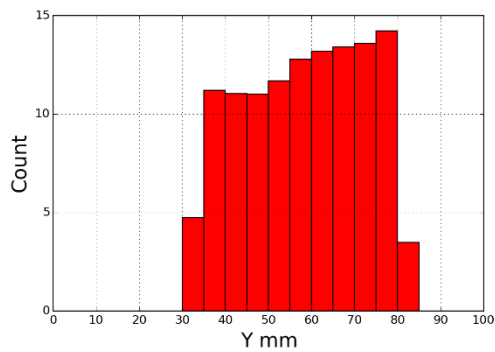


Figure D. 1137: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

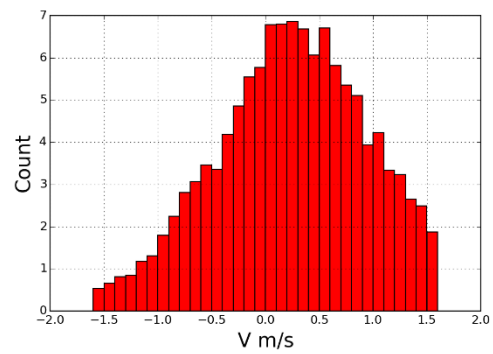


Figure D. 1140: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

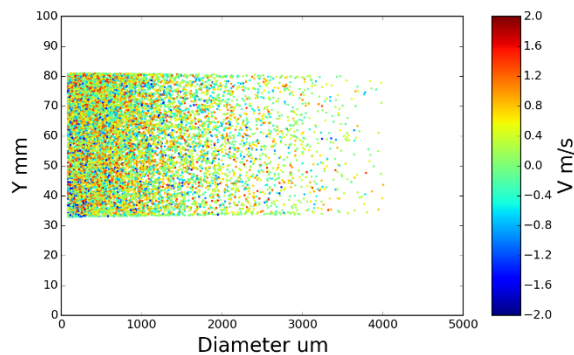


Figure D. 1138: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1.1 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	29.92	30.33	81.2	3980	734.8	748.0	81.2	4012	731.4	762.5
40-60mm	83.31	86.16	75.9	4008	734.0	758.3	75.9	4011	708.8	752.9
60-80mm	88.95	92.06	75.9	3998	714.5	743.0	75.9	4014	690.2	735.3
80-100mm	6.0	6.2	81.2	3031	630.3	572.9	81.2	3114	600.3	549.4
All	208.23	214.75	75.9	4008	722.8	745.8	75.9	4014	700.9	742.0
			Height A (mm)				Height B (mm)			
Highest Particle			81.0115				81.0200			
Lowest Particle			33.0336				33.0336			

Table D. 126: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	12.56	86.1	3926	1070	811.2	86.1	3997	1073	828.0	-1.510	1.540	-0.010	0.410	-1.580	1.580	0.400	0.650
40-60mm	36.31	81.2	3931	1041	798.5	81.2	4011	1026	806.1	-1.590	1.590	-0.030	0.420	-1.580	1.590	0.410	0.690
60-80mm	43.47	81.2	3962	968.0	777.7	81.2	4014	952.8	776.1	-1.590	1.590	-0.020	0.390	-1.590	1.590	0.330	0.660
80-100mm	2.57	86.1	2726	903.0	625.6	81.2	3114	840.0	602.6	-1.430	1.000	-0.030	0.300	-1.580	1.540	0.100	0.530
All	94.91	81.2	3962	1008	787.8	81.2	4014	992.9	791.6	-1.590	1.590	-0.020	0.400	-1.590	1.590	0.360	0.670

Table D. 127: Matched Droplet Info

D.6.1.1 All Droplets for .LA Image

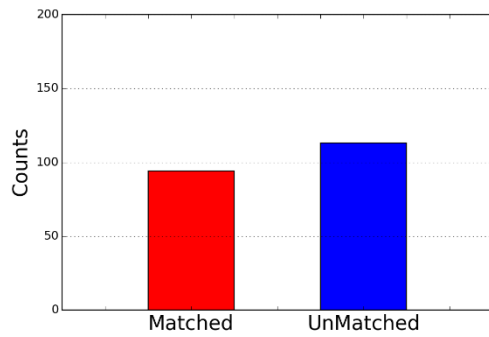


Figure D. 1141: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

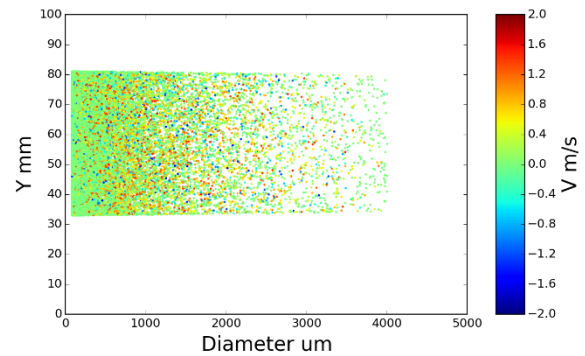


Figure D. 1144: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

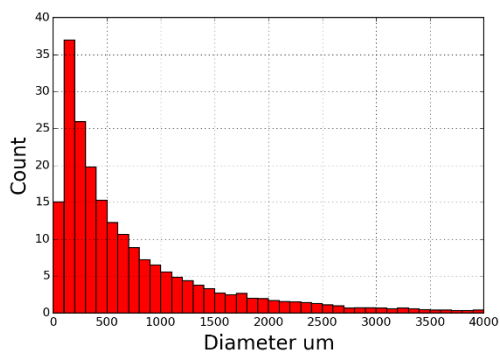


Figure D. 1142: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

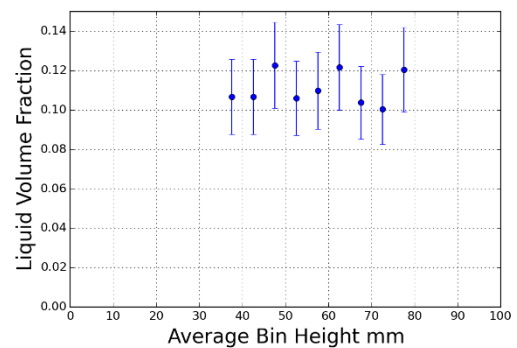


Figure D. 1145: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

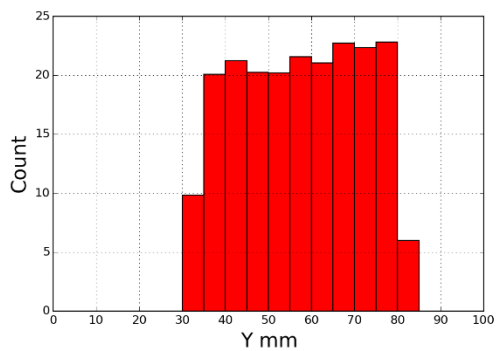


Figure D. 1143: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1.1 All Droplets for .LB Image

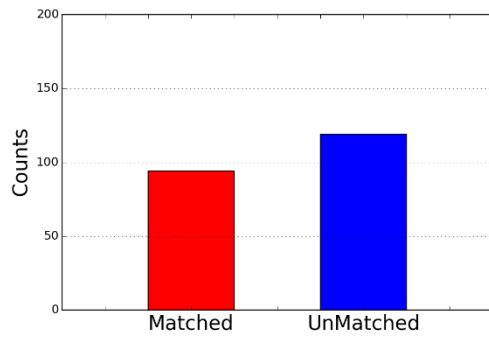


Figure D. 1146: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

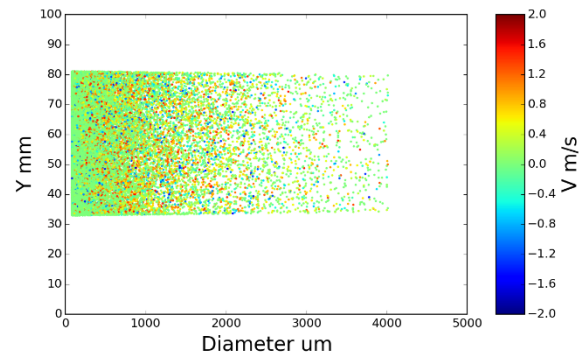


Figure D. 1149: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

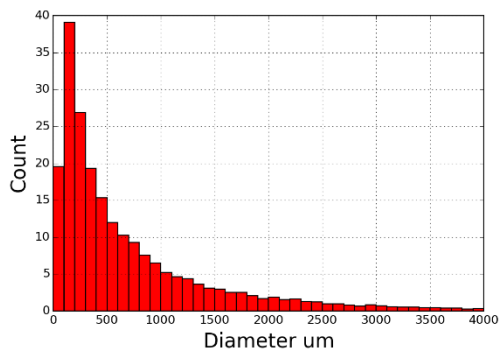


Figure D. 1147: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

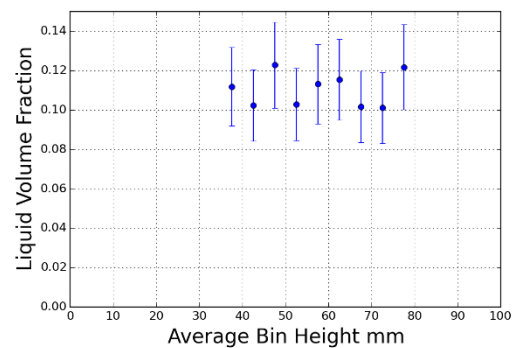


Figure D. 1150: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

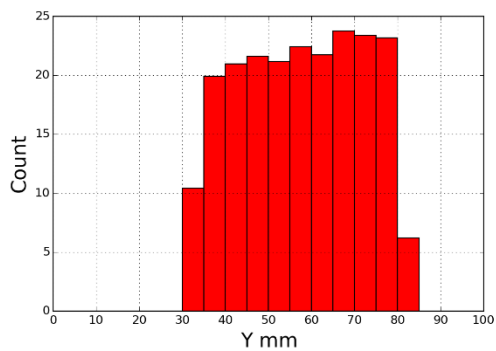


Figure D. 1148: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1.1 Matched Only Droplets for .LA Image

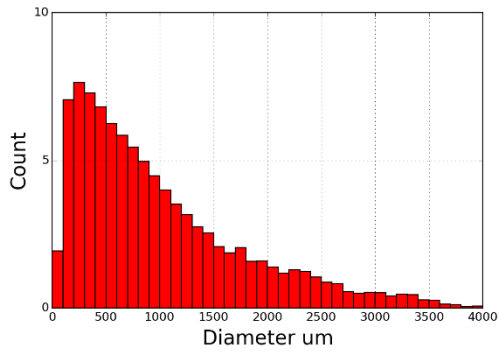


Figure D. 1151: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

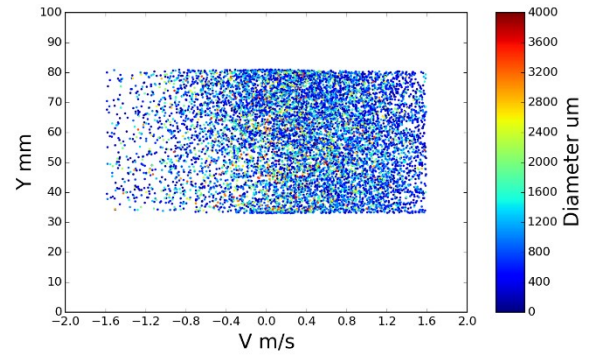


Figure D. 1154: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

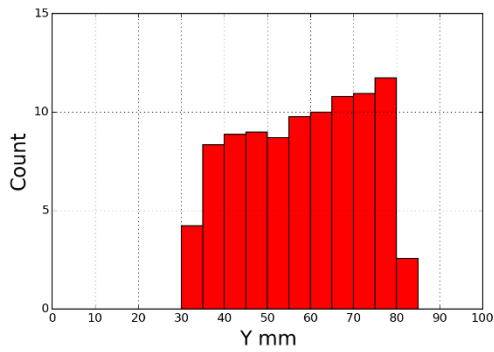


Figure D. 1152: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

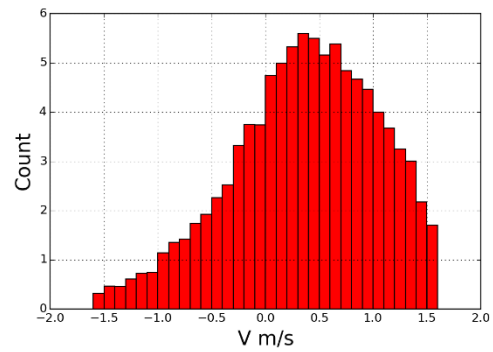


Figure D. 1155: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

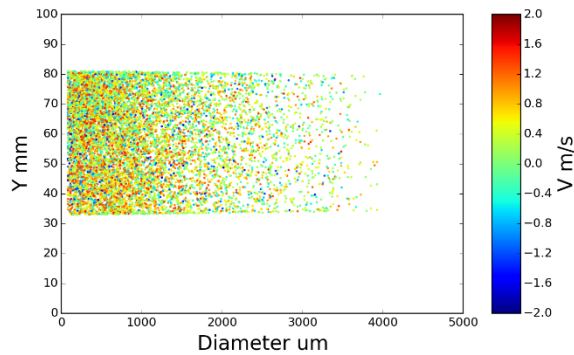


Figure D. 1153: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1.1 Matched Only Droplets for .LB Image

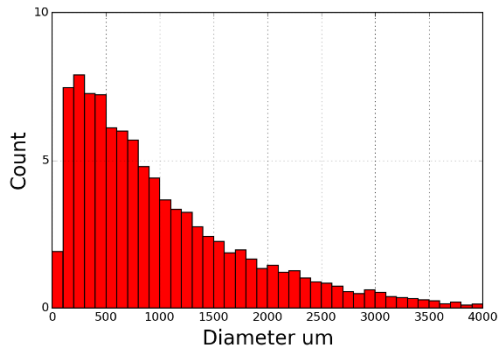


Figure D. 1156: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

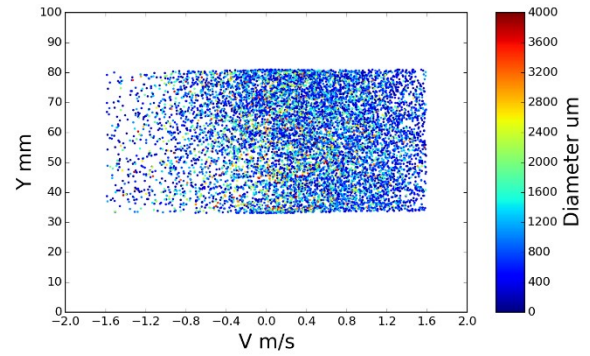


Figure D. 1159: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

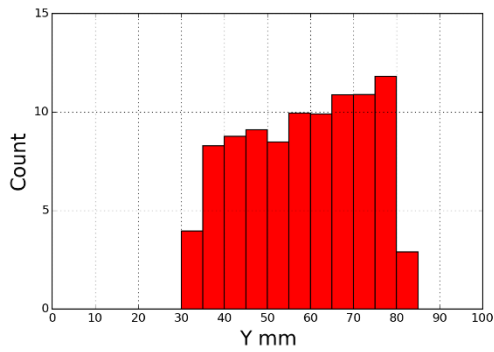


Figure D. 1157: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

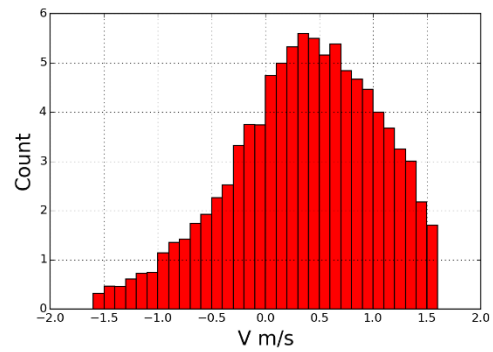


Figure D. 1160: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

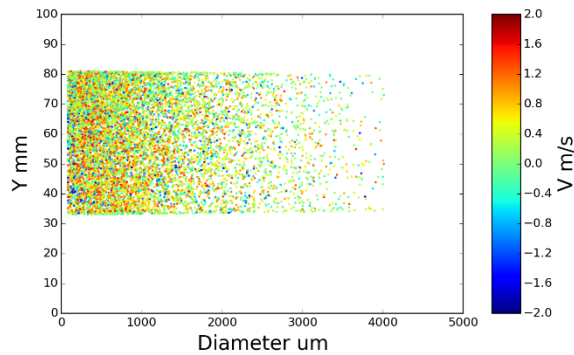


Figure D. 1158: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1.2 Lens 50mm Mag 0_13x

D.6.1.2 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	82.29	83.02	170.7	3998	817.0	713.3	170.7	3993	823.1	715.9
40-60mm	94.59	95.43	170.7	3997	780.4	681.2	170.7	3996	781.0	686.0
60-80mm	98.61	96.63	170.7	3999	741.8	629.6	170.7	3999	743.9	636.9
80-100mm	95.63	96.54	182.4	3998	708.0	584.9	182.4	3976	710.1	585.8
All	371.47	371.94	170.7	3999	759.1	652.7	170.7	3999	761.9	657.0
			Height A (mm)				Height B (mm)			
Highest Particle			100.0300				100.0300			
Lowest Particle			20.1203				20.1203			

Table D. 128: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	38.12	182.4	3874	967.9	734.0	182.4	3941	938.2	733.3	-1.560	1.560	-0.080	0.580	-1.560	1.560	0.070	0.720
40-60mm	45.47	182.4	3790	904.5	699.4	170.7	3983	888.4	711.6	-1.560	1.560	-0.070	0.580	-1.560	1.560	0.100	0.780
60-80mm	50.81	182.4	3886	835.0	640.7	182.4	3999	821.4	648.2	-1.560	1.560	-0.080	0.550	-1.560	1.560	0.070	0.760
80-100mm	54.07	182.4	3861	798.8	600.2	182.4	3962	786.8	599.0	-1.560	1.550	-0.050	0.510	-1.560	1.560	0.060	0.710
All	188.56	182.4	3886	867.9	667.1	170.7	3999	850.8	671.0	-1.560	1.560	-0.070	0.550	-1.560	1.560	0.070	0.740

Table D. 129: Matched Droplet Info

D.6.1.2 All Droplets for .LA Image

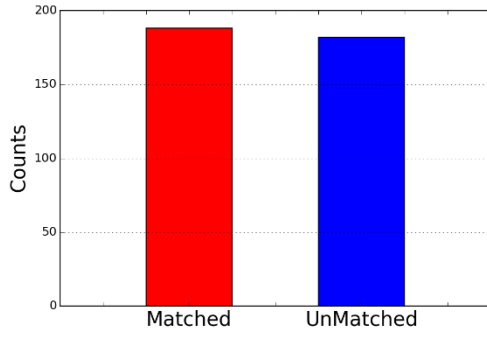


Figure D. 1161: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

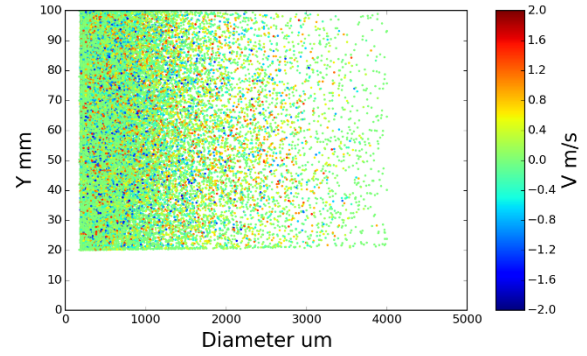


Figure D. 1164: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

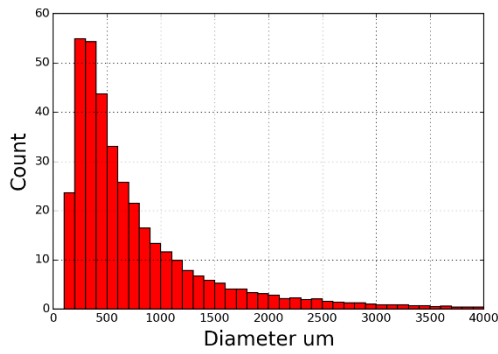


Figure D. 1162: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

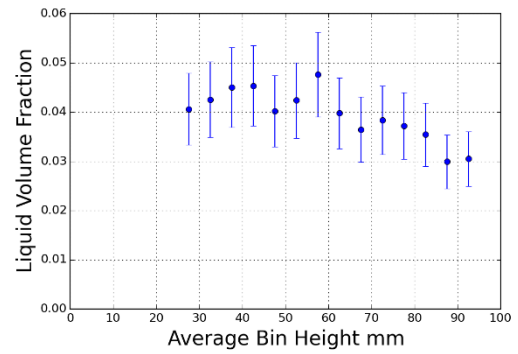


Figure D. 1165: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

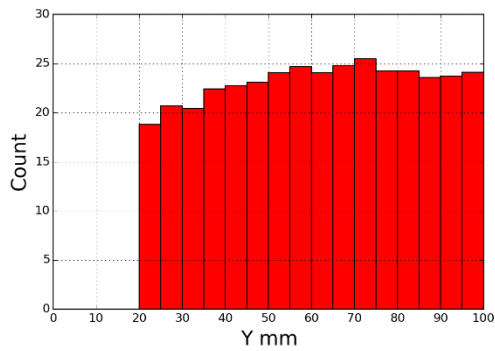


Figure D. 1163: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1.2 All Droplets for .LB Image

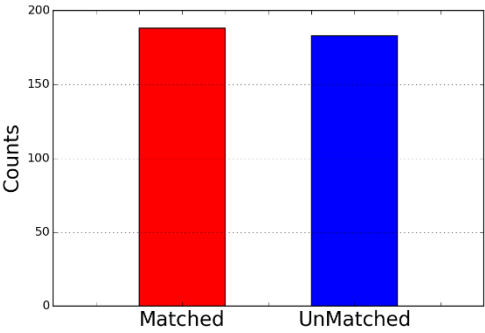


Figure D. 1166: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

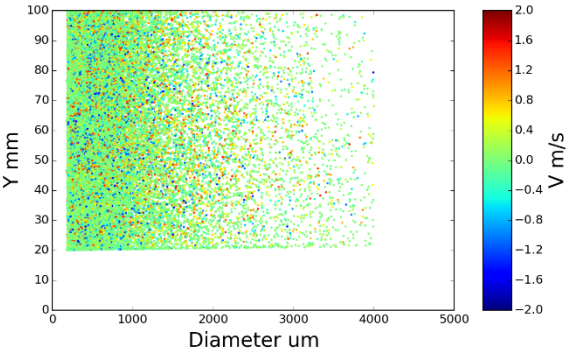


Figure D. 1169: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

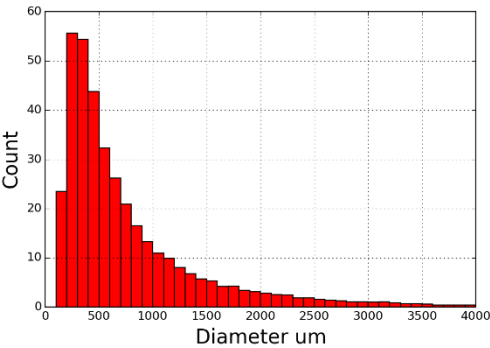


Figure D. 1167: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

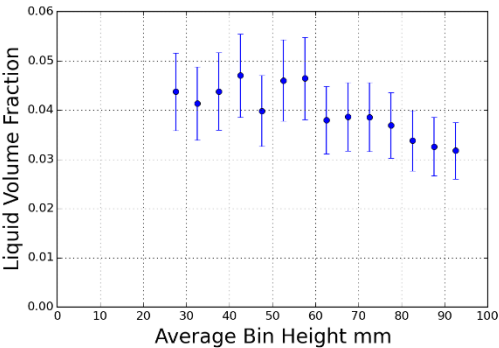


Figure D. 1170: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

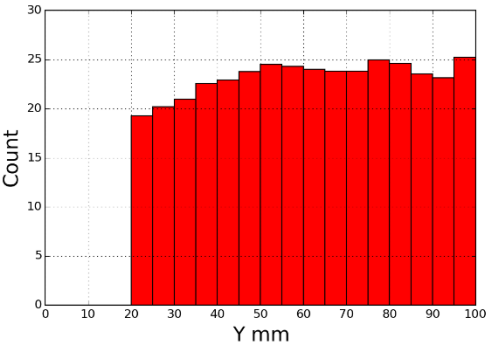


Figure D. 1168: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1.2 Matched Only Droplets for .LA Image

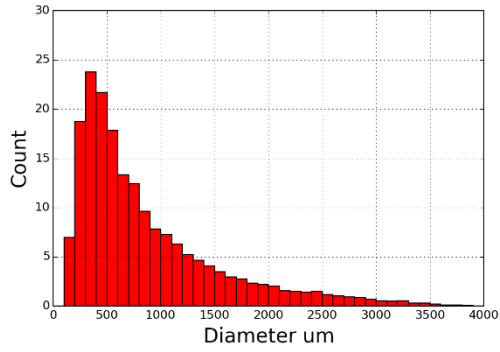


Figure D. 1171: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

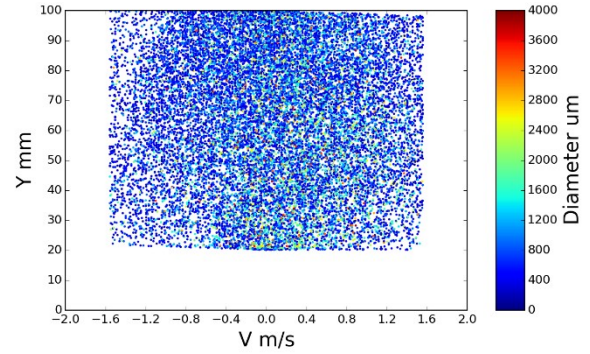


Figure D. 1174: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

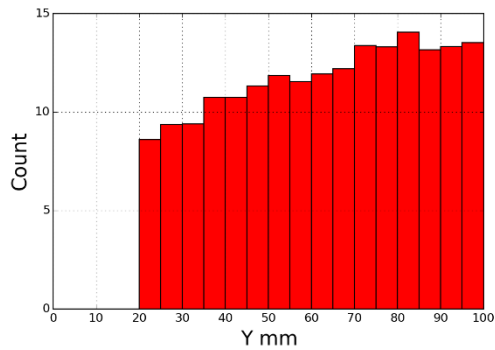


Figure D. 1172: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

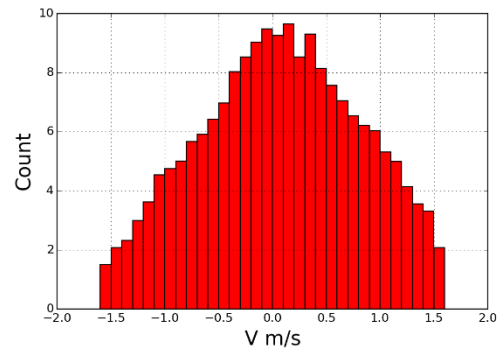


Figure D. 1175: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

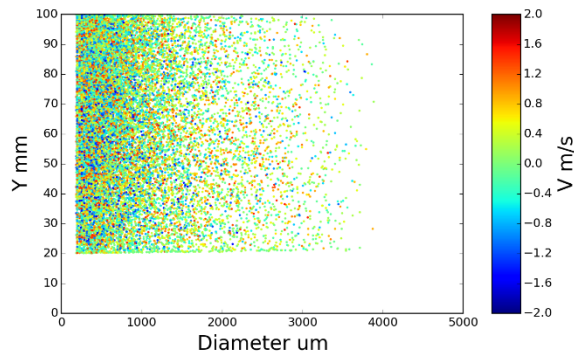


Figure D. 1173: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1.2 Matched Only Droplets for .LB Image

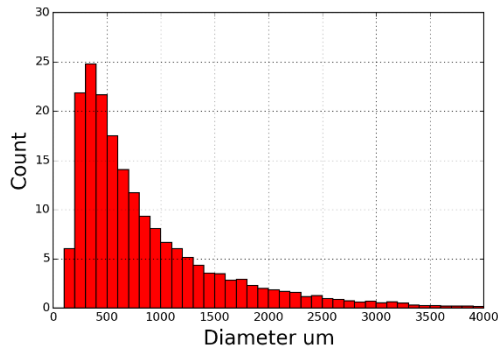


Figure D. 1176: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

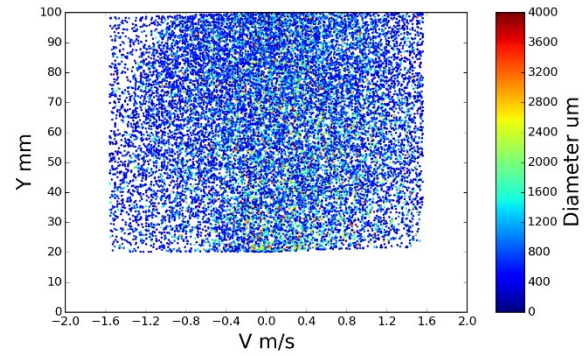


Figure D. 1179: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

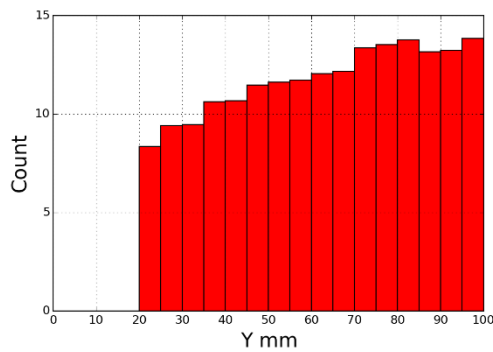


Figure D. 1177: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

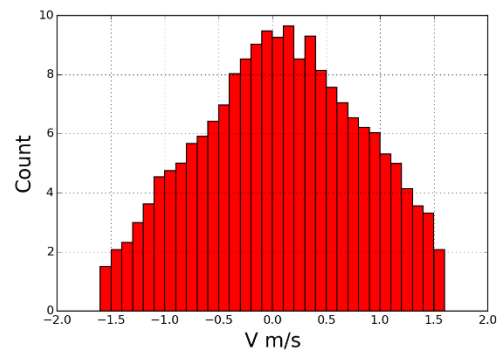


Figure D. 1180: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

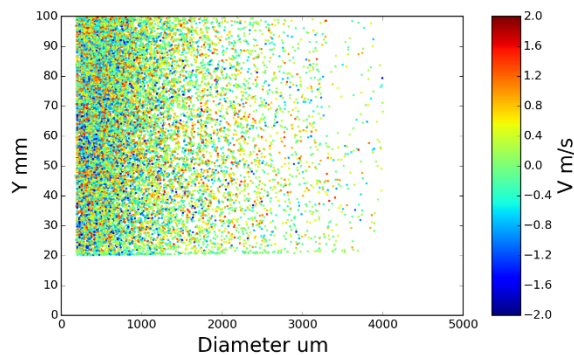


Figure D. 1178: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1.2 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	74.02	73.09	170.7	3987	844.4	724.8	170.7	3979	856.1	727.0
40-60mm	82.87	82.54	170.7	3997	866.0	726.2	182.4	4000	861.8	722.3
60-80mm	87.12	86.43	170.7	3980	837.3	695.2	170.7	4001	842.5	709.6
80-100mm	94.54	92.74	170.7	3984	771.0	624.8	170.7	3997	764.9	618.1
All	338.85	335.1	170.7	3997	826.8	691.8	170.7	4001	828.2	693.8
			Height A (mm)				Height B (mm)			
Highest Particle			100.0300				100.0300			
Lowest Particle			20.1203				20.1203			

Table D. 130: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	32.48	182.4	3843	1021	750.2	182.4	3979	990.9	752.1	-1.560	1.560	-0.070	0.540	-1.560	1.560	0.180	0.720
40-60mm	38.48	182.4	3911	1027	740.6	182.4	4000	1003	754.2	-1.560	1.560	-0.060	0.560	-1.560	1.560	0.180	0.740
60-80mm	44.08	182.4	3910	981.7	723.3	170.7	3994	969.5	736.6	-1.560	1.560	-0.060	0.530	-1.550	1.560	0.170	0.740
80-100mm	51.23	182.4	3936	893.4	647.8	182.4	3997	874.0	647.2	-1.560	1.560	-0.040	0.510	-1.560	1.560	0.150	0.720
All	166.29	182.4	3936	972.5	712.7	170.7	4000	951.5	719.5	-1.560	1.560	-0.060	0.530	-1.560	1.560	0.170	0.730

Table D. 131: Matched Droplet Info

D.6.1.2 All Droplets for .LA Image

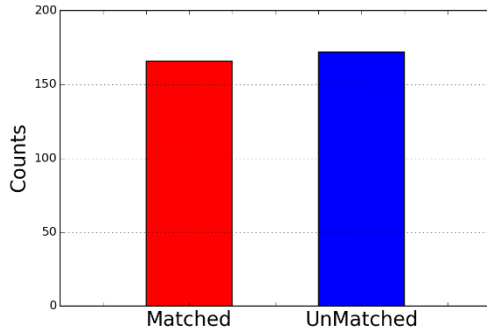


Figure D. 1181: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

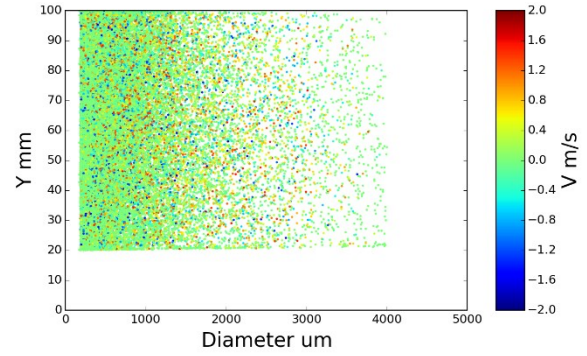


Figure D. 1184: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

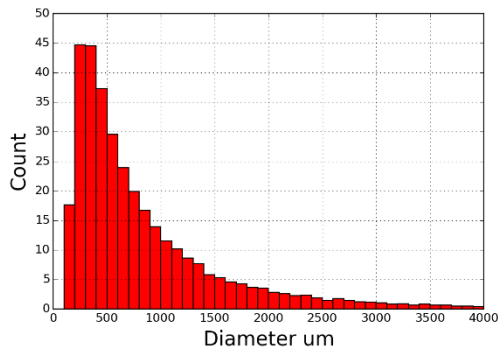


Figure D. 1182: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

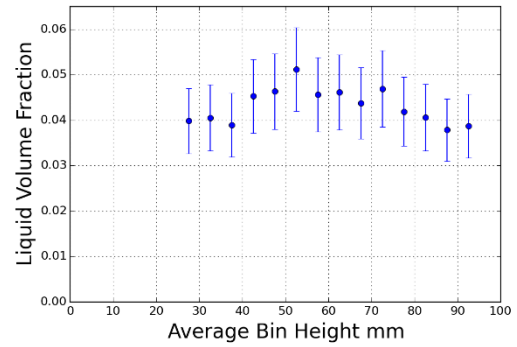


Figure D. 1185: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

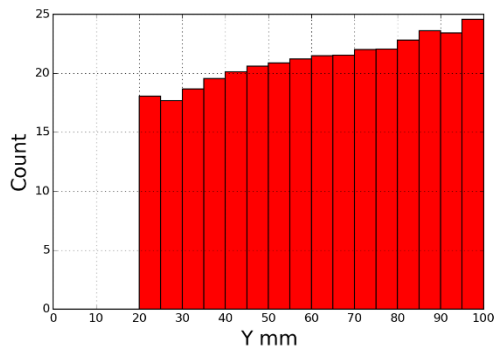


Figure D. 1183: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1.2 All Droplets for .LB Image

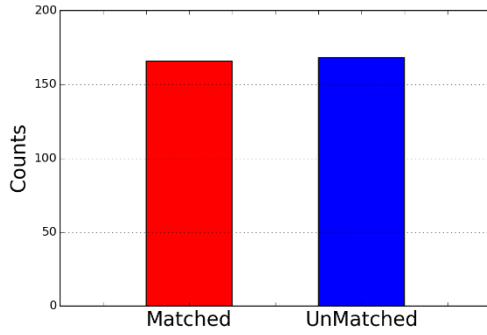


Figure D. 1186: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

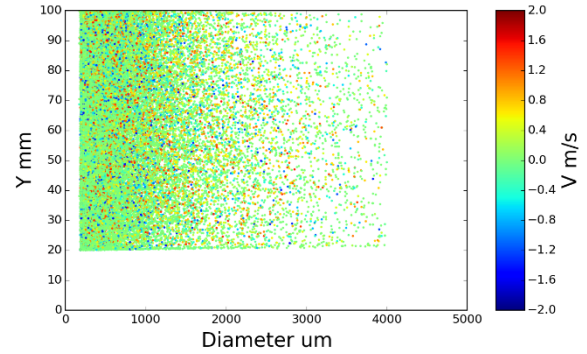


Figure D. 1189: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

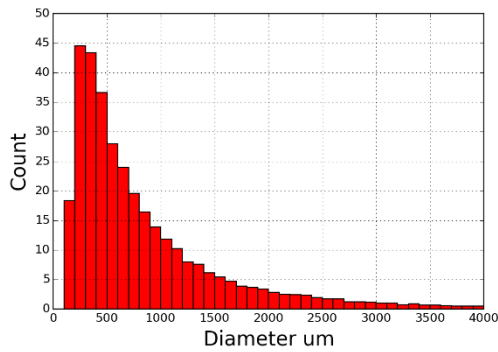


Figure D. 1187: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

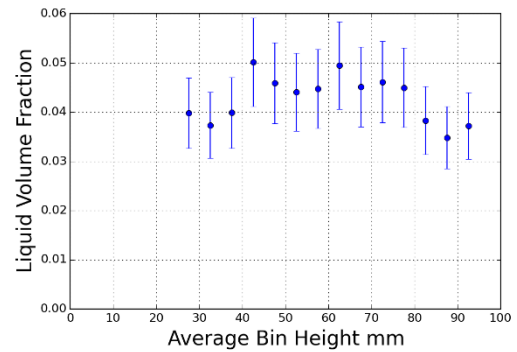


Figure D. 1190: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

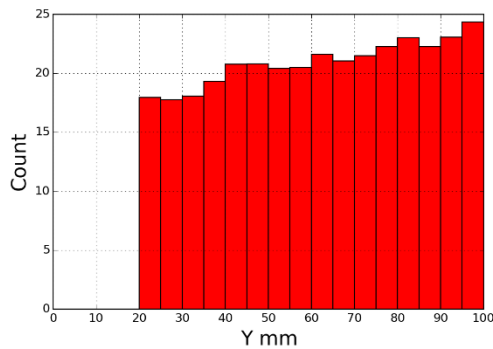


Figure D. 1188: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1.2 Matched Only Droplets for .LA Image

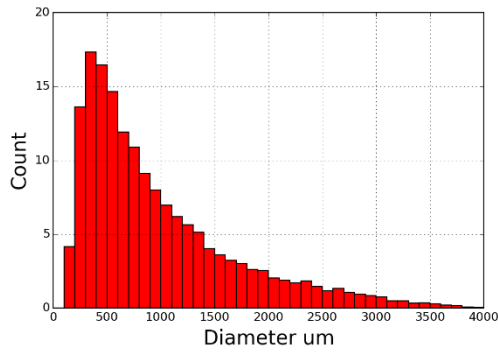


Figure D. 1191: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

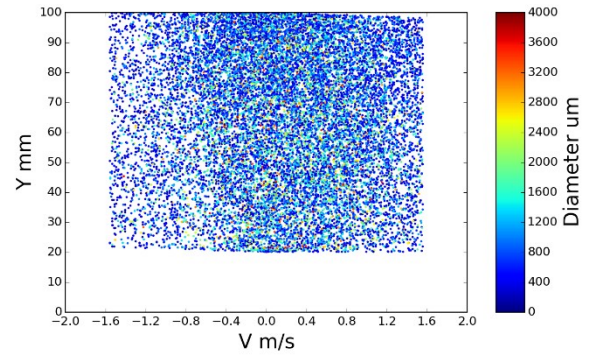


Figure D. 1194: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

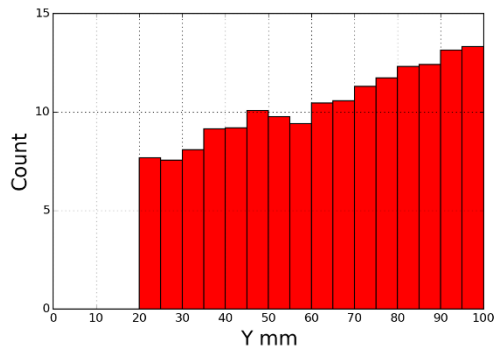


Figure D. 1192: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

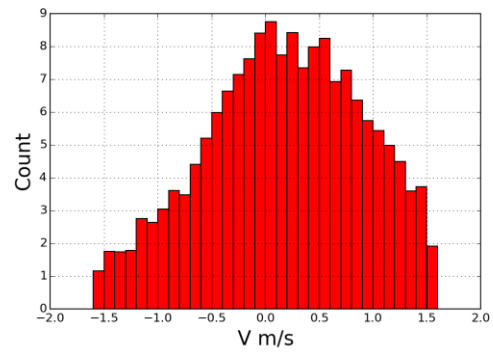


Figure D. 1195: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

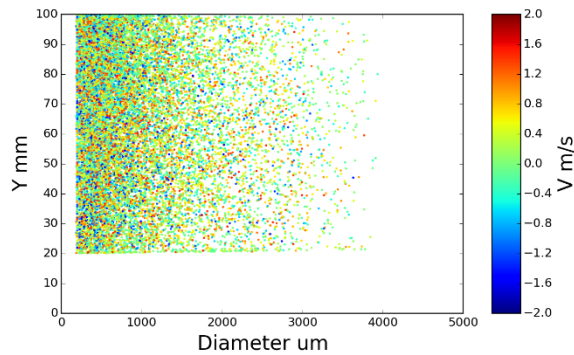


Figure D. 1193: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1.2 Matched Only Droplets for .LB Image

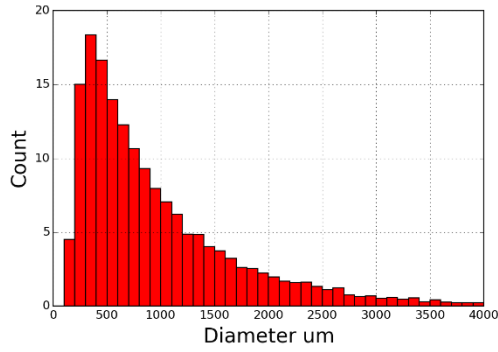


Figure D. 1196: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

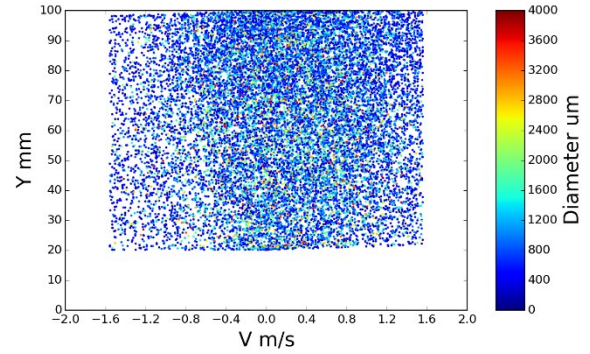


Figure D. 1199: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

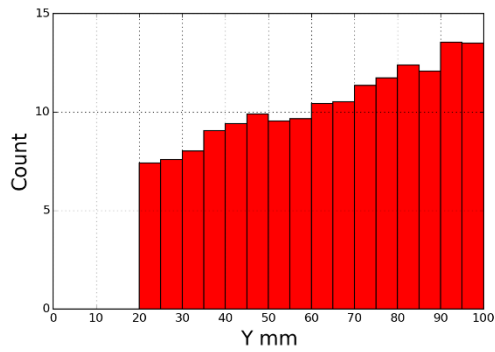


Figure D. 1197: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

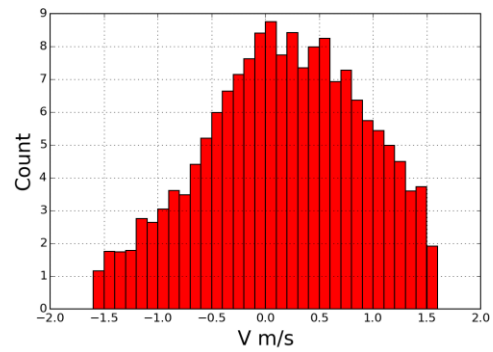


Figure D. 1200: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

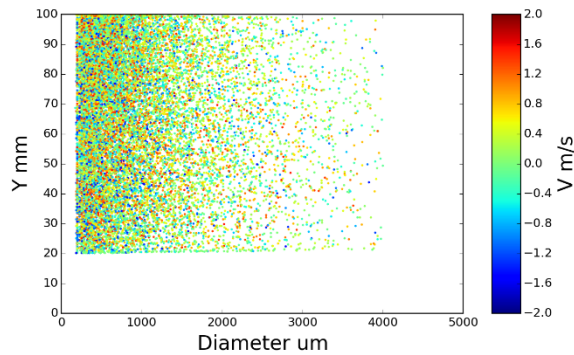


Figure D. 1198: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1.2 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	61.1	61.96	170.7	3996	926.4	773.5	170.7	3991	941.2	779.4
40-60mm	63.75	62.59	170.7	3990	943.7	781.2	170.7	3997	948.2	781.0
60-80mm	70.07	67.78	170.7	4000	940.7	771.4	170.7	3996	939.2	761.1
80-100mm	79.14	78.62	170.7	3994	854.6	685.0	170.7	3997	864.1	685.7
All	274.3	271.17	170.7	4000	912.8	751.2	170.7	3997	919.4	749.9
			Height A (mm)				Height B (mm)			
Highest Particle			100.0300				100.0300			
Lowest Particle			20.1203				20.1203			

Table D. 132: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	25.87	182.4	3801	1181	813.0	182.4	3991	1157	827.6	-1.550	1.560	-0.040	0.540	-1.550	1.560	0.240	0.700
40-60mm	27.48	182.4	3891	1160	788.1	182.4	3982	1138	800.5	-1.560	1.560	-0.060	0.530	-1.550	1.560	0.250	0.730
60-80mm	32.75	182.4	3864	1123	770.1	182.4	3988	1108	777.6	-1.560	1.560	-0.030	0.510	-1.560	1.560	0.240	0.720
80-100mm	42.47	182.4	3954	1022	708.5	182.4	3991	999.5	710.5	-1.560	1.550	-0.040	0.480	-1.560	1.560	0.170	0.690
All	128.61	182.4	3954	1109	766.1	182.4	3991	1088	774.1	-1.560	1.560	-0.040	0.510	-1.560	1.560	0.220	0.710

Table D. 133: Matched Droplet Info

D.6.1.2 All Droplets for .LA Image

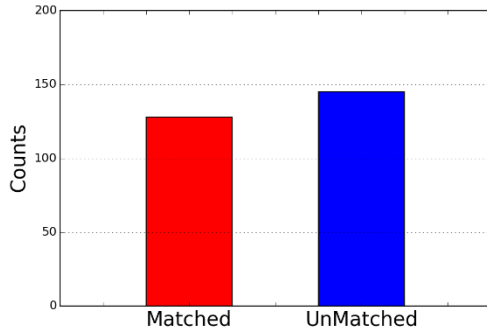


Figure D. 1201: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

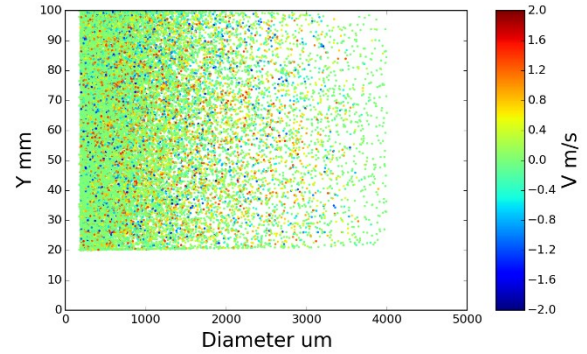


Figure D. 1204: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

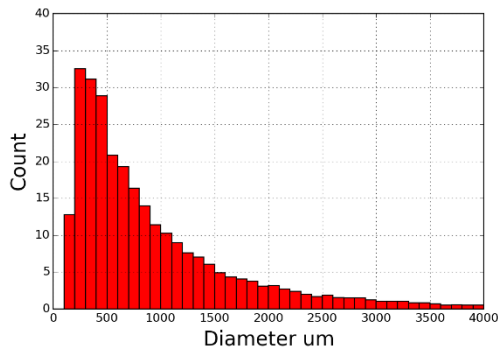


Figure D. 1202: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

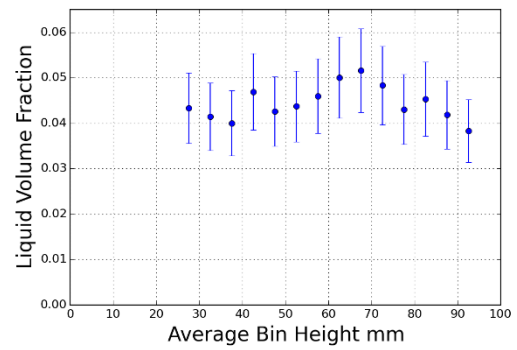


Figure D. 1205: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

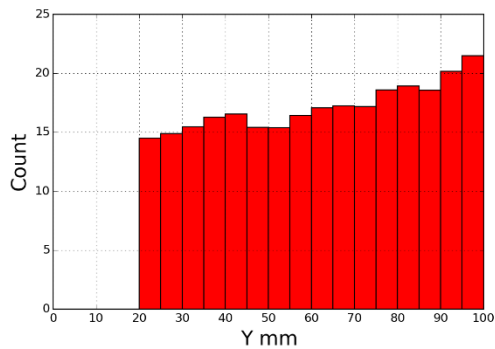


Figure D. 1203: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1.2 All Droplets for .LB Image

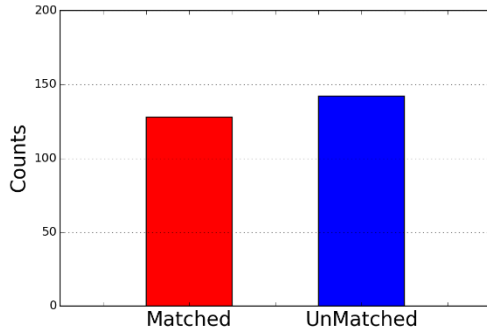


Figure D. 1206: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

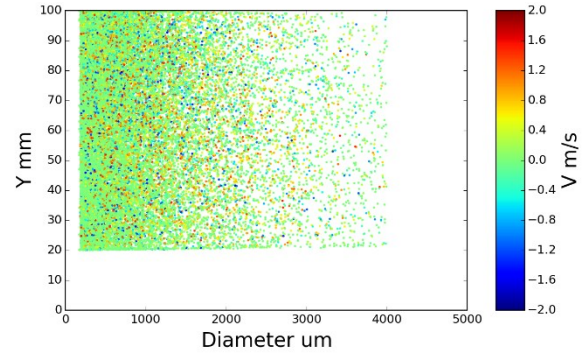


Figure D. 1209: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

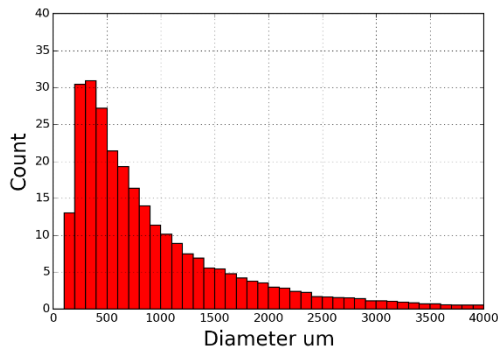


Figure D. 1207: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

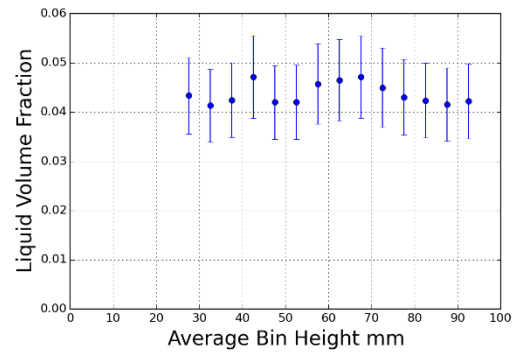


Figure D. 1210: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

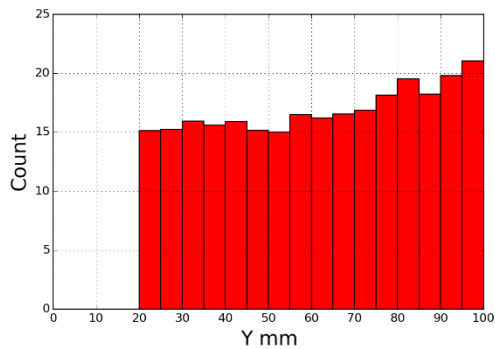


Figure D. 1208: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1.2 Matched Only Droplets for .LA Image

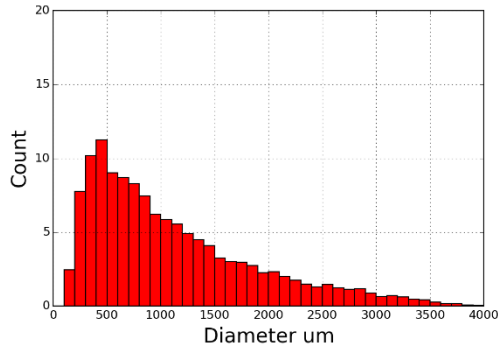


Figure D. 1211: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

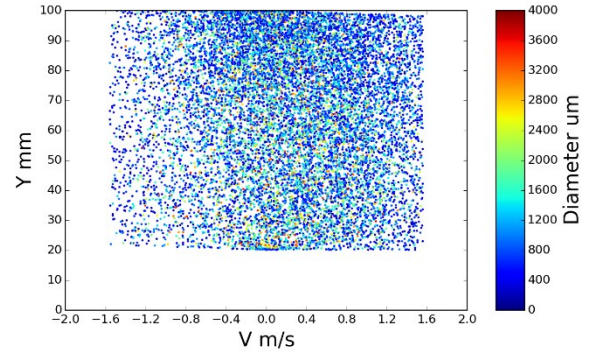


Figure D. 1214: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

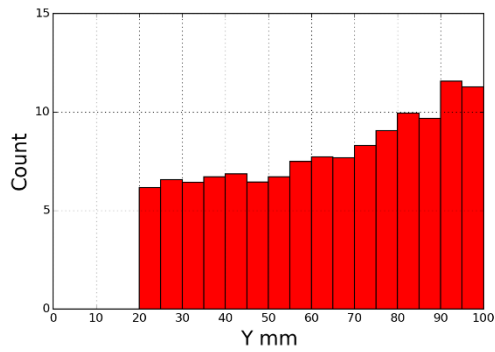


Figure D. 1212: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

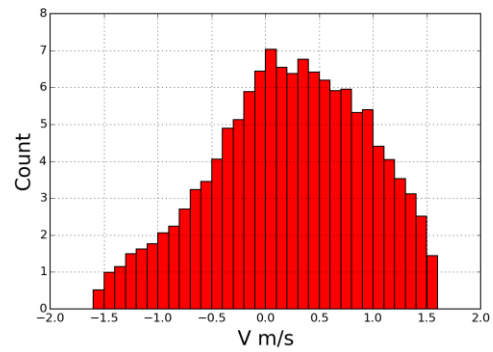


Figure D. 1215: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

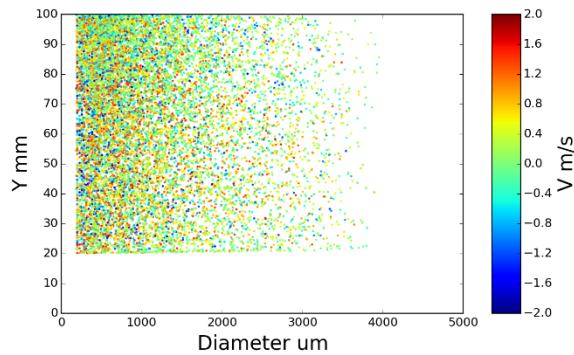


Figure D. 1213: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.6.1.2 Matched Only Droplets for .LB Image

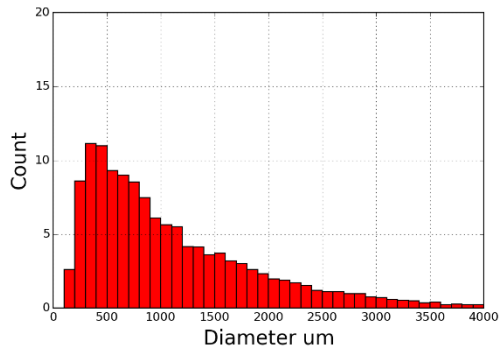


Figure D. 1216: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

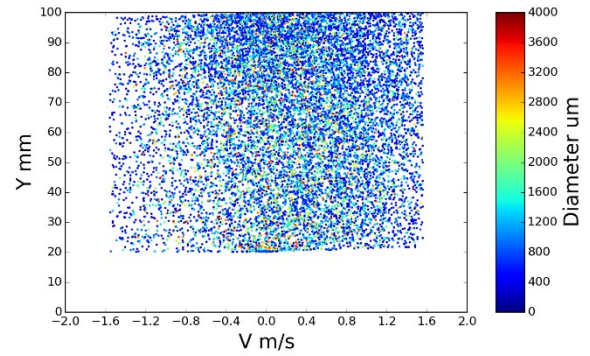


Figure D. 1219: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

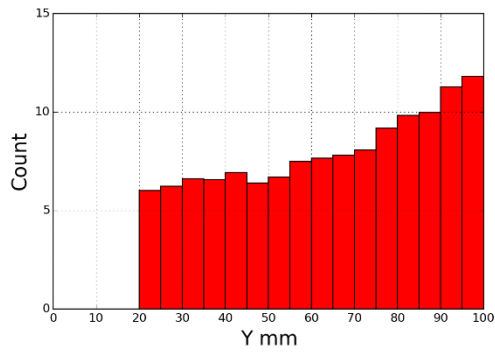


Figure D. 1217: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

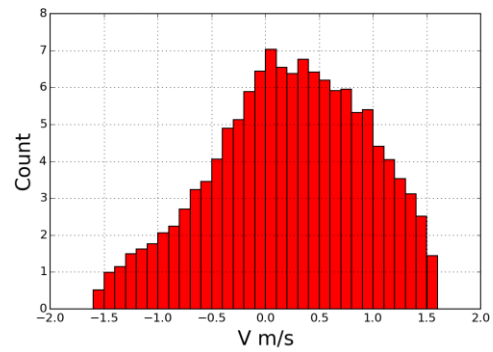


Figure D. 1220: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

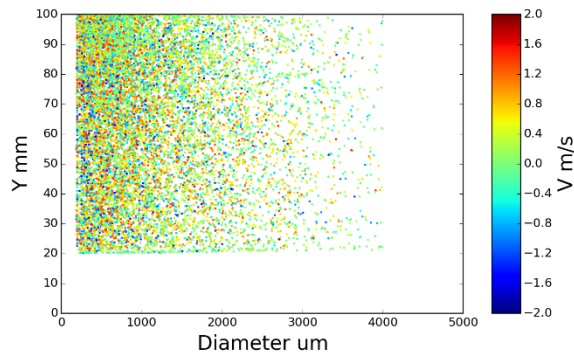


Figure D. 1218: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2 Liquid Level 3

Thermal Conditions	
H2O Flow Rate (lb/hr) / (kg/s)	26120 / 3.291
Ref Mass Flow (lb/hr) / (kg/s)	1512 / 0.191
Ref Mass Flux (lb/hr-ft ²) / (kg/s-m ²)	14719 / 19.963
Top Two Rows Heat Flux (Btu/hr-ft ²) / (kW/m ²)	2895 / 9.13
Bundle Exit Saturation Temp (°F) / (°C)	54.3 / 12.39
Bundle Inlet Saturation Temp (°F) / (°C)	55.6 / 13.14
Total Bundle Q (Btu/hr) / (kW)	126481 / 37.07
Total Bundle & Preboiler Q (Btu/hr) / (kW)	126481 / 37.07
Top Two Rows HTC Ratio	0.722
Bundle Inlet Quality	-0.13
Bundle Exit Quality	0.98

Table D. 134: Thermal Conditions

D.6.2.1 Lens 100mm Mag 0_29x

D.6.2.1 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	16.8	17.52	81.2	3385	612.8	548.0	81.2	3519	588.3	528.8
40-60mm	45.35	48.05	75.9	3674	577.0	529.0	75.9	3525	556.4	530.4
60-80mm	40.27	43.9	75.9	3939	527.2	495.1	75.9	3648	500.5	489.3
80-100mm	1.99	2.18	81.2	2014	488.6	402.9	81.2	1877	478.0	420.2
All	104.41	111.65	75.9	3939	561.9	518.3	75.9	3648	537.9	513.5
			Height A (mm)				Height B (mm)			
Highest Particle			81.0200				80.9990			
Lowest Particle			33.0336				33.0336			

Table D. 135: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	6.75	81.2	3325	692.3	475.4	86.1	3519	684.2	497.3	-0.650	0.680	0.000	0.260	-0.680	0.690	0.120	0.350
40-60mm	16.87	81.2	3170	703.9	510.8	81.2	3525	697.0	520.3	-0.690	0.690	0.010	0.270	-0.690	0.690	0.100	0.370
60-80mm	14.04	86.1	3277	686.2	513.1	81.2	3432	693.4	529.1	-0.690	0.680	-0.010	0.270	-0.690	0.690	0.100	0.370
80-100mm	0.59	95.2	1566	692.0	440.4	86.1	1877	661.9	487.6	-0.630	0.690	-0.010	0.250	-0.690	0.620	0.020	0.330
All	38.25	81.2	3325	695.2	504.6	81.2	3525	692.8	519.1	-0.690	0.690	0.000	0.260	-0.690	0.690	0.100	0.370

Table D. 136: Matched Droplet Info

D.6.2.1 All Droplets for .LA Image

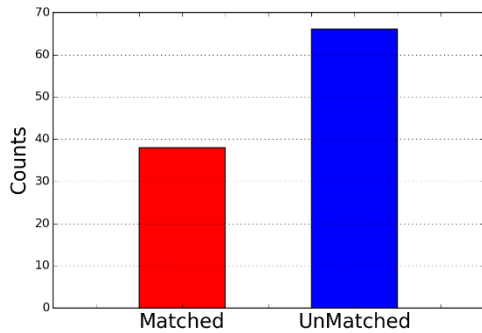


Figure D. 1221: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

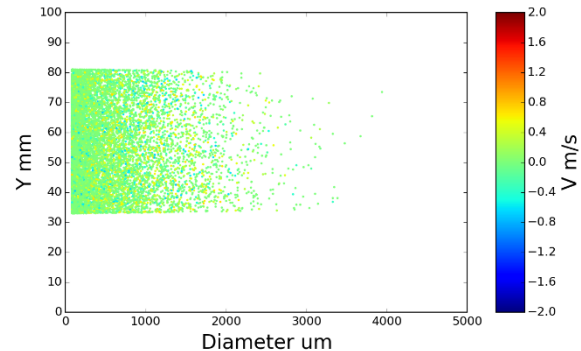


Figure D. 1224: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

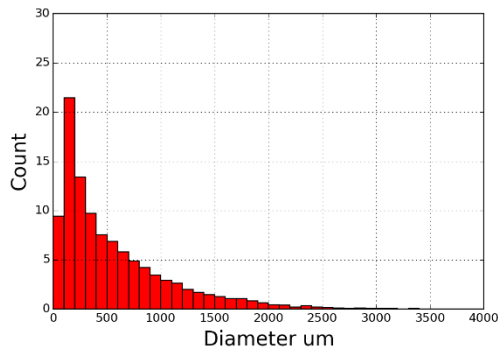


Figure D. 1222: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

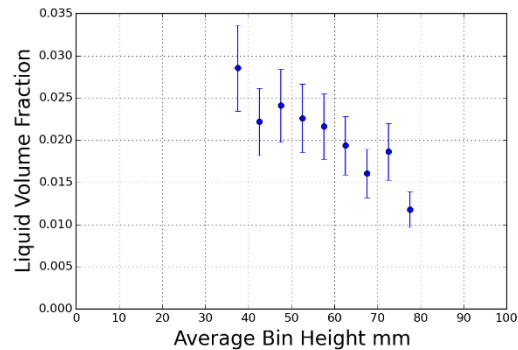


Figure D. 1225: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

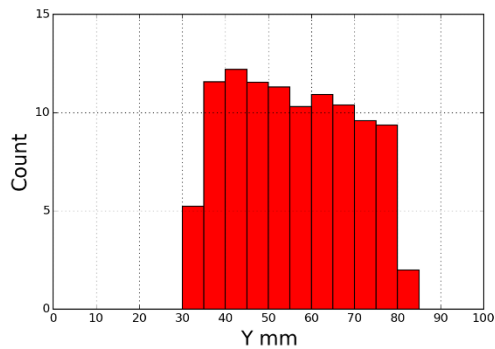


Figure D. 1223: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2.1 All Droplets for .LB Image

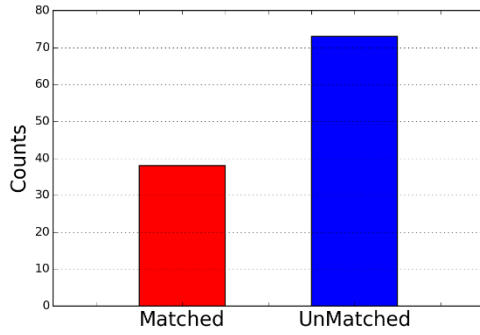


Figure D. 1226: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

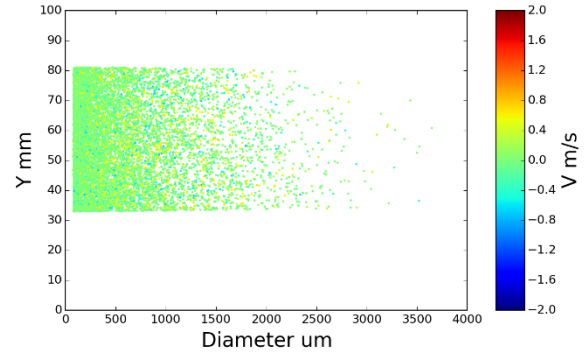


Figure D. 1229: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

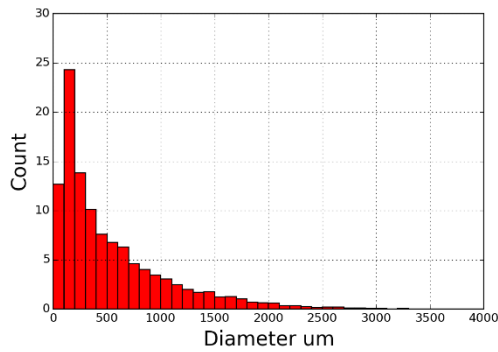


Figure D. 1227: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

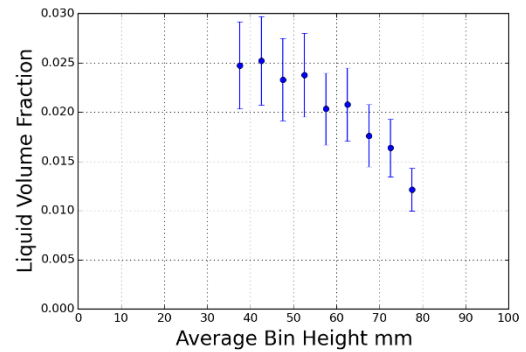


Figure D. 1230: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

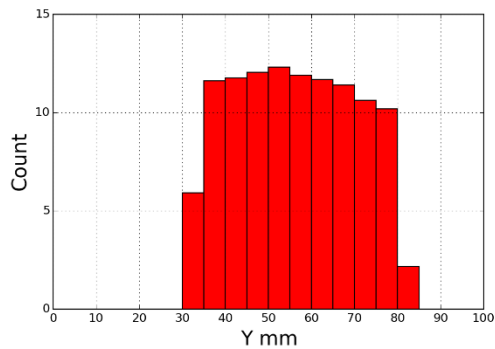


Figure D. 1228: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2.1 Matched Only Droplets for .LA Image

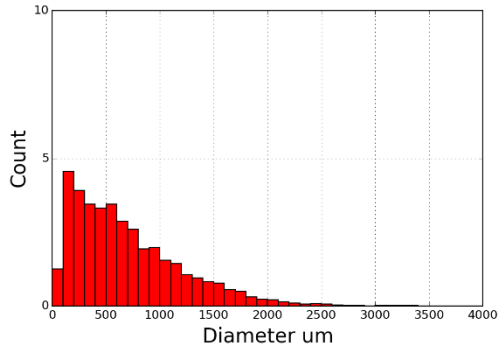


Figure D. 1231: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

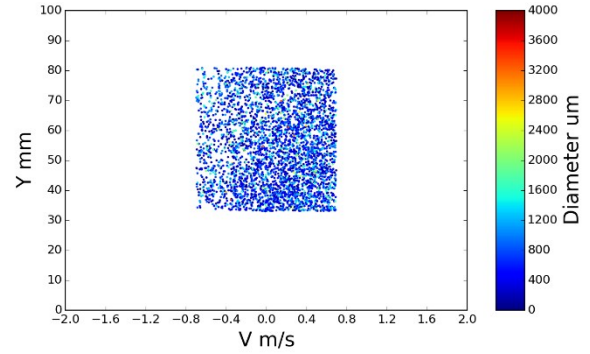


Figure D. 1234: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

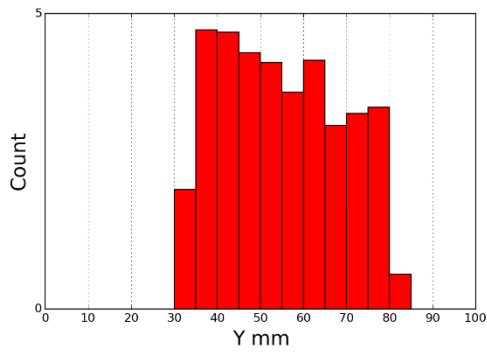


Figure D. 1232: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

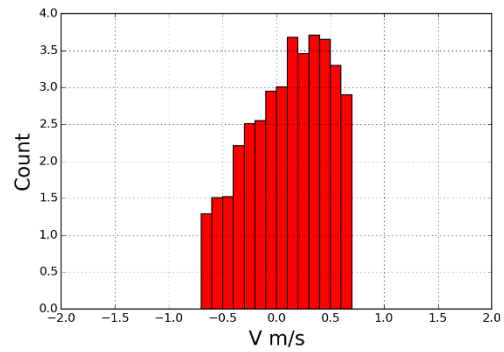


Figure D. 1235: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

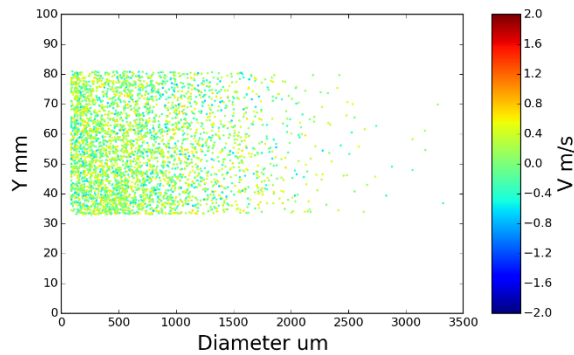


Figure D. 1233: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2.1 Matched Only Droplets for .LB Image

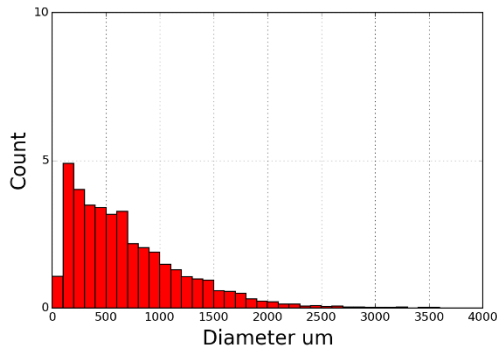


Figure D. 1236: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

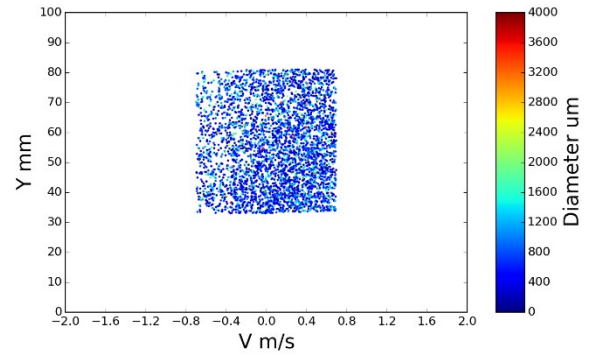


Figure D. 1239: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

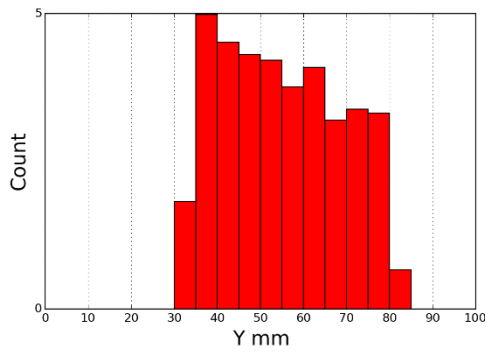


Figure D. 1237: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

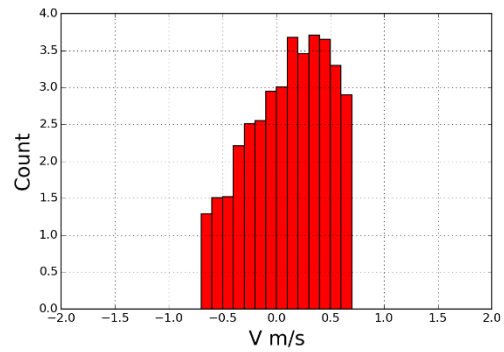


Figure D. 1240: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

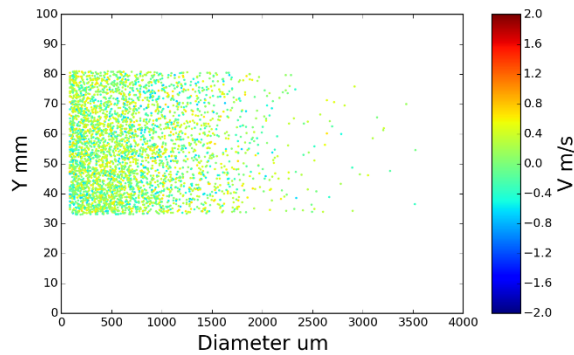


Figure D. 1238: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2.1 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	24.25	23.75	75.9	3679	572.8	510.6	81.2	3580	570.2	528.0
40-60mm	57.82	58.72	75.9	3538	550.4	507.6	75.9	3274	543.4	502.9
60-80mm	49.59	51.41	81.2	3307	525.3	481.8	75.9	3931	511.6	483.4
80-100mm	3.09	2.61	81.2	2567	468.8	412.9	75.9	1650	439.6	378.0
All	134.75	136.49	75.9	3679	543.3	497.2	75.9	3931	534.1	498.7
			Height A (mm)				Height B (mm)			
Highest Particle			81.0200				81.0200			
Lowest Particle			33.0336				33.0336			

Table D. 137: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	6.54	81.2	3395	798.5	559.5	86.1	3580	798.9	581.1	-0.670	0.690	0.050	0.250	-0.690	0.690	0.180	0.350
40-60mm	14.98	86.1	3136	781.6	538.8	75.9	3274	786.2	553.7	-0.690	0.690	0.060	0.260	-0.690	0.690	0.170	0.370
60-80mm	12.95	81.2	2832	805.8	518.0	81.2	2878	797.5	525.9	-0.680	0.690	0.050	0.240	-0.680	0.690	0.140	0.380
80-100mm	0.73	86.1	2567	765.2	484.6	86.1	1650	713.9	438.9	-0.540	0.680	0.050	0.230	-0.680	0.650	0.080	0.310
All	35.2	81.2	3395	793.3	534.3	75.9	3580	791.0	546.6	-0.690	0.690	0.050	0.250	-0.690	0.690	0.160	0.370

Table D. 138: Matched Droplet Info

D.6.2.1 All Droplets for .LA Image

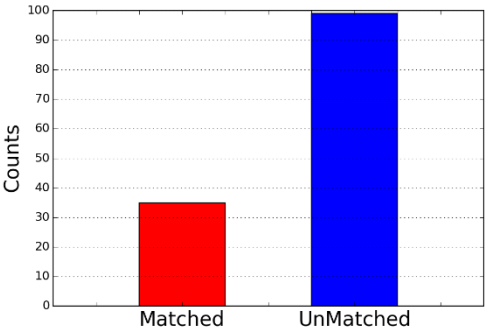


Figure D. 1241: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

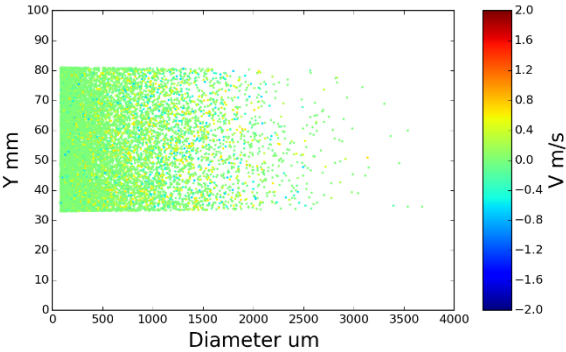


Figure D. 1244: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

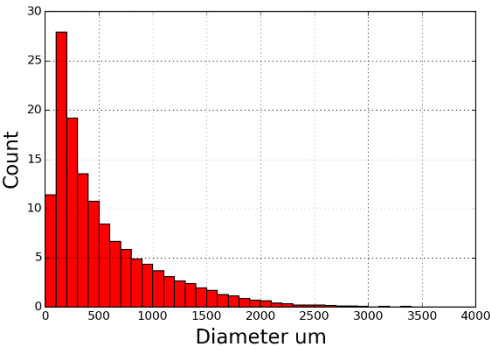


Figure D. 1242: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

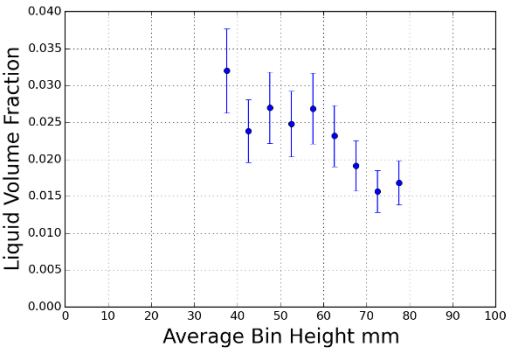


Figure D. 1245: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

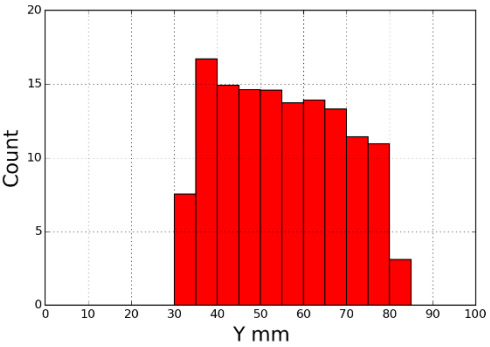


Figure D. 1243: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2.1 All Droplets for .LB Image

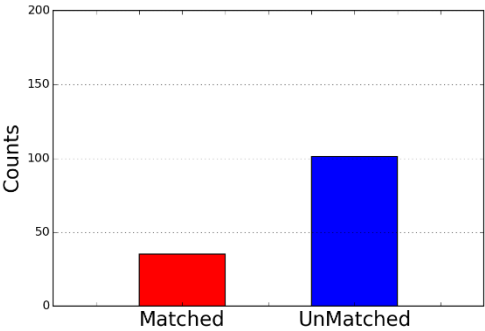


Figure D. 1246: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

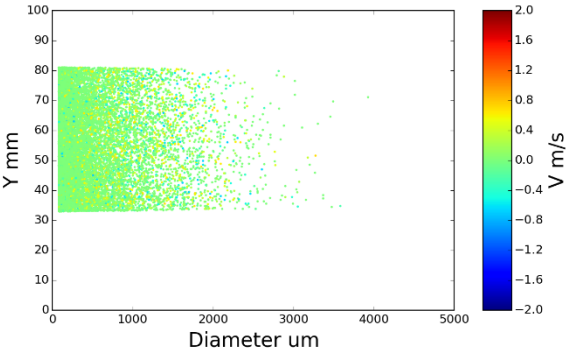


Figure D. 1249: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

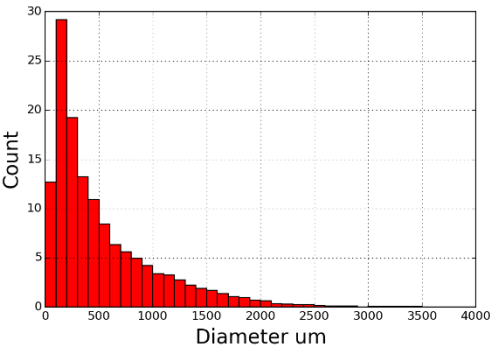


Figure D. 1247: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

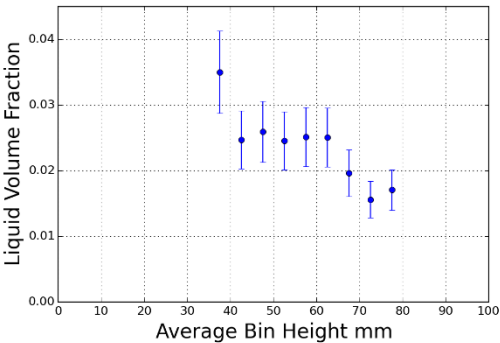


Figure D. 1250: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

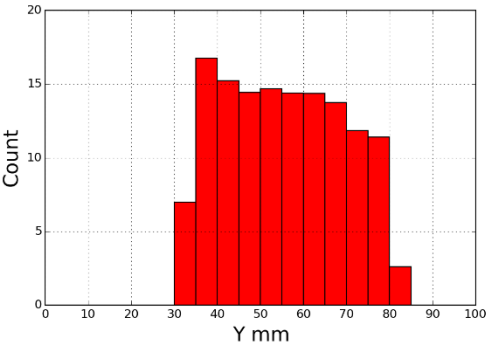


Figure D. 1248: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2.1 Matched Only Droplets for .LA Image

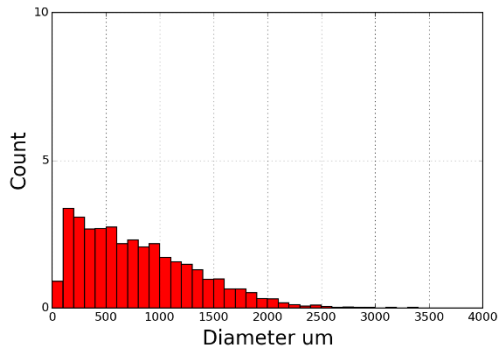


Figure D. 1251: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

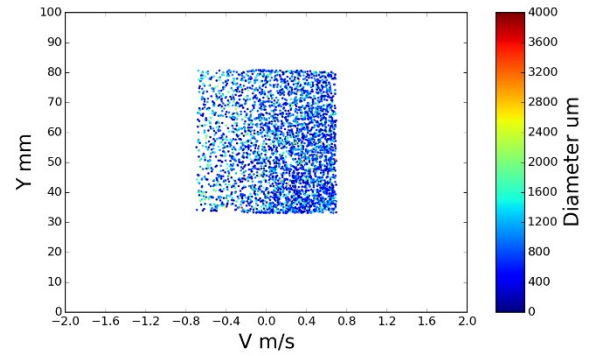


Figure D. 1254: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

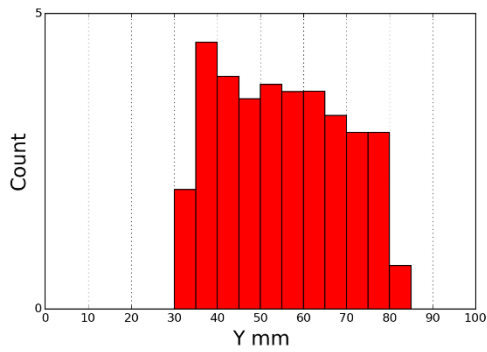


Figure D. 1252: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

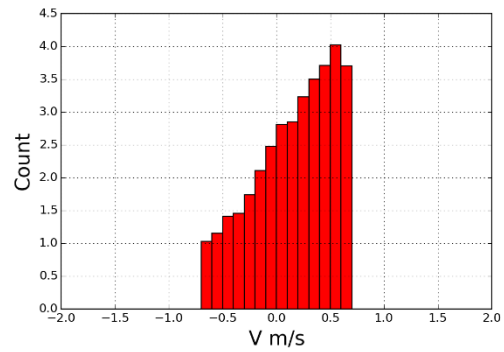


Figure D. 1255: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

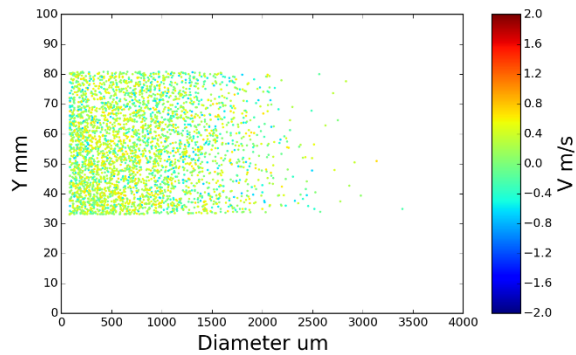


Figure D. 1253: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2.1 Matched Only Droplets for .LB Image

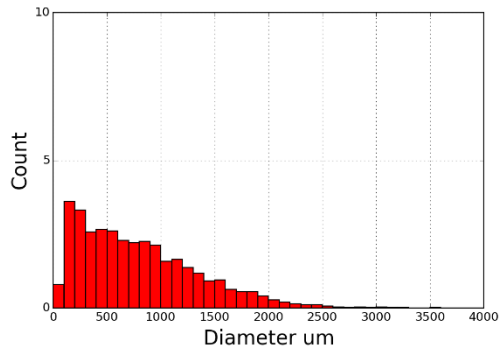


Figure D. 1256: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

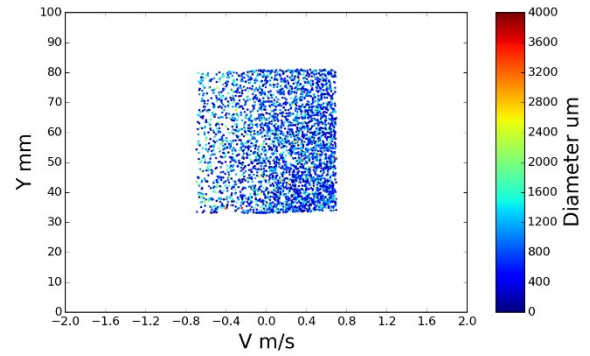


Figure D. 1259: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

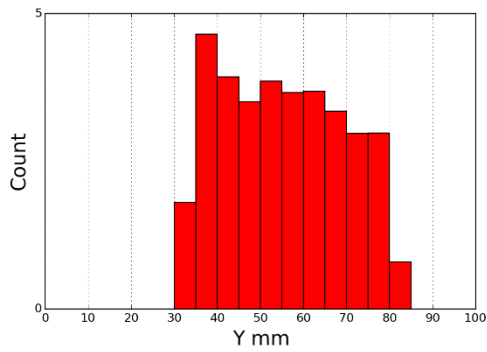


Figure D. 1257: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

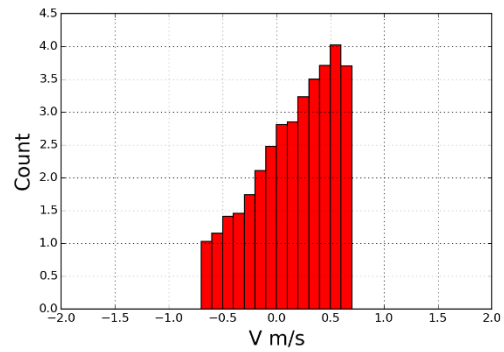


Figure D. 1260: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

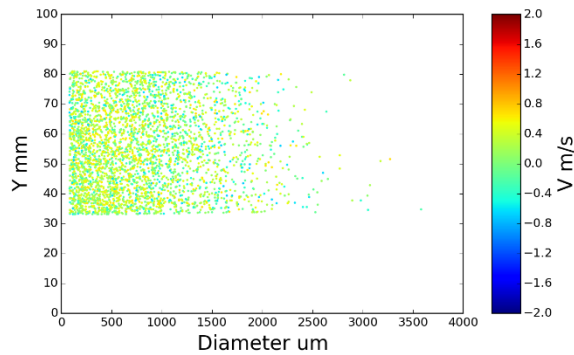


Figure D. 1258: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2.1 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	25.52	25.86	75.9	3652	540.9	506.5	81.2	3538	530.2	506.0
40-60mm	61.23	64.87	75.9	3972	534.3	513.9	75.9	3884	515.7	512.2
60-80mm	53.42	55.53	75.9	3440	521.2	496.9	75.9	3480	500.1	489.1
80-100mm	2.62	3.03	81.2	2251	470.4	430.4	81.2	2302	480.3	450.3
All	142.79	149.29	75.9	3972	529.4	505.0	75.9	3884	511.7	501.5
			Height A (mm)				Height B (mm)			
Highest Particle			81.0073				81.0200			
Lowest Particle			33.0336				33.0446			

Table D. 139: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	5.27	81.2	3272	856.4	589.7	81.2	3538	847.1	613.0	-0.670	0.670	0.050	0.270	-0.690	0.690	0.200	0.350
40-60mm	11.8	81.2	3158	889.9	607.3	81.2	3605	889.7	624.5	-0.690	0.680	0.040	0.270	-0.690	0.690	0.170	0.370
60-80mm	11.85	86.1	3292	876.4	594.6	81.2	3480	865.4	607.8	-0.690	0.690	0.050	0.250	-0.690	0.690	0.130	0.380
80-100mm	0.51	95.2	2029	790.5	482.1	86.1	2040	794.0	511.6	-0.660	0.680	0.060	0.240	-0.690	0.590	-0.020	0.300
All	29.43	81.2	3292	876.7	597.3	81.2	3605	870.7	614.1	-0.690	0.690	0.050	0.260	-0.690	0.690	0.150	0.370

Table D. 140: Matched Droplet Info

D.6.2.1 All Droplets for .LA Image

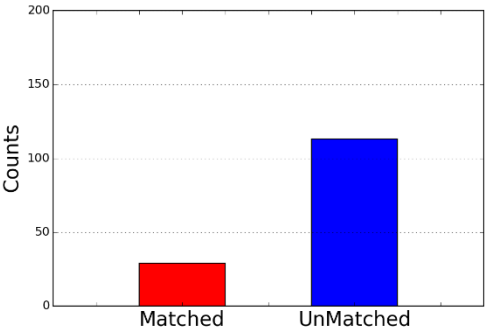


Figure D. 1261: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

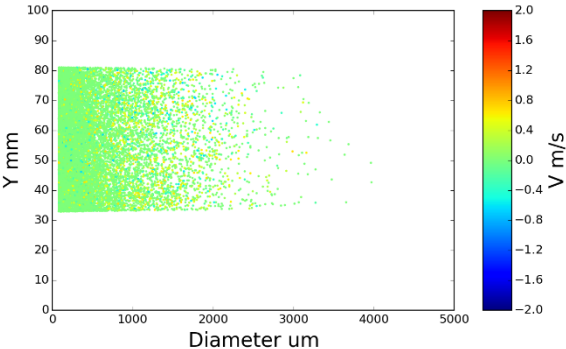


Figure D. 1264: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

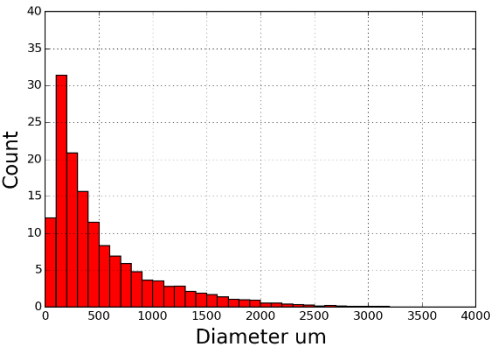


Figure D. 1262: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

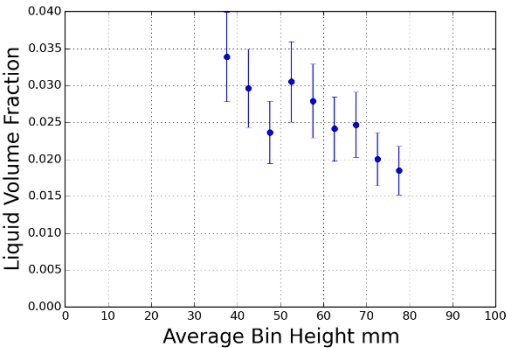


Figure D. 1265: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

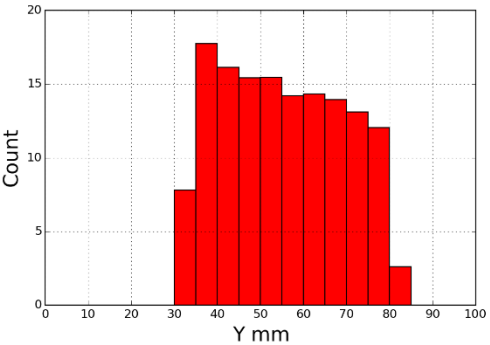


Figure D. 1263: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2.1 All Droplets for .LB Image

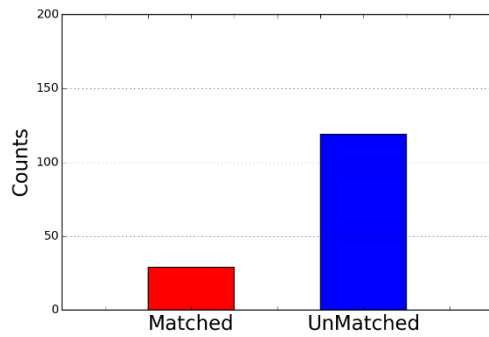


Figure D. 1266: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

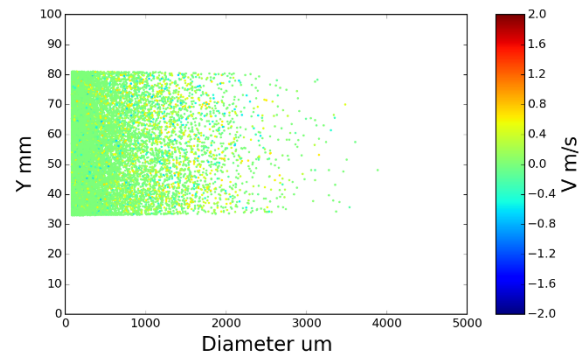


Figure D. 1269: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

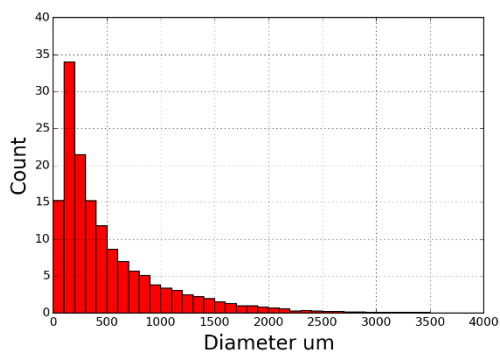


Figure D. 1267: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

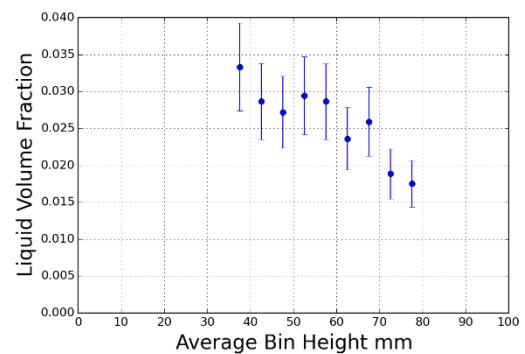


Figure D. 1270: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

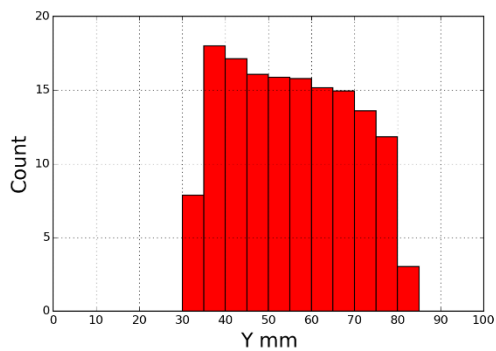


Figure D. 1268: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2.1 Matched Only Droplets for .LA Image

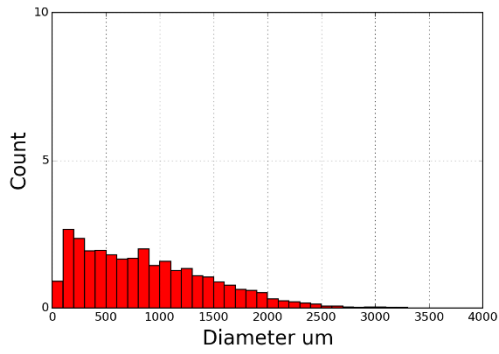


Figure D. 1271: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

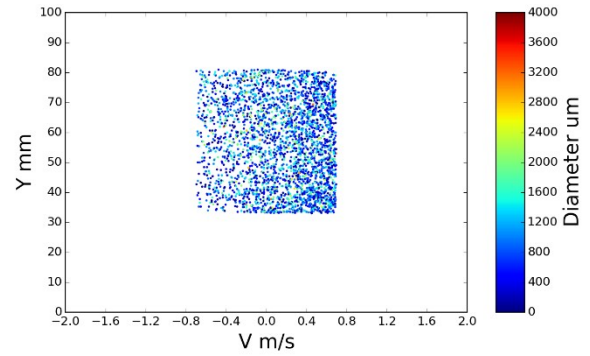


Figure D. 1274: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

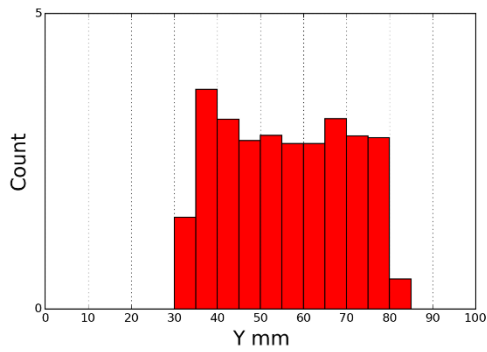


Figure D. 1272: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

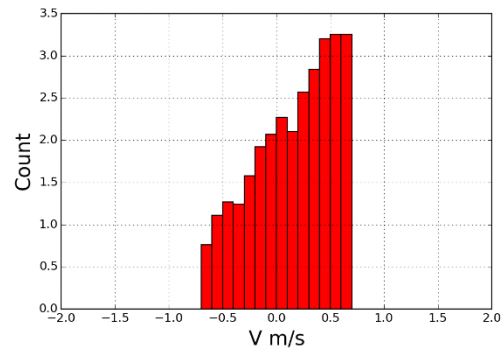


Figure D. 1275: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

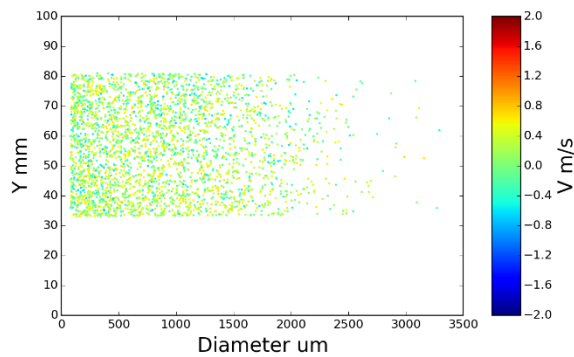


Figure D. 1273: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2.1 Matched Only Droplets for .LB Image

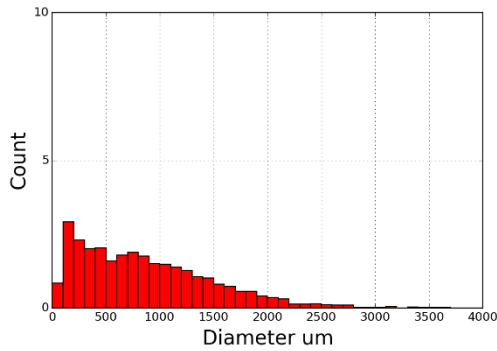


Figure D. 1276: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

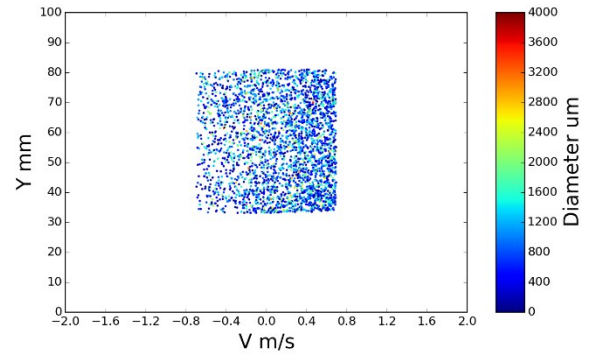


Figure D. 1279: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

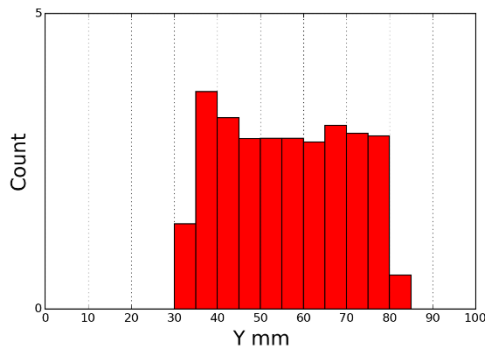


Figure D. 1277: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

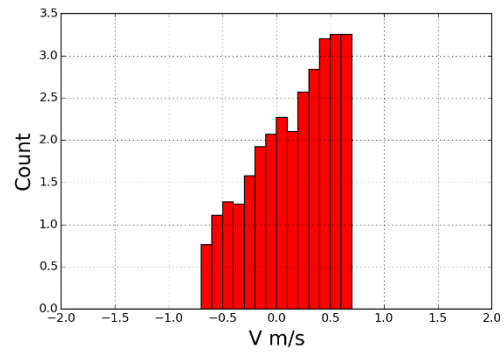


Figure D. 1280: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

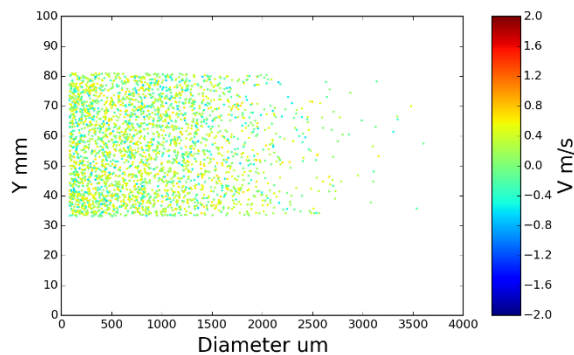


Figure D. 1278: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2.2 Lens 50mm Mag 0_13x

D.6.2.2 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	15.83	16.33	182.4	3966	913.3	715.0	182.4	3999	908.1	729.1
20-40mm	38.68	38.21	182.4	3970	751.5	528.2	170.7	3521	747.5	518.9
40-60mm	32.55	32.23	182.4	3965	725.1	487.0	182.4	3800	731.4	497.5
60-80mm	29.1	30.01	170.7	2981	710.5	479.1	170.7	3611	701.7	479.1
80-100mm	26.93	26.37	182.4	2738	642.6	410.2	182.4	2738	654.4	413.6
All	143.2	143.23	170.7	3970	734.2	519.2	170.7	3999	735.1	522.3
			Height A (mm)				Height B (mm)			
Highest Particle			100.0300				100.0300			
Lowest Particle			11.5817				11.5795			

Table D. 141: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	9.89	182.4	3767	1005	676.4	182.4	3920	1006	702.0	-1.550	1.560	-0.030	0.400	-1.550	1.540	0.140	0.490
20-40mm	25.62	182.4	3429	833.9	524.0	170.7	3422	820.8	529.3	-1.530	1.550	-0.030	0.340	-1.530	1.560	0.350	0.560
40-60mm	20.94	182.4	3339	814.1	480.3	182.4	3800	817.5	493.7	-1.550	1.530	0.000	0.340	-1.560	1.560	0.500	0.610
60-80mm	19.34	170.7	2981	808.7	482.6	170.7	3611	800.9	484.8	-1.540	1.560	0.010	0.320	-1.560	1.560	0.560	0.600
80-100mm	17.95	193.5	2738	748.9	422.9	182.4	2632	742.2	425.5	-1.510	1.560	-0.020	0.320	-1.560	1.560	0.490	0.610
All	93.75	170.7	3767	826.0	511.6	170.7	3920	819.1	519.1	-1.550	1.560	-0.010	0.340	-1.560	1.560	0.430	0.600

Table D. 142: Matched Droplet Info

D.6.2.2 All Droplets for .LA Image

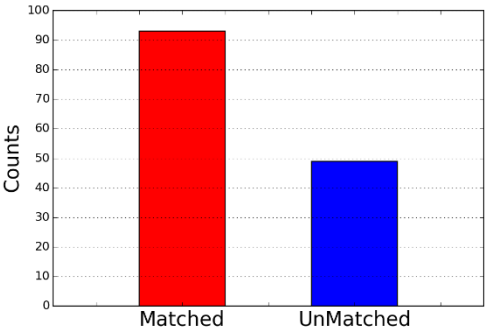


Figure D. 1281: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

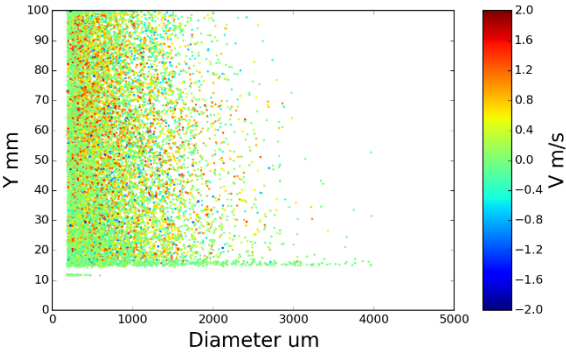


Figure D. 1284: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

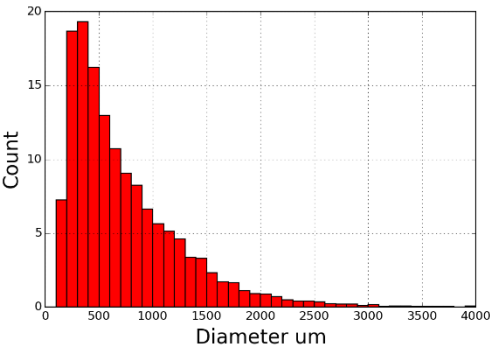


Figure D. 1282: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

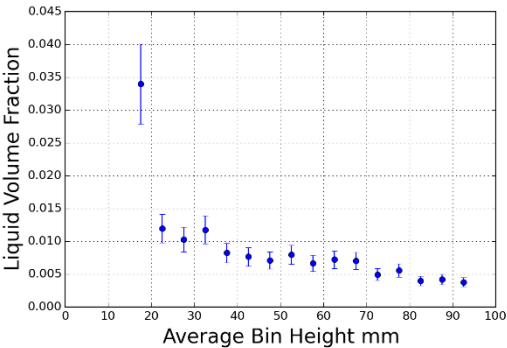


Figure D. 1285: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

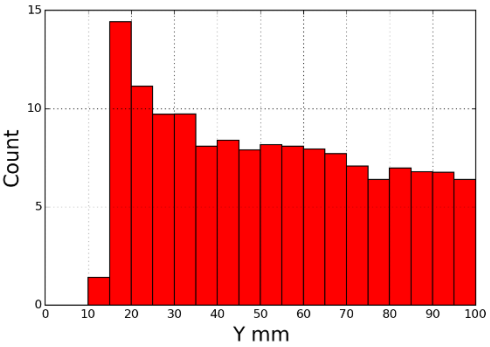


Figure D. 1283: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2.2 All Droplets for .LB Image

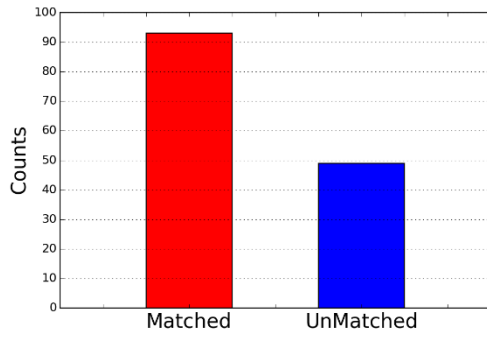


Figure D. 1286: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

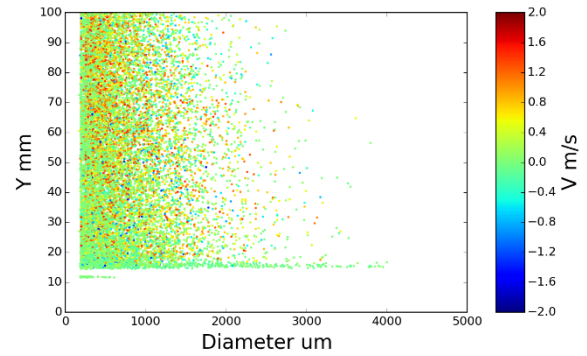


Figure D. 1289: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

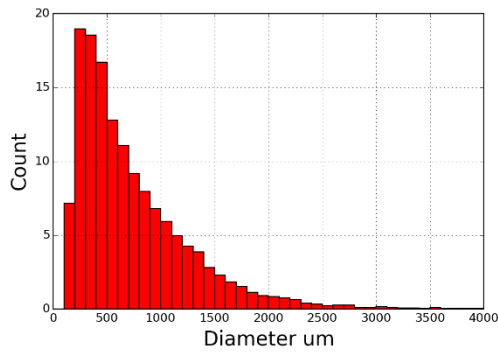


Figure D. 1287: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

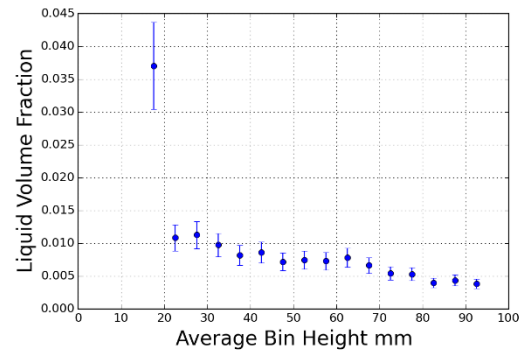


Figure D. 1290: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

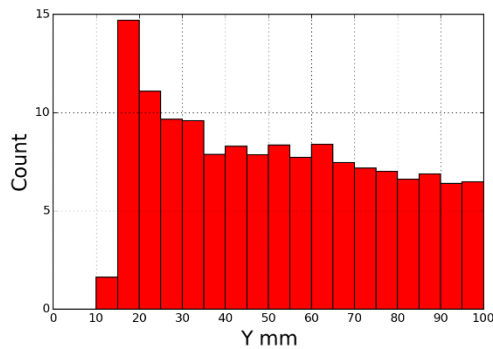


Figure D. 1288: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2.2 Matched Only Droplets for .LA Image

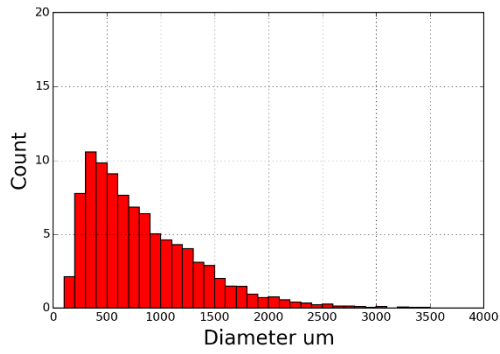


Figure D. 1291: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

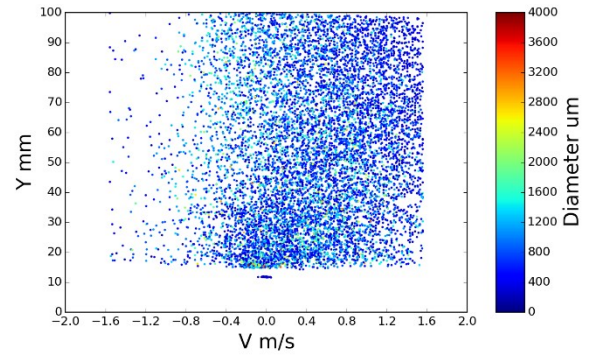


Figure D. 1294: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

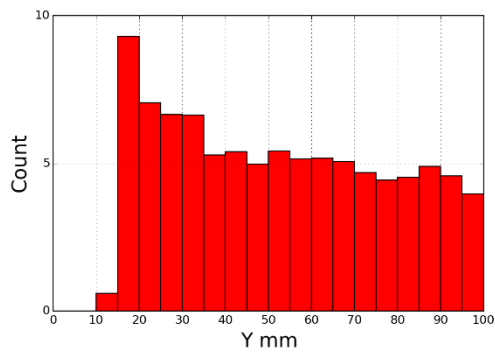


Figure D. 1292: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

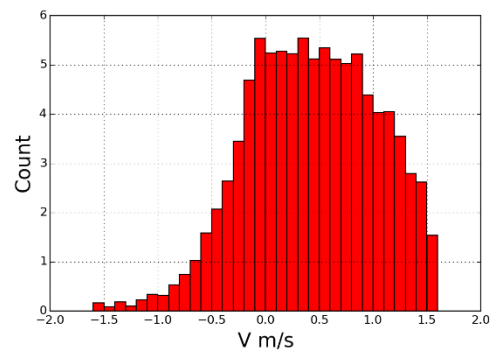


Figure D. 1295: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

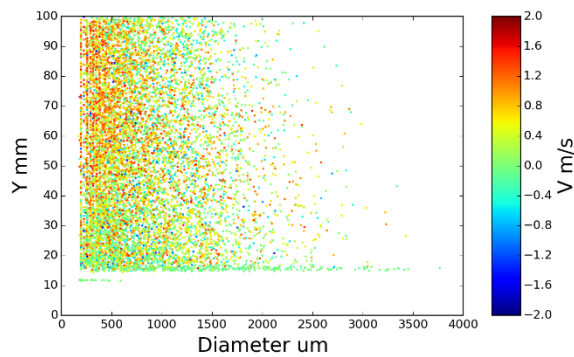


Figure D. 1293: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2.2 Matched Only Droplets for .LB Image

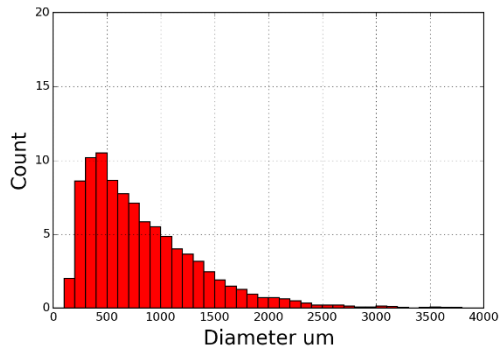


Figure D. 1296: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

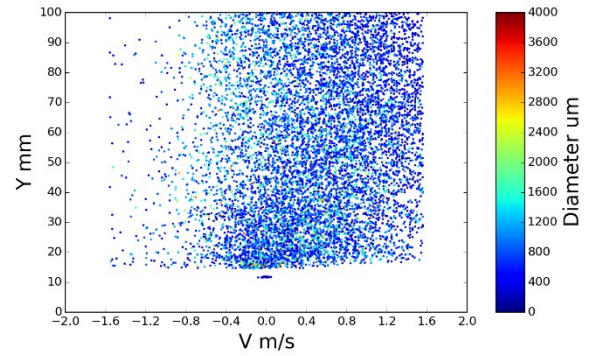


Figure D. 1299: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

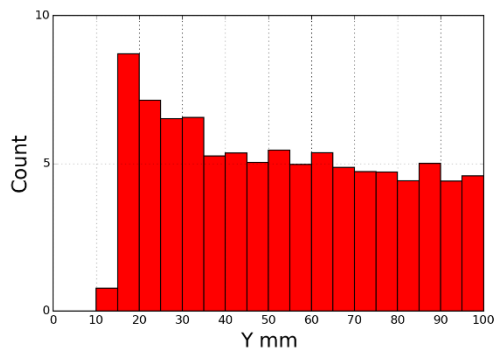


Figure D. 1297: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

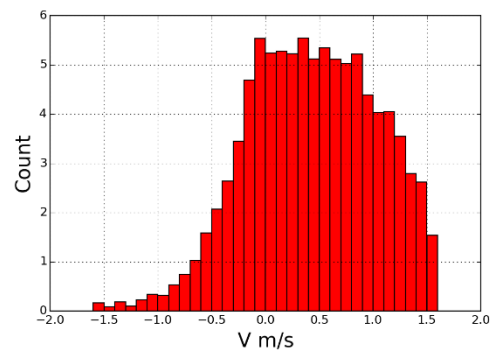


Figure D. 1300: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

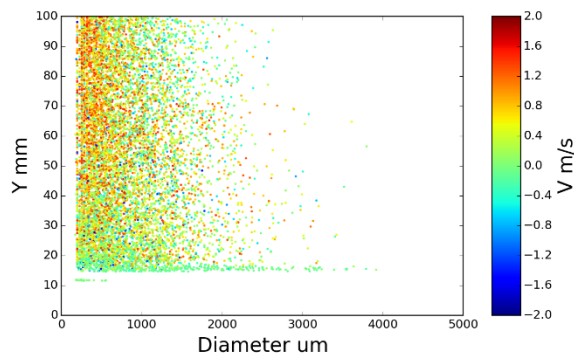


Figure D. 1298: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2.2 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	18.7	18.22	170.7	3902	861.1	676.5	182.4	3927	842.4	672.9
20-40mm	46.61	46.2	170.7	3856	720.0	491.4	170.7	3726	714.4	487.8
40-60mm	39.3	39.4	182.4	3432	703.2	470.9	182.4	3868	713.1	486.0
60-80mm	36.67	36.8	170.7	3400	696.3	464.9	170.7	3240	696.9	460.8
80-100mm	31.76	31.92	170.7	3269	653.0	411.6	170.7	3650	659.1	419.3
All	173.13	172.57	170.7	3902	713.9	494.9	170.7	3927	713.6	495.6
			Height A (mm)				Height B (mm)			
Highest Particle			100.0036				100.0300			
Lowest Particle			10.5585				10.5726			

Table D. 143: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	11.45	182.4	3856	966.2	649.0	182.4	3927	960.2	678.1	-1.550	1.550	-0.010	0.390	-1.530	1.550	0.220	0.550
20-40mm	29.36	182.4	3634	821.1	487.5	182.4	3617	811.3	489.6	-1.560	1.550	-0.000	0.370	-1.560	1.560	0.440	0.610
40-60mm	24.31	182.4	3238	827.4	480.7	182.4	3800	831.2	496.2	-1.560	1.550	0.030	0.360	-1.560	1.560	0.560	0.640
60-80mm	22.57	182.4	3209	841.0	472.8	193.5	3240	828.0	474.8	-1.560	1.550	0.010	0.360	-1.560	1.560	0.550	0.650
80-100mm	20.4	182.4	3269	766.2	424.1	182.4	3650	759.9	430.7	-1.550	1.560	0.000	0.340	-1.510	1.560	0.480	0.620
All	108.09	182.4	3856	831.7	494.5	170.7	3927	824.4	502.8	-1.560	1.560	0.010	0.360	-1.560	1.560	0.470	0.630

Table D. 144: Matched Droplet Info

D.6.2.2 All Droplets for .LA Image

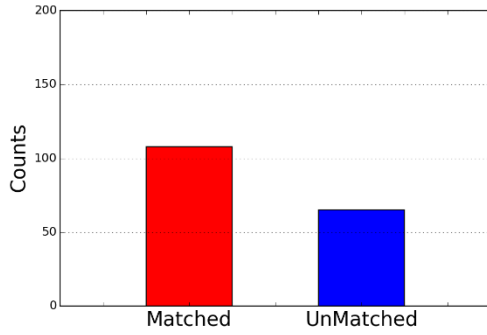


Figure D. 1301: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

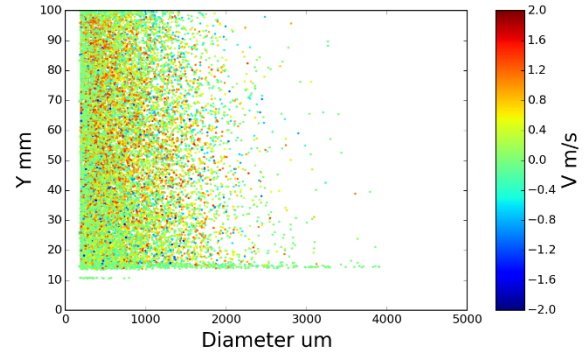


Figure D. 1304: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

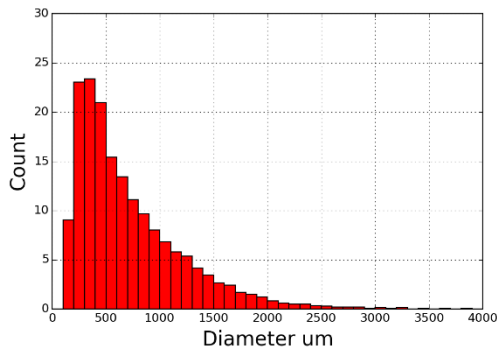


Figure D. 1302: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

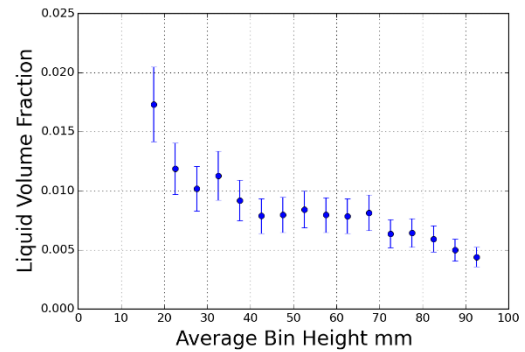


Figure D. 1305: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

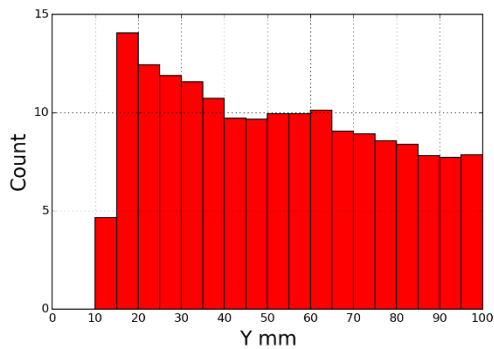


Figure D. 1303: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2.2 All Droplets for .LB Image

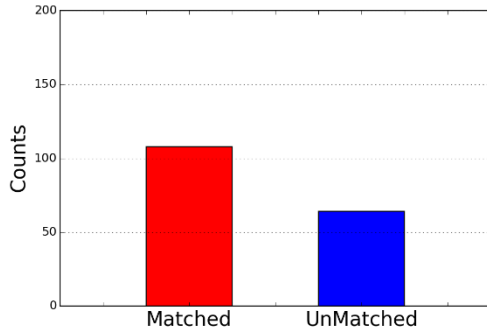


Figure D. 1306: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

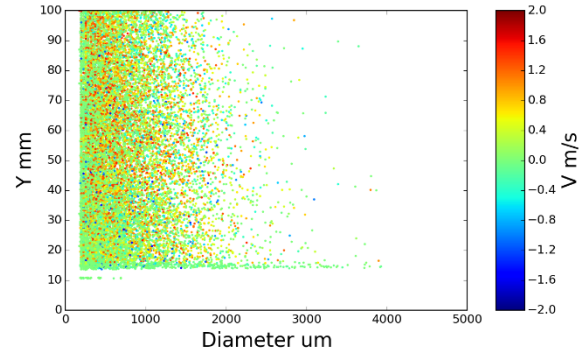


Figure D. 1309: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

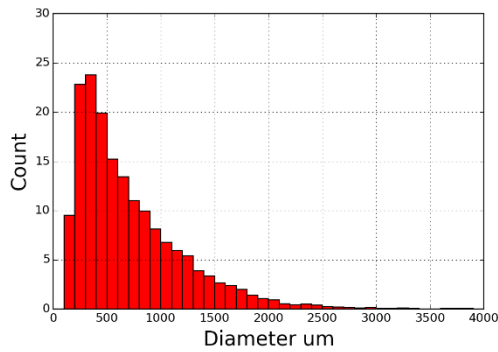


Figure D. 1307: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

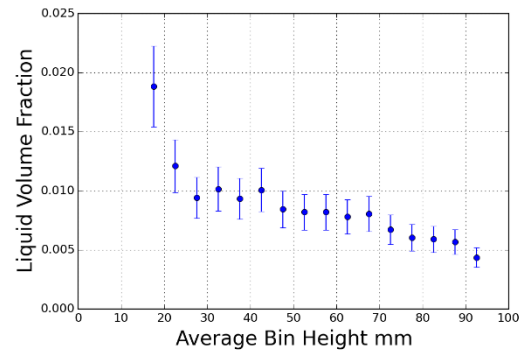


Figure D. 1310: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

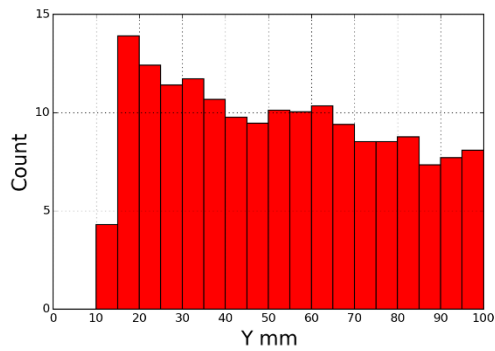


Figure D. 1308: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2.2 Matched Only Droplets for .LA Image

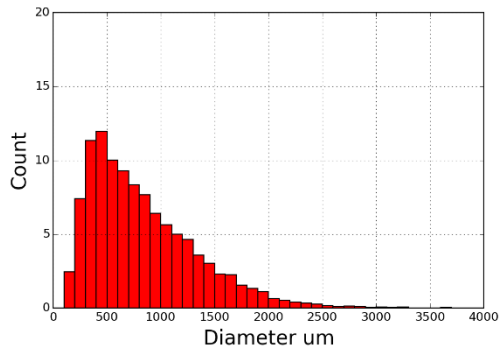


Figure D. 1311: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

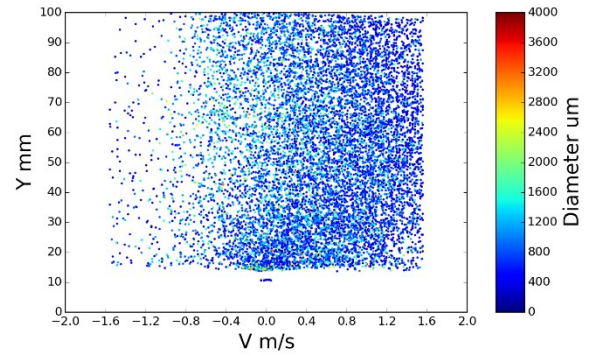


Figure D. 1314: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

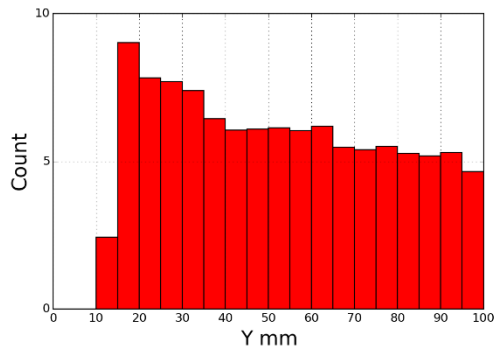


Figure D. 1312: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

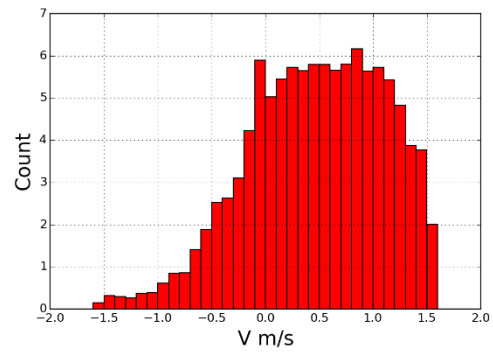


Figure D. 1315: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

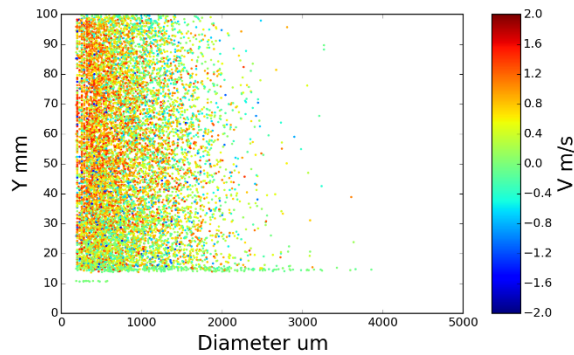


Figure D. 1313: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2.2 Matched Only Droplets for .LB Image

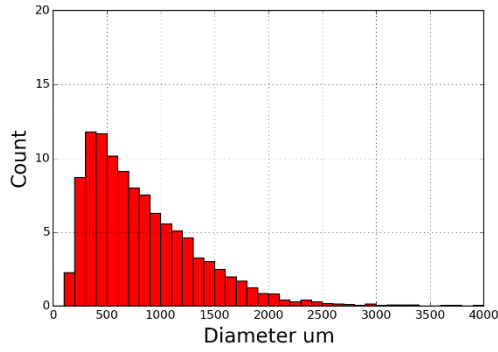


Figure D. 1316: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

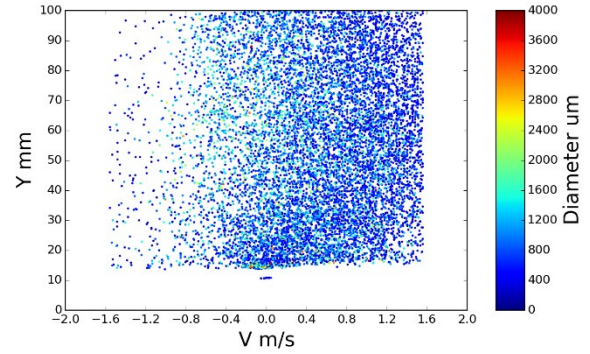


Figure D. 1319: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

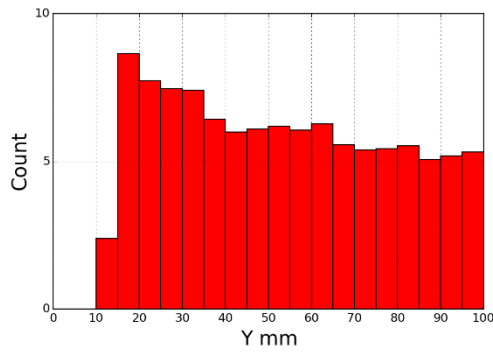


Figure D. 1317: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

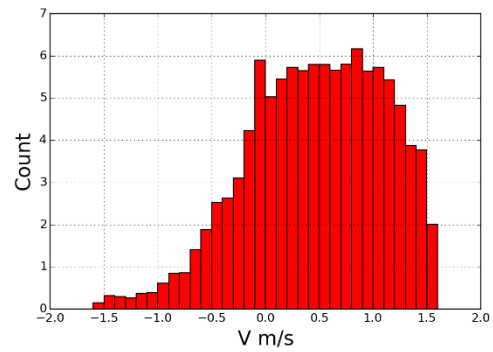


Figure D. 1320: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

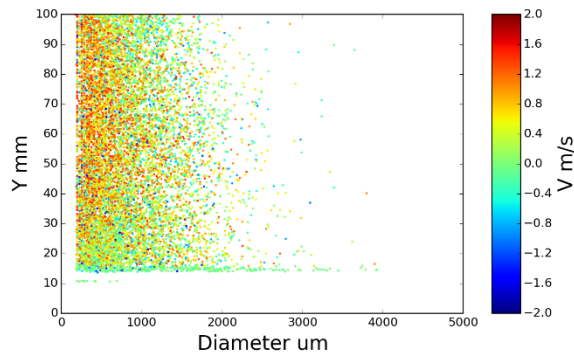


Figure D. 1318: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2.2 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	21.06	20.58	170.7	3830	808.4	628.5	170.7	3972	825.6	644.9
20-40mm	47.34	46.99	170.7	3805	732.3	523.6	170.7	3877	727.5	523.2
40-60mm	38.78	38.94	182.4	3581	716.5	504.3	170.7	3822	715.8	511.9
60-80mm	34.33	35.2	182.4	3875	730.0	499.6	170.7	3892	724.0	498.0
80-100mm	30.78	30.89	182.4	3670	677.4	448.9	170.7	3372	677.8	440.9
All	172.36	172.7	170.7	3875	727.6	517.5	170.7	3972	726.6	519.8
			Height A (mm)				Height B (mm)			
Highest Particle			100.0043100.0300							
Lowest Particle			9.56789.7380							

Table D. 145: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	12.22	182.4	3830	947.0	643.2	182.4	3956	952.3	673.7	-1.550	1.550	0.000	0.430	-1.560	1.550	0.340	0.590
20-40mm	27.04	182.4	3633	868.6	523.4	182.4	3877	856.4	534.0	-1.560	1.560	0.010	0.400	-1.560	1.560	0.490	0.660
40-60mm	21.52	182.4	3484	887.4	519.3	182.4	3564	880.7	529.6	-1.560	1.560	0.040	0.420	-1.530	1.560	0.550	0.680
60-80mm	20.16	193.5	3875	898.8	506.8	170.7	3892	889.9	516.5	-1.560	1.550	0.020	0.370	-1.450	1.560	0.550	0.660
80-100mm	19.35	193.5	3127	806.2	447.6	182.4	3148	793.0	445.1	-1.530	1.530	-0.010	0.310	-1.560	1.560	0.490	0.630
All	100.3	182.4	3875	876.2	523.6	170.7	3956	866.6	533.6	-1.560	1.560	0.010	0.390	-1.560	1.560	0.500	0.660

Table D. 146: Matched Droplet Info

D.6.2.2 All Droplets for .LA Image

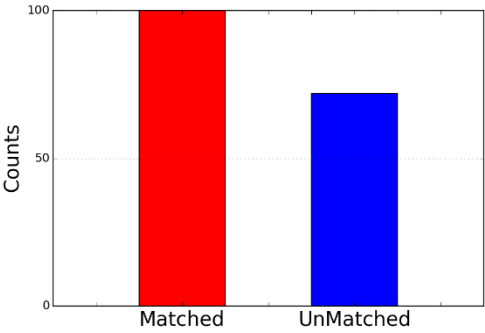


Figure D. 1321: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

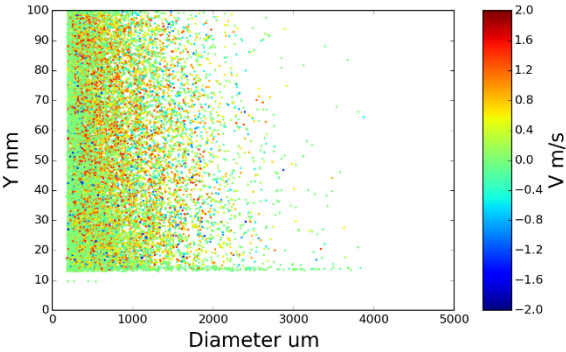


Figure D. 1324: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

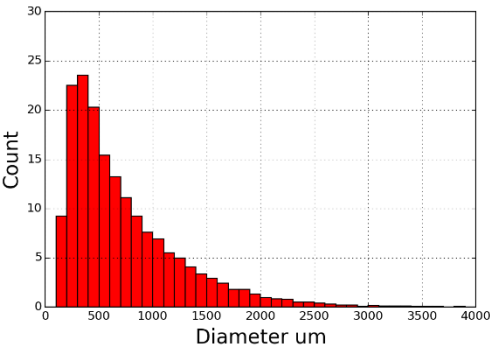


Figure D. 1322: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

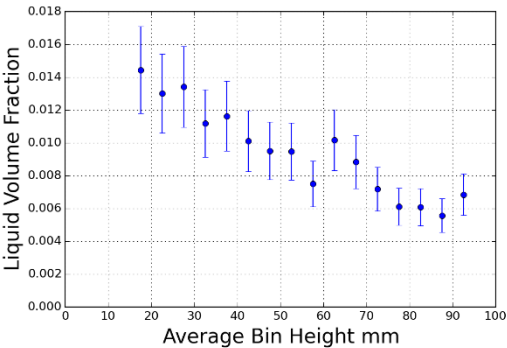


Figure D. 1325: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

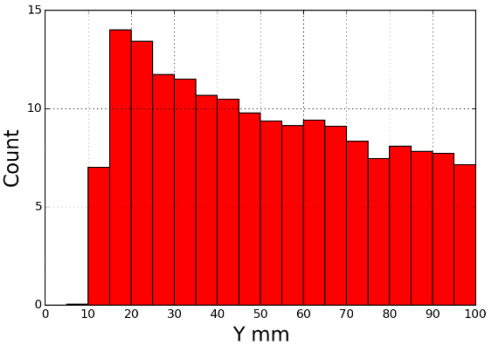


Figure D. 1323: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2.2 All Droplets for .LB Image

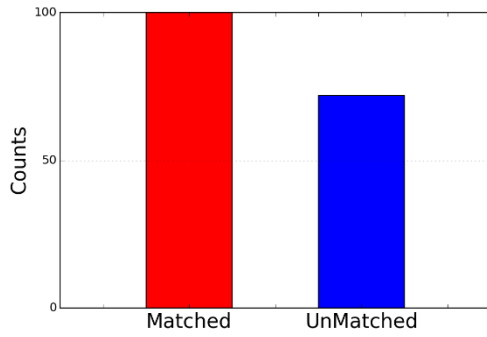


Figure D. 1326: CHC Count Comparison R-123 55F 5000Btu 15000Lb Rot Tri

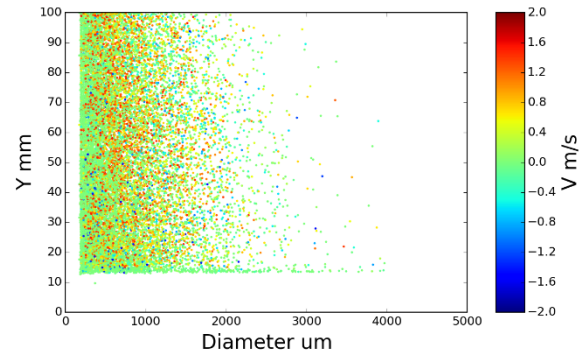


Figure D. 1329: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

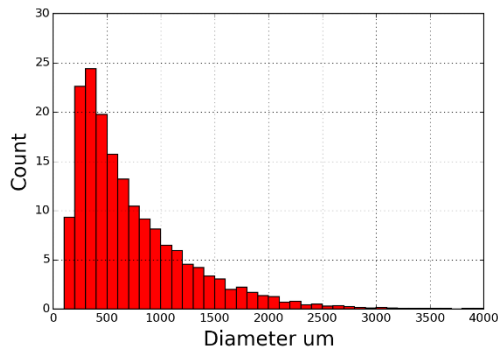


Figure D. 1327: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

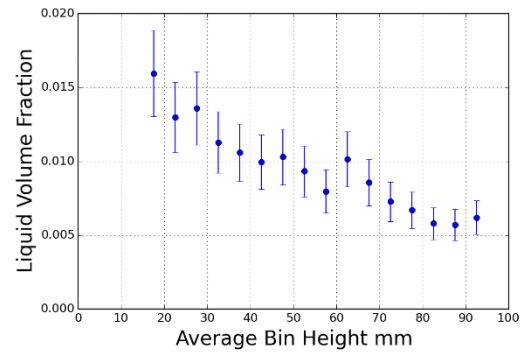


Figure D. 1330: Void Fraction R-123 55F 5000Btu 15000Lb Rot Tri

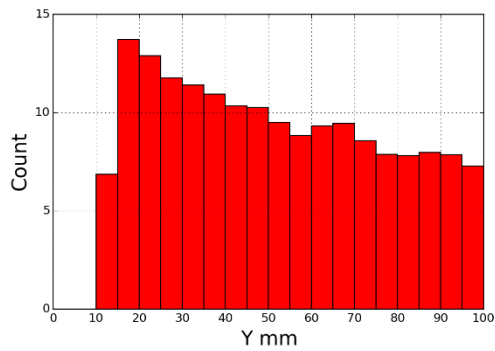


Figure D. 1328: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2.2 Matched Only Droplets for .LA Image

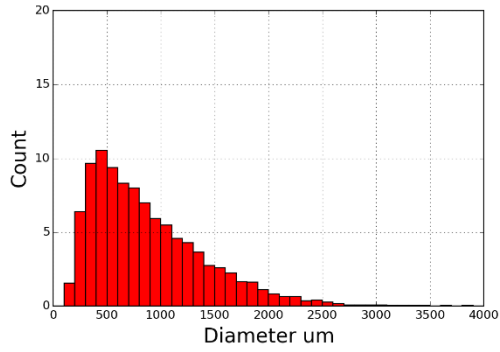


Figure D. 1331: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

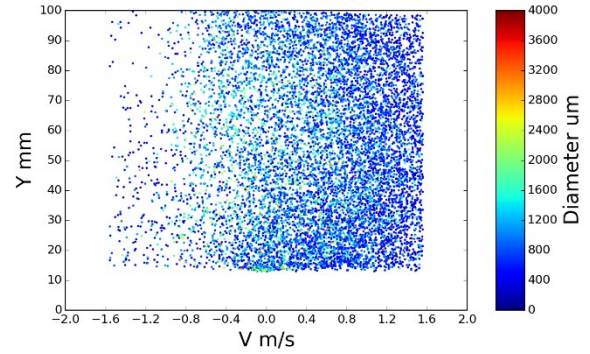


Figure D. 1334: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

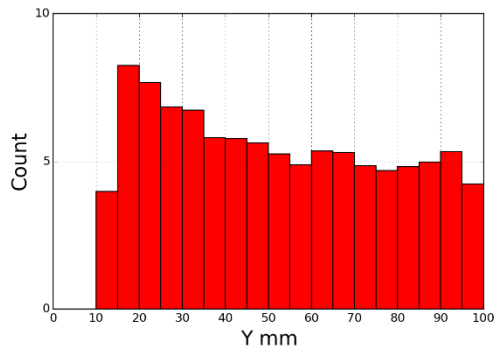


Figure D. 1332: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

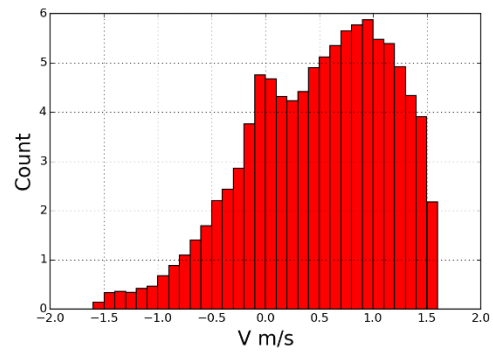


Figure D. 1335: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

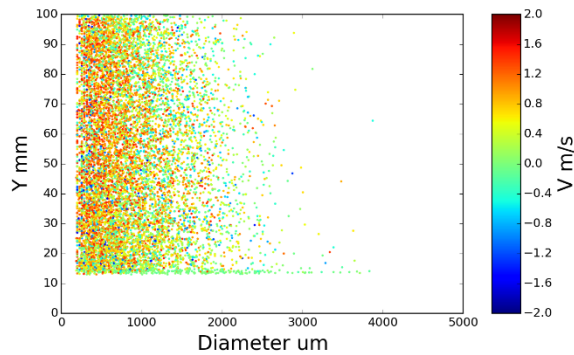


Figure D. 1333: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.6.2.2 Matched Only Droplets for .LB Image

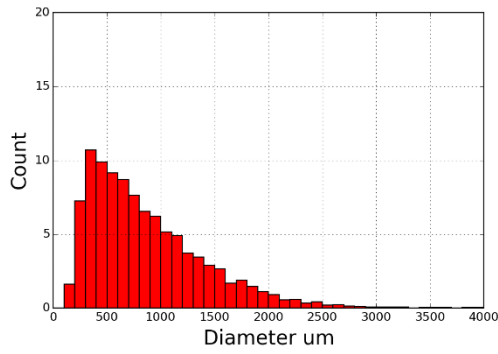


Figure D. 1336: Droplet Diameter Histogram R-123 55F 5000Btu 15000Lb Rot Tri

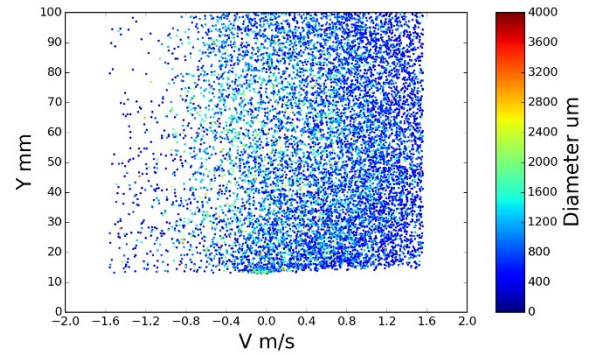


Figure D. 1339: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 15000Lb Rot Tri

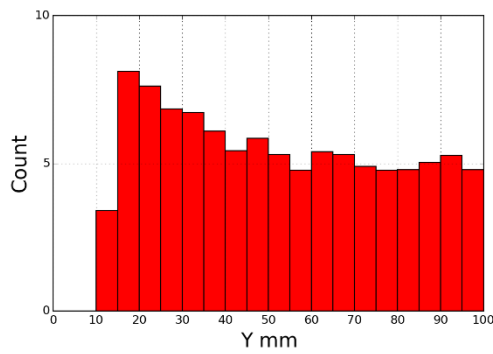


Figure D. 1337: Droplet Height Histogram R-123 55F 5000Btu 15000Lb Rot Tri

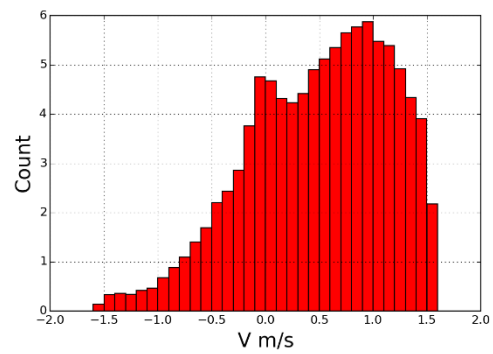


Figure D. 1340: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 15000Lb Rot Tri

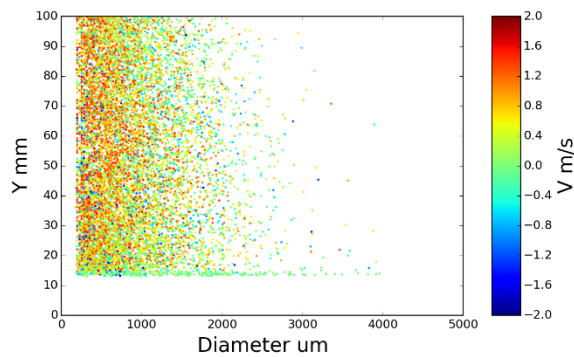


Figure D. 1338: Droplet Height vs Diameter R-123 55F 5000Btu 15000Lb Rot Tri

D.7 - 1556 R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1 Liquid Level 2

Thermal Conditions	
H2O Flow Rate (lb/hr) / (kg/s)	13076 / 1.648
Ref Mass Flow (lb/hr) / (kg/s)	3117 / 0.393
Ref Mass Flux (lb/hr-ft ²) / (kg/s-m ²)	30339 / 41.147
Top Two Rows Heat Flux (Btu/hr-ft ²) / (kW/m ²)	5027 / 15.86
Bundle Exit Saturation Temp (°F) / (°C)	54.0 / 12.20
Bundle Inlet Saturation Temp (°F) / (°C)	56.4 / 13.55
Total Bundle Q (Btu/hr) / (kW)	166888 / 48.91
Total Bundle & Preboiler Q (Btu/hr) / (kW)	196411 / 57.56
Top Two Rows HTC Ratio	1.062
Bundle Inlet Quality	0.01
Bundle Exit Quality	0.72

Table D. 147: Thermal Conditions

D.7.1.1 Lens 100mm Mag 0_29x

D.7.1.1 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	82.69	81.43	75.9	3941	413.4	429.2	75.9	3999	411.3	422.4
40-60mm	252.59	251.81	75.9	4004	382.3	388.8	75.9	4012	380.4	390.7
60-80mm	250.23	250.21	75.9	3986	374.5	378.0	75.9	3924	372.6	372.6
80-100mm	11.31	11.08	75.9	1841	345.7	275.2	75.9	1974	338.2	280.6
All	596.86	594.62	75.9	4004	382.6	388.6	75.9	4012	380.6	386.2
			Height A (mm)				Height B (mm)			
Highest Particle			80.7784				80.7784			
Lowest Particle			32.8043				32.8043			

Table D. 148: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	42.34	81.1	3423	512.9	446.4	81.1	3738	505.9	451.5	-3.180	3.160	-0.150	0.910	-3.150	3.180	0.200	1.180
40-60mm	132.95	81.1	3722	468.4	417.7	75.9	4012	460.1	417.5	-3.180	3.180	-0.170	0.940	-3.180	3.180	0.340	1.280
60-80mm	138.15	81.1	3732	449.1	393.8	75.9	3796	442.2	395.3	-3.180	3.180	-0.150	0.890	-3.180	3.180	0.410	1.240
80-100mm	5.08	81.1	1841	429.6	316.3	81.1	1956	417.5	309.5	-3.040	3.070	-0.130	0.930	-3.180	2.250	0.040	0.920
All	318.52	81.1	3732	465.4	410.6	75.9	4012	457.6	411.5	-3.180	3.180	-0.160	0.910	-3.180	3.180	0.350	1.250

Table D. 149: Matched Droplet Info

D.7.1.1 All Droplets for .LA Image

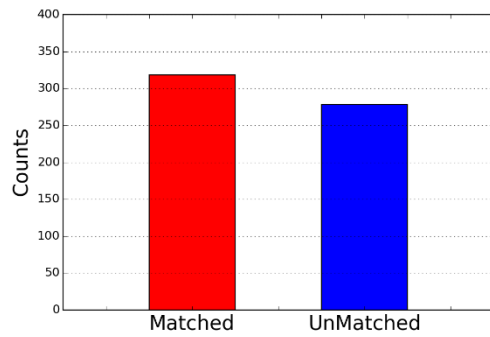


Figure D. 1341: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

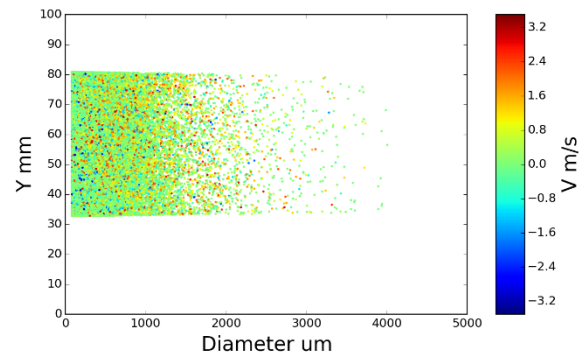


Figure D. 1344: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

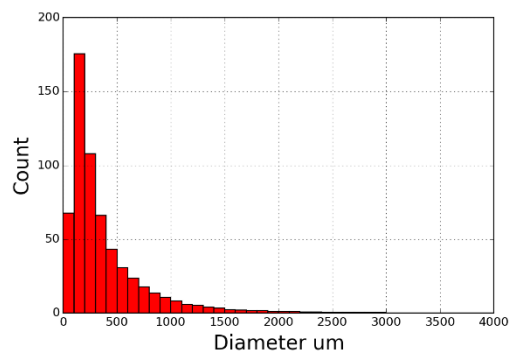


Figure D. 1342: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

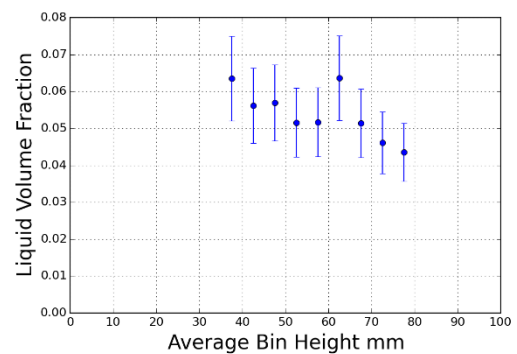


Figure D. 1345: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

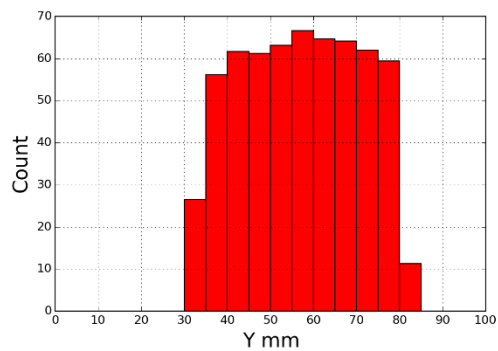


Figure D. 1343: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1.1 All Droplets for .LB Image

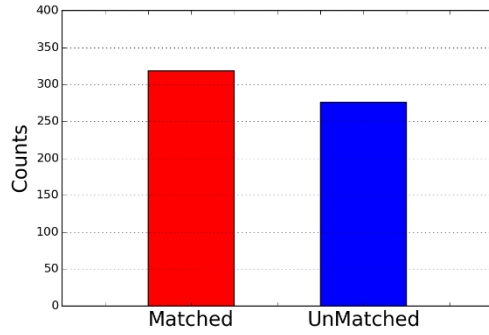


Figure D. 1346: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

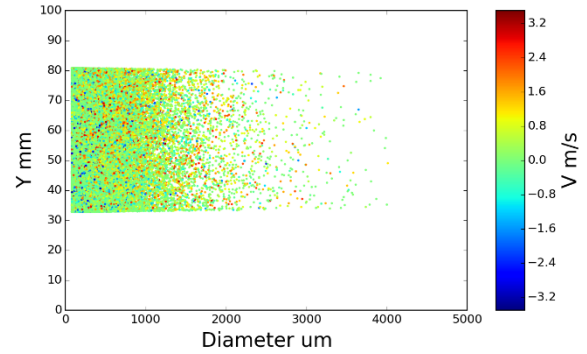


Figure D. 1349: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

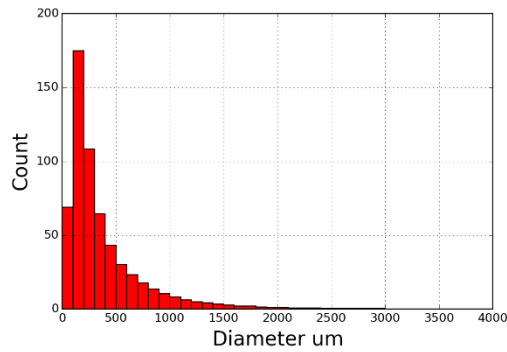


Figure D. 1347: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

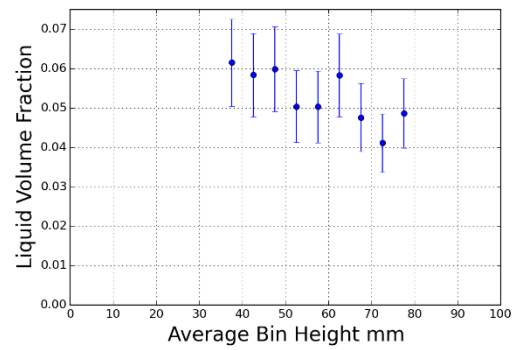


Figure D. 1350: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

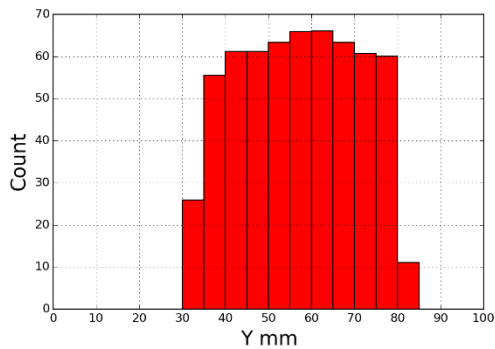


Figure D. 1348: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1.1 Matched Only Droplets for .LA Image

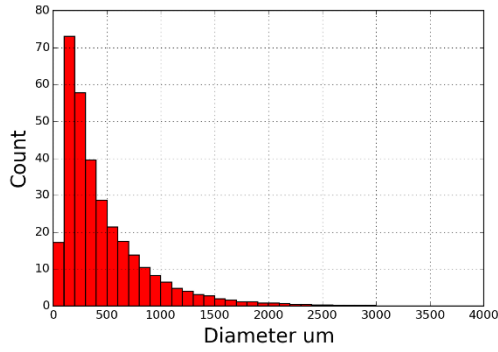


Figure D. 1351: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

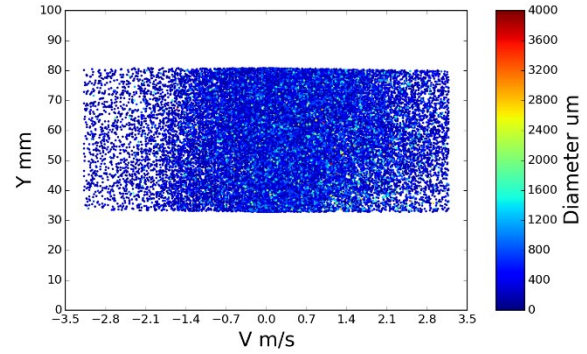


Figure D. 1354: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

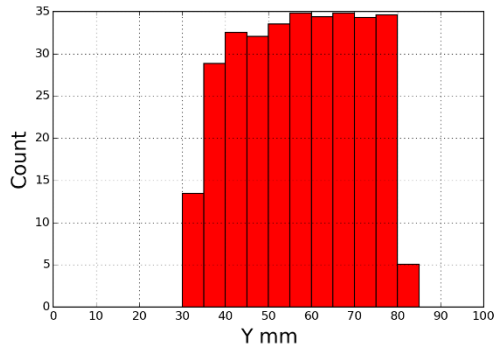


Figure D. 1352: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

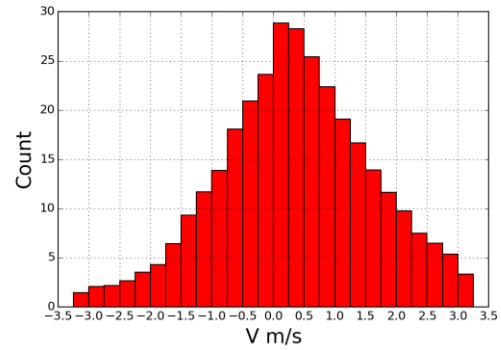


Figure D. 1355: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

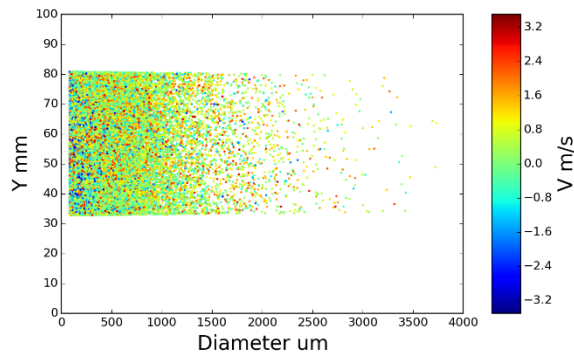


Figure D. 1353: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1.1 Matched Only Droplets for .LB Image

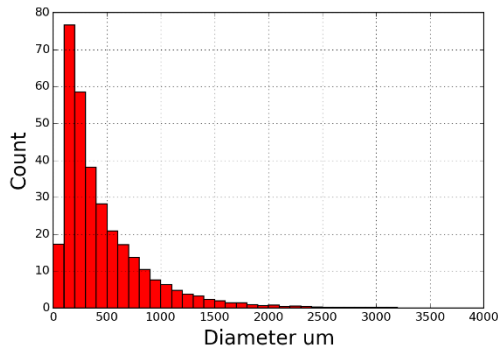


Figure D. 1356: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

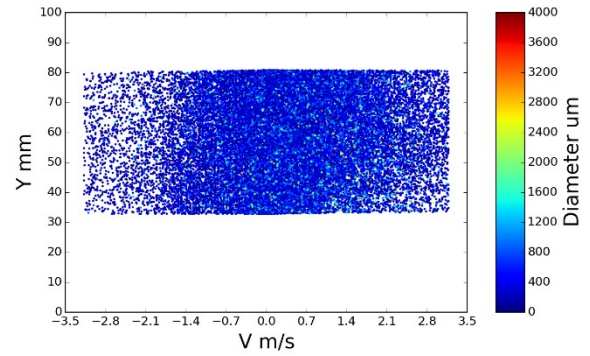


Figure D. 1359: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

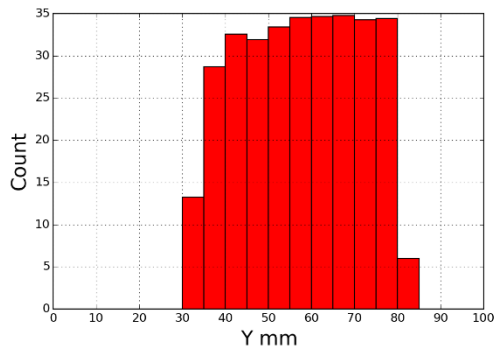


Figure D. 1357: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

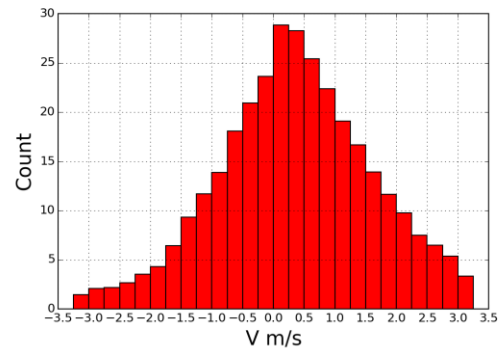


Figure D. 1360: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

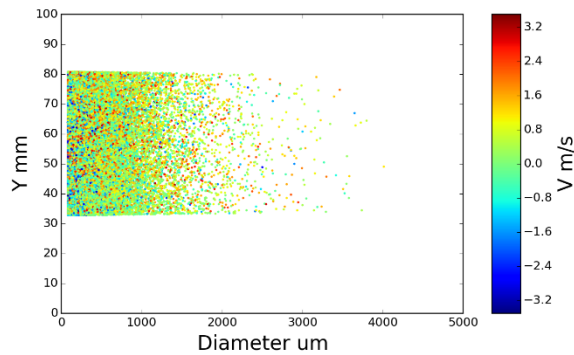


Figure D. 1358: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1.1 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	81.75	80.56	75.9	3690	437.4	428.8	75.9	3973	443.2	432.3
40-60mm	207.01	209.0	75.9	3912	436.5	432.1	75.9	4013	434.9	435.0
60-80mm	189.5	191.52	75.9	4013	429.3	433.9	75.9	3979	425.9	429.3
80-100mm	7.98	7.99	75.9	2111	375.5	327.4	81.1	1959	382.0	333.5
All	486.34	489.18	75.9	4013	432.9	430.8	75.9	4013	431.9	430.9
			Height A (mm)				Height B (mm)			
Highest Particle			80.7784				80.7784			
Lowest Particle			32.8043				32.8043			

Table D. 150: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	40.52	81.1	3370	553.9	450.4	81.1	3584	545.8	452.6	-3.170	3.170	-0.090	0.900	-3.120	3.180	0.790	1.270
40-60mm	103.3	81.1	3792	552.4	450.9	81.1	3857	542.5	452.7	-3.180	3.170	-0.120	0.880	-3.180	3.180	0.800	1.300
60-80mm	96.73	81.1	3979	540.5	454.4	75.9	3972	529.6	453.1	-3.180	3.180	-0.110	0.850	-3.180	3.180	0.720	1.270
80-100mm	3.14	86.0	2111	502.3	380.2	86.0	1959	516.5	378.4	-2.980	2.850	-0.100	0.940	-3.100	2.580	0.190	1.090
All	243.69	81.1	3979	547.3	451.5	75.9	3972	537.5	451.9	-3.180	3.180	-0.110	0.870	-3.180	3.180	0.760	1.280

Table D. 151: Matched Droplet Info

D.7.1.1 All Droplets for .LA Image

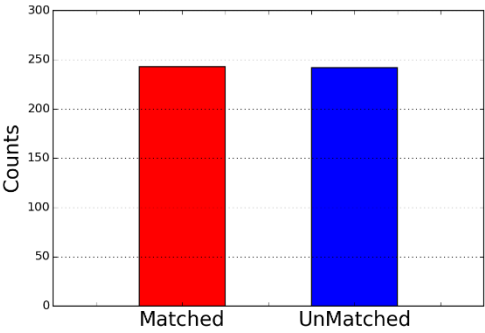


Figure D. 1361: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

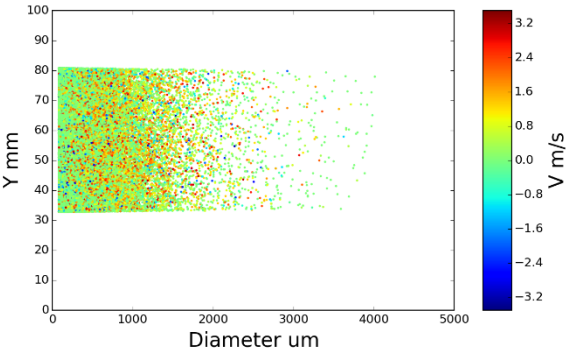


Figure D. 1364: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

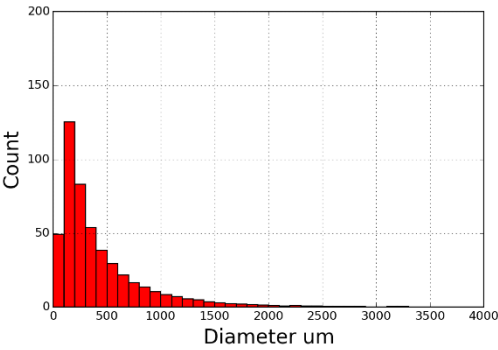


Figure D. 1362: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

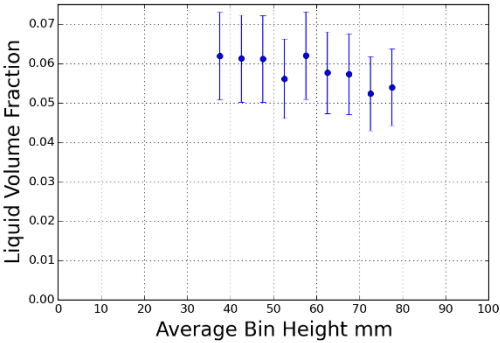


Figure D. 1365: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

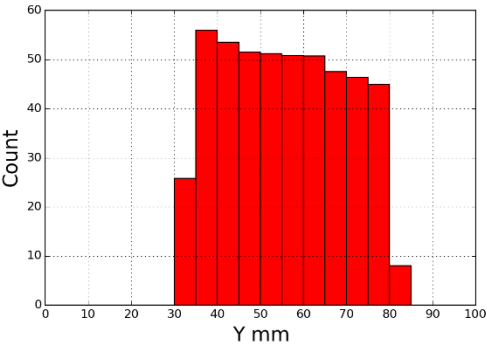


Figure D. 1363: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1.1 All Droplets for .LB Image

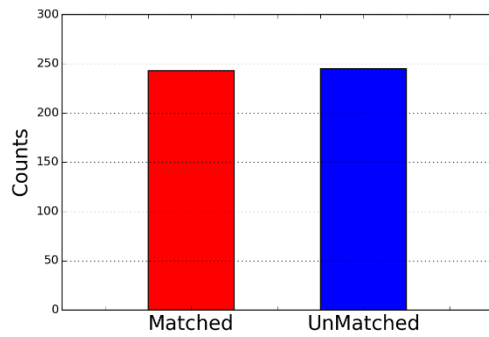


Figure D. 1366: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

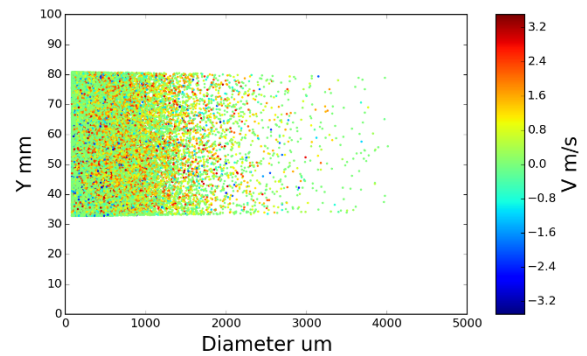


Figure D. 1369: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

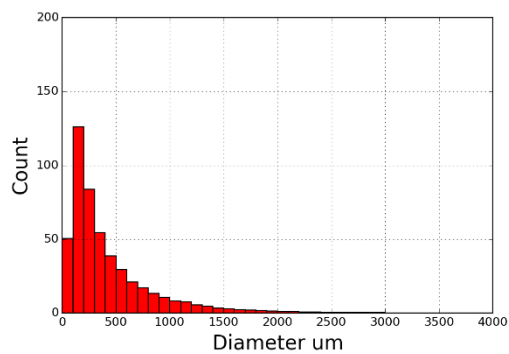


Figure D. 1367: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

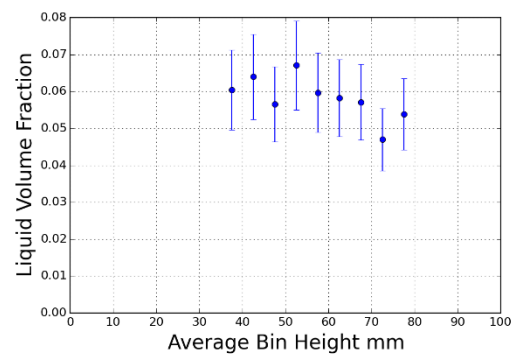


Figure D. 1370: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

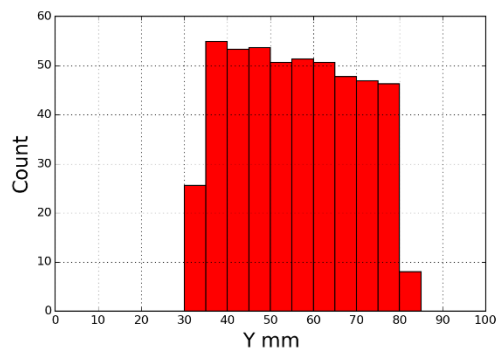


Figure D. 1368: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1.1 Matched Only Droplets for .LA Image

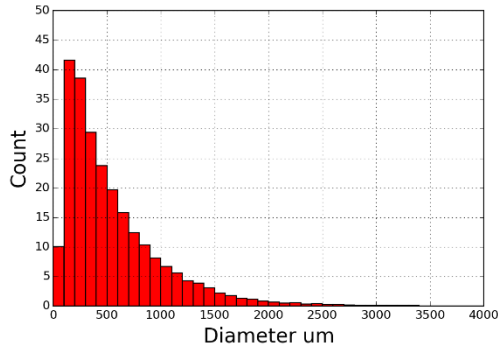


Figure D. 1371: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

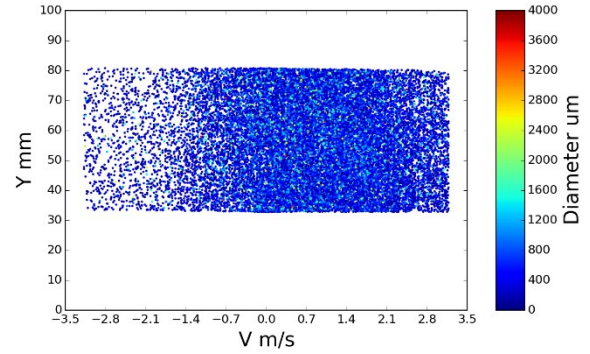


Figure D. 1374: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

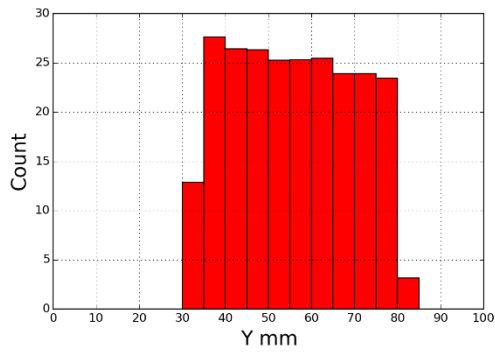


Figure D. 1372: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

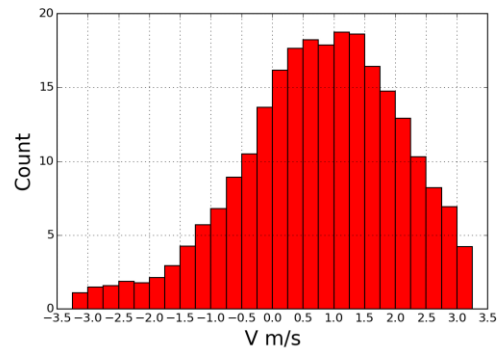


Figure D. 1375: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

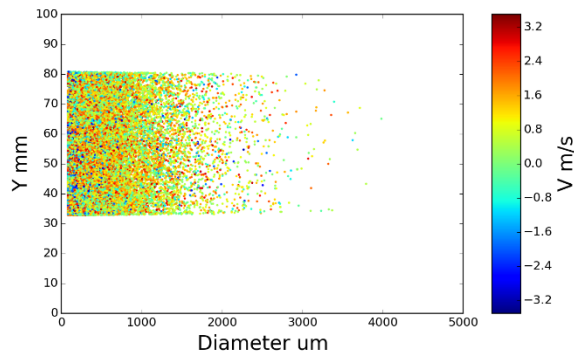


Figure D. 1373: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1.1 Matched Only Droplets for .LB Image

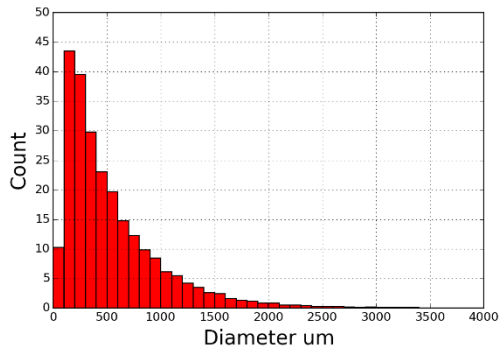


Figure D. 1376: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

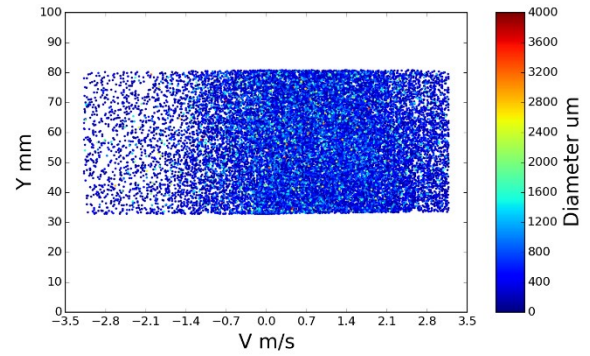


Figure D. 1379: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

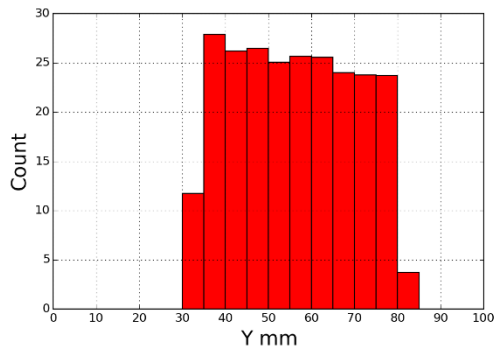


Figure D. 1377: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

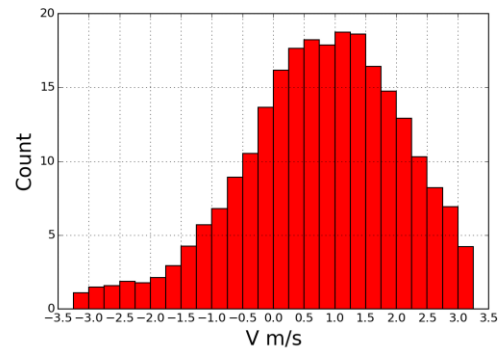


Figure D. 1380: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

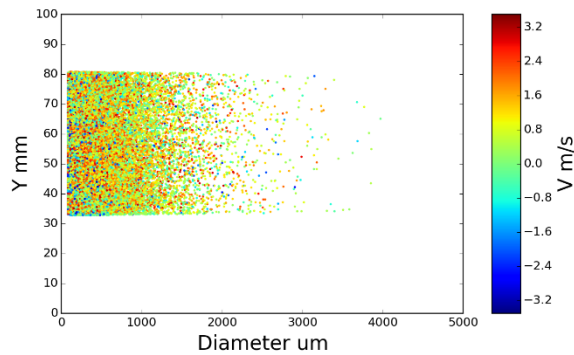


Figure D. 1378: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1.1 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	61.63	64.26	75.9	3905	518.5	501.3	75.9	3905	506.5	497.4
40-60mm	146.64	151.03	75.9	4009	509.7	499.5	75.9	3994	500.9	488.1
60-80mm	128.48	132.13	75.9	3991	496.3	497.5	75.9	3946	490.8	493.9
80-100mm	5.31	5.55	75.9	2297	416.9	355.8	75.9	2319	428.8	377.7
All	342.46	353.38	75.9	4009	504.8	497.4	75.9	3994	497.0	490.6
			Height A (mm)				Height B (mm)			
Highest Particle			80.7784				80.7784			
Lowest Particle			32.8043				32.8043			

Table D. 152: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	27.93	86.0	3588	695.4	534.2	86.0	3637	691.4	546.2	-3.100	3.180	-0.070	0.910	-3.180	3.180	1.050	1.310
40-60mm	67.77	81.1	3804	673.6	506.4	81.1	3994	662.1	509.1	-3.180	3.180	-0.080	0.850	-3.180	3.180	1.110	1.260
60-80mm	59.74	81.1	3695	659.6	522.3	81.1	3880	646.0	517.4	-3.180	3.180	-0.110	0.800	-3.180	3.180	1.020	1.230
80-100mm	1.7	81.1	2297	620.4	430.8	81.1	2319	597.2	418.8	-3.150	3.170	-0.050	0.940	-3.120	2.740	0.410	0.940
All	157.14	81.1	3804	671.6	517.0	81.1	3994	660.0	517.7	-3.180	3.180	-0.090	0.840	-3.180	3.180	1.060	1.260

Table D. 153: Matched Droplet Info

D.7.1.1 All Droplets for .LA Image

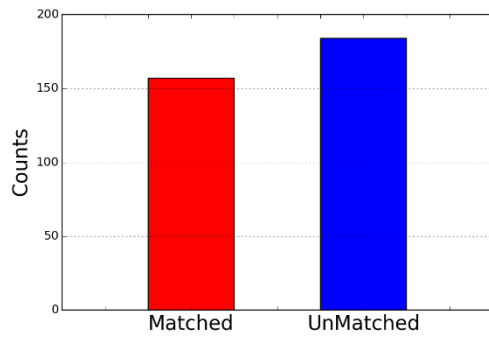


Figure D. 1381: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

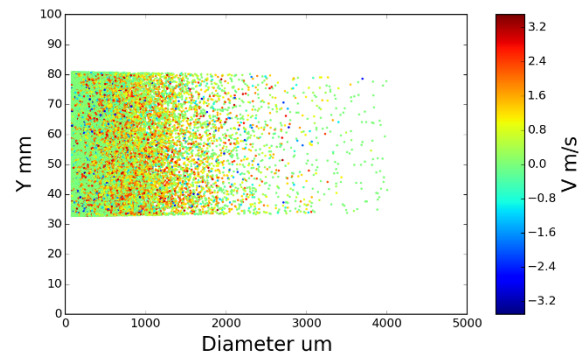


Figure D. 1384: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

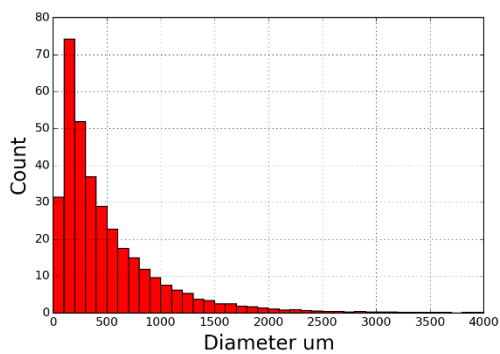


Figure D. 1382: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

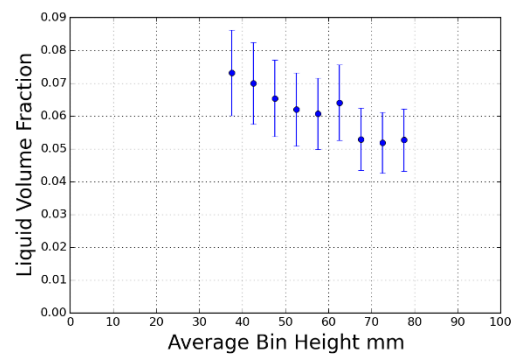


Figure D. 1385: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

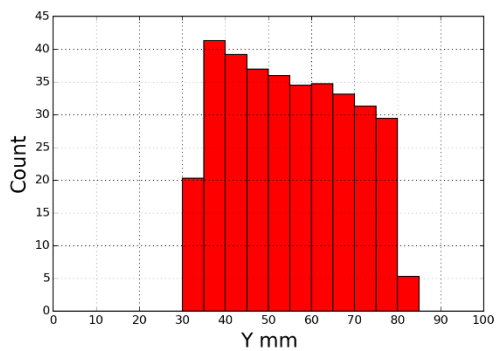


Figure D. 1383: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1.1 All Droplets for .LB Image

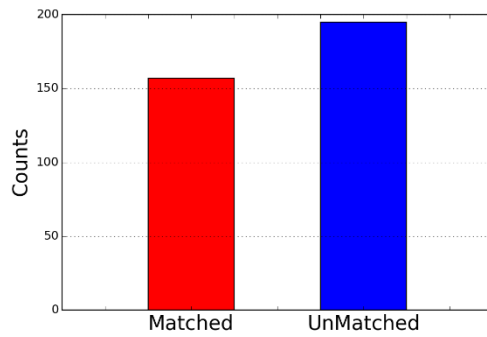


Figure D. 1386: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

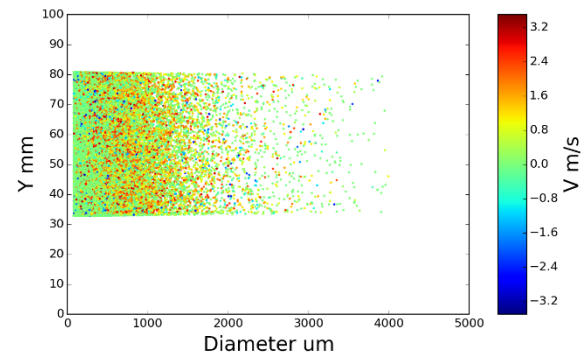


Figure D. 1389: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

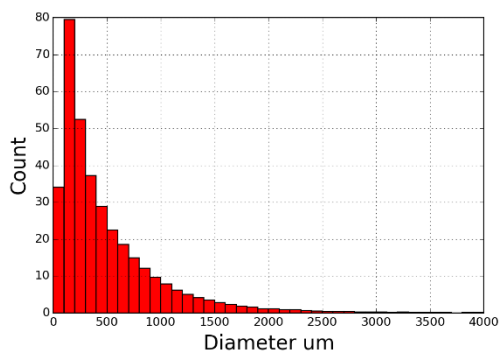


Figure D. 1387: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

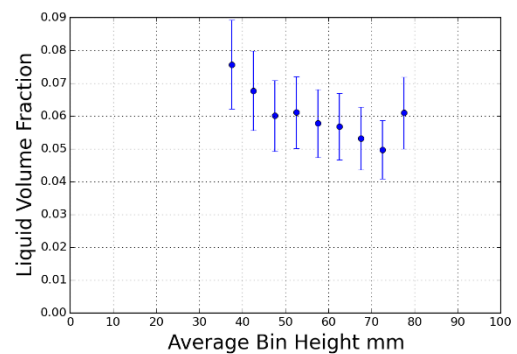


Figure D. 1390: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

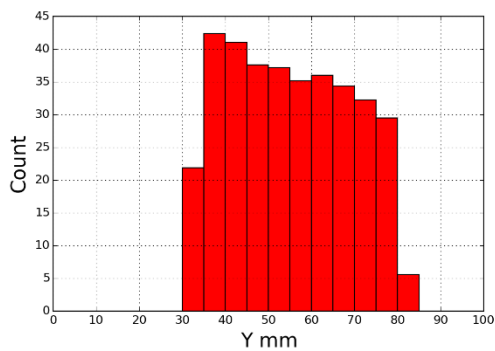


Figure D. 1388: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1.1 Matched Only Droplets for .LA Image

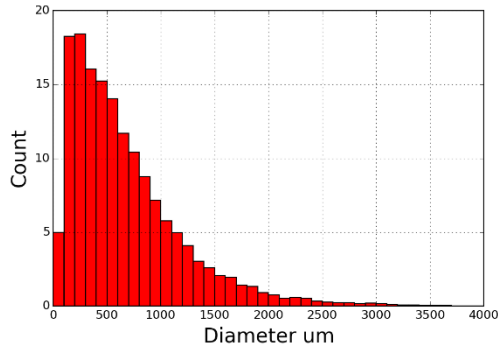


Figure D. 1391: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

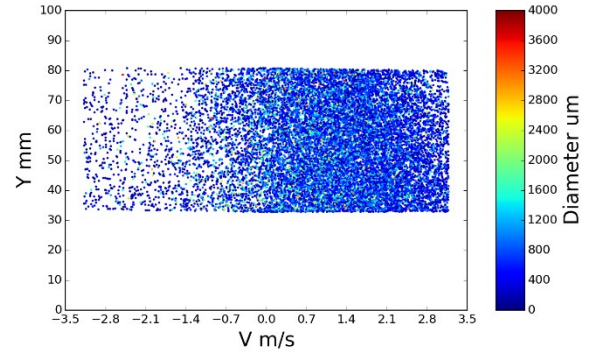


Figure D. 1394: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

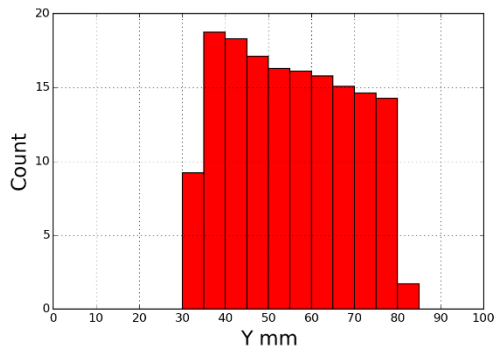


Figure D. 1392: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

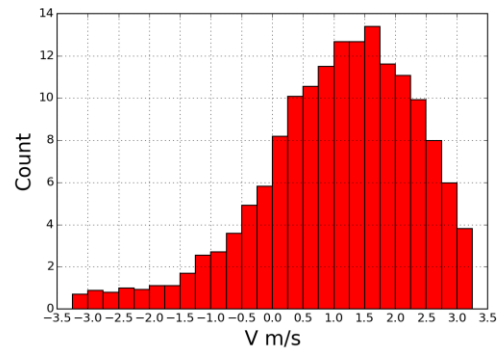


Figure D. 1395: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

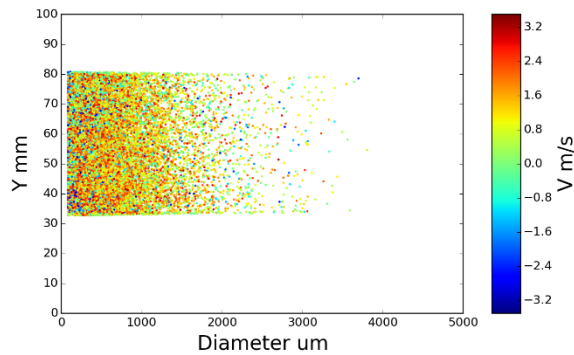


Figure D. 1393: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1.1 Matched Only Droplets for .LB Image

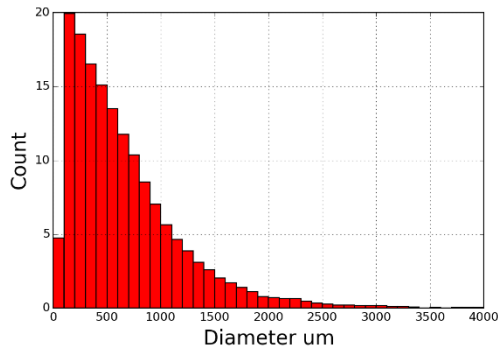


Figure D. 1396: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

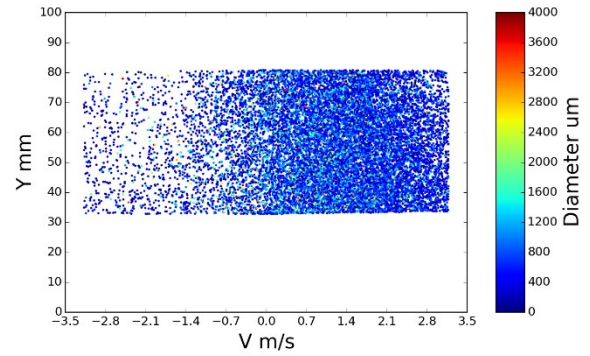


Figure D. 1399: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

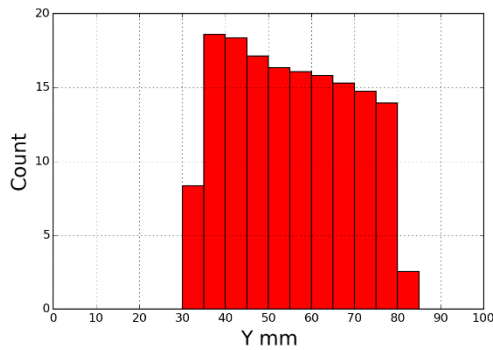


Figure D. 1397: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

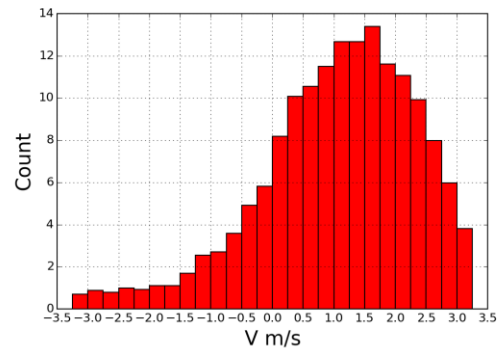


Figure D. 1400: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

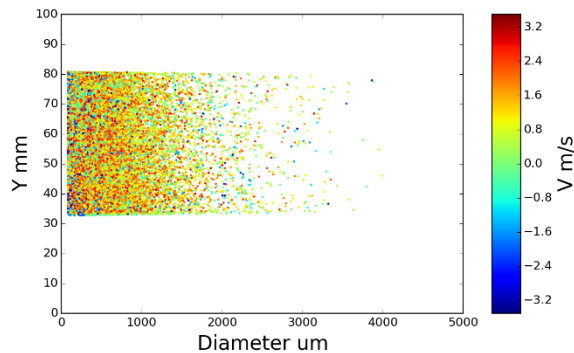


Figure D. 1398: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1.2 Lens 50mm Mag 0_13x

D.7.1.2 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	125.19	125.11	170.6	3974	648.5	518.1	170.6	3973	657.0	521.6
40-60mm	137.92	139.56	170.6	3981	594.9	468.4	170.6	3921	590.9	459.4
60-80mm	143.46	143.3	170.6	3935	558.9	428.0	170.6	3990	563.4	436.1
80-100mm	130.83	130.53	170.6	3733	539.7	391.2	170.6	3990	538.6	385.2
All	537.82	538.91	170.6	3981	584.1	454.5	170.6	3990	586.0	454.2
			Height A (mm)				Height B (mm)			
Highest Particle			100.0521				100.0521			
Lowest Particle			20.1133				20.1133			

Table D. 154: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	65.99	182.4	3934	723.4	516.3	170.6	3973	703.5	518.4	-3.120	3.120	-0.160	1.150	-3.120	3.120	0.300	1.350
40-60mm	73.55	182.4	3911	652.8	472.4	182.4	3903	637.9	469.0	-3.120	3.120	-0.200	1.230	-3.120	3.120	0.330	1.460
60-80mm	77.24	182.4	3345	611.1	433.5	170.6	3671	598.5	427.0	-3.120	3.120	-0.180	1.200	-3.120	3.120	0.330	1.420
80-100mm	75.25	182.4	3182	587.7	396.0	182.4	3316	577.6	392.9	-3.120	3.120	-0.180	1.140	-3.120	3.120	0.340	1.350
All	292.12	182.4	3934	640.8	457.3	170.6	3973	626.4	454.0	-3.120	3.120	-0.180	1.180	-3.120	3.120	0.320	1.400

Table D. 155: Matched Droplet Info

D.7.1.2 All Droplets for .LA Image

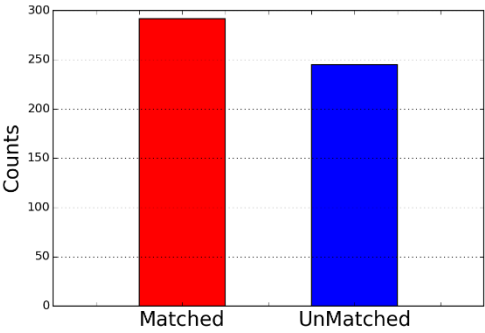


Figure D. 1401: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

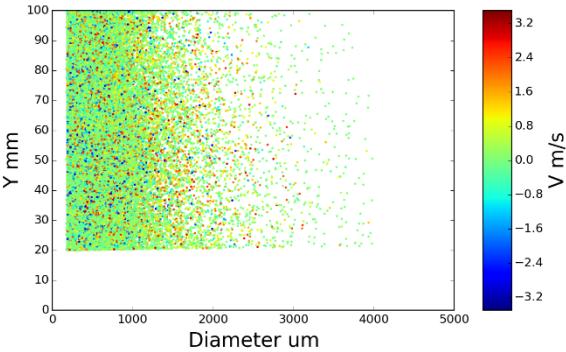


Figure D. 1404: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

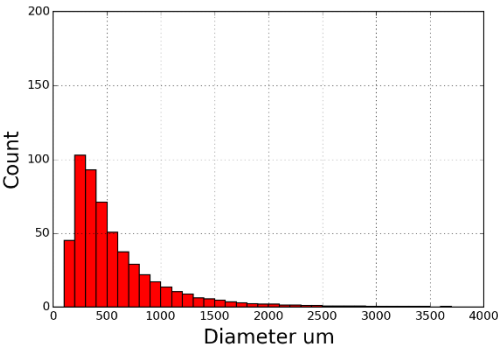


Figure D. 1402: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

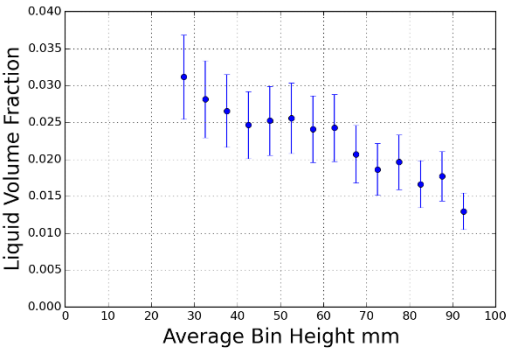


Figure D. 1405: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

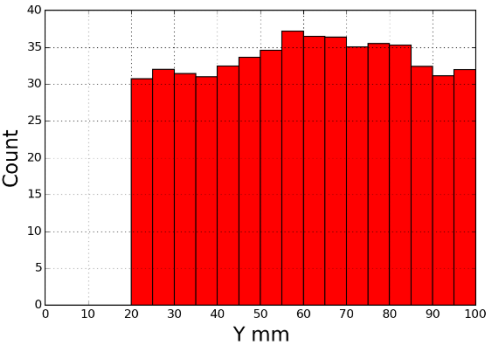


Figure D. 1403: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1.2 All Droplets for .LB Image

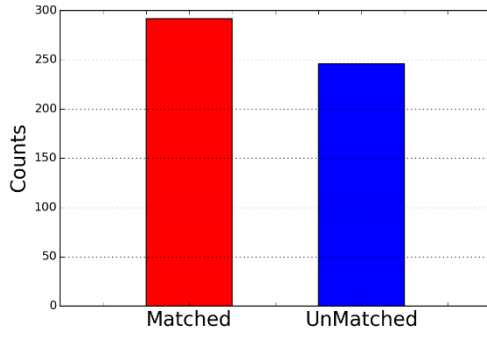


Figure D. 1406: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

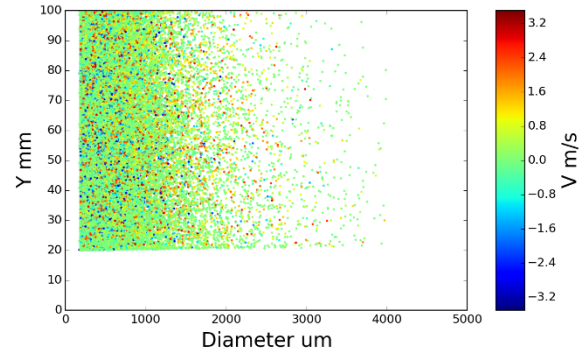


Figure D. 1409: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

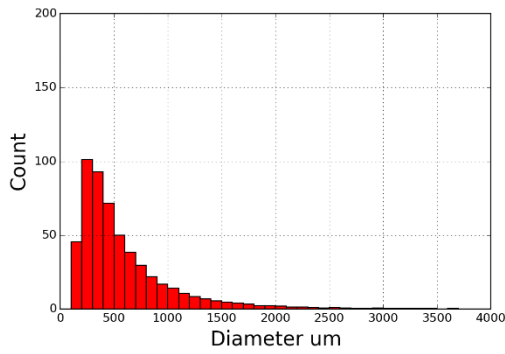


Figure D. 1407: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

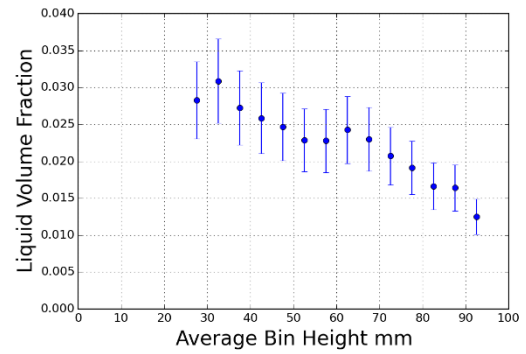


Figure D. 1410: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

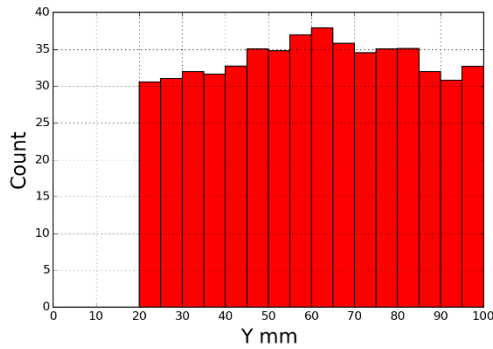


Figure D. 1408: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1.2 Matched Only Droplets for .LA Image

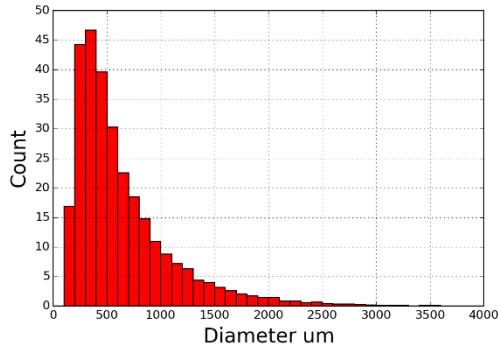


Figure D. 1411: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

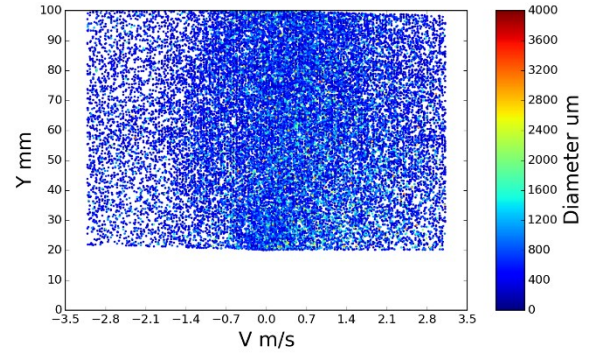


Figure D. 1414: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

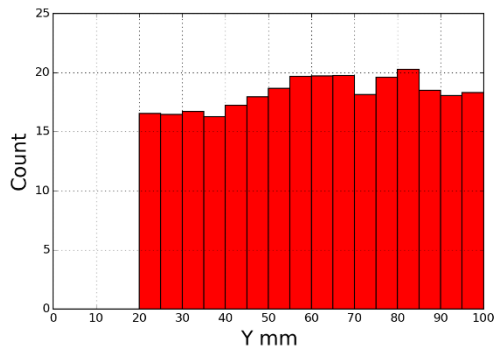


Figure D. 1412: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

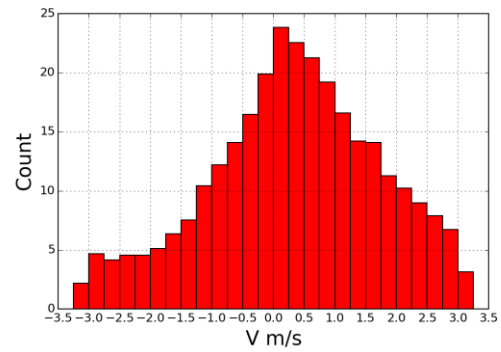


Figure D. 1415: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

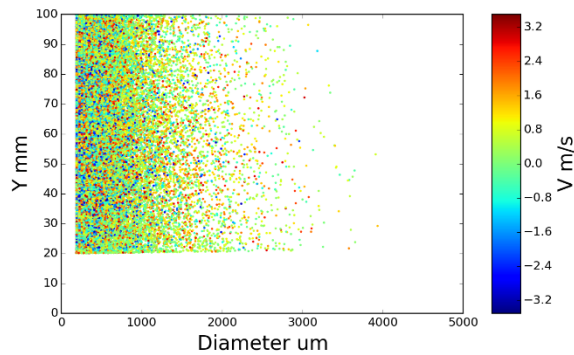


Figure D. 1413: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1.2 Matched Only Droplets for .LB Image

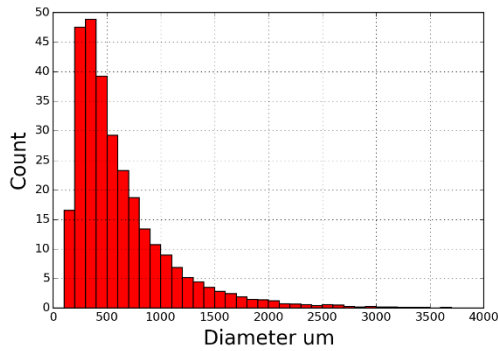


Figure D. 1416: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

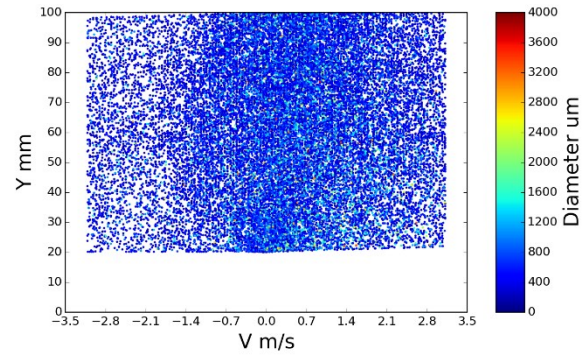


Figure D. 1419: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

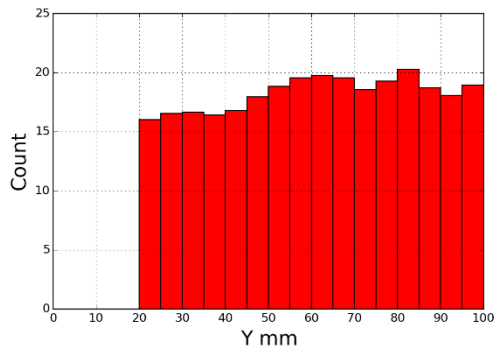


Figure D. 1417: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

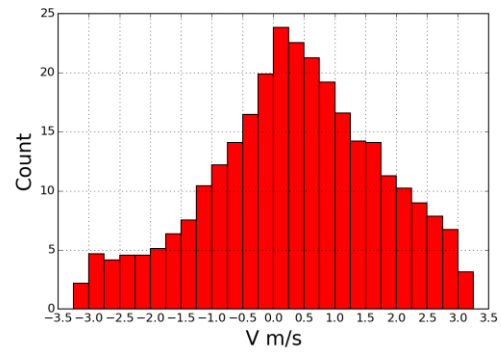


Figure D. 1420: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

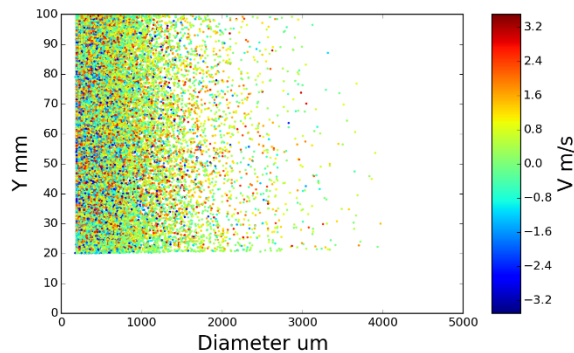


Figure D. 1418: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1.2 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	140.07	140.99	170.6	3998	668.0	514.7	170.6	3961	672.5	527.4
40-60mm	142.26	143.4	170.6	3995	634.4	477.2	170.6	3994	634.6	478.2
60-80mm	131.46	132.52	170.6	3990	627.0	477.6	170.6	3973	626.1	480.6
80-100mm	120.58	123.11	170.6	3910	601.1	437.2	170.6	3954	591.5	426.0
All	534.77	540.47	170.6	3998	633.6	479.4	170.6	3994	632.3	481.8
			Height A (mm)				Height B (mm)			
Highest Particle			100.0521				100.0521			
Lowest Particle			20.1133				20.1133			

Table D. 156: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	72.04	182.4	3998	747.1	523.5	170.6	3961	731.6	526.9	-3.120	3.120	-0.150	1.210	-3.120	3.120	0.450	1.410
40-60mm	74.76	182.4	3981	706.8	492.7	182.4	3994	686.2	484.5	-3.120	3.120	-0.140	1.230	-3.120	3.120	0.510	1.500
60-80mm	67.88	182.4	3761	700.8	485.9	170.6	3973	683.8	482.2	-3.120	3.120	-0.150	1.240	-3.120	3.120	0.540	1.480
80-100mm	65.68	182.4	3841	670.4	443.8	170.6	3857	653.4	436.7	-3.120	3.120	-0.110	1.140	-3.120	3.120	0.490	1.400
All	280.41	182.4	3998	707.1	489.1	170.6	3994	689.1	485.1	-3.120	3.120	-0.140	1.210	-3.120	3.120	0.500	1.450

Table D. 157: Matched Droplet Info

D.7.1.2 All Droplets for .LA Image

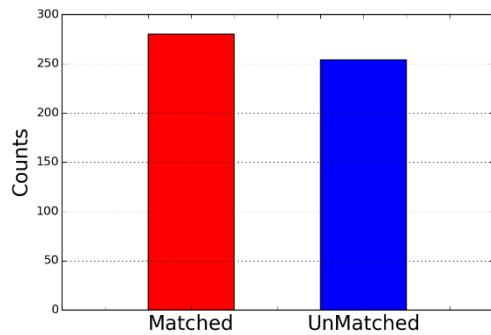


Figure D. 1421: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

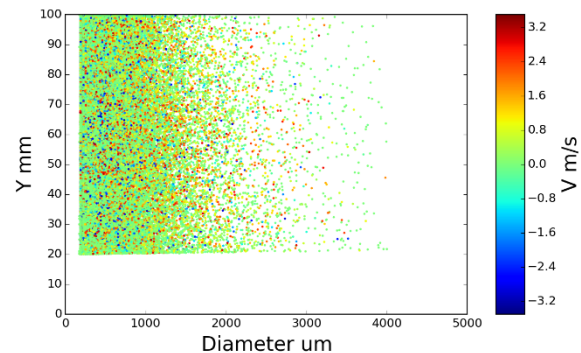


Figure D. 1424: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

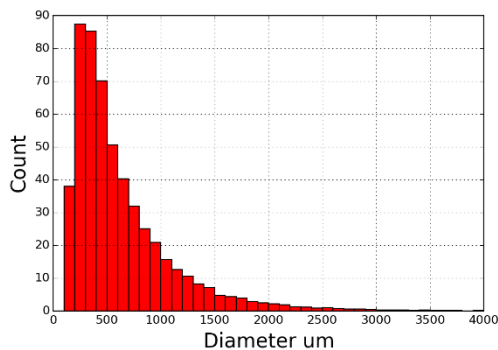


Figure D. 1422: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

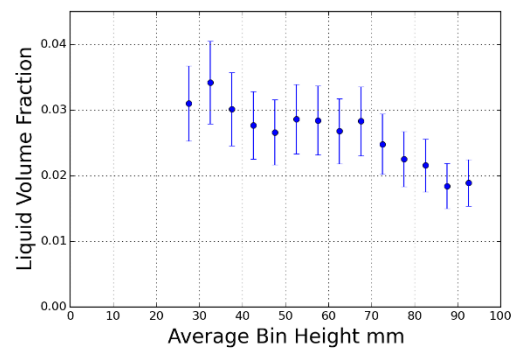


Figure D. 1425: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

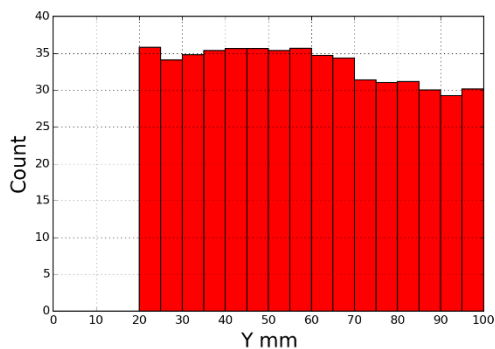


Figure D. 1423: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1.2 All Droplets for .LB Image

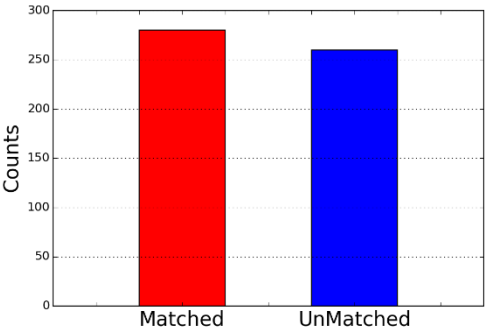


Figure D. 1426: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

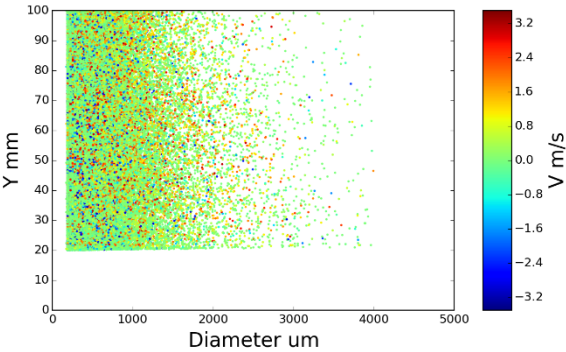


Figure D. 1429: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

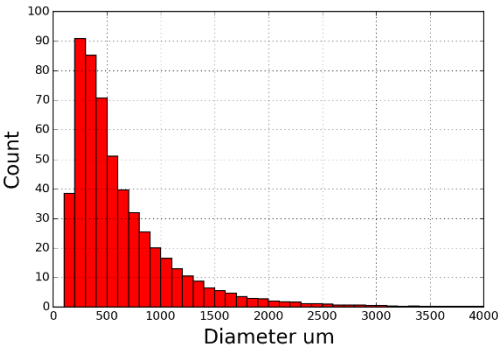


Figure D. 1427: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

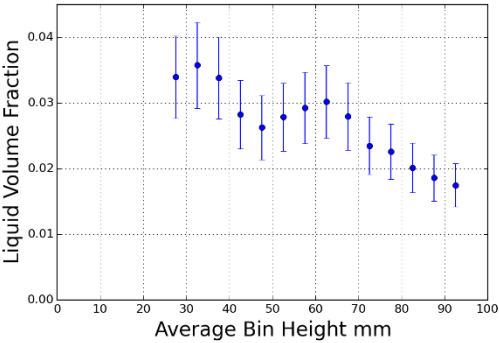


Figure D. 1430: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

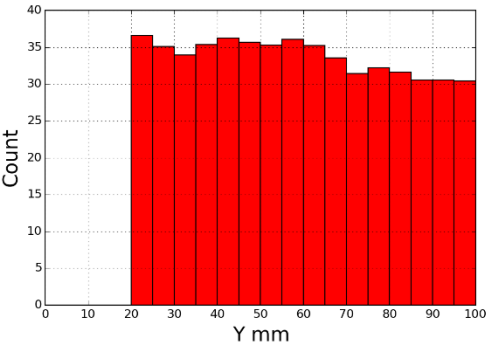


Figure D. 1428: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1.2 Matched Only Droplets for .LA Image

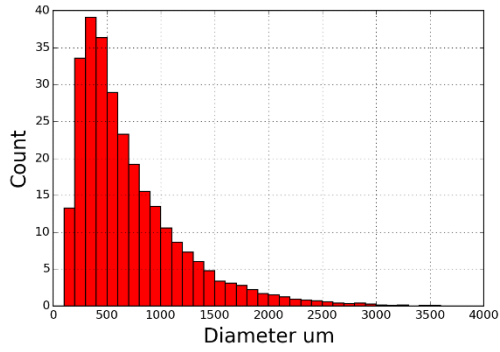


Figure D. 1431: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

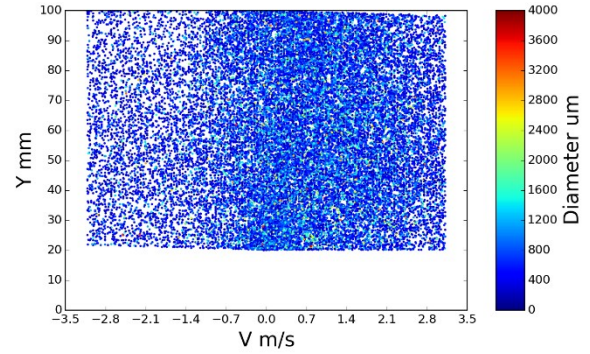


Figure D. 1434: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

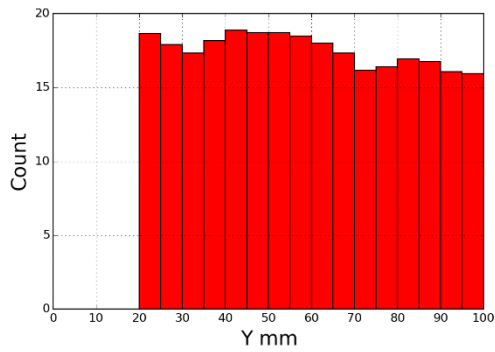


Figure D. 1432: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

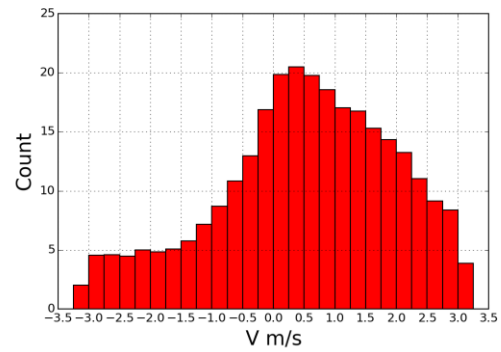


Figure D. 1435: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

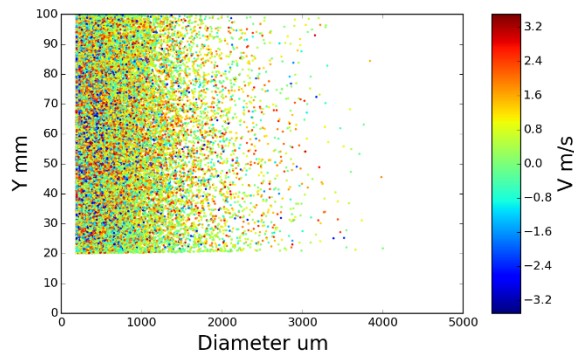


Figure D. 1433: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1.2 Matched Only Droplets for .LB Image

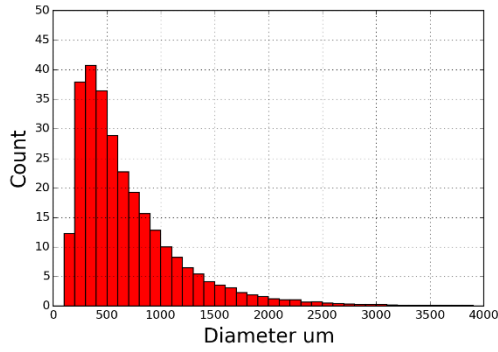


Figure D. 1436: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

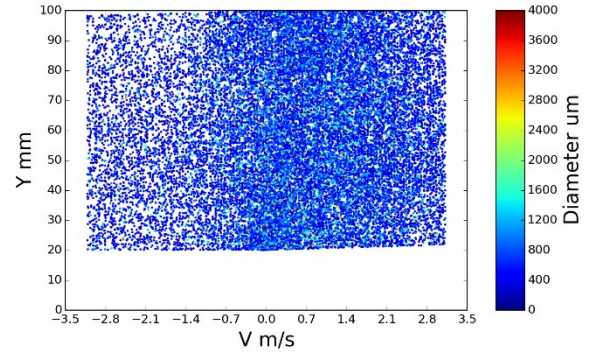


Figure D. 1439: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

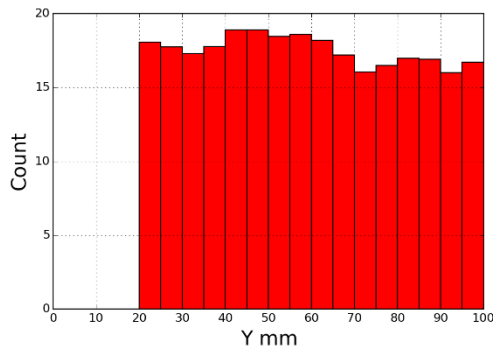


Figure D. 1437: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

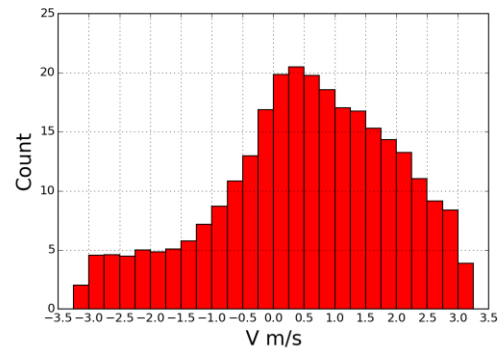


Figure D. 1440: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

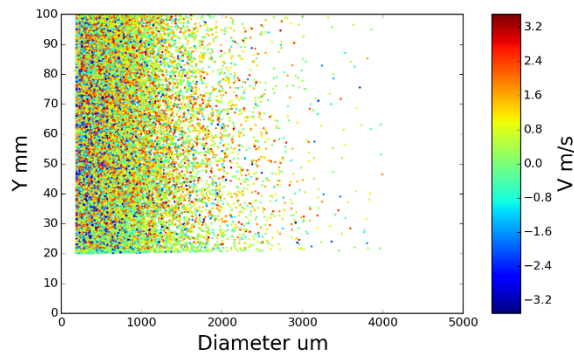


Figure D. 1438: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1.2 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	124.86	126.48	170.6	3949	709.5	542.1	182.4	3905	705.6	538.0
40-60mm	117.28	117.74	170.6	3922	696.6	528.4	170.6	3995	701.3	528.7
60-80mm	102.61	103.07	182.4	3964	707.7	541.7	170.6	3989	705.2	545.2
80-100mm	99.14	97.99	170.6	3983	658.5	488.2	182.4	3932	663.2	491.1
All	444.3	445.67	170.6	3983	693.9	527.1	170.6	3995	694.7	527.5
			Height A (mm)				Height B (mm)			
Highest Particle			100.0521				100.0521			
Lowest Particle			20.1133				20.1133			

Table D. 158: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	63.68	182.4	3796	804.0	538.1	182.4	3905	782.3	531.8	-3.120	3.120	-0.140	1.190	-3.120	3.120	0.550	1.410
40-60mm	58.8	182.4	3847	798.0	541.2	170.6	3919	780.2	538.6	-3.120	3.120	-0.120	1.200	-3.120	3.120	0.630	1.520
60-80mm	50.76	182.4	3543	817.8	554.5	182.4	3962	795.0	554.7	-3.120	3.120	-0.110	1.170	-3.120	3.120	0.670	1.450
80-100mm	50.72	182.4	3524	755.9	500.6	182.4	3841	735.1	497.1	-3.120	3.120	-0.160	1.110	-3.120	3.120	0.650	1.390
All	224.03	182.4	3847	794.5	534.9	170.6	3962	773.6	531.6	-3.120	3.120	-0.130	1.170	-3.120	3.120	0.620	1.450

Table D. 159: Matched Droplet Info

D.7.1.2 All Droplets for .LA Image

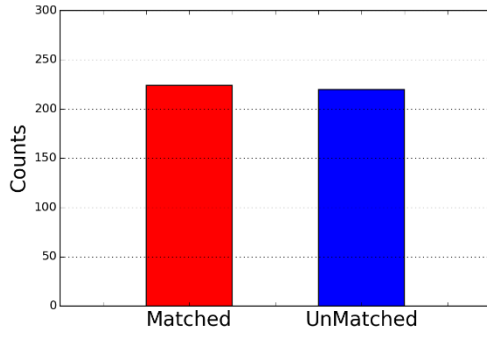


Figure D. 1441: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

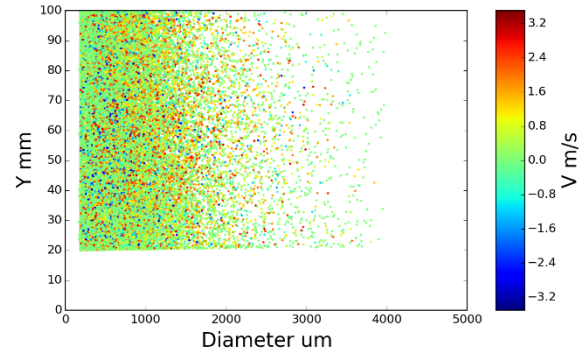


Figure D. 1444: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

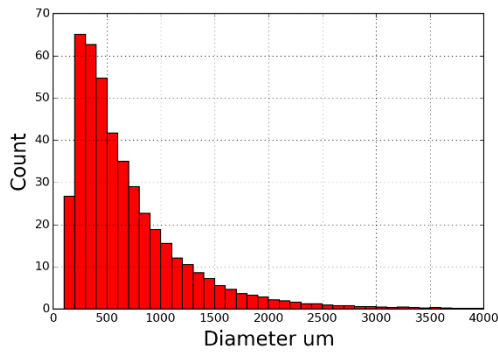


Figure D. 1442: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

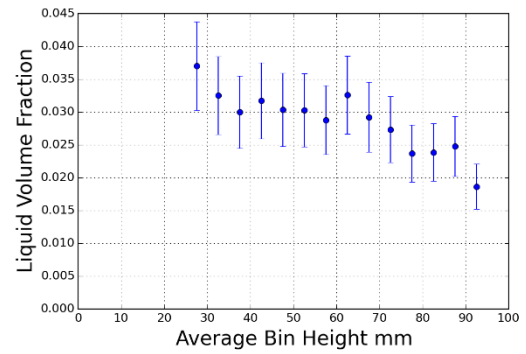


Figure D. 1445: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

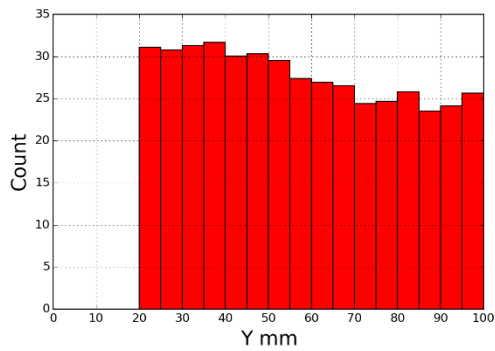


Figure D. 1443: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1.2 All Droplets for .LB Image

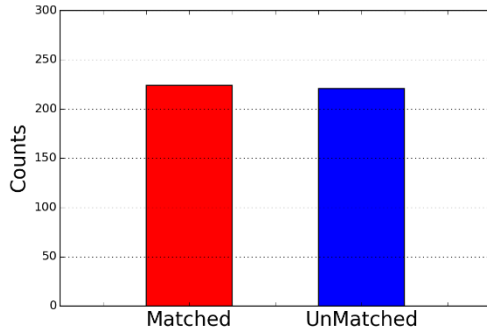


Figure D. 1446: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

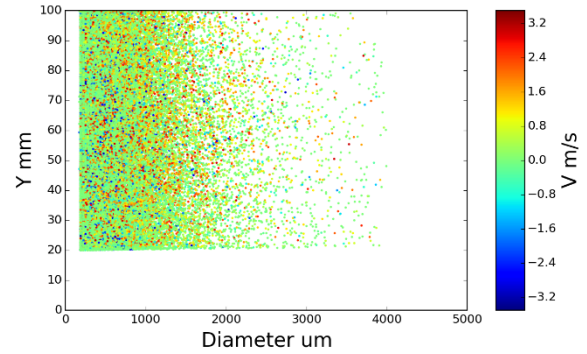


Figure D. 1449: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

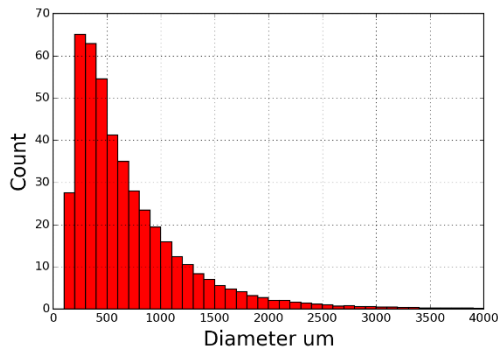


Figure D. 1447: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

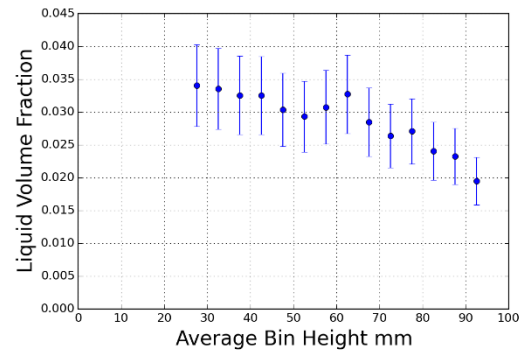


Figure D. 1450: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

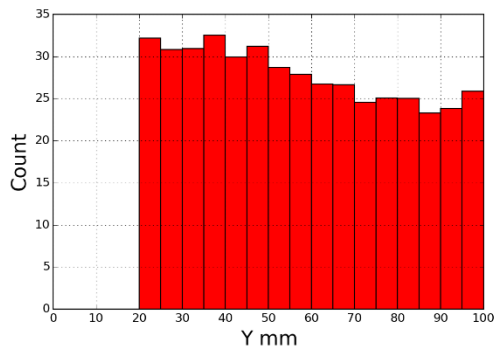


Figure D. 1448: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1.2 Matched Only Droplets for .LA Image

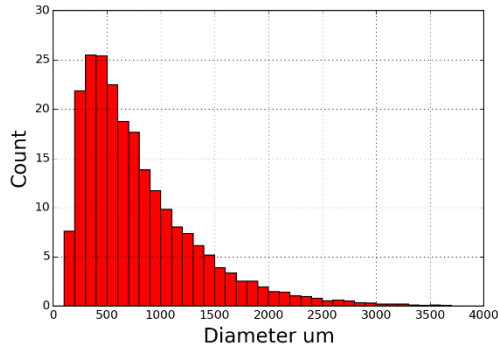


Figure D. 1451: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

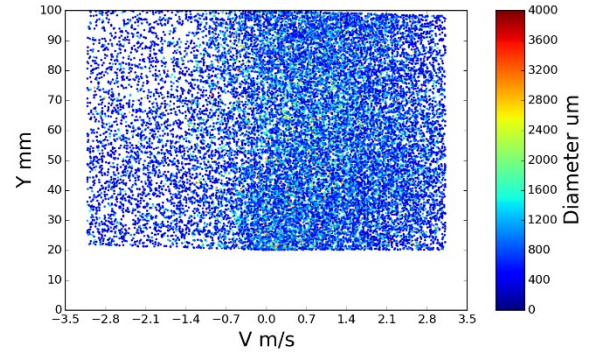


Figure D. 1454: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

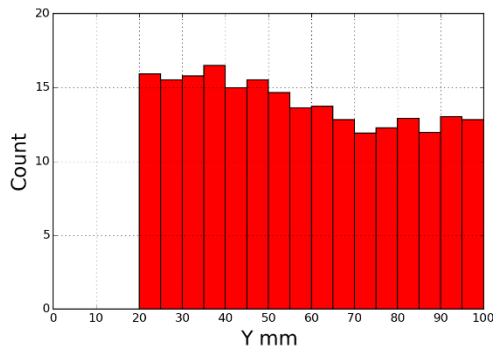


Figure D. 1452: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

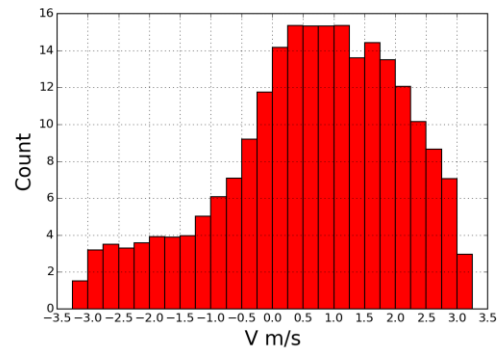


Figure D. 1455: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

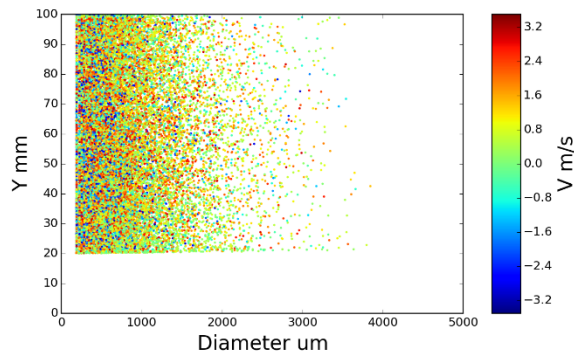


Figure D. 1453: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.7.1.2 Matched Only Droplets for .LB Image

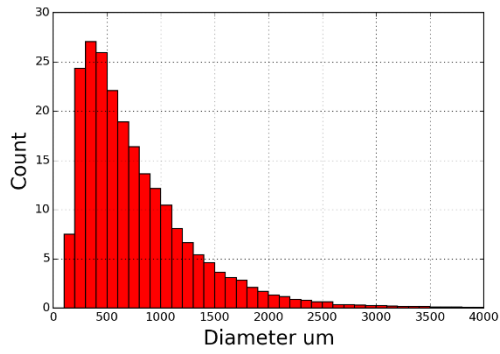


Figure D. 1456: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

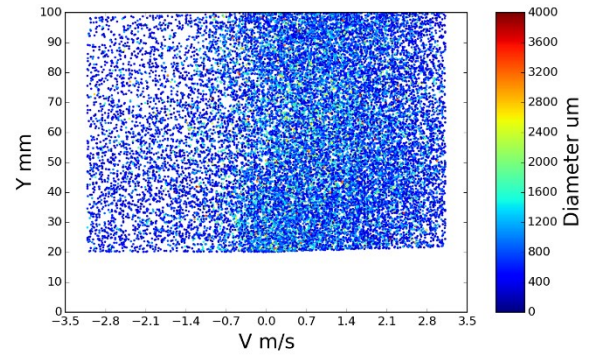


Figure D. 1459: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

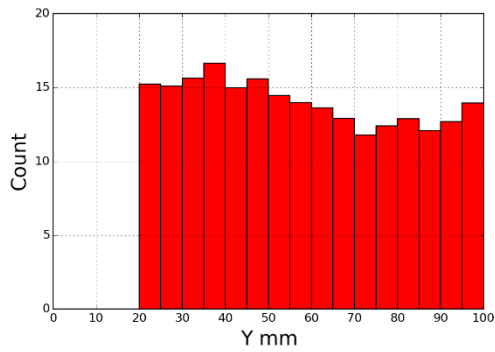


Figure D. 1457: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

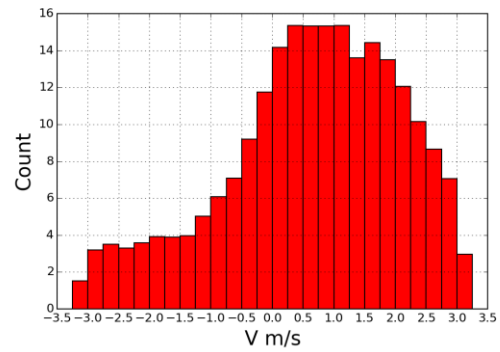


Figure D. 1460: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

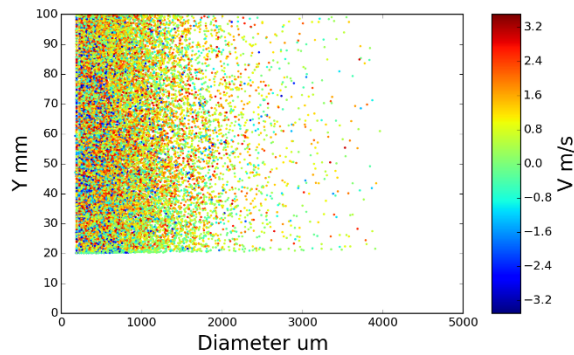


Figure D. 1458: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2 Liquid Level 3

Thermal Conditions	
H2O Flow Rate (lb/hr) / (kg/s)	20018 / 2.522
Ref Mass Flow (lb/hr) / (kg/s)	3109 / 0.392
Ref Mass Flux (lb/hr-ft ²) / (kg/s-m ²)	30266 / 41.047
Top Two Rows Heat Flux (Btu/hr-ft ²) / (kW/m ²)	2065 / 6.51
Bundle Exit Saturation Temp (°F) / (°C)	54.3 / 12.38
Bundle Inlet Saturation Temp (°F) / (°C)	56.8 / 13.77
Total Bundle Q (Btu/hr) / (kW)	184186 / 53.98
Total Bundle & Preboiler Q (Btu/hr) / (kW)	213623 / 62.61
Top Two Rows HTC Ratio	0.489
Bundle Inlet Quality	0.01
Bundle Exit Quality	0.80

Table D. 160: Thermal Conditions

D.7.2.1 Lens 100mm Mag 0_29x

D.7.2.1 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	1.34	0.97	75.9	1463	294.6	278.0	81.1	1194	322.6	256.7
40-60mm	3.9	3.13	75.9	1402	245.6	249.6	81.1	1584	275.8	269.3
60-80mm	4.14	4.09	75.9	2297	238.3	240.2	75.9	1228	242.0	220.8
80-100mm	0.39	0.11	81.1	796.6	158.0	121.0	86.0	758.6	239.9	184.1
All	9.8	8.3	75.9	2297	245.7	247.3	75.9	1584	264.1	245.4
			Height A (mm)				Height B (mm)			
Highest Particle			80.7742				80.6895			
Lowest Particle			32.8043				32.8043			

Table D. 161: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	0.48	86.0	1023	377.6	253.3	86.0	1036	387.2	262.1	-2.400	2.160	-0.230	0.710	-1.830	2.700	0.160	0.870
40-60mm	1.73	86.0	1380	284.7	262.9	81.1	1584	294.5	282.6	-2.260	3.080	-0.220	0.710	-1.890	2.690	0.180	0.970
60-80mm	2.03	86.0	1077	255.5	215.9	86.0	1228	262.5	231.8	-2.520	2.170	-0.290	0.680	-1.850	3.070	0.510	1.070
80-100mm	0.07	114.7	359.3	194.9	79.3	111.0	336.8	194.8	77.7	-0.550	0.340	-0.120	0.290	-1.570	2.150	0.180	1.160
All	4.31	86.0	1380	279.9	241.7	81.1	1584	288.2	258.3	-2.520	3.080	-0.250	0.690	-1.890	3.070	0.330	1.030

Table D. 162: Matched Droplet Info

D.7.2.1 All Droplets for .LA Image

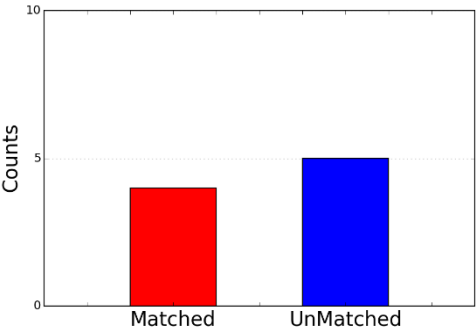


Figure D. 1461: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

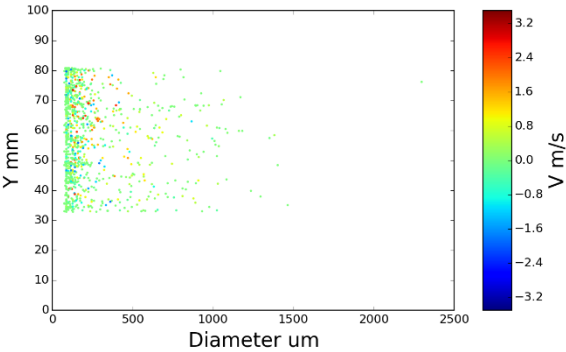


Figure D. 1464: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

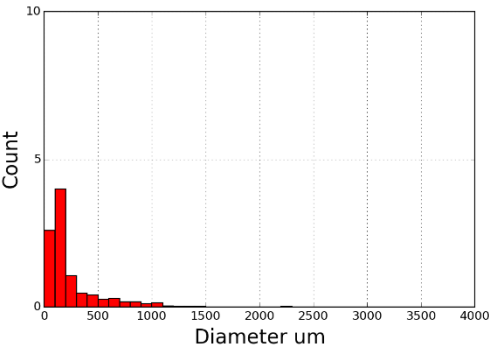


Figure D. 1462: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

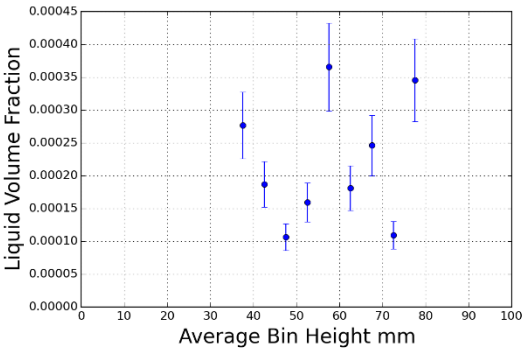


Figure D. 1465: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

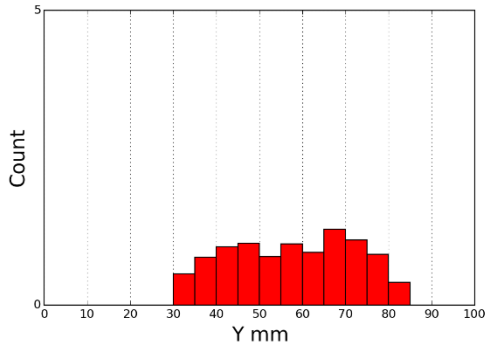


Figure D. 1463: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2.1 All Droplets for .LB Image

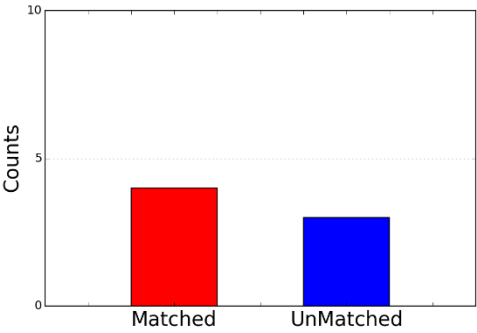


Figure D. 1466: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

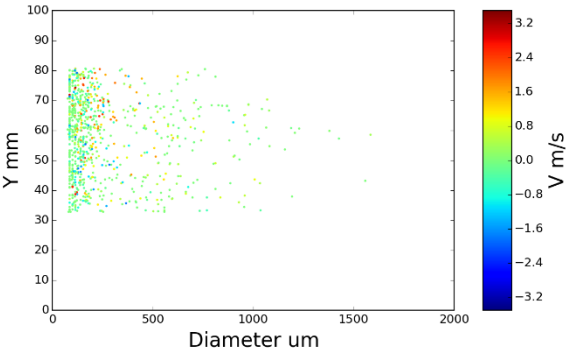


Figure D. 1469: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

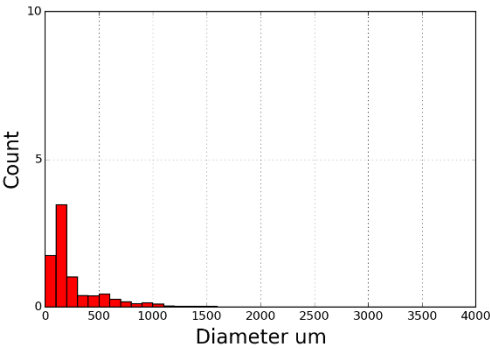


Figure D. 1467: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

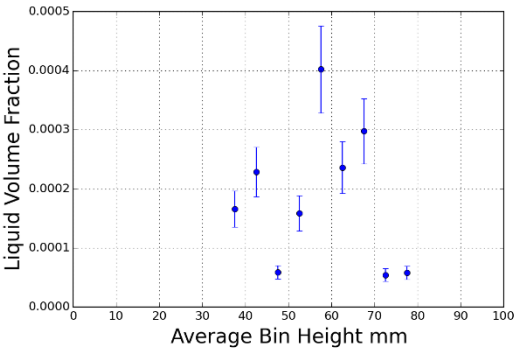


Figure D. 1470: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

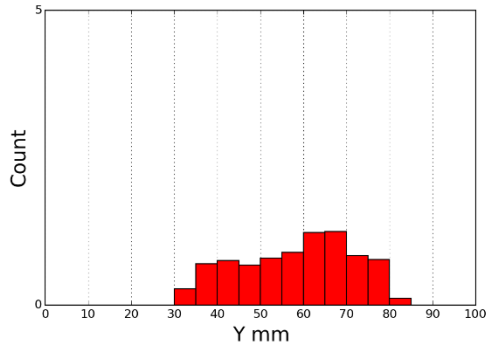


Figure D. 1468: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2.1 Matched Only Droplets for .LA Image

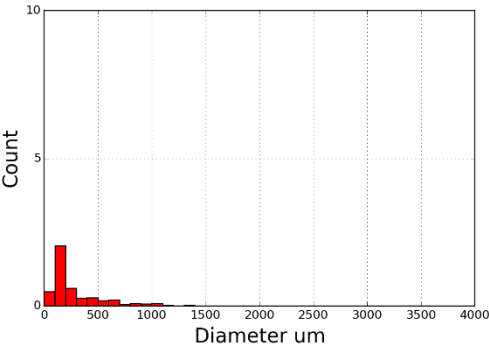


Figure D. 1471: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

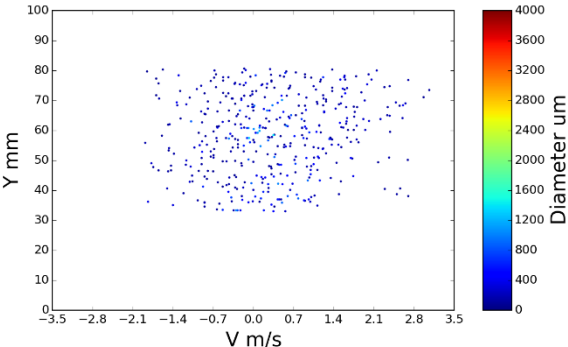


Figure D. 1474: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

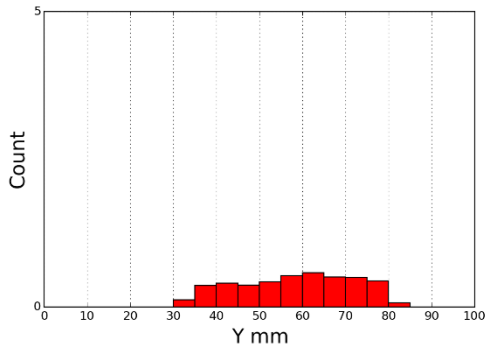


Figure D. 1472: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

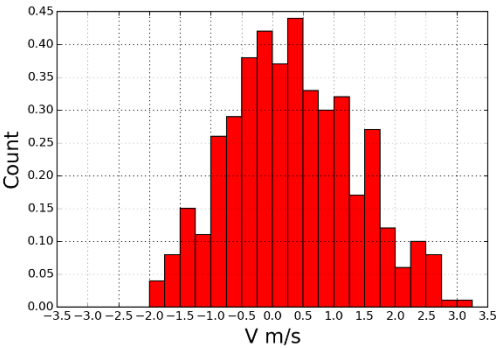


Figure D. 1475: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

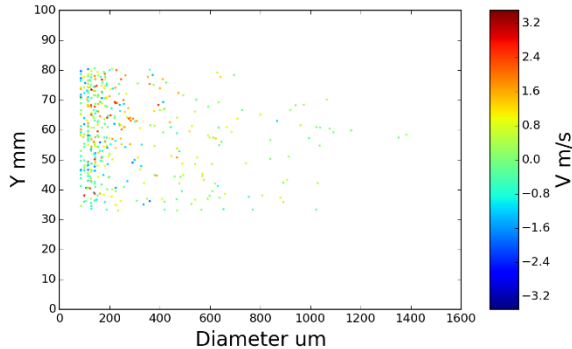


Figure D. 1473: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2.1 Matched Only Droplets for .LB Image

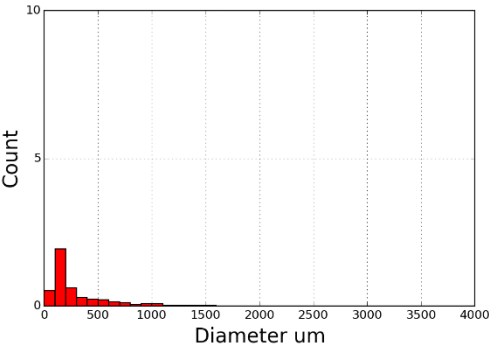


Figure D. 1476: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

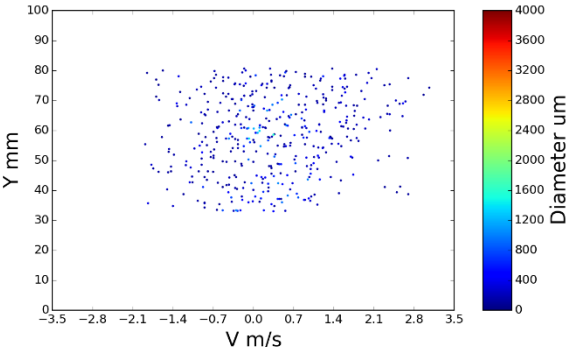


Figure D. 1479: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

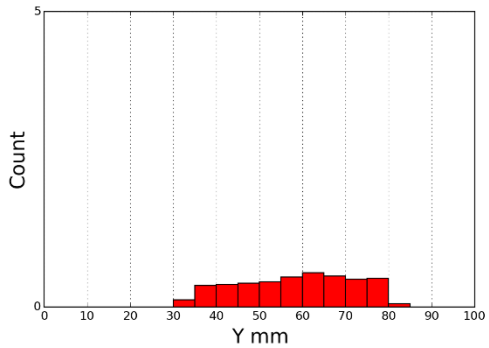


Figure D. 1477: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

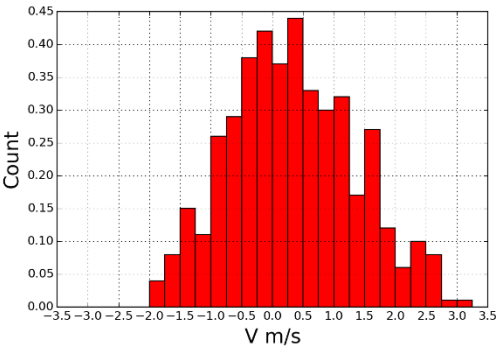


Figure D. 1480: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

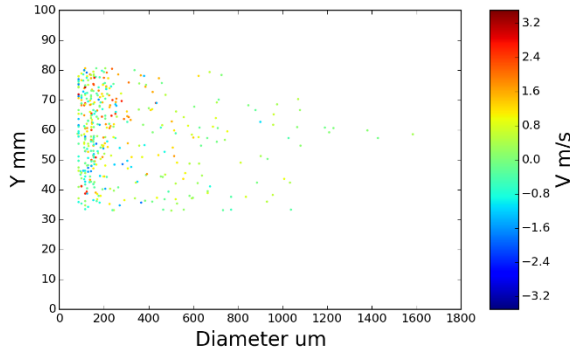


Figure D. 1478: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2.1 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	1.87	1.97	75.9	1607	434.8	328.3	81.1	1476	422.3	324.4
40-60mm	4.33	5.02	81.1	1622	430.1	344.7	81.1	1968	399.3	343.6
60-80mm	3.56	4.48	81.1	1335	344.1	280.8	81.1	1260	315.5	273.7
80-100mm	0.09	0.12	121.7	1023	406.1	305.9	86.0	995.7	315.6	311.0
All	9.85	11.59	75.9	1622	399.7	322.2	81.1	1968	369.9	317.8
			Height A (mm)				Height B (mm)			
Highest Particle			80.7227				80.6523			
Lowest Particle			32.8170				32.8157			

Table D. 163: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	1.06	86.0	1277	495.8	310.8	81.1	1248	486.9	301.5	-1.740	0.790	-0.180	0.490	-1.160	3.180	0.610	0.850
40-60mm	2.53	81.1	1622	476.9	321.7	81.1	1655	490.6	342.2	-2.540	2.330	-0.140	0.680	-2.130	3.150	0.780	1.030
60-80mm	2.09	86.0	1335	396.3	284.9	86.0	1260	393.7	285.4	-2.480	2.230	-0.290	0.600	-1.790	2.760	0.650	0.910
80-100mm	0.04	157.0	877.2	444.4	265.5	154.4	953.1	463.4	297.8	-1.650	-0.180	-0.710	0.590	-0.170	0.730	0.290	0.410
All	5.72	81.1	1622	450.8	309.2	81.1	1655	454.0	317.9	-2.540	2.330	-0.210	0.620	-2.130	3.180	0.690	0.960

Table D. 164: Matched Droplet Info

D.7.2.1 All Droplets for .LA Image

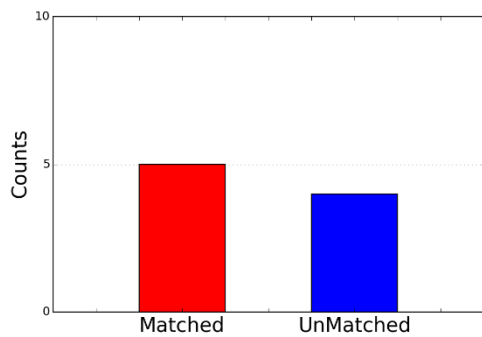


Figure D. 1481: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

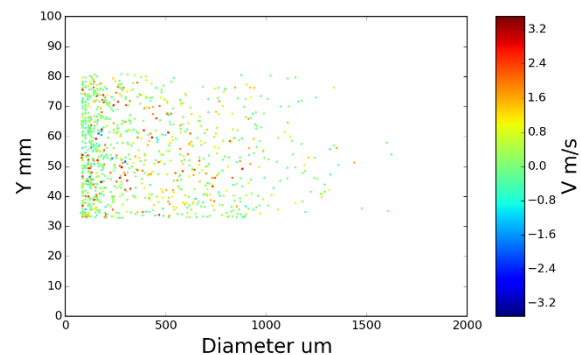


Figure D. 1484: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

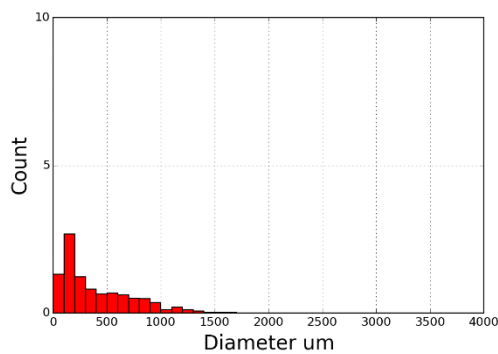


Figure D. 1482: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

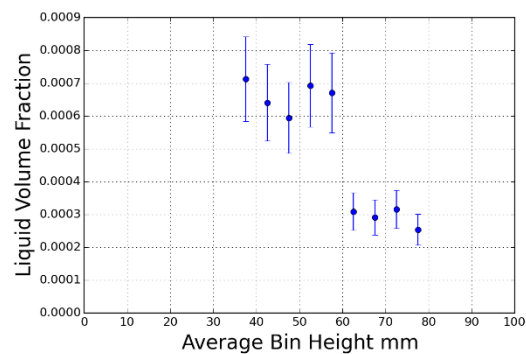


Figure D. 1485: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

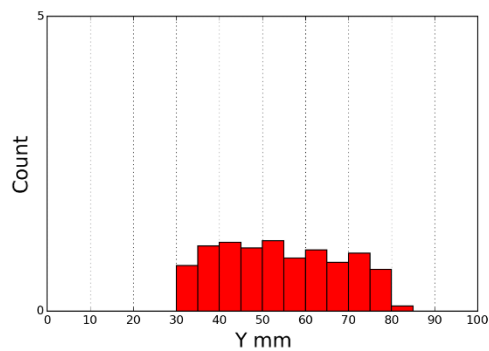


Figure D. 1483: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2.1 All Droplets for .LB Image

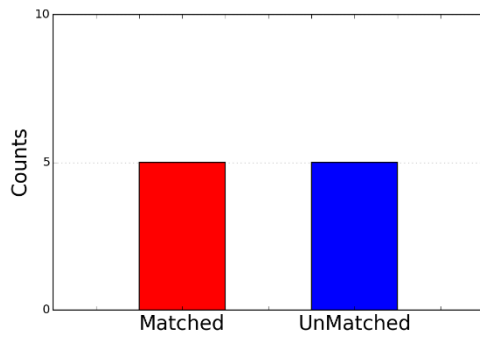


Figure D. 1486: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

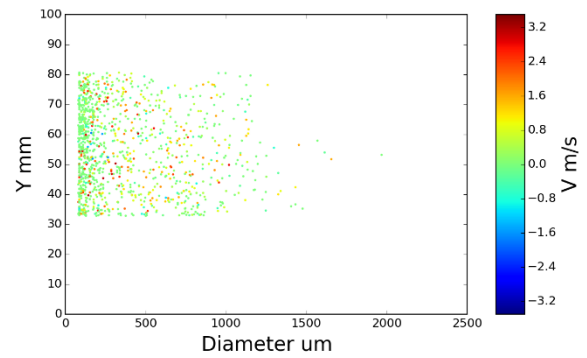


Figure D. 1489: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

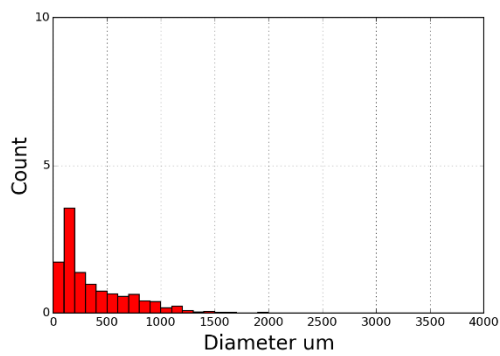


Figure D. 1487: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

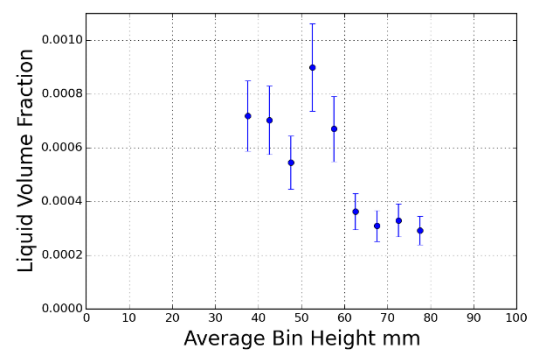


Figure D. 1490: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

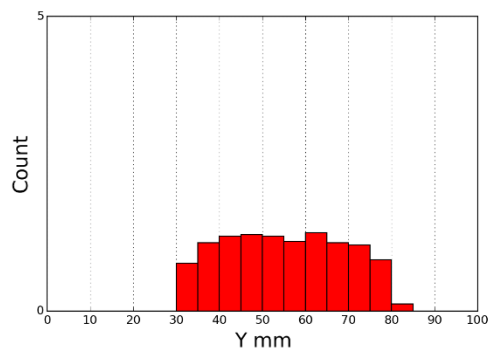


Figure D. 1488: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2.1 Matched Only Droplets for .LA Image

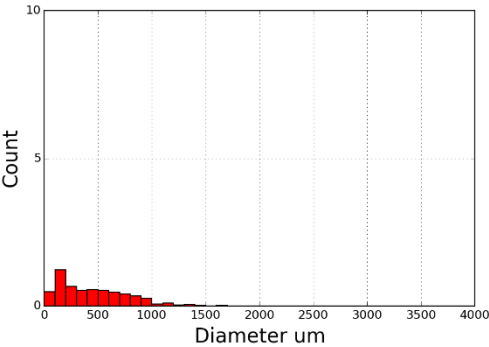


Figure D. 1491: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

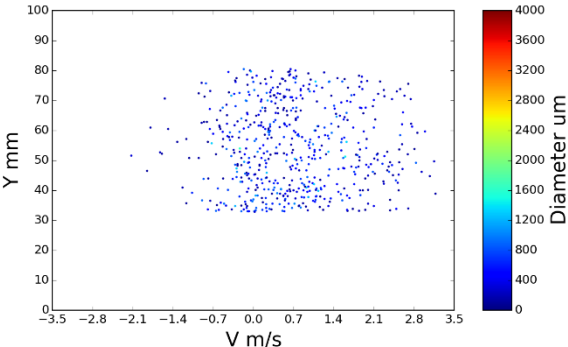


Figure D. 1494: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

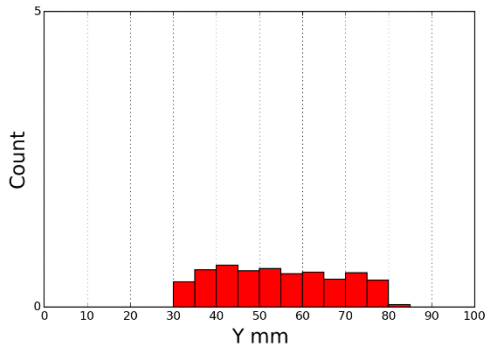


Figure D. 1492: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

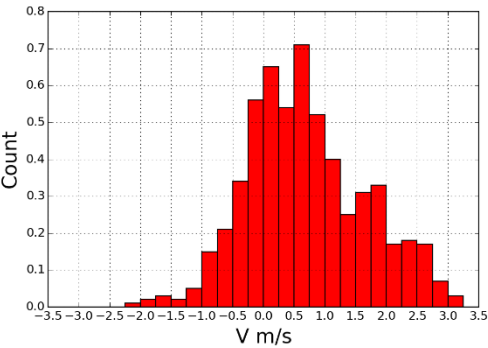


Figure D. 1495: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

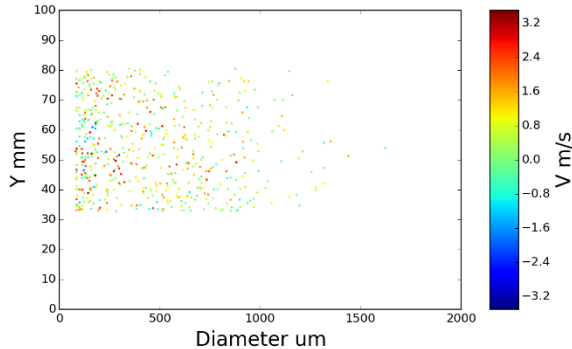


Figure D. 1493: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2.1 Matched Only Droplets for .LB Image

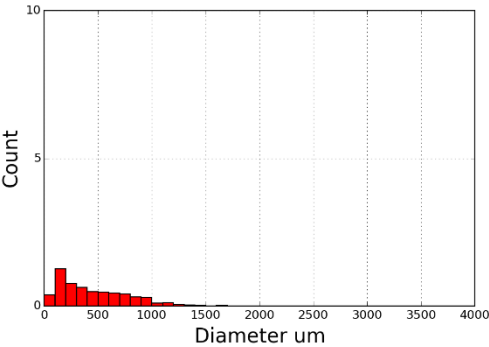


Figure D. 1496: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

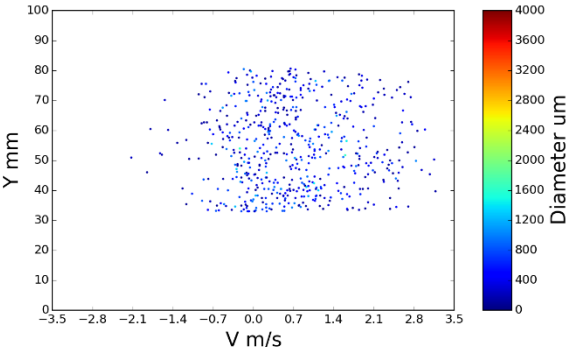


Figure D. 1499: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

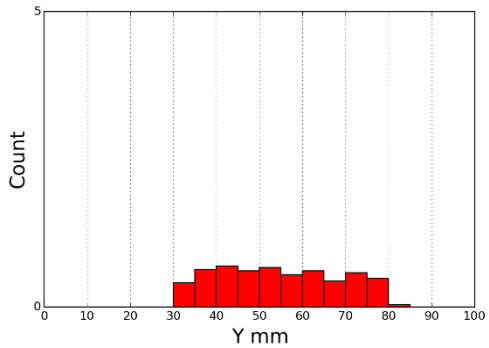


Figure D. 1497: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

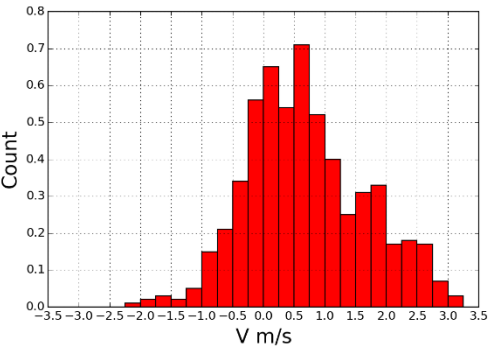


Figure D. 1500: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

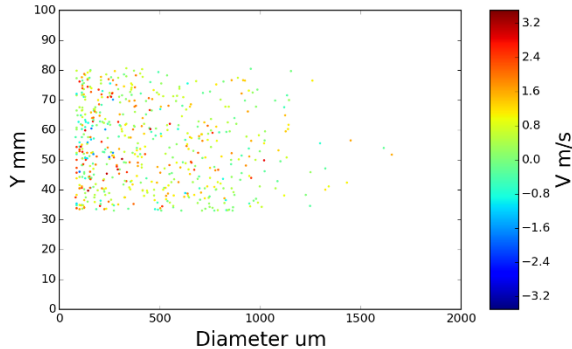


Figure D. 1498: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2.1 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	0.84	0.77	86.0	1580	379.8	335.3	81.1	1514	389.7	331.3
40-60mm	1.84	1.81	81.1	1876	335.6	329.2	81.1	1292	347.8	305.5
60-80mm	1.46	1.46	86.0	1607	348.8	311.7	86.0	1522	349.2	316.4
80-100mm	0.08	0.06	99.3	465.0	324.2	125.5	99.3	370.5	225.7	106.2
All	4.22	4.1	81.1	1876	348.8	322.2	81.1	1522	354.4	313.3
			Height A (mm)				Height B (mm)			
Highest Particle			80.7276				80.7657			
Lowest Particle			32.8413				33.0503			

Table D. 165: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	0.45	86.0	1113	407.1	307.4	81.1	1160	404.1	308.7	-1.160	2.950	0.110	0.690	-2.650	2.910	0.850	1.130
40-60mm	0.79	86.0	1288	405.9	301.8	81.1	1279	426.6	321.6	-1.620	2.280	-0.030	0.740	-0.950	3.170	1.120	1.100
60-80mm	0.74	86.0	1317	426.3	294.8	99.3	1522	436.0	304.6	-3.060	2.720	-0.180	0.660	-0.470	3.170	1.130	0.840
80-100mm	0.02	246.7	339.2	292.9	46.3	181.3	353.5	256.5	72.0	-0.950	-0.320	-0.640	0.310	-0.090	1.540	0.730	0.820
All	2.0	86.0	1317	412.6	299.4	81.1	1522	422.5	311.2	-3.060	2.950	-0.060	0.710	-2.650	3.170	1.060	1.020

Table D. 166: Matched Droplet Info

D.7.2.1 All Droplets for .LA Image

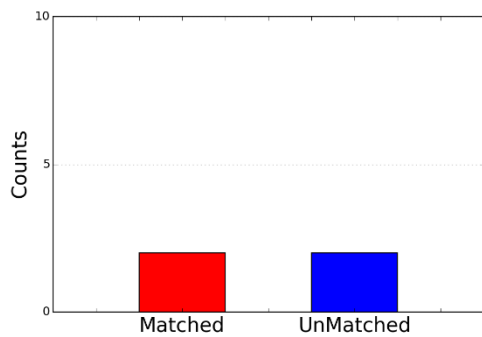


Figure D. 1501: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

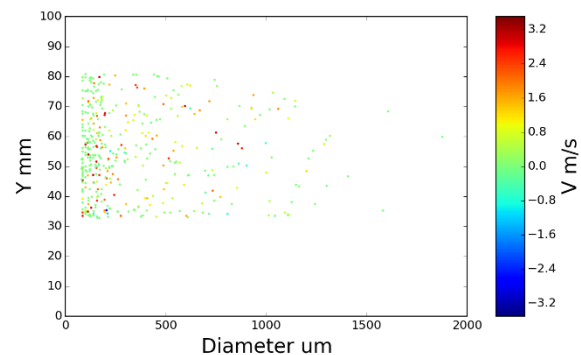


Figure D. 1504: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

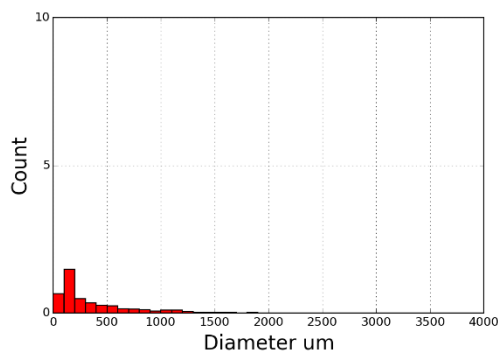


Figure D. 1502: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

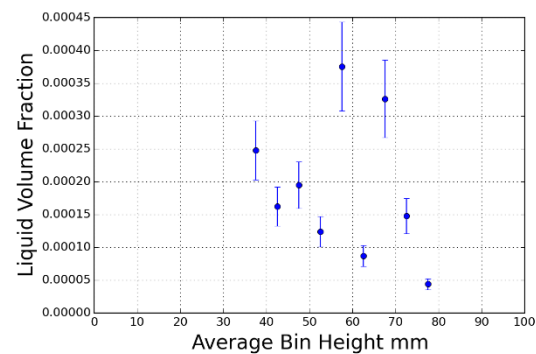


Figure D. 1505: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

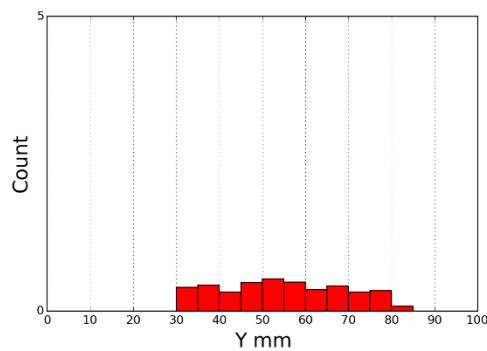


Figure D. 1503: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2.1 All Droplets for .LB Image

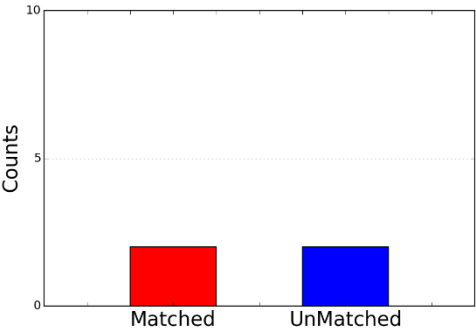


Figure D. 1506: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

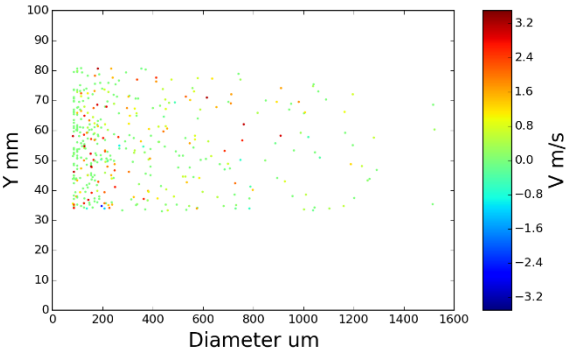


Figure D. 1509: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

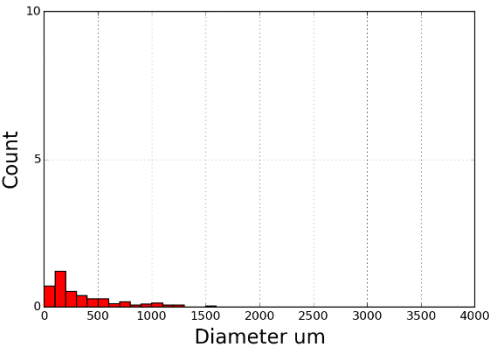


Figure D. 1507: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

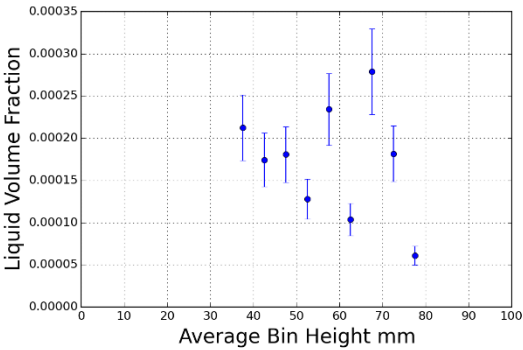


Figure D. 1510: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

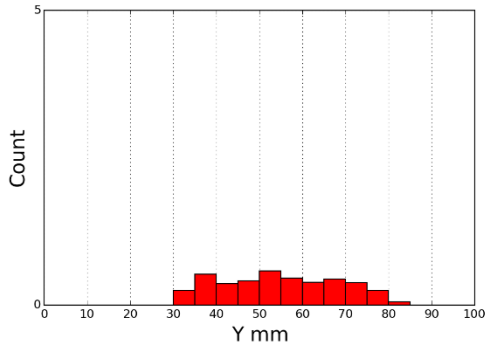


Figure D. 1508: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2.1 Matched Only Droplets for .LA Image

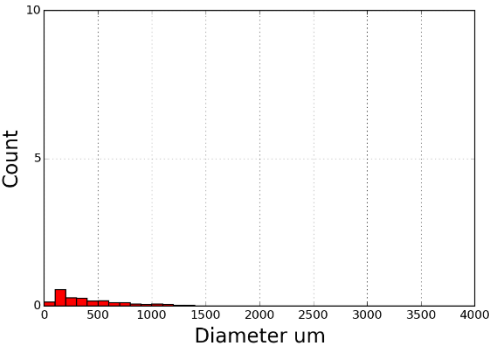


Figure D. 1511: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

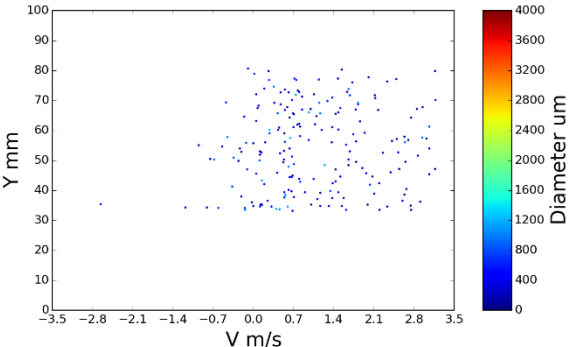


Figure D. 1514: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

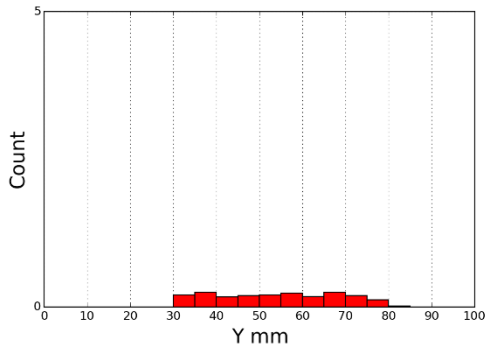


Figure D. 1512: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

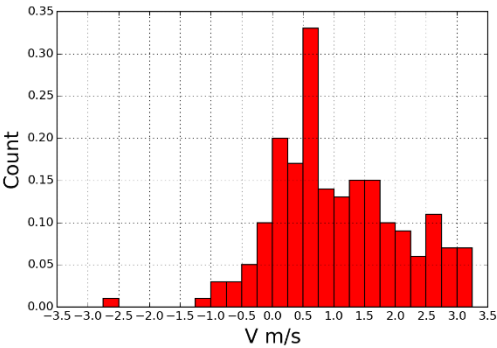


Figure D. 1515: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

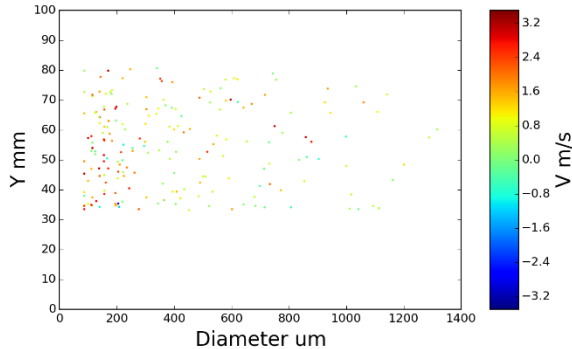


Figure D. 1513: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2.1 Matched Only Droplets for .LB Image

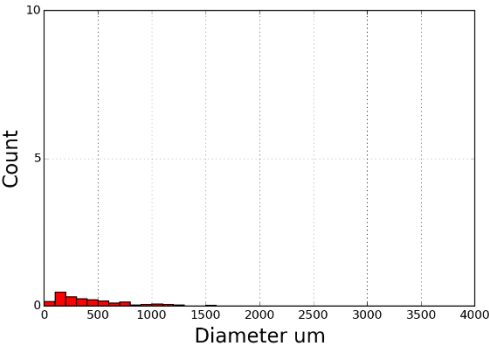


Figure D. 1516: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

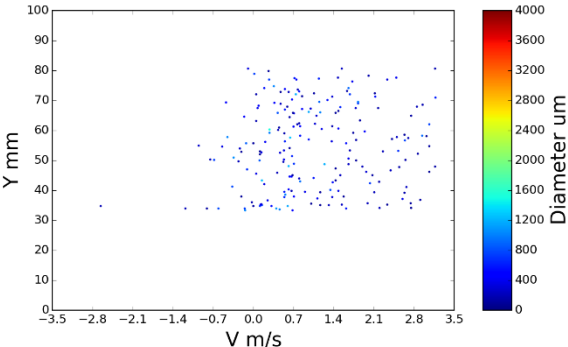


Figure D. 1519: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

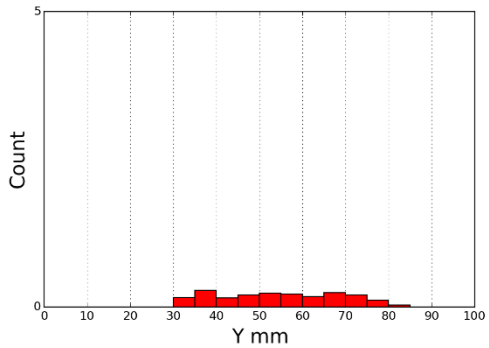


Figure D. 1517: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

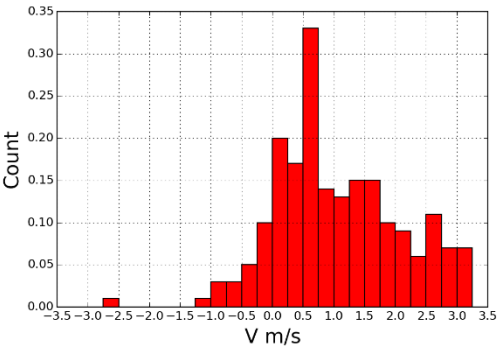


Figure D. 1520: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

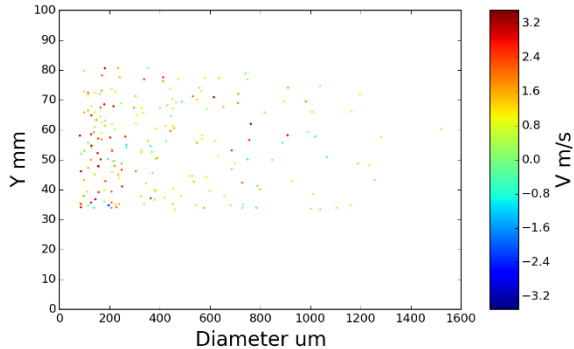


Figure D. 1518: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2.2 Lens 50mm Mag 0_13x

D.7.2.2 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	3.5	3.49	182.4	3845	728.3	651.9	182.4	3972	676.5	628.3
20-40mm	2.29	2.28	182.4	1688	617.8	302.9	182.4	1750	611.8	301.3
40-60mm	1.76	2.02	193.4	1466	592.6	322.6	182.4	2003	566.8	353.3
60-80mm	1.88	1.89	193.4	1460	493.9	289.4	193.4	1377	488.5	280.1
80-100mm	1.06	1.24	193.4	1285	462.8	239.7	182.4	1024	439.2	221.5
All	10.5	10.92	170.6	3845	612.2	457.6	182.4	3972	583.2	440.8
			Height A (mm)				Height B (mm)			
Highest Particle			100.0521				99.9968			
Lowest Particle			11.5665				11.5994			

Table D. 167: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	1.38	193.4	3845	586.4	491.9	193.4	3892	577.2	483.3	-3.030	3.060	-0.090	0.980	-0.660	1.980	0.080	0.370
20-40mm	1.66	182.4	1688	639.1	279.1	193.4	1750	633.0	287.4	-1.310	0.990	-0.020	0.340	-0.980	3.070	0.520	0.810
40-60mm	1.08	193.4	1433	677.9	311.2	193.4	1736	689.6	340.1	-1.720	2.690	-0.040	0.550	-1.350	2.870	0.500	0.880
60-80mm	1.0	193.4	1309	544.7	282.6	193.4	1354	548.2	291.6	-1.920	2.280	-0.130	0.500	-1.040	3.120	0.650	1.040
80-100mm	0.75	193.4	1007	494.5	233.8	182.4	1024	499.9	232.2	-1.710	2.960	-0.170	0.550	-0.640	3.000	0.660	0.930
All	5.87	182.4	3845	599.3	347.7	182.4	3892	598.5	352.4	-3.030	3.060	-0.080	0.630	-1.350	3.120	0.450	0.840

Table D. 168: Matched Droplet Info

D.7.2.2 All Droplets for .LA Image

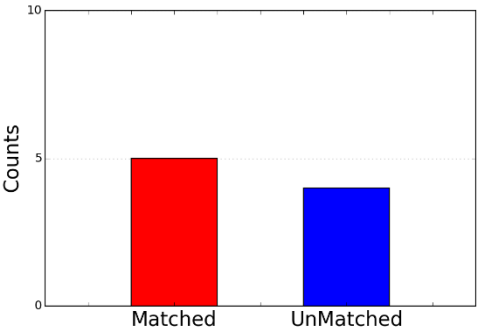


Figure D. 1521: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

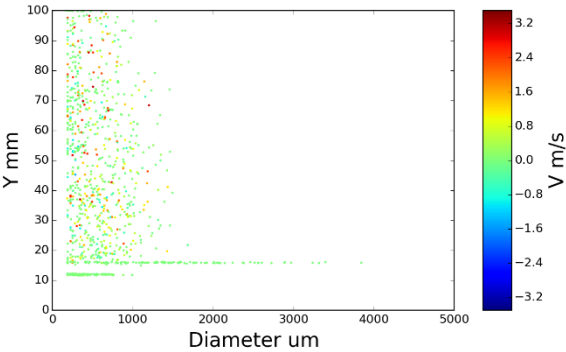


Figure D. 1524: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

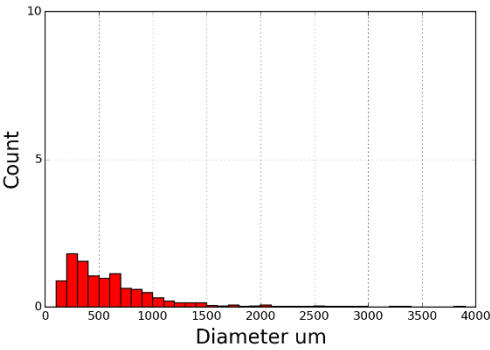


Figure D. 1522: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

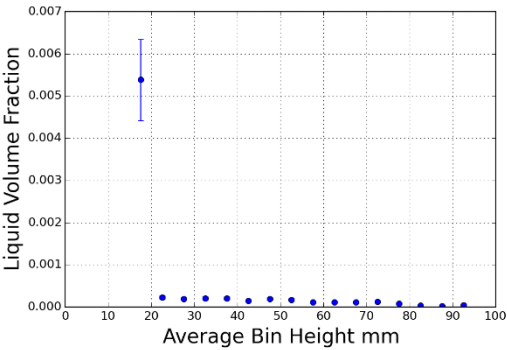


Figure D. 1525: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

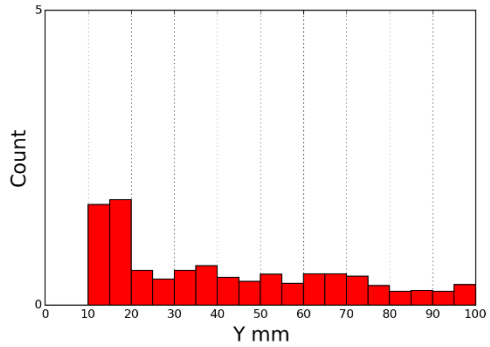


Figure D. 1523: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2.2 All Droplets for .LB Image

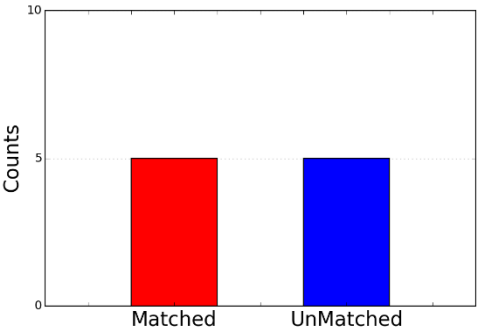


Figure D. 1526: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

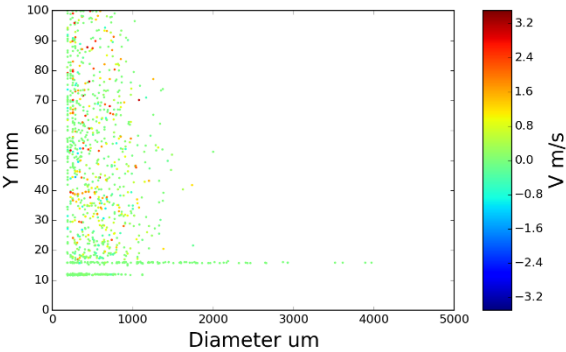


Figure D. 1529: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

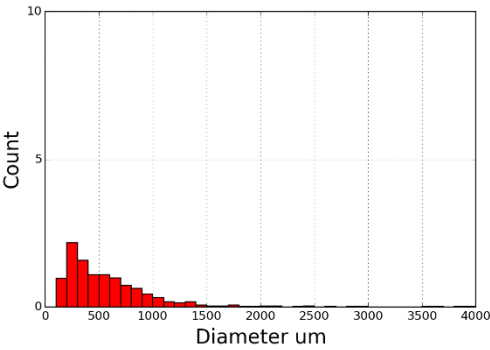


Figure D. 1527: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

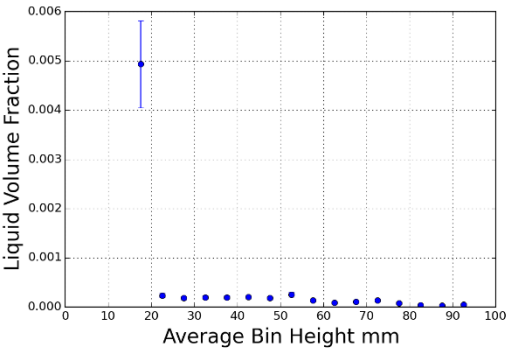


Figure D. 1530: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

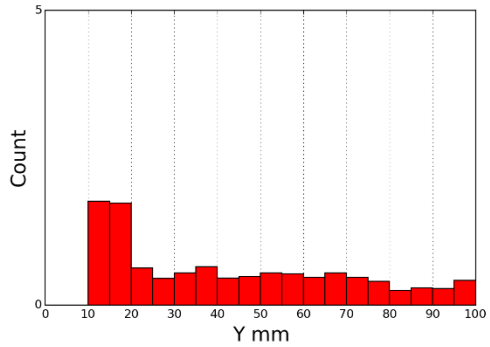


Figure D. 1528: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2.2 Matched Only Droplets for .LA Image

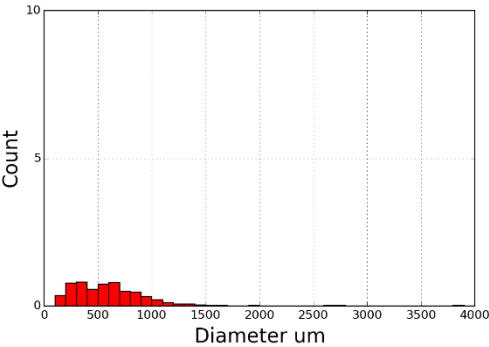


Figure D. 1531: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

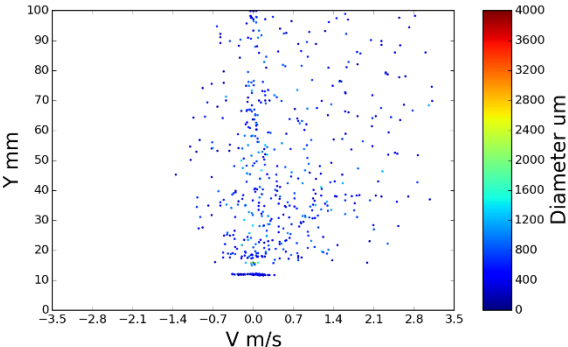


Figure D. 1534: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

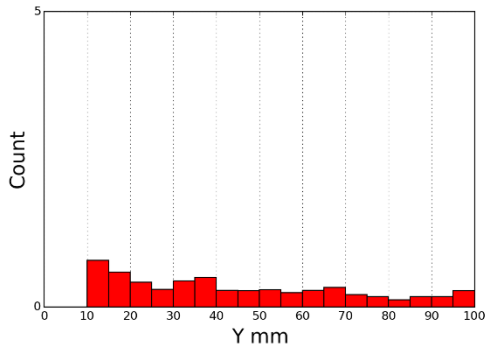


Figure D. 1532: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

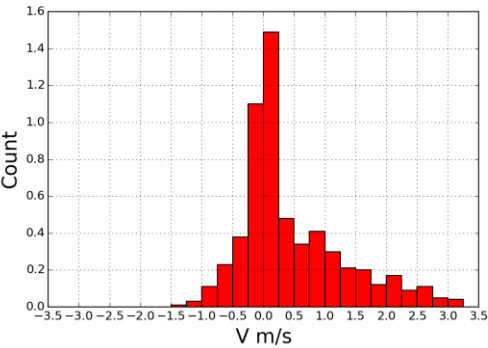


Figure D. 1535: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

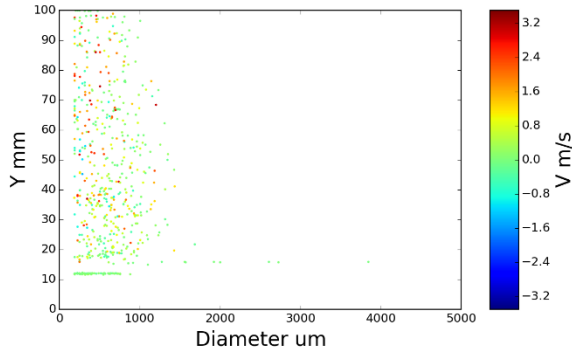


Figure D. 1533: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2.2 Matched Only Droplets for .LB Image

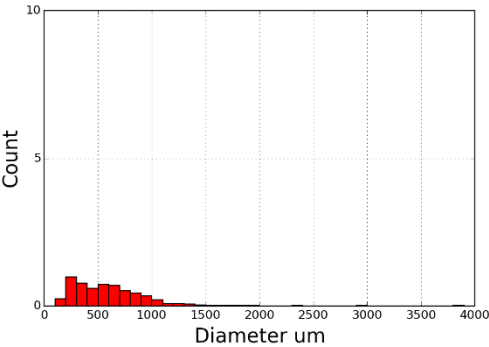


Figure D. 1536: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

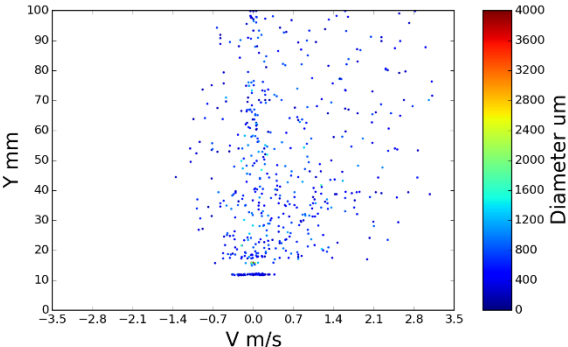


Figure D. 1539: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

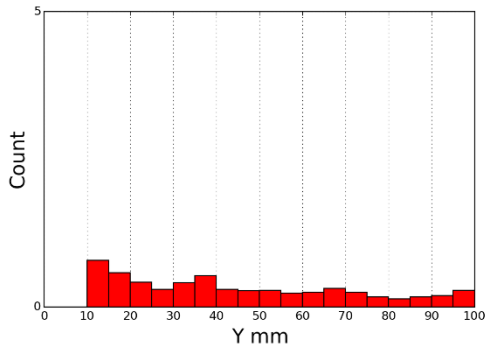


Figure D. 1537: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

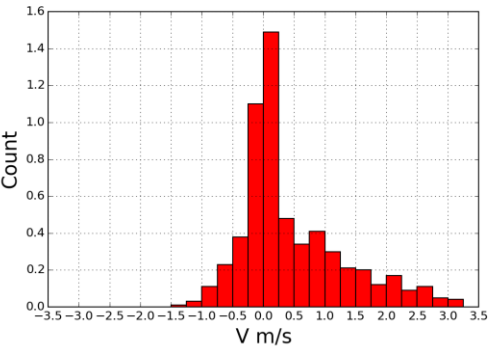


Figure D. 1540: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

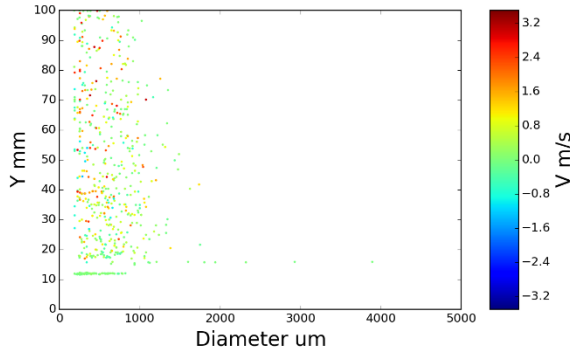


Figure D. 1538: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2.2 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	2.55	2.51	170.6	3560	870.1	740.4	182.4	3900	900.5	821.5
20-40mm	5.96	5.78	170.6	2325	587.8	336.6	182.4	1962	578.8	324.2
40-60mm	4.73	4.74	182.4	2170	609.2	317.9	193.4	2103	591.6	313.6
60-80mm	3.84	3.58	170.6	2157	554.2	343.9	182.4	1914	552.3	334.2
80-100mm	2.33	2.13	193.4	2520	564.5	341.7	193.4	2444	604.0	348.7
All	19.42	18.75	170.6	3560	620.5	422.6	182.4	3900	622.8	441.5
			Height A (mm)				Height B (mm)			
Highest Particle			100.0070				100.0060			
Lowest Particle			14.4647				14.5478			

Table D. 169: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.98	193.4	3505	782.2	722.5	193.4	3900	824.0	828.9	-2.340	2.790	-0.100	0.640	-0.930	3.020	0.550	0.830
20-40mm	3.9	193.4	2081	629.7	308.4	193.4	1889	626.1	310.9	-3.070	3.020	-0.160	0.590	-2.810	2.930	0.590	0.900
40-60mm	3.0	193.4	2170	661.5	296.3	193.4	2103	660.4	301.5	-3.060	2.830	-0.210	0.710	-2.960	2.980	0.640	0.970
60-80mm	2.04	193.4	2063	645.1	339.6	193.4	1914	625.4	338.7	-3.000	2.980	-0.130	0.790	-3.080	2.970	0.720	0.990
80-100mm	1.33	193.4	1866	659.1	302.8	193.4	1869	663.5	309.5	-2.670	2.670	-0.100	0.630	-1.990	3.020	0.670	0.930
All	11.25	193.4	3505	657.8	367.8	193.4	3900	655.7	385.0	-3.070	3.020	-0.160	0.670	-3.080	3.020	0.630	0.940

Table D. 170: Matched Droplet Info

D.7.2.2 All Droplets for .LA Image

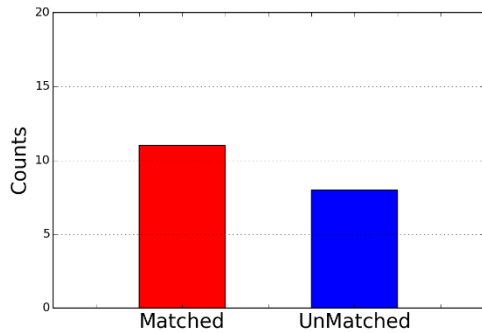


Figure D. 1541: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

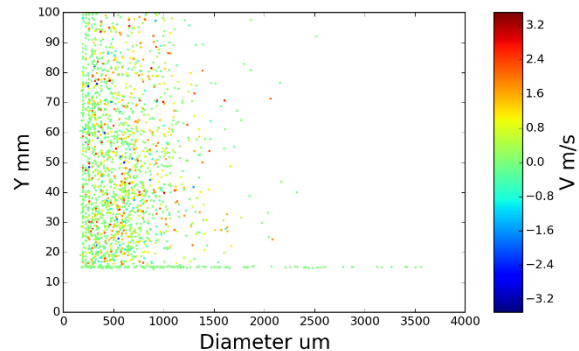


Figure D. 1544: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

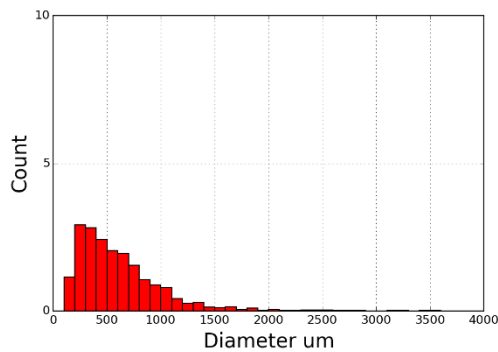


Figure D. 1542: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

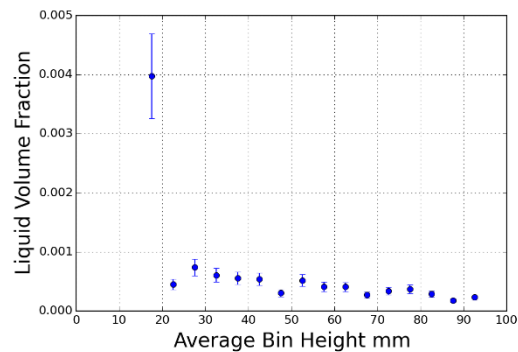


Figure D. 1545: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

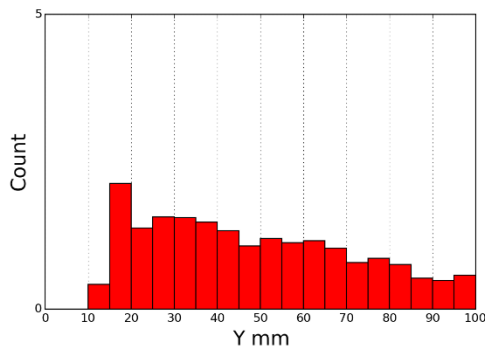


Figure D. 1543: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2.2 All Droplets for .LB Image

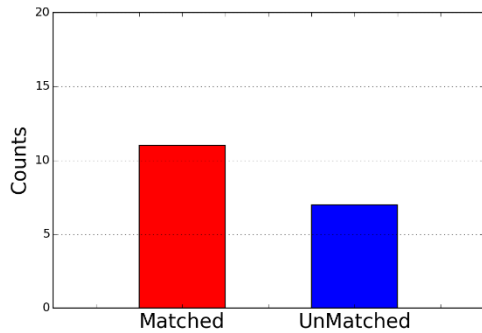


Figure D. 1546: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

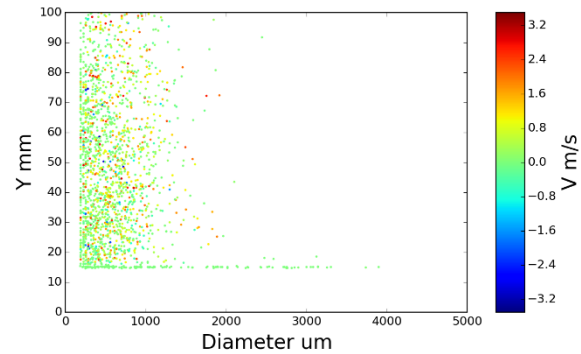


Figure D. 1549: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

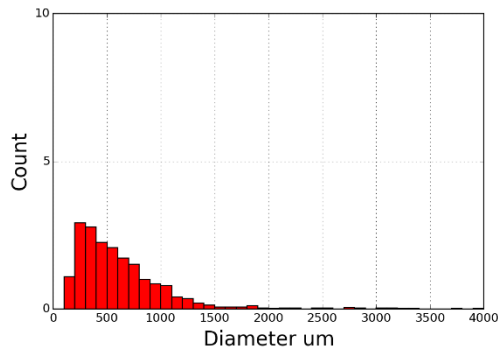


Figure D. 1547: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

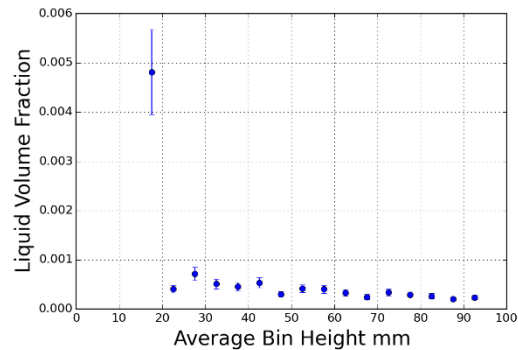


Figure D. 1550: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

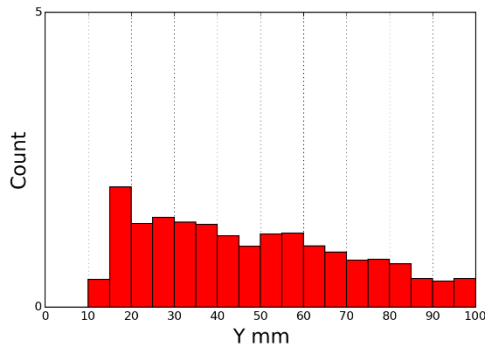


Figure D. 1548: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2.2 Matched Only Droplets for .LA Image

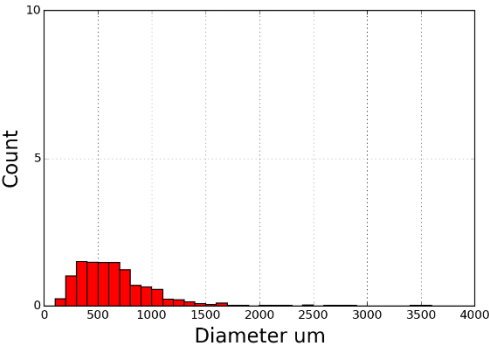


Figure D. 1551: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

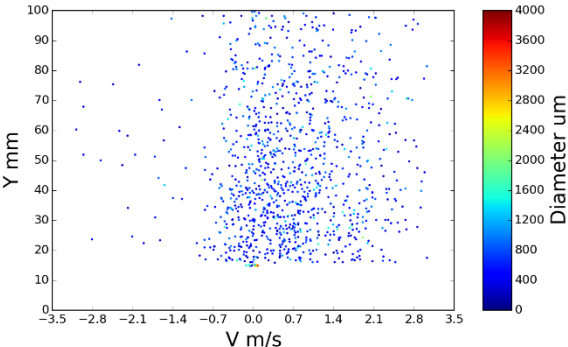


Figure D. 1554: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

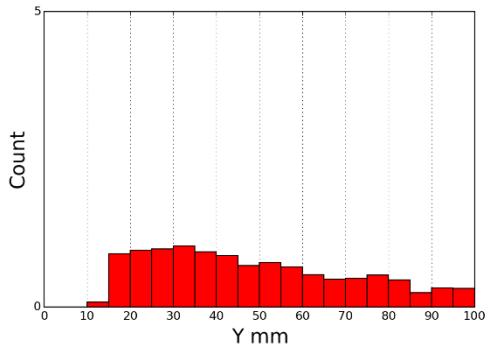


Figure D. 1552: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

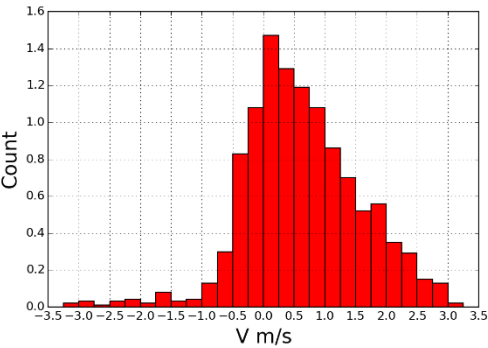


Figure D. 1555: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

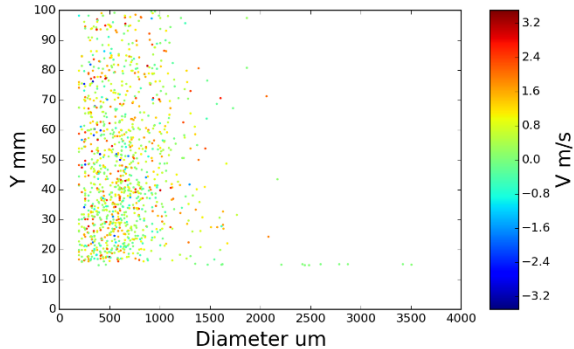


Figure D. 1553: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2.2 Matched Only Droplets for .LB Image

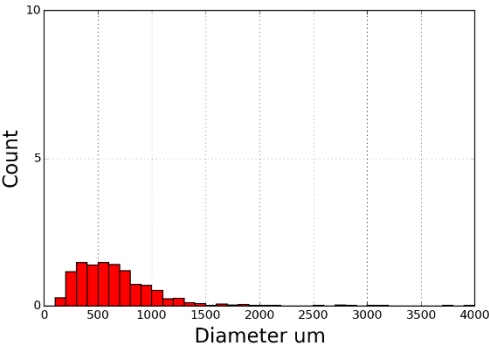


Figure D. 1556: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

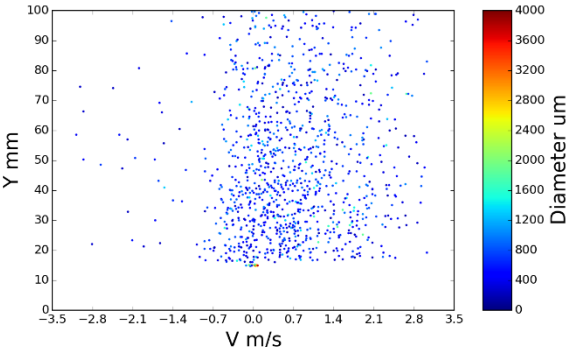


Figure D. 1559: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

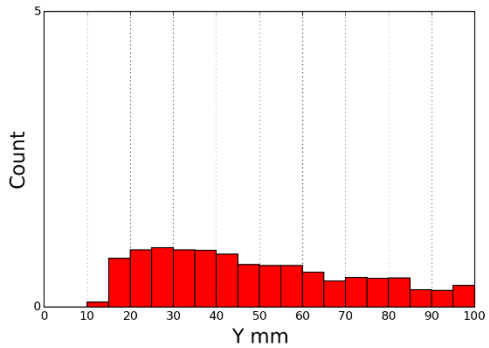


Figure D. 1557: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

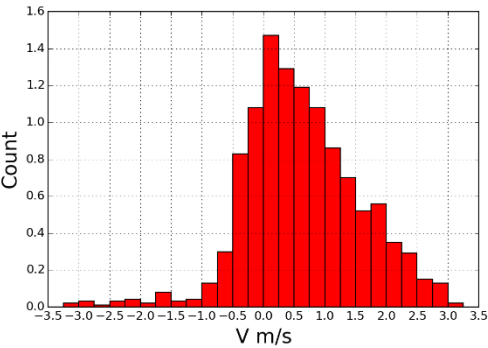


Figure D. 1560: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

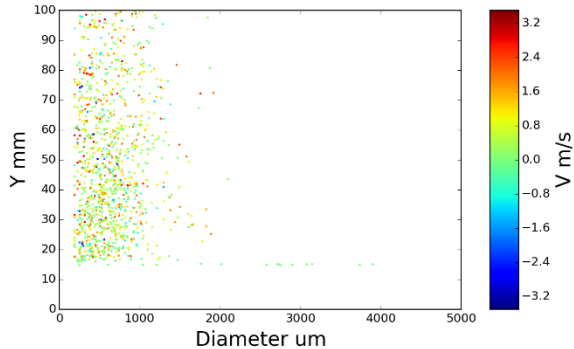


Figure D. 1558: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2.2 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	1.42	1.79	182.4	2835	754.9	439.2	193.4	2134	743.2	423.9
20-40mm	3.17	3.12	193.4	1574	634.3	281.6	193.4	1519	632.4	277.1
40-60mm	1.72	1.7	193.4	1596	619.1	294.7	182.4	1558	614.2	295.0
60-80mm	1.12	1.08	182.4	1564	599.6	341.2	182.4	1550	593.5	346.7
80-100mm	0.74	0.74	193.4	1469	545.3	286.5	193.4	1342	538.7	294.6
All	8.18	8.45	182.4	2835	638.7	330.9	182.4	2134	638.1	332.9
			Height A (mm)				Height B (mm)			
Highest Particle			100.0267				100.0236			
Lowest Particle			13.8474				13.9619			

Table D. 171: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.71	193.4	1520	633.6	217.1	223.3	1918	652.7	250.1	-2.290	0.640	0.030	0.390	-1.610	1.990	0.440	0.720
20-40mm	2.46	193.4	1393	666.6	251.8	193.4	1446	661.1	255.3	-1.470	1.910	-0.030	0.400	-1.360	3.060	0.560	0.820
40-60mm	1.22	193.4	1596	651.0	279.9	223.3	1558	665.9	290.3	-2.210	1.160	0.070	0.420	-1.200	2.810	0.730	0.730
60-80mm	0.69	193.4	1564	668.1	324.5	193.4	1550	664.9	341.0	-3.100	0.890	-0.170	0.670	-1.330	3.120	0.810	0.770
80-100mm	0.49	193.4	1267	571.2	270.2	193.4	1328	570.1	269.7	-1.560	1.310	-0.230	0.450	-0.520	3.020	0.890	0.850
All	5.57	193.4	1596	650.8	267.2	193.4	1918	653.4	276.8	-3.100	1.910	-0.030	0.460	-1.610	3.120	0.640	0.800

Table D. 172: Matched Droplet Info

D.7.2.2 All Droplets for .LA Image

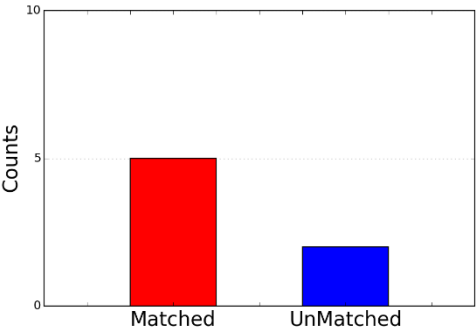


Figure D. 1561: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

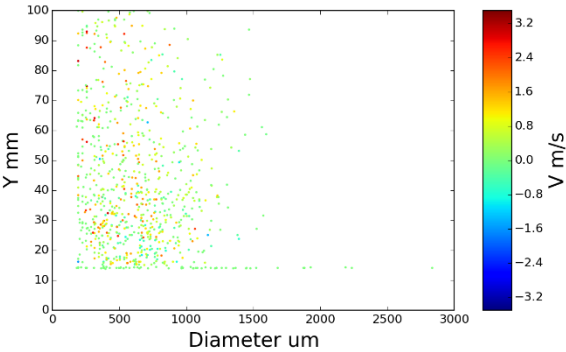


Figure D. 1564: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

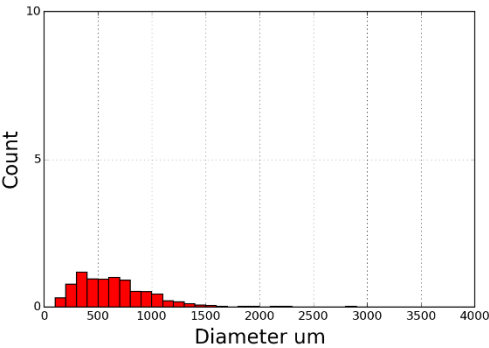


Figure D. 1562: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

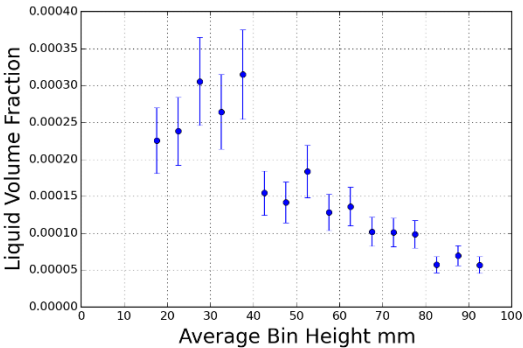


Figure D. 1565: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

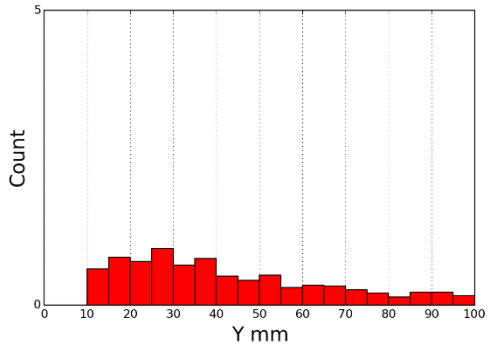


Figure D. 1563: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2.2 All Droplets for .LB Image

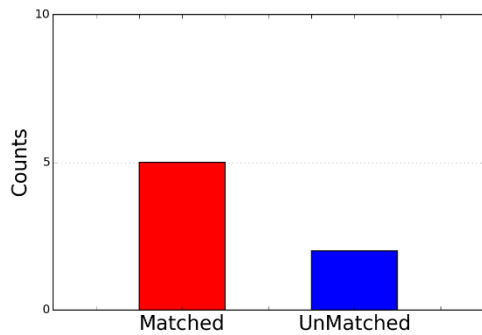


Figure D. 1566: CHC Count Comparison R-123 55F 5000Btu 30000Lb Rot Tri

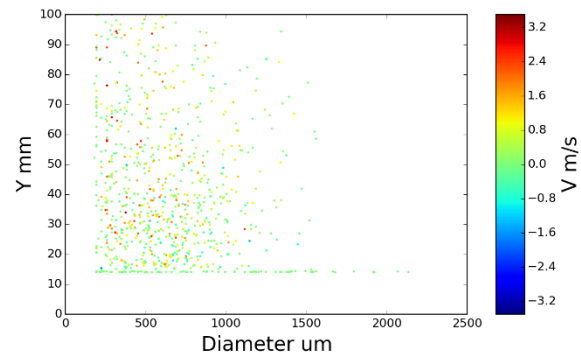


Figure D. 1569: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

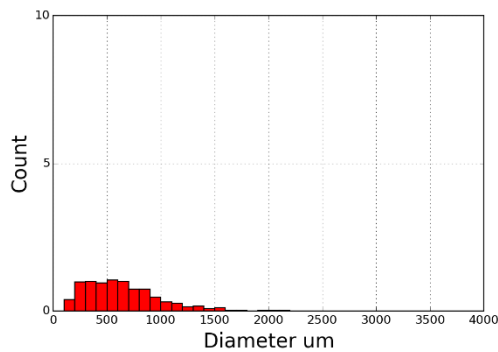


Figure D. 1567: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

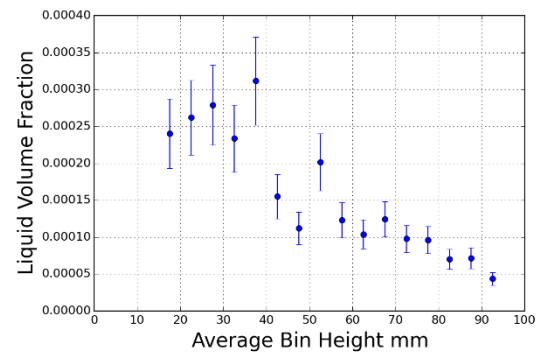


Figure D. 1570: Void Fraction R-123 55F 5000Btu 30000Lb Rot Tri

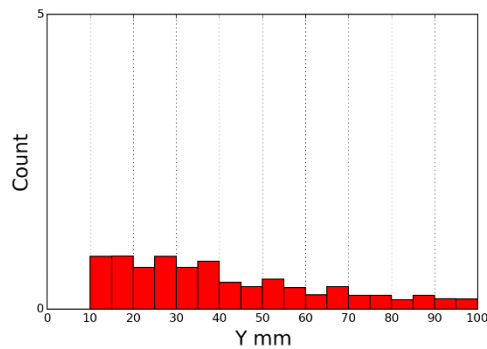


Figure D. 1568: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2.2 Matched Only Droplets for .LA Image

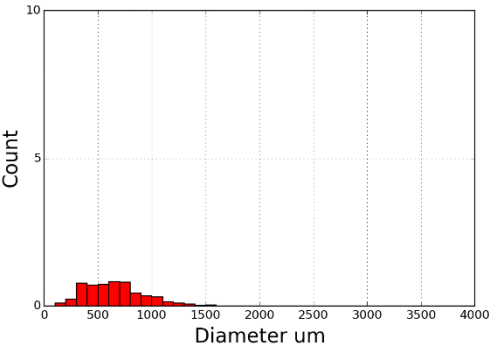


Figure D. 1571: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

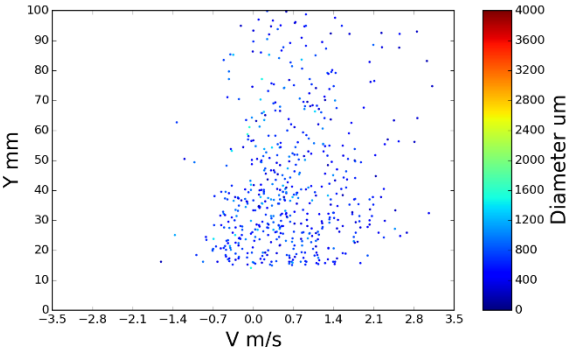


Figure D. 1574: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

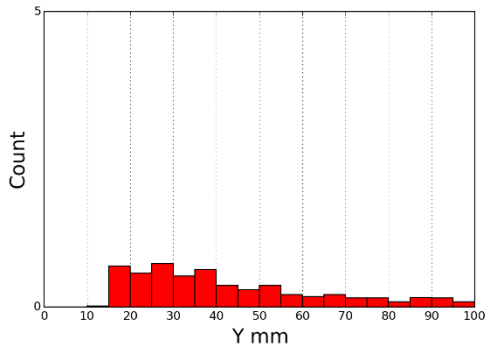


Figure D. 1572: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

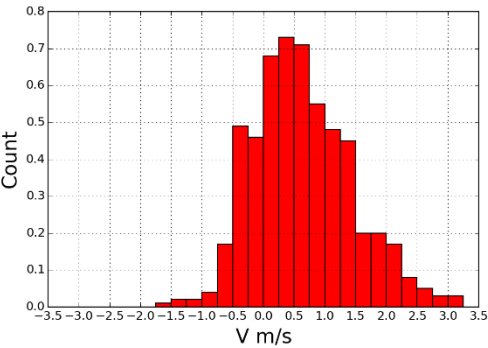


Figure D. 1575: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

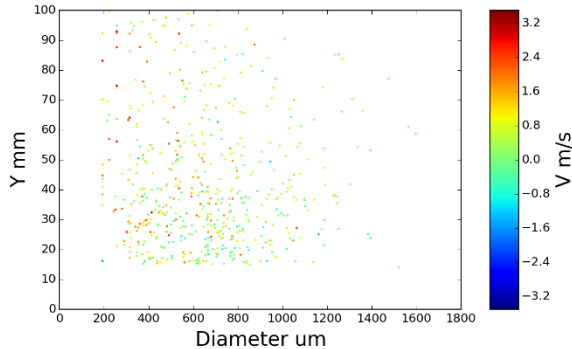


Figure D. 1573: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.7.2.2 Matched Only Droplets for .LB Image

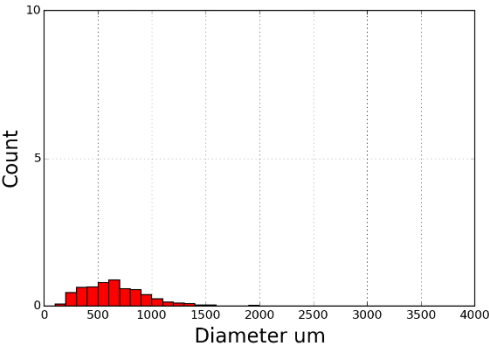


Figure D. 1576: Droplet Diameter Histogram R-123 55F 5000Btu 30000Lb Rot Tri

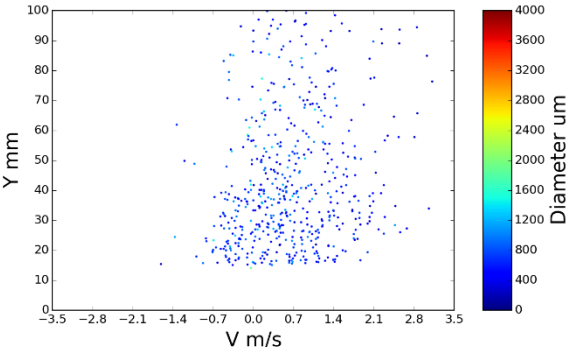


Figure D. 1579: Droplet Height vs Vertical Velocity R-123 55F 5000Btu 30000Lb Rot Tri

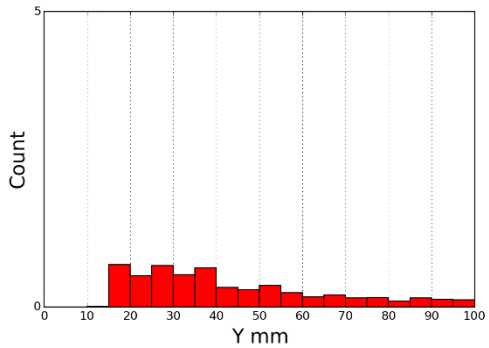


Figure D. 1577: Droplet Height Histogram R-123 55F 5000Btu 30000Lb Rot Tri

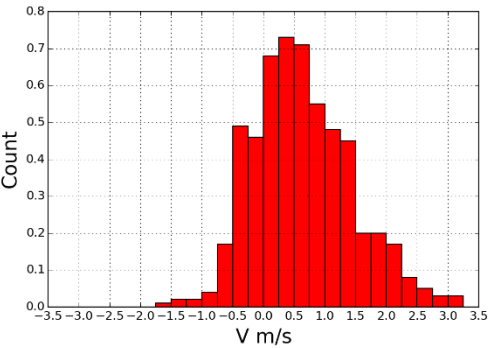


Figure D. 1580: Droplet Vertical Velocity Histogram R-123 55F 5000Btu 30000Lb Rot Tri

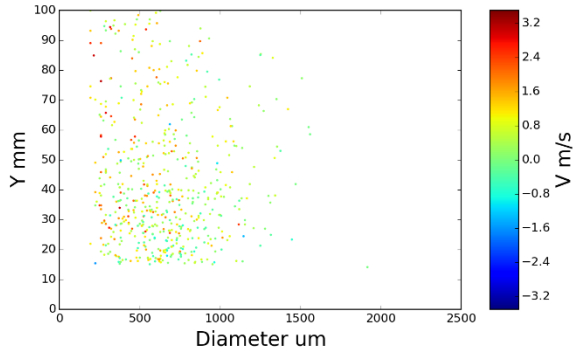


Figure D. 1578: Droplet Height vs Diameter R-123 55F 5000Btu 30000Lb Rot Tri

D.8 - 1556 R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1 Liquid Level 2

Thermal Conditions	
H2O Flow Rate (lb/hr) / (kg/s)	28173 / 3.550
Ref Mass Flow (lb/hr) / (kg/s)	3099 / 0.391
Ref Mass Flux (lb/hr-ft ²) / (kg/s-m ²)	30169 / 40.916
Top Two Rows Heat Flux (Btu/hr-ft ²) / (kW/m ²)	8501 / 26.82
Bundle Exit Saturation Temp (°F) / (°C)	54.6 / 12.58
Bundle Inlet Saturation Temp (°F) / (°C)	57.4 / 14.10
Total Bundle Q (Btu/hr) / (kW)	207967 / 60.95
Total Bundle & Preboiler Q (Btu/hr) / (kW)	207967 / 60.95
Top Two Rows HTC Ratio	1.077
Bundle Inlet Quality	-0.13
Bundle Exit Quality	0.77

Table D. 173: Thermal Conditions

D.8.1.1 Lens 100mm Mag 0_29x

D.8.1.1 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	85.53	87.32	76.0	3879	386.4	389.3	76.0	3643	387.8	390.0
40-60mm	281.12	285.51	76.0	3650	352.2	347.9	76.0	3967	352.2	351.3
60-80mm	301.0	302.15	76.0	4016	337.4	313.9	76.0	3854	335.8	311.2
80-100mm	17.27	17.2	76.0	2166	326.1	270.0	81.2	2102	324.6	268.3
All	684.92	692.2	76.0	4016	349.4	337.6	76.0	3967	348.9	338.3
			Height A (mm)				Height B (mm)			
Highest Particle			81.1536				81.1536			
Lowest Particle			33.1738				33.1738			

Table D. 174: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	46.63	81.2	3560	466.7	408.9	76.0	3643	460.8	413.0	-3.160	3.170	-0.090	0.880	-3.180	3.180	0.170	1.190
40-60mm	158.46	81.2	3528	417.8	369.9	81.2	3843	412.6	370.4	-3.180	3.180	-0.060	0.900	-3.180	3.180	0.330	1.280
60-80mm	174.6	81.2	3615	394.6	327.6	76.0	3854	387.8	326.0	-3.180	3.180	-0.020	0.880	-3.180	3.180	0.390	1.260
80-100mm	8.91	86.1	1821	384.7	292.0	81.2	2102	382.3	292.2	-3.180	3.120	-0.020	0.880	-3.140	2.870	0.100	1.130
All	388.6	81.2	3615	412.5	355.8	76.0	3854	406.4	355.7	-3.180	3.180	-0.050	0.890	-3.180	3.180	0.330	1.260

Table D. 175: Matched Droplet Info

D.8.1.1 All Droplets for .LA Image

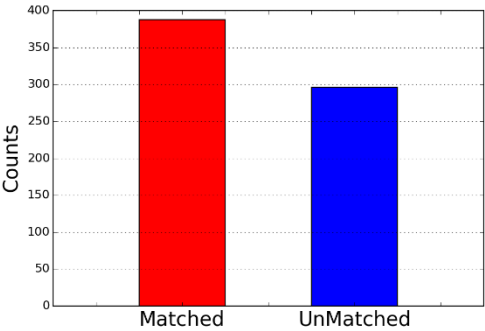


Figure D. 1581: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

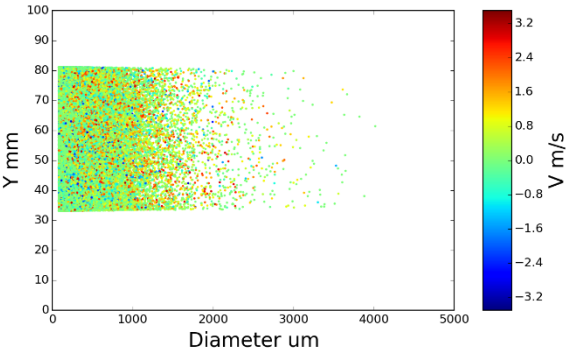


Figure D. 1584: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

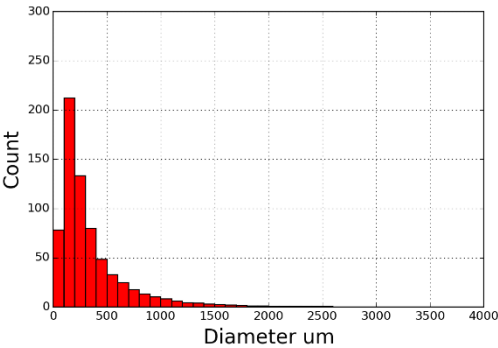


Figure D. 1582: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

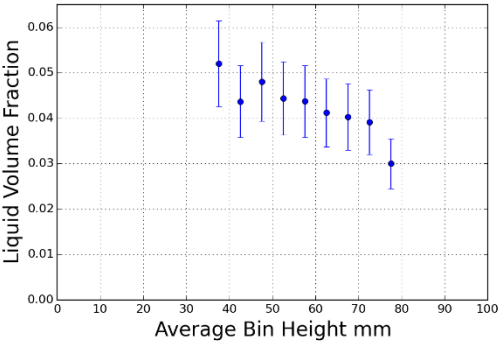


Figure D. 1585: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

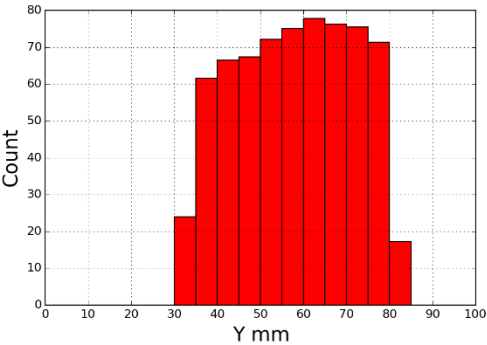


Figure D. 1583: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1.1 All Droplets for .LB Image

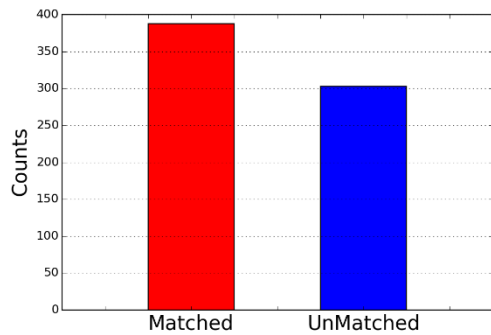


Figure D. 1586: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

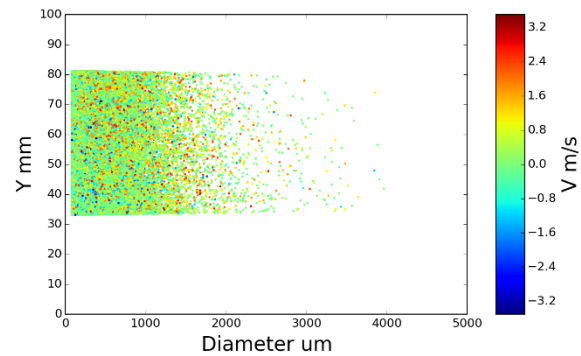


Figure D. 1589: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

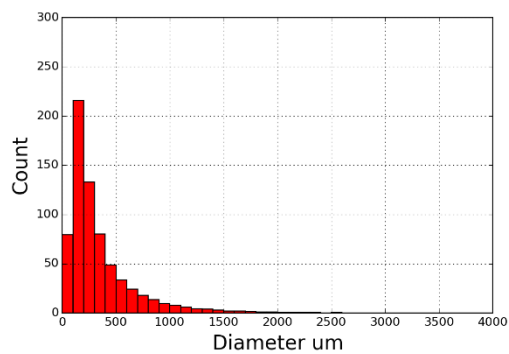


Figure D. 1587: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

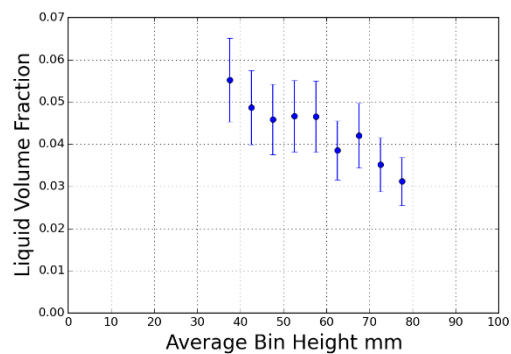


Figure D. 1590: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

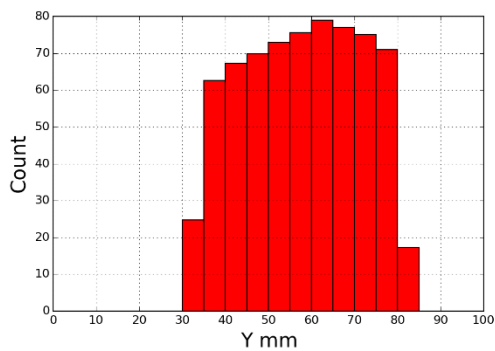


Figure D. 1588: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1.1 Matched Only Droplets for .LA Image

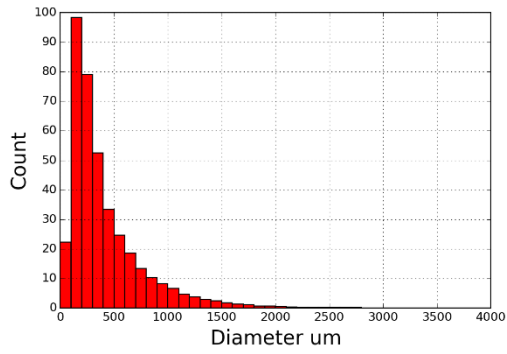


Figure D. 1591: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

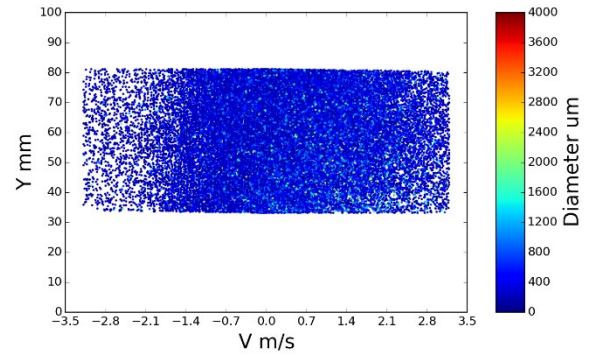


Figure D. 1594: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

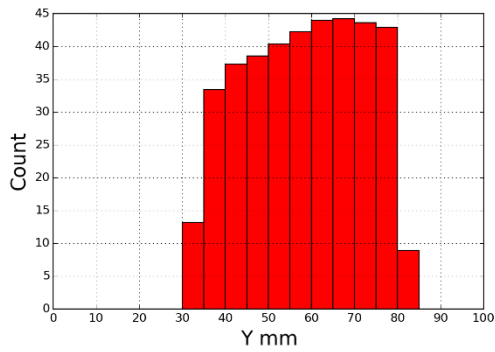


Figure D. 1592: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

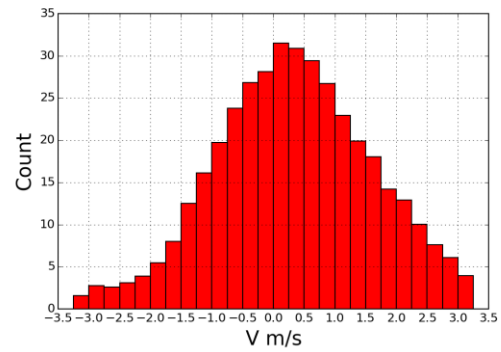


Figure D. 1595: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

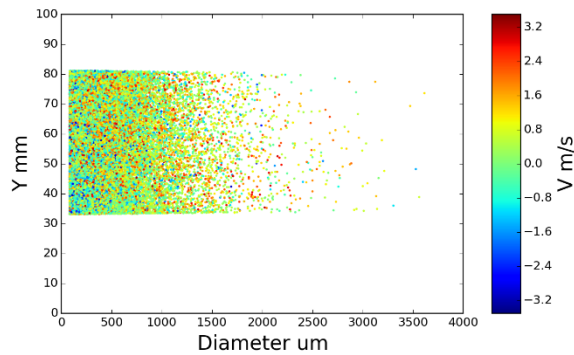


Figure D. 1593: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1.1 Matched Only Droplets for .LB Image

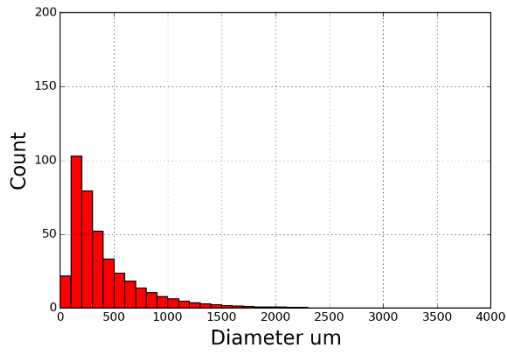


Figure D. 1596: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

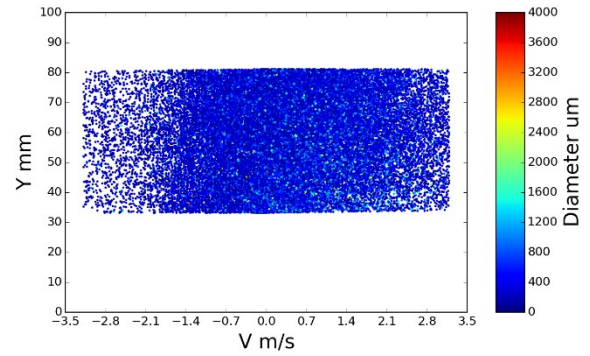


Figure D. 1599: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

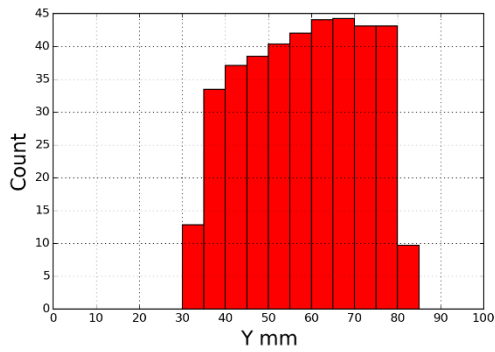


Figure D. 1597: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

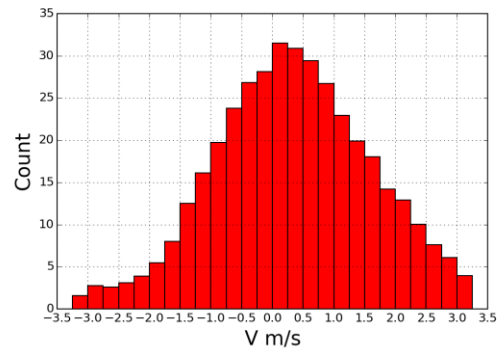


Figure D. 1600: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

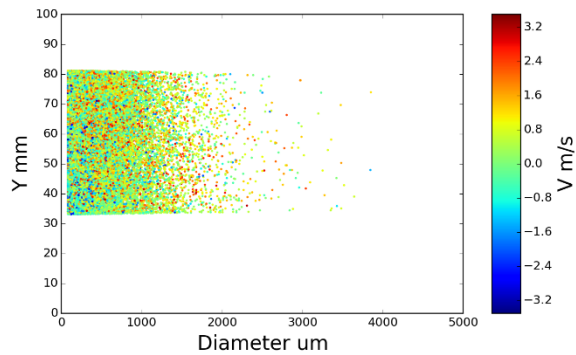


Figure D. 1598: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1.1 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	101.69	103.44	76.0	3998	399.9	382.2	76.0	3820	396.3	384.1
40-60mm	280.29	280.06	76.0	4019	384.2	368.1	76.0	3811	385.5	367.9
60-80mm	255.53	257.31	76.0	4008	375.7	357.8	76.0	4013	374.3	359.7
80-100mm	14.84	15.23	76.0	2813	365.0	339.8	76.0	3136	356.8	336.1
All	652.35	656.05	76.0	4019	382.9	365.8	76.0	4013	382.2	366.7
			Height A (mm)				Height B (mm)			
Highest Particle			81.1536				81.1536			
Lowest Particle			33.1738				33.1738			

Table D. 176: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	52.8	81.2	3394	487.9	402.2	81.2	3361	482.8	405.1	-3.180	3.180	-0.070	0.910	-3.180	3.180	0.810	1.320
40-60mm	147.26	81.2	3626	476.2	395.7	76.0	3811	469.3	397.9	-3.180	3.180	-0.090	0.910	-3.180	3.180	0.840	1.330
60-80mm	137.65	81.2	3986	459.8	380.9	81.2	3985	451.2	381.0	-3.180	3.180	-0.050	0.890	-3.180	3.180	0.820	1.290
80-100mm	6.95	81.2	2281	453.9	377.6	86.1	2583	437.8	355.8	-3.180	3.070	-0.040	0.900	-3.150	3.180	0.430	1.120
All	344.66	81.2	3986	471.0	390.7	76.0	3985	463.3	391.5	-3.180	3.180	-0.070	0.900	-3.180	3.180	0.820	1.310

Table D. 177: Matched Droplet Info

D.8.1.1 All Droplets for .LA Image

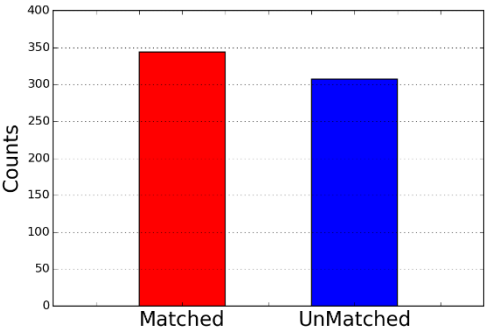


Figure D. 1601: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

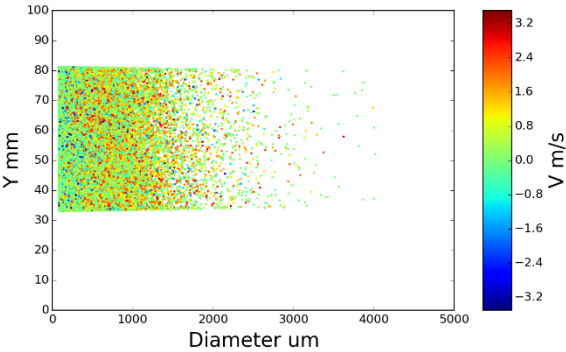


Figure D. 1604: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

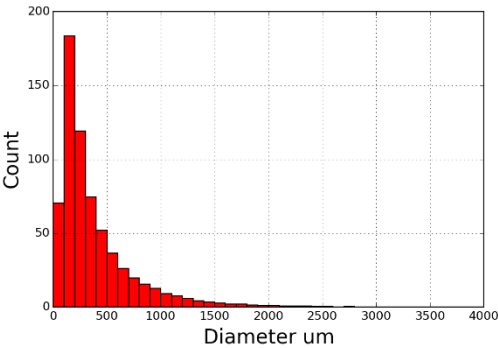


Figure D. 1602: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

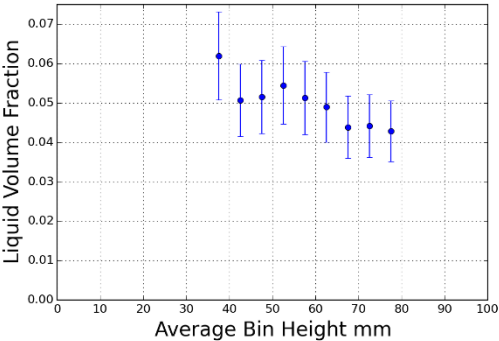


Figure D. 1605: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

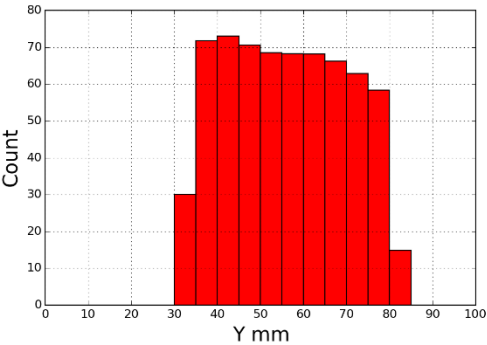


Figure D. 1603: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1.1 All Droplets for .LB Image

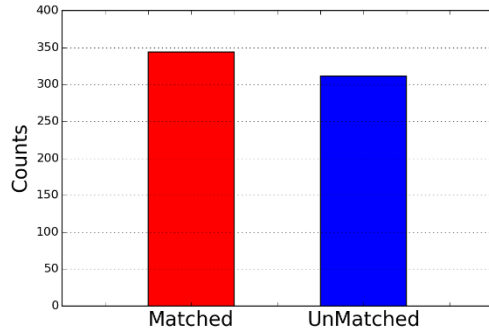


Figure D. 1606: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

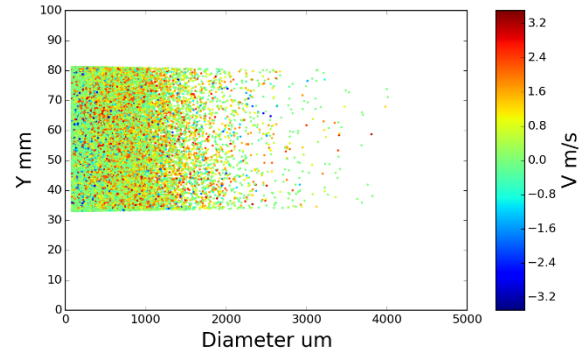


Figure D. 1609: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

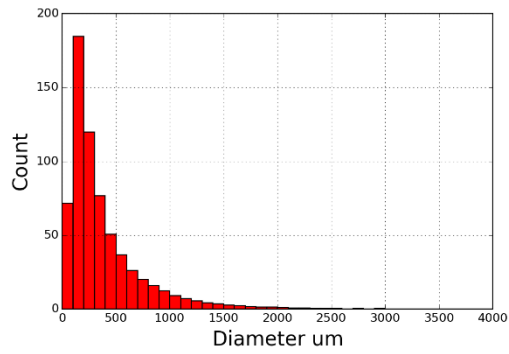


Figure D. 1607: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

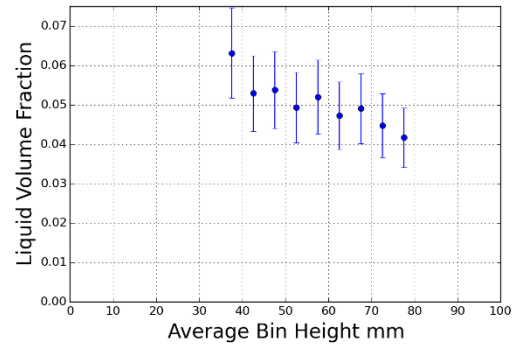


Figure D. 1610: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

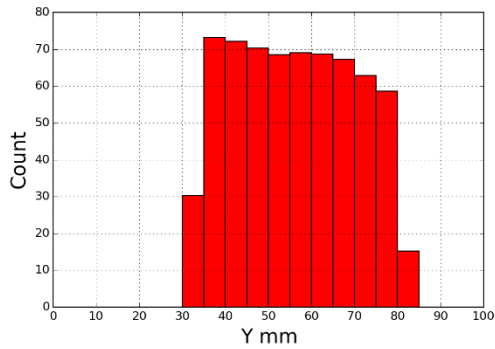


Figure D. 1608: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1.1 Matched Only Droplets for .LA Image

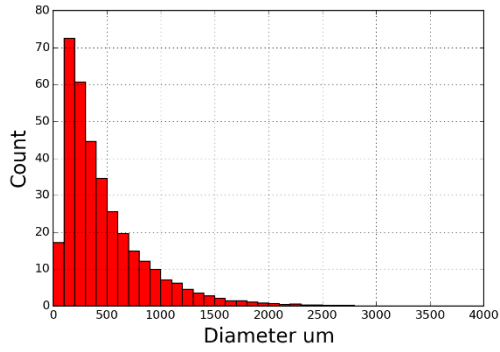


Figure D. 1611: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

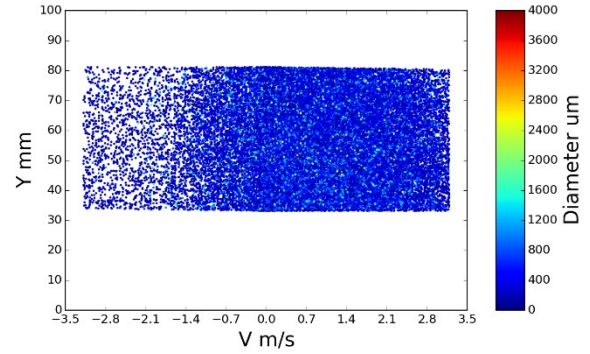


Figure D. 1614: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

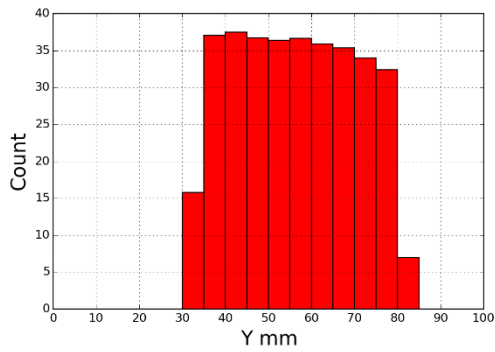


Figure D. 1612: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

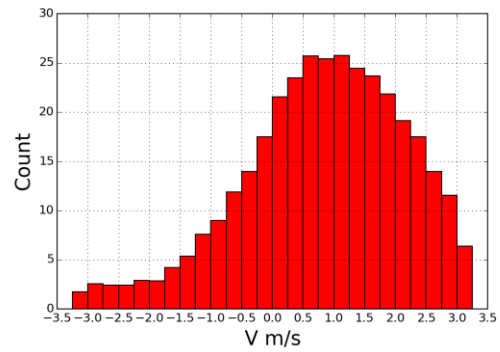


Figure D. 1615: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

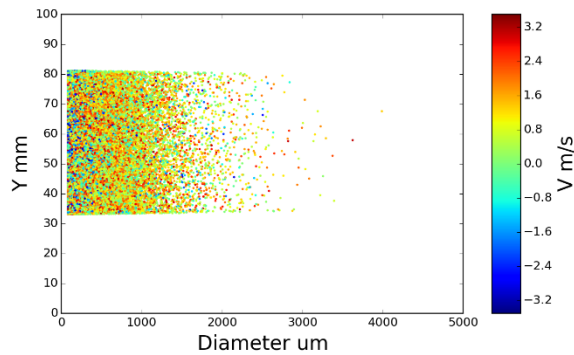


Figure D. 1613: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1.1 Matched Only Droplets for .LB Image

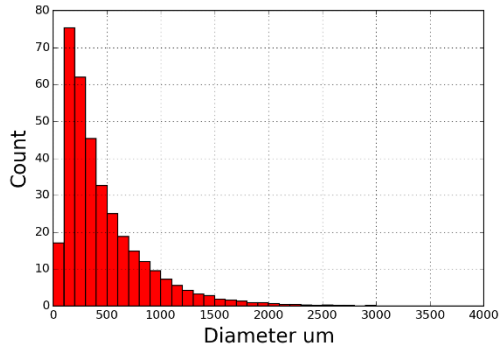


Figure D. 1616: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

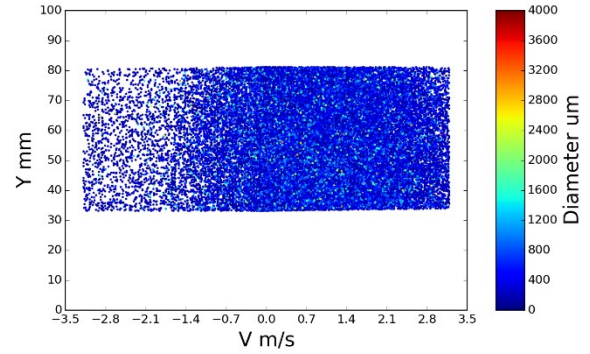


Figure D. 1619: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

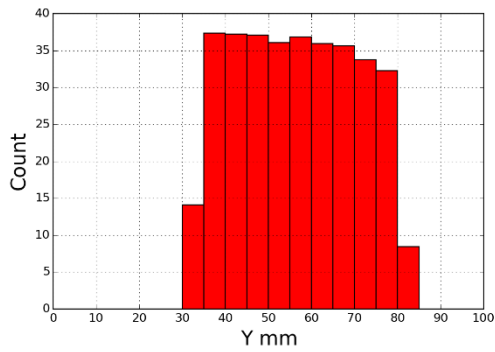


Figure D. 1617: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

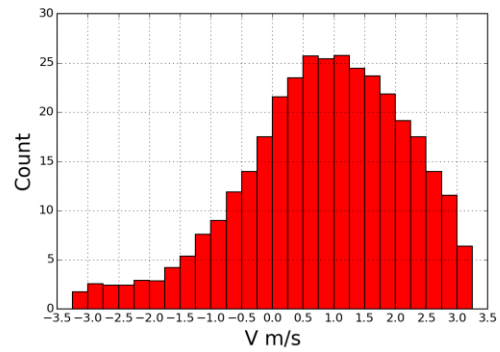


Figure D. 1620: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

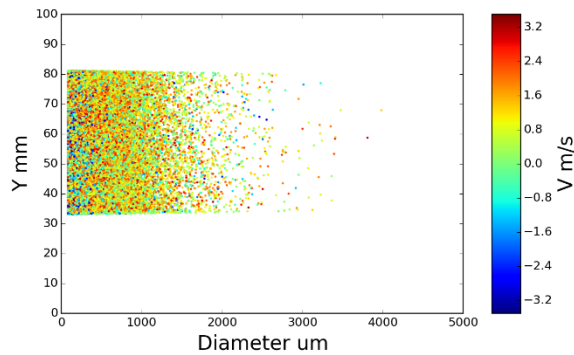


Figure D. 1618: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1.1 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	89.23	91.19	76.0	3758	445.8	415.2	76.0	3863	447.7	424.6
40-60mm	226.9	229.73	76.0	4003	436.2	407.3	76.0	3970	437.0	405.5
60-80mm	193.15	192.15	76.0	3976	437.0	409.5	76.0	3874	433.6	405.5
80-100mm	11.87	12.18	76.0	2516	393.0	348.0	81.2	2349	393.3	344.7
All	521.15	525.25	76.0	4003	437.1	408.3	76.0	3970	436.6	407.7
			Height A (mm)				Height B (mm)			
Highest Particle			81.1536				81.1536			
Lowest Particle			33.1738				33.1835			

Table D. 178: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	43.17	81.2	3596	579.8	450.2	81.2	3725	574.9	458.8	-3.180	3.180	-0.020	0.930	-3.170	3.180	1.200	1.350
40-60mm	109.5	81.2	3682	570.3	438.9	81.2	3922	560.8	438.2	-3.180	3.180	-0.040	0.910	-3.180	3.180	1.220	1.350
60-80mm	95.85	81.2	3626	564.5	432.8	81.2	3823	554.3	433.7	-3.180	3.180	-0.050	0.850	-3.180	3.180	1.160	1.270
80-100mm	4.64	86.1	2516	528.5	408.2	86.1	2349	510.3	385.9	-3.110	2.960	0.030	0.880	-3.130	3.150	0.630	1.230
All	253.16	81.2	3682	569.0	438.1	81.2	3922	559.5	438.9	-3.180	3.180	-0.040	0.890	-3.180	3.180	1.180	1.320

Table D. 179: Matched Droplet Info

D.8.1.1 All Droplets for .LA Image

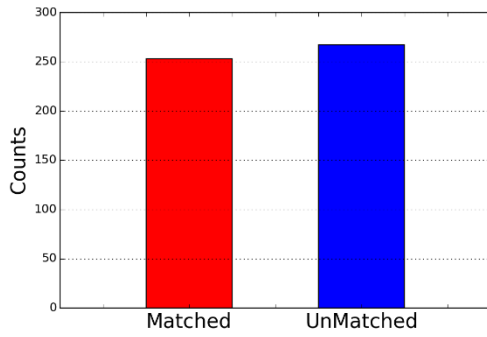


Figure D. 1621: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

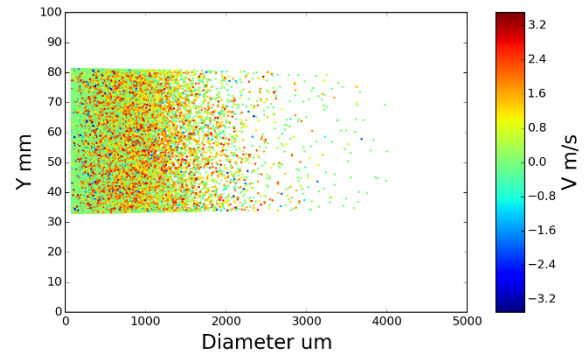


Figure D. 1624: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

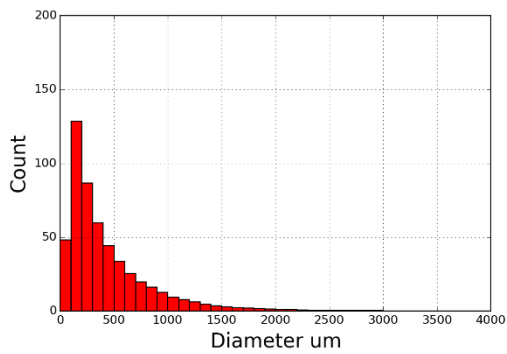


Figure D. 1622: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

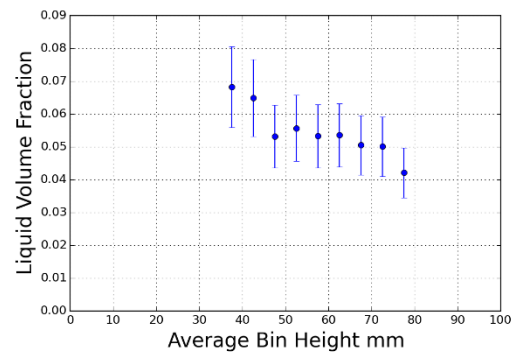


Figure D. 1625: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

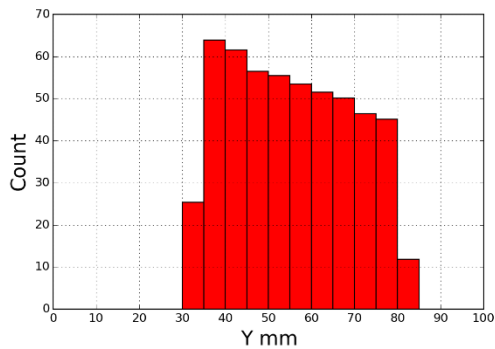


Figure D. 1623: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1.1 All Droplets for .LB Image

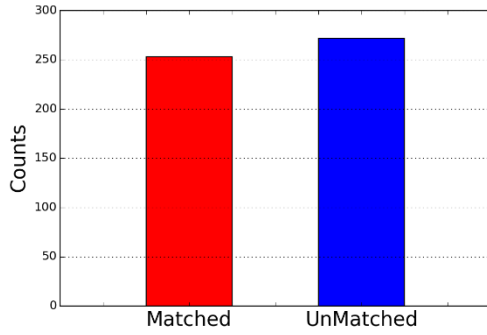


Figure D. 1626: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

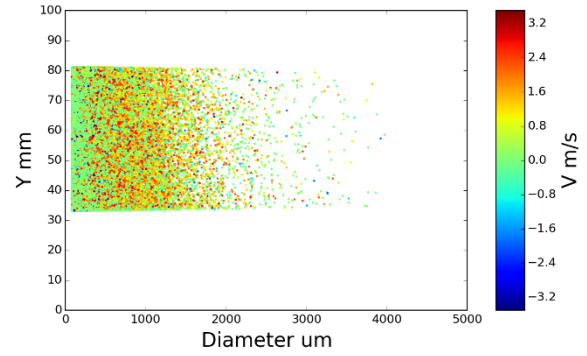


Figure D. 1629: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

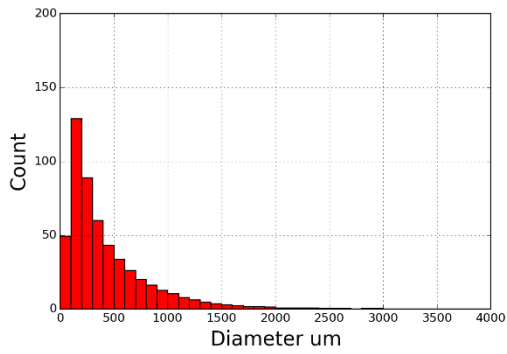


Figure D. 1627: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

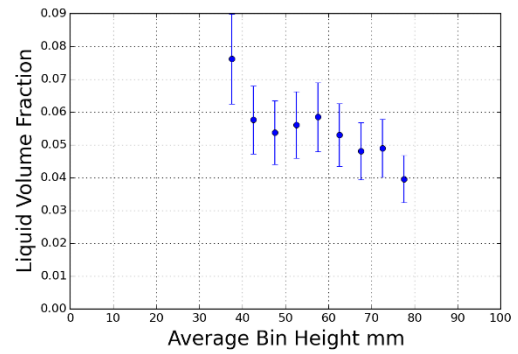


Figure D. 1630: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

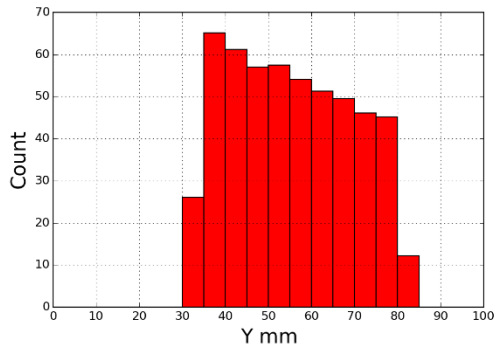


Figure D. 1628: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1.1 Matched Only Droplets for .LA Image

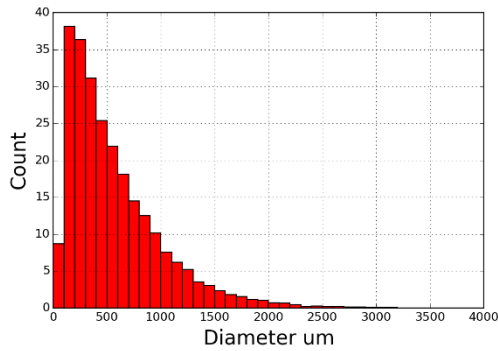


Figure D. 1631: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

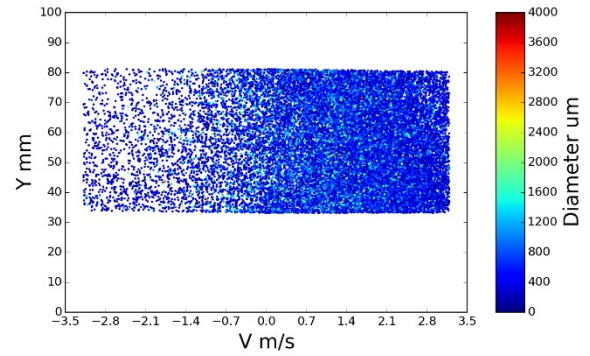


Figure D. 1634: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

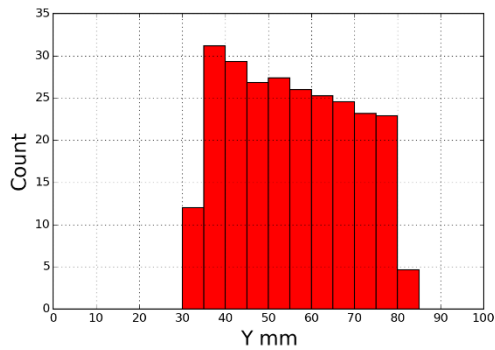


Figure D. 1632: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

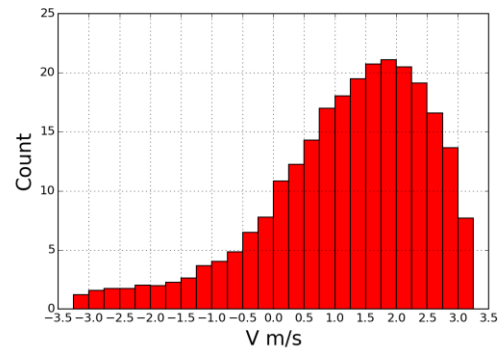


Figure D. 1635: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

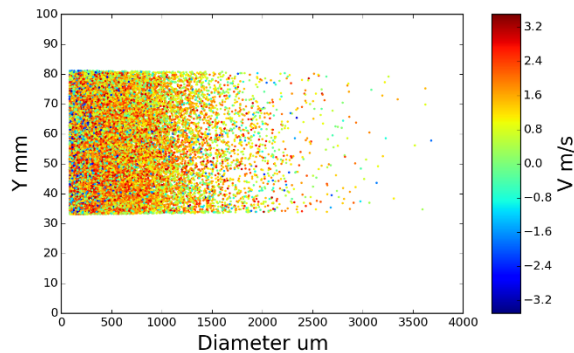


Figure D. 1633: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1.1 Matched Only Droplets for .LB Image

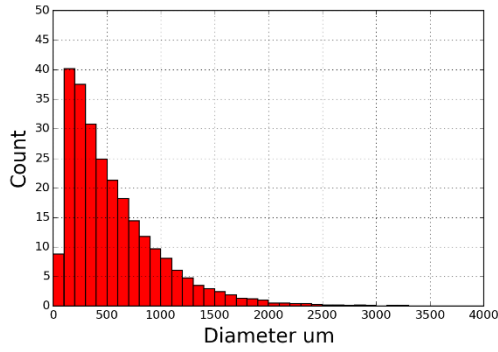


Figure D. 1636: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

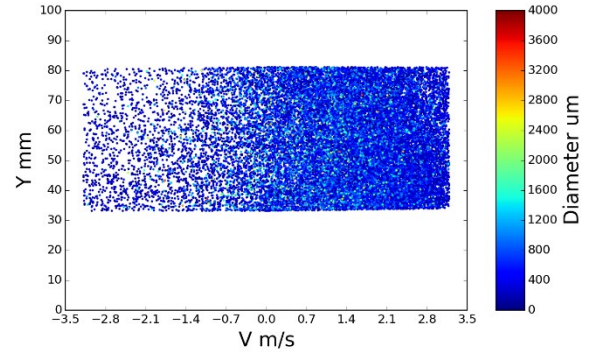


Figure D. 1639: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

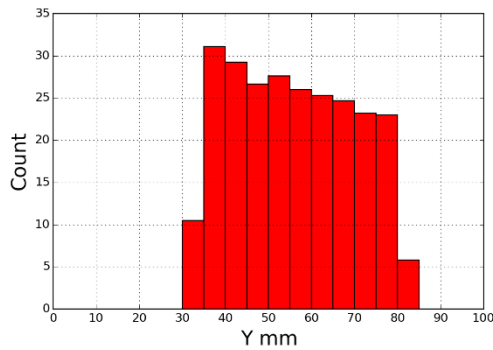


Figure D. 1637: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

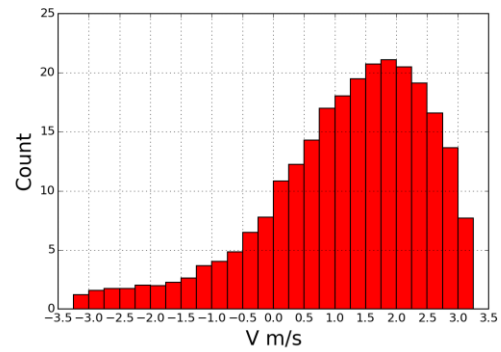


Figure D. 1640: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

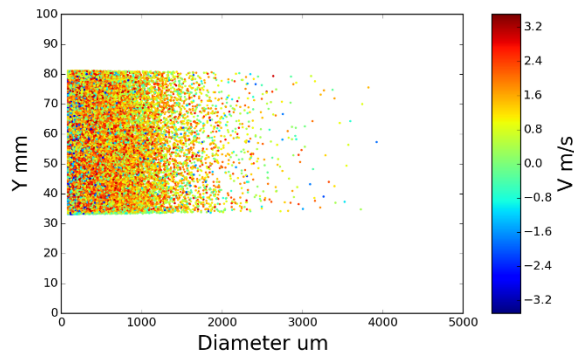


Figure D. 1638: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1.2 Lens 50mm Mag 0_13x

D.8.1.2 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	133.49	137.02	170.7	3938	634.9	498.2	170.7	3994	636.1	504.3
40-60mm	146.37	149.55	170.7	3994	561.5	422.4	170.7	3952	561.5	425.8
60-80mm	163.07	163.84	170.7	3890	521.4	390.0	170.7	3778	522.0	388.6
80-100mm	141.39	145.09	170.7	3784	497.0	333.6	170.7	3963	499.7	342.8
All	585.01	596.14	170.7	3994	551.1	416.2	170.7	3994	552.4	420.4
			Height A (mm)				Height B (mm)			
Highest Particle			100.0498				100.0396			
Lowest Particle			20.1274				20.1274			

Table D. 180: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	73.64	182.5	3840	707.9	514.3	182.5	3984	688.2	510.1	-3.120	3.120	-0.160	1.150	-3.120	3.120	0.360	1.330
40-60mm	80.97	182.5	3416	609.9	432.1	182.5	3866	596.4	426.3	-3.120	3.120	-0.130	1.210	-3.120	3.120	0.390	1.470
60-80mm	92.12	182.5	3512	561.4	397.7	182.5	3687	550.3	391.6	-3.120	3.120	-0.130	1.240	-3.120	3.120	0.400	1.490
80-100mm	82.14	182.5	3461	541.4	348.6	182.5	3927	531.8	343.8	-3.120	3.120	-0.110	1.150	-3.120	3.120	0.400	1.410
All	329.07	182.5	3840	601.0	428.6	182.5	3984	587.3	422.6	-3.120	3.120	-0.130	1.190	-3.120	3.120	0.390	1.430

Table D. 181: Matched Droplet Info

D.8.1.2 All Droplets for .LA Image

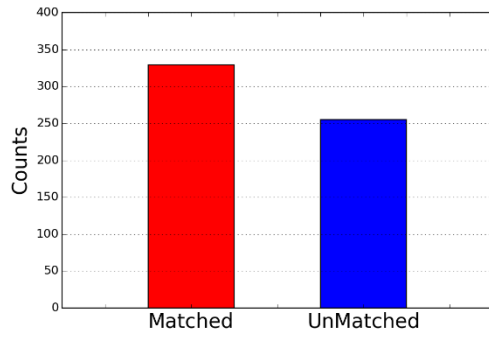


Figure D. 1641: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

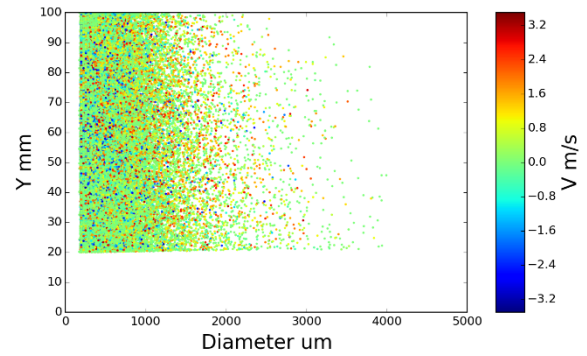


Figure D. 1644: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

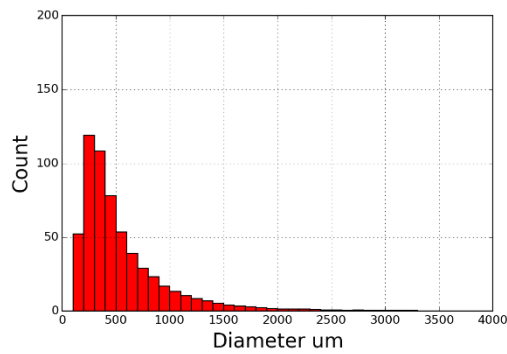


Figure D. 1642: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

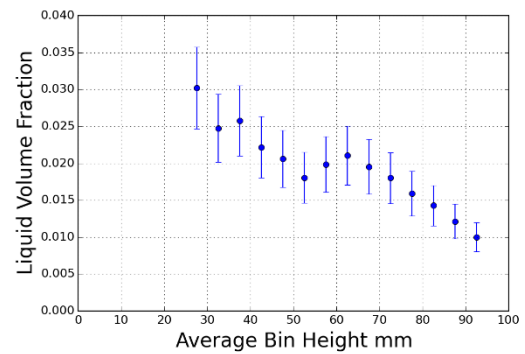


Figure D. 1645: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

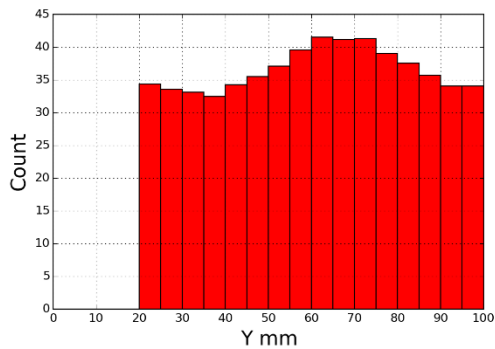


Figure D. 1643: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1.2 All Droplets for .LB Image

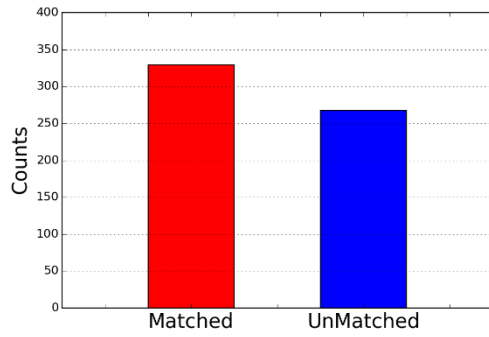


Figure D. 1646: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

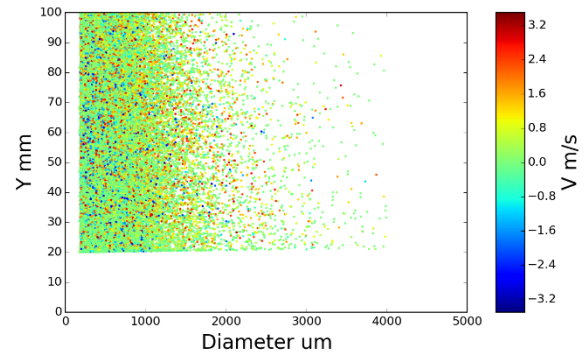


Figure D. 1649: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

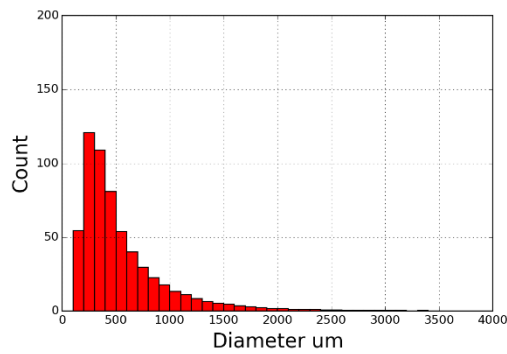


Figure D. 1647: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

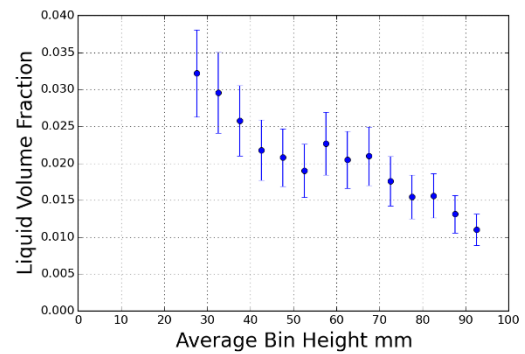


Figure D. 1650: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

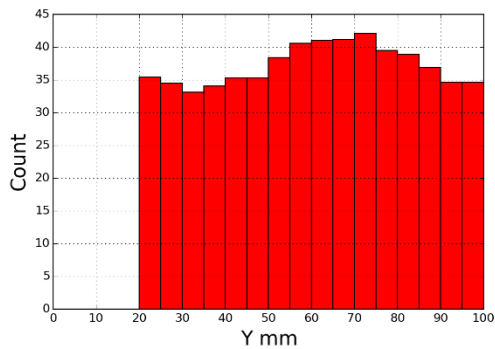


Figure D. 1648: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1.2 Matched Only Droplets for .LA Image

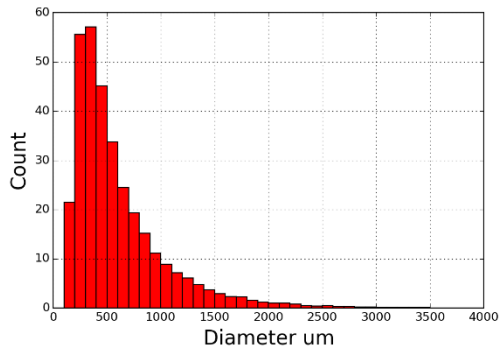


Figure D. 1651: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

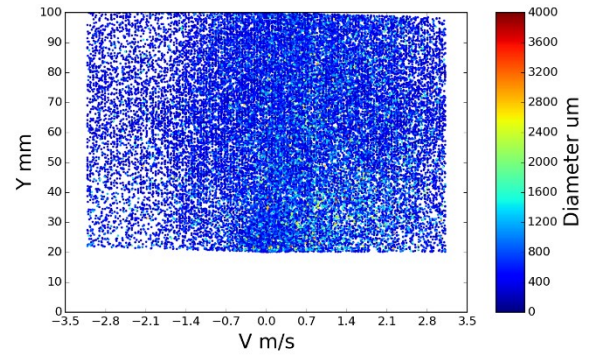


Figure D. 1654: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

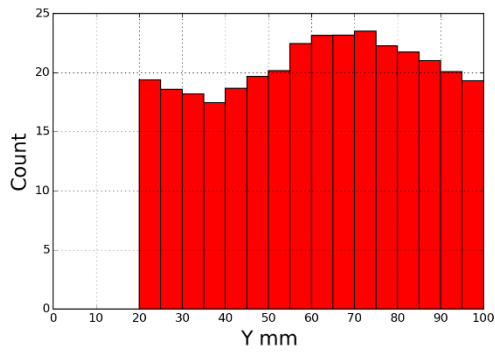


Figure D. 1652: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

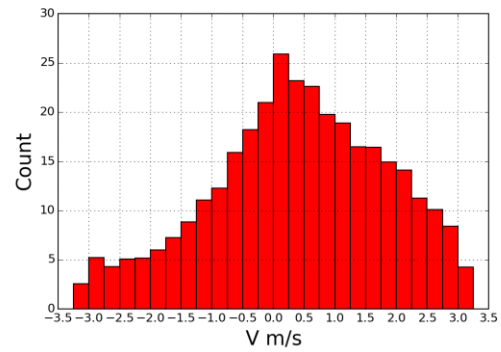


Figure D. 1655: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

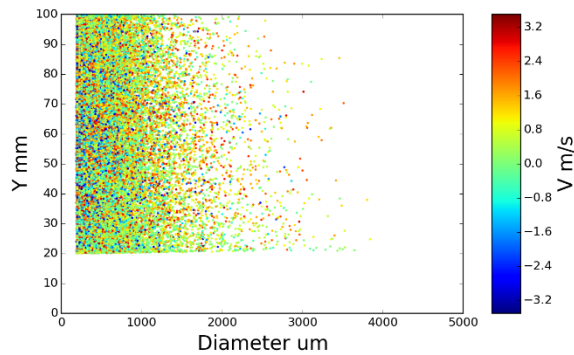


Figure D. 1653: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1.2 Matched Only Droplets for .LB Image

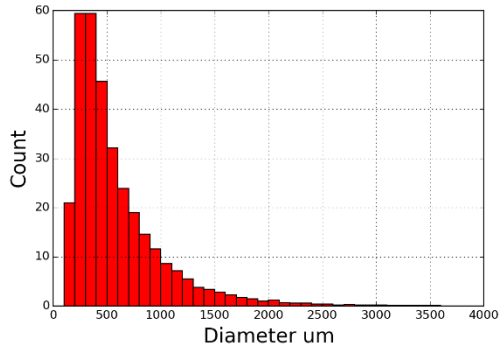


Figure D. 1656: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

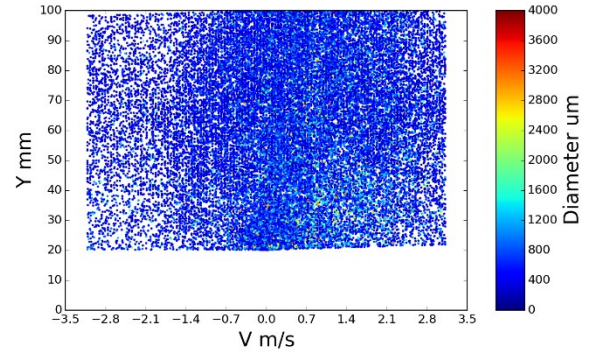


Figure D. 1659: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

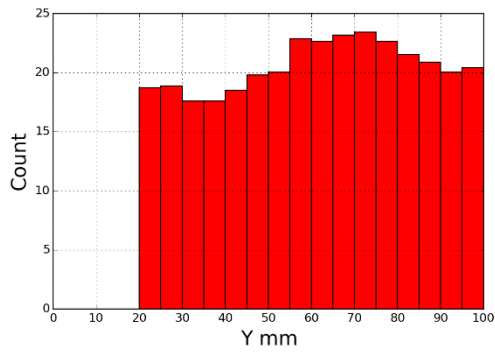


Figure D. 1657: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

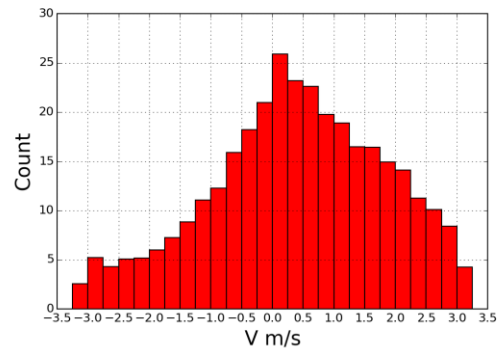


Figure D. 1660: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

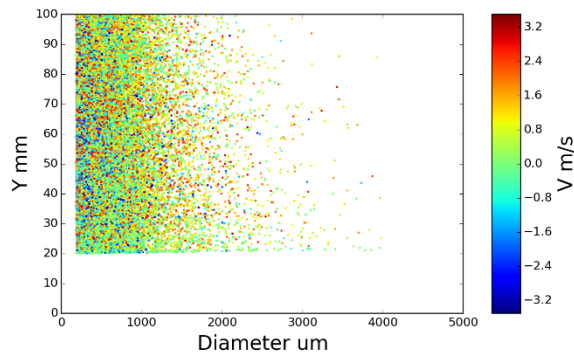


Figure D. 1658: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1.2 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	158.93	163.94	170.7	3996	625.1	476.9	170.7	3957	623.8	471.8
40-60mm	163.73	166.68	170.7	3826	580.3	426.4	170.7	3890	580.9	427.4
60-80mm	158.2	159.35	170.7	3902	563.7	417.9	170.7	3989	564.3	414.8
80-100mm	141.44	143.96	182.5	3869	535.2	369.4	182.5	3964	538.1	370.6
All	623.0	634.65	170.7	3996	576.9	427.0	170.7	3989	577.7	425.4
			Height A (mm)				Height B (mm)			
Highest Particle			100.0650				100.0650			
Lowest Particle			20.1274				20.1274			

Table D. 182: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	85.9	182.5	3424	689.7	477.5	182.5	3776	671.5	474.1	-3.120	3.120	-0.120	1.260	-3.120	3.120	0.490	1.440
40-60mm	89.16	182.5	3495	643.0	440.3	182.5	3890	627.0	436.4	-3.120	3.120	-0.140	1.270	-3.120	3.120	0.540	1.530
60-80mm	85.66	182.5	3570	623.3	424.7	170.7	3787	608.7	419.4	-3.120	3.120	-0.130	1.240	-3.120	3.120	0.560	1.510
80-100mm	80.15	182.5	3245	590.2	382.2	182.5	3321	578.1	375.9	-3.120	3.120	-0.120	1.170	-3.120	3.120	0.550	1.430
All	341.05	182.5	3570	637.2	434.9	170.7	3890	621.5	429.7	-3.120	3.120	-0.130	1.240	-3.120	3.120	0.530	1.480

Table D. 183: Matched Droplet Info

D.8.1.2 All Droplets for .LA Image

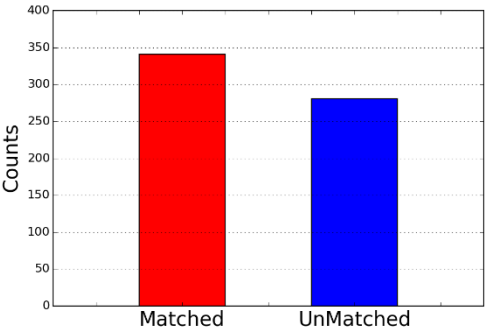


Figure D. 1661: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

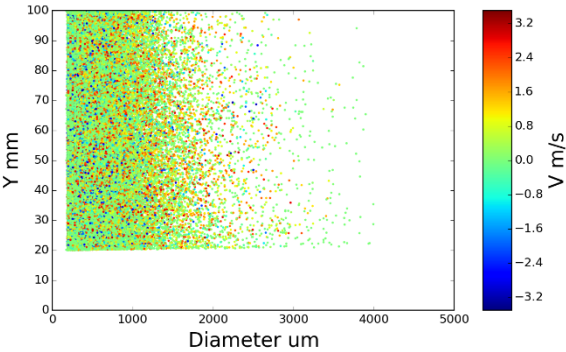


Figure D. 1664: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

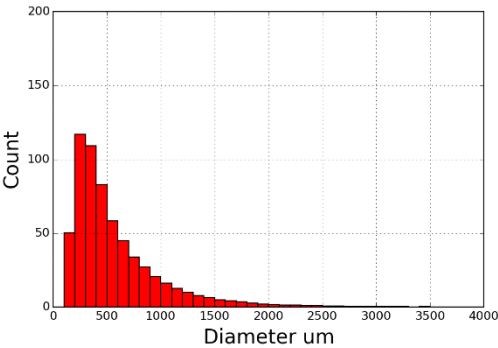


Figure D. 1662: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

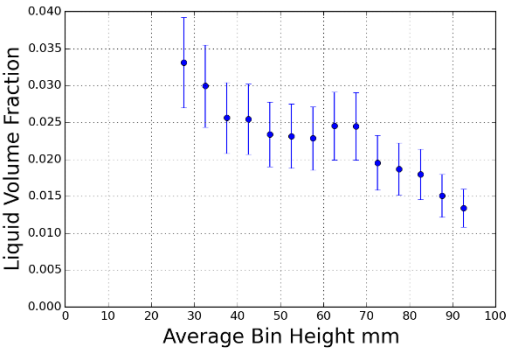


Figure D. 1665: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

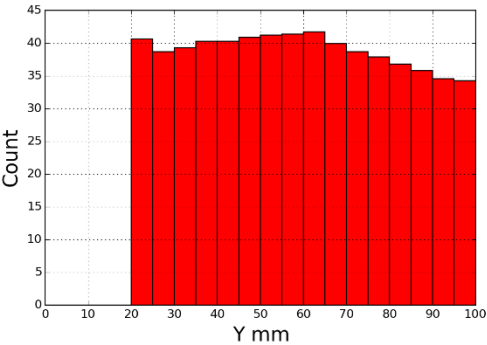


Figure D. 1663: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1.2 All Droplets for .LB Image

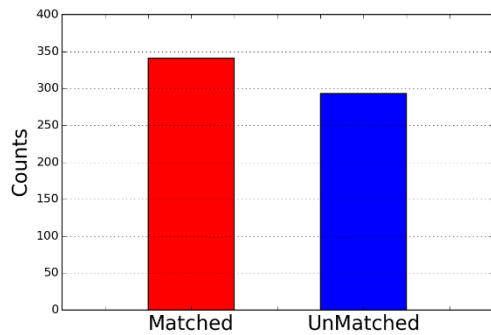


Figure D. 1666: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

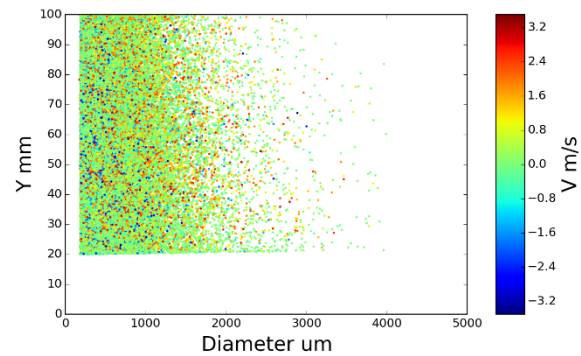


Figure D. 1669: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

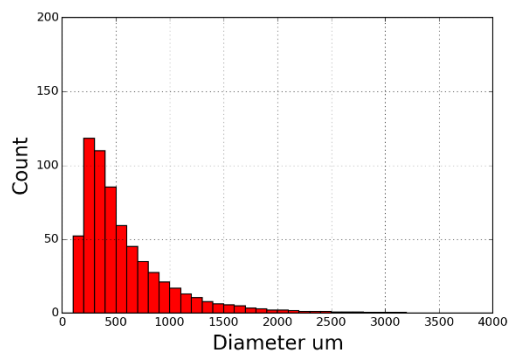


Figure D. 1667: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

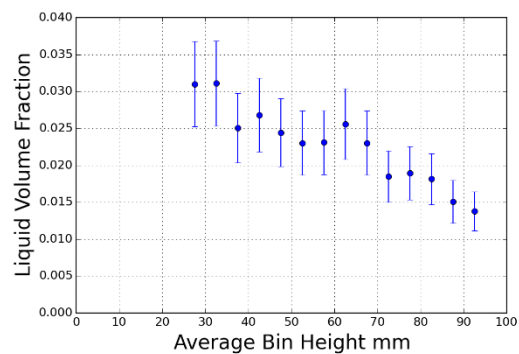


Figure D. 1670: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

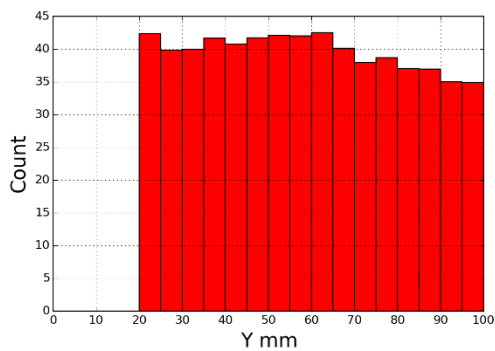


Figure D. 1668: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1.2 Matched Only Droplets for .LA Image

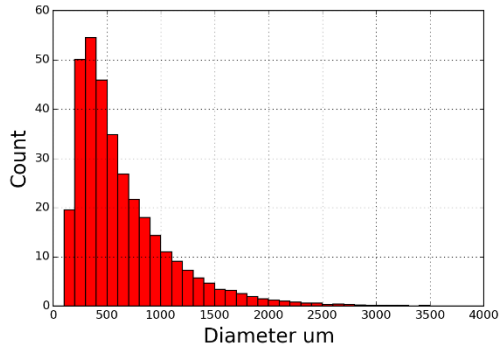


Figure D. 1671: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

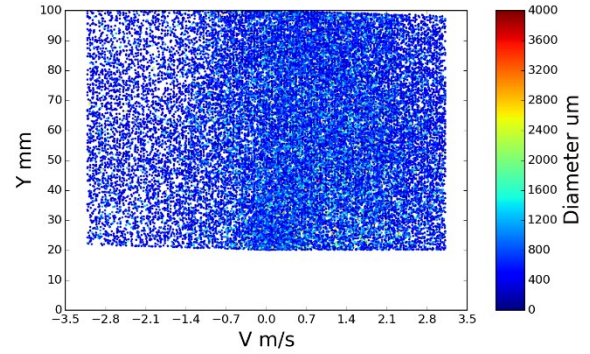


Figure D. 1674: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

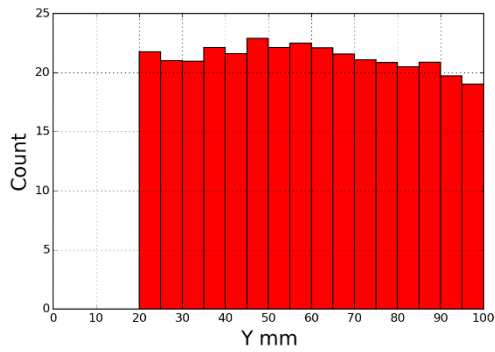


Figure D. 1672: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

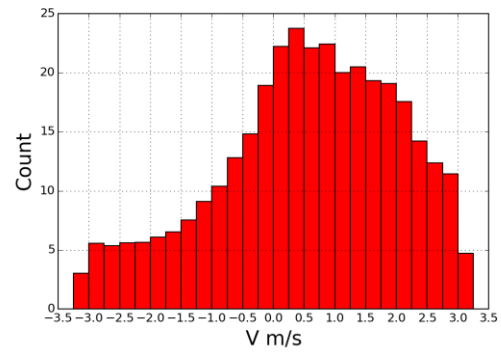


Figure D. 1675: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

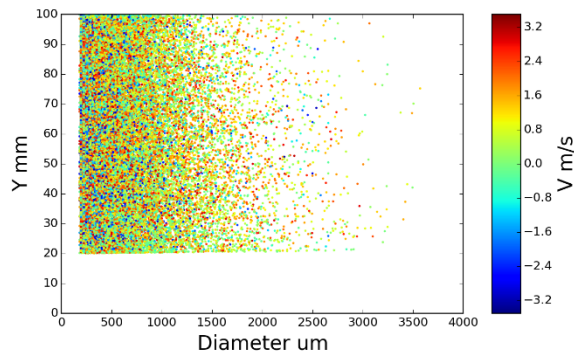


Figure D. 1673: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1.2 Matched Only Droplets for .LB Image

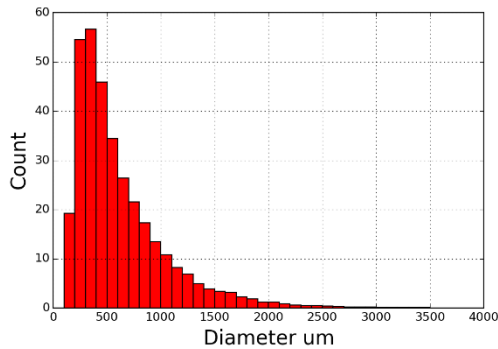


Figure D. 1676: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

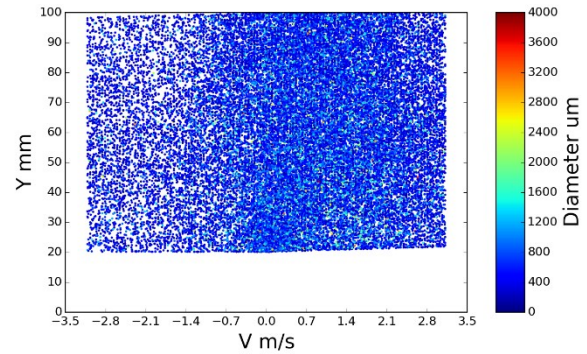


Figure D. 1679: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

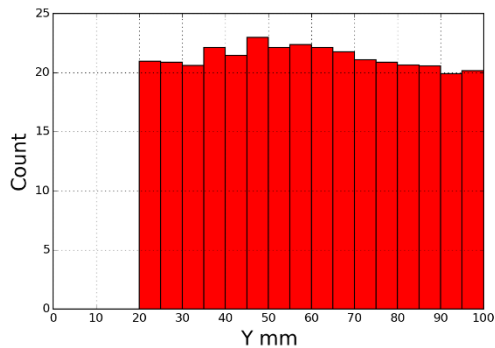


Figure D. 1677: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

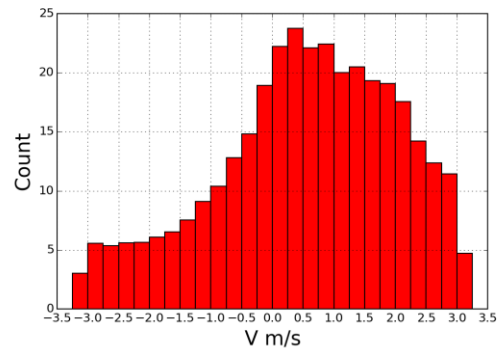


Figure D. 1680: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

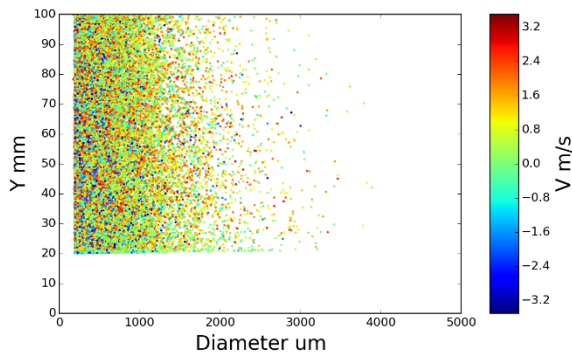


Figure D. 1678: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1.2 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	163.91	165.16	170.7	3945	641.1	485.5	170.7	3983	641.6	485.3
40-60mm	154.07	158.84	170.7	3820	610.2	437.6	170.7	3986	606.9	438.4
60-80mm	137.28	138.3	170.7	3978	610.1	444.6	182.5	3980	615.9	451.5
80-100mm	121.92	125.72	182.5	3906	574.1	393.6	170.7	3664	575.4	399.1
All	577.74	588.58	170.7	3978	611.0	445.3	170.7	3986	611.6	447.8
			Height A (mm)				Height B (mm)			
Highest Particle			100.0650				100.0650			
Lowest Particle			20.1274				20.1274			

Table D. 184: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	86.1	182.5	3798	720.7	504.7	170.7	3912	703.3	500.3	-3.120	3.120	-0.120	1.280	-3.120	3.120	0.550	1.510
40-60mm	81.55	182.5	3731	685.3	450.7	170.7	3830	668.3	450.1	-3.120	3.120	-0.130	1.290	-3.120	3.120	0.700	1.560
60-80mm	71.93	182.5	3517	690.0	458.9	182.5	3863	671.5	455.7	-3.120	3.120	-0.090	1.240	-3.120	3.120	0.690	1.500
80-100mm	65.7	182.5	3454	647.1	414.4	182.5	3664	634.3	409.9	-3.120	3.120	-0.120	1.160	-3.120	3.120	0.630	1.440
All	305.42	182.5	3798	688.0	461.9	170.7	3912	671.1	458.2	-3.120	3.120	-0.120	1.250	-3.120	3.120	0.640	1.510

Table D. 185: Matched Droplet Info

D.8.1.2 All Droplets for .LA Image

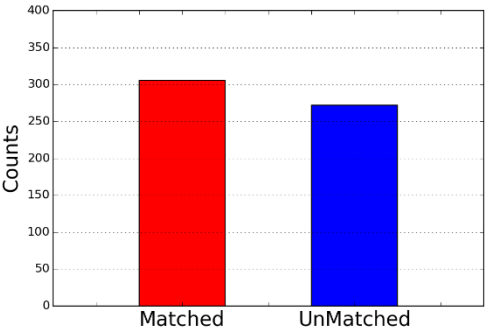


Figure D. 1681: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

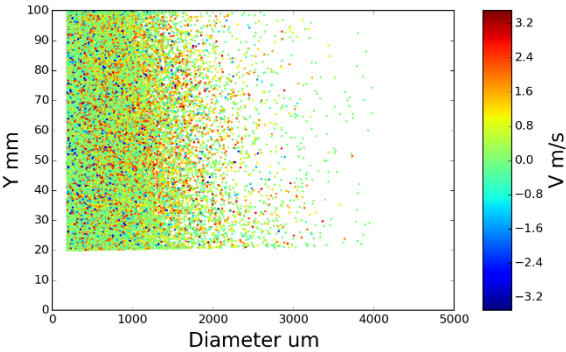


Figure D. 1684: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

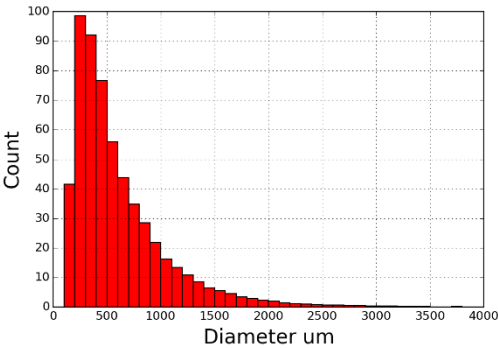


Figure D. 1682: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

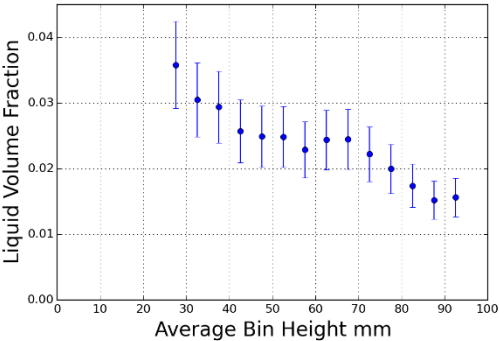


Figure D. 1685: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

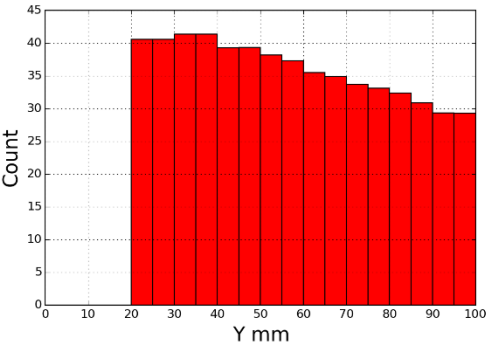


Figure D. 1683: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1.2 All Droplets for .LB Image

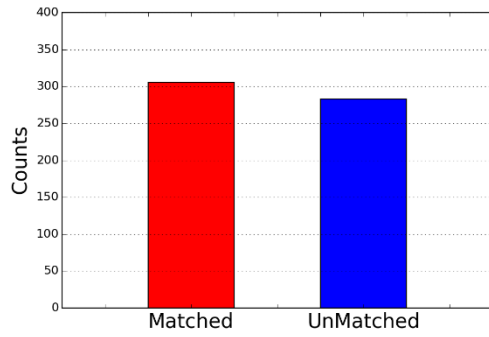


Figure D. 1686: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

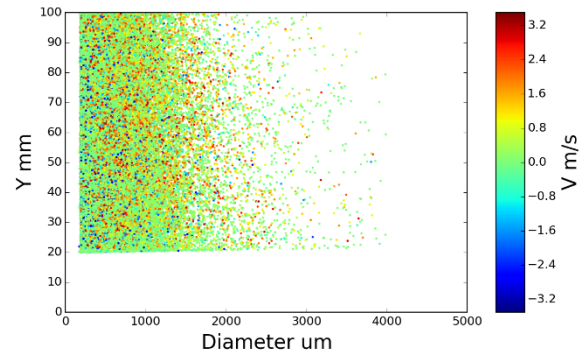


Figure D. 1689: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

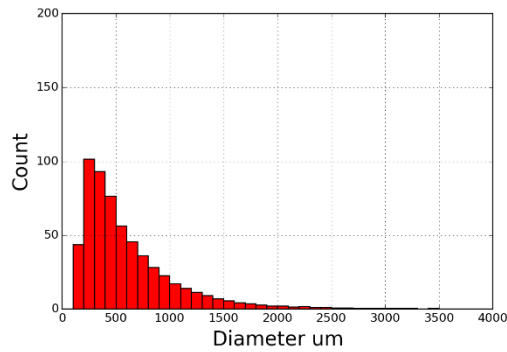


Figure D. 1687: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

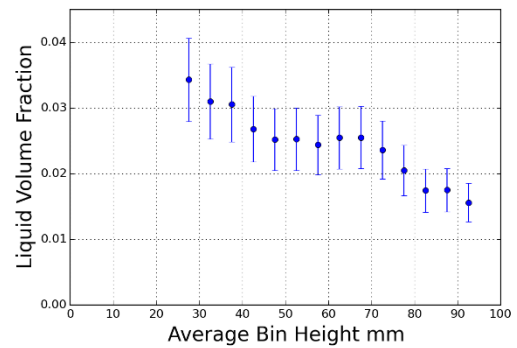


Figure D. 1690: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

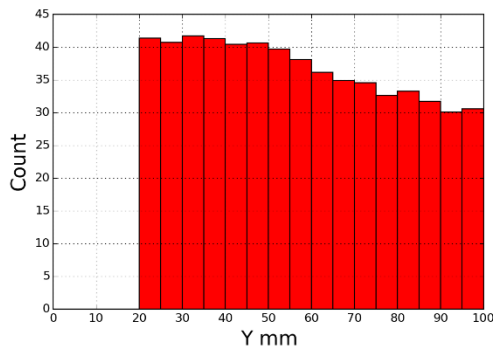


Figure D. 1688: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1.2 Matched Only Droplets for .LA Image

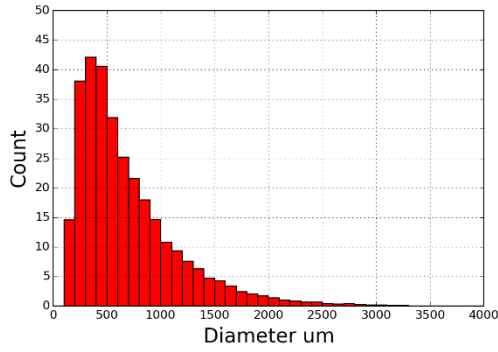


Figure D. 1691: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

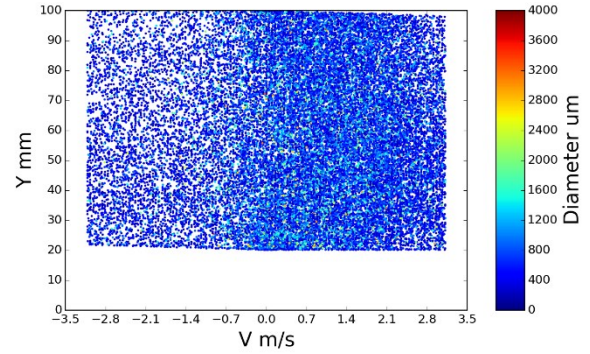


Figure D. 1694: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

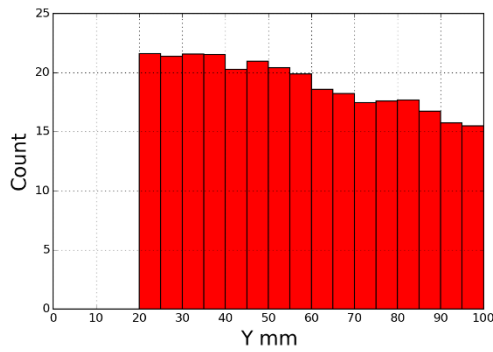


Figure D. 1692: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

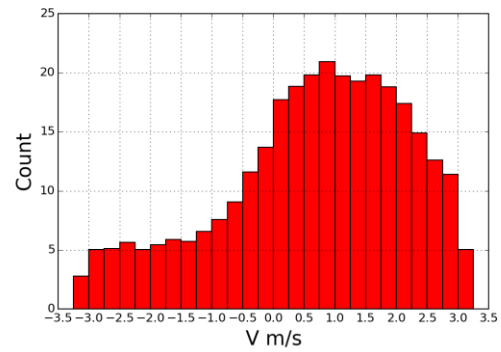


Figure D. 1695: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

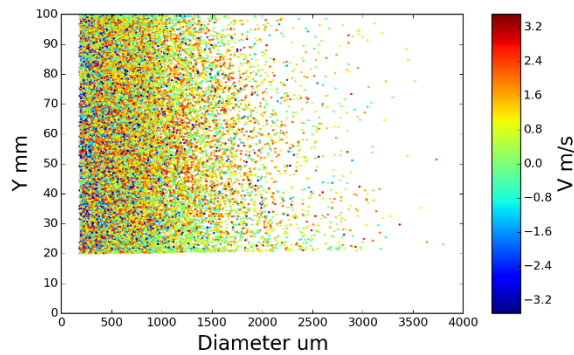


Figure D. 1693: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

D.8.1.2 Matched Only Droplets for .LB Image

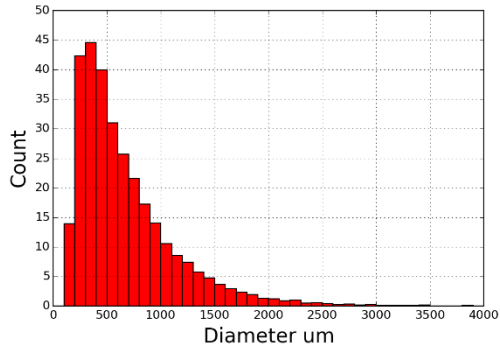


Figure D. 1696: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

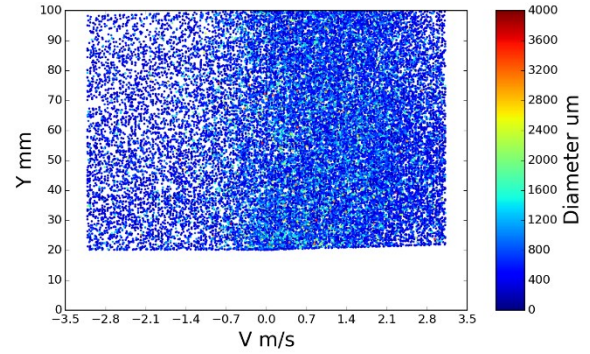


Figure D. 1699: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

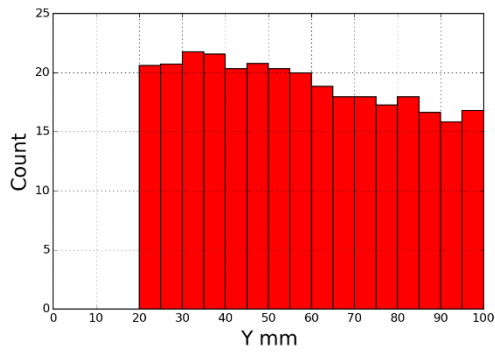


Figure D. 1697: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

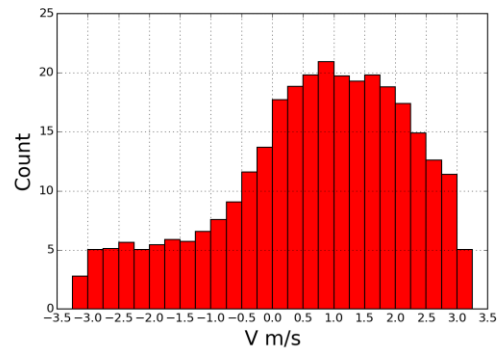


Figure D. 1700: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

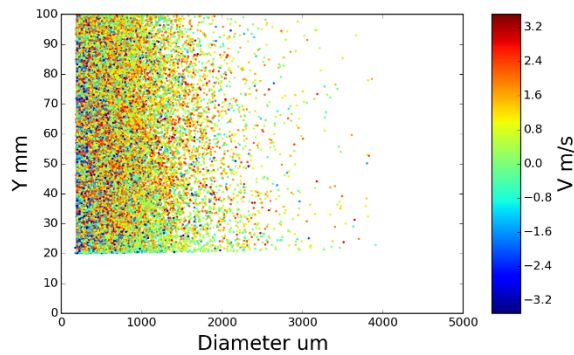


Figure D. 1698: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2 Liquid Level 3

Thermal Conditions	
H2O Flow Rate (lb/hr) / (kg/s)	28194 / 3.552
Ref Mass Flow (lb/hr) / (kg/s)	3092 / 0.390
Ref Mass Flux (lb/hr-ft ²) / (kg/s-m ²)	30093 / 40.813
Top Two Rows Heat Flux (Btu/hr-ft ²) / (kW/m ²)	4756 / 15.00
Bundle Exit Saturation Temp (°F) / (°C)	54.6 / 12.55
Bundle Inlet Saturation Temp (°F) / (°C)	57.3 / 14.07
Total Bundle Q (Btu/hr) / (kW)	216100 / 63.33
Total Bundle & Preboiler Q (Btu/hr) / (kW)	216100 / 63.33
Top Two Rows HTC Ratio	0.556
Bundle Inlet Quality	-0.12
Bundle Exit Quality	0.81

Table D. 186: Thermal Conditions

D.8.2.1 Lens 100mm Mag 0_29x

D.8.2.1 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	4.59	4.79	76.0	1420	200.6	163.5	81.2	1345	207.8	170.8
40-60mm	18.87	19.15	76.0	2068	192.4	163.8	81.2	2405	191.4	155.5
60-80mm	24.21	25.72	76.0	1504	185.9	156.1	76.0	1554	191.5	156.9
80-100mm	1.52	1.52	86.1	655.9	178.2	111.6	81.2	908.2	174.6	132.1
All	49.19	51.18	76.0	2068	189.5	158.7	76.0	2405	192.5	157.1
			Height A (mm)				Height B (mm)			
Highest Particle			81.1417				81.1409			
Lowest Particle			33.1969				33.1865			

Table D. 187: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	2.4	86.1	1047	228.5	176.8	86.1	1187	233.1	191.0	-2.010	3.130	-0.170	0.660	-2.870	3.180	0.670	1.250
40-60mm	8.95	81.2	2068	216.7	175.8	81.2	2405	215.9	183.5	-3.140	3.180	-0.280	0.780	-3.070	3.180	0.700	1.290
60-80mm	10.42	81.2	1380	209.2	159.1	81.2	1554	208.4	164.8	-3.160	3.130	-0.240	0.800	-3.110	3.180	0.870	1.270
80-100mm	0.44	86.1	655.9	195.3	125.5	86.1	521.5	190.8	111.1	-3.170	1.920	-0.130	0.820	-2.110	3.030	0.810	1.050
All	22.21	81.2	2068	214.0	167.5	81.2	2405	213.6	174.5	-3.170	3.180	-0.250	0.780	-3.110	3.180	0.780	1.270

Table D. 188: Matched Droplet Info

D.8.2.1 All Droplets for .LA Image

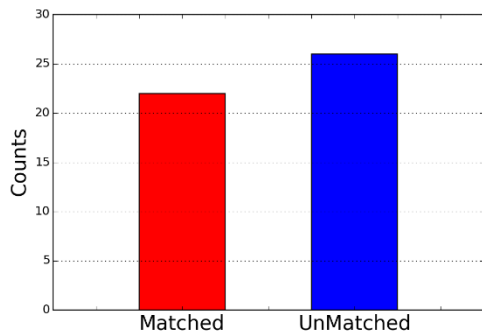


Figure D. 1701: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

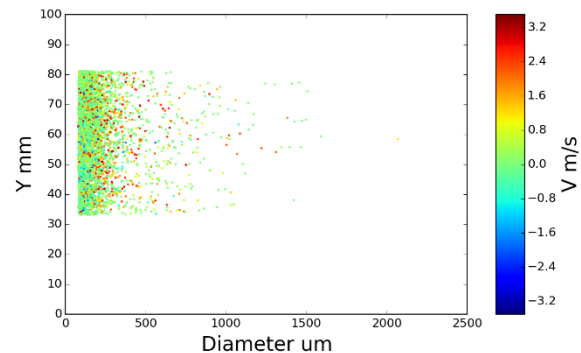


Figure D. 1704: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

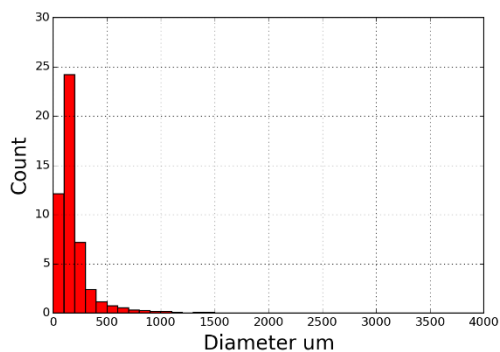


Figure D. 1702: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

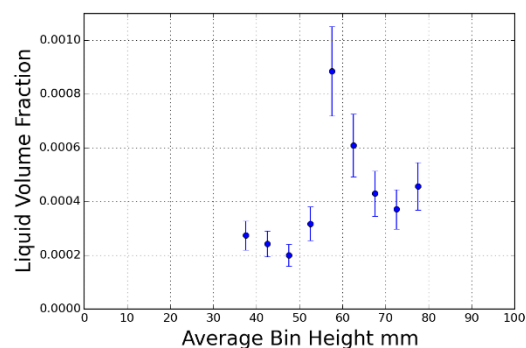


Figure D. 1705: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

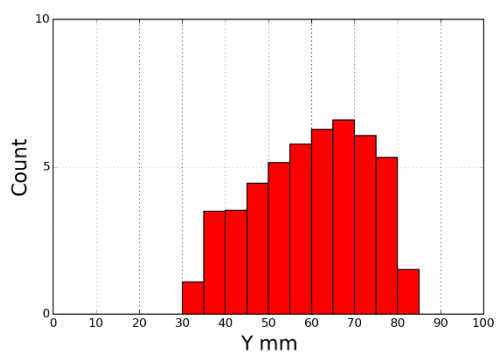


Figure D. 1703: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2.1 All Droplets for .LB Image

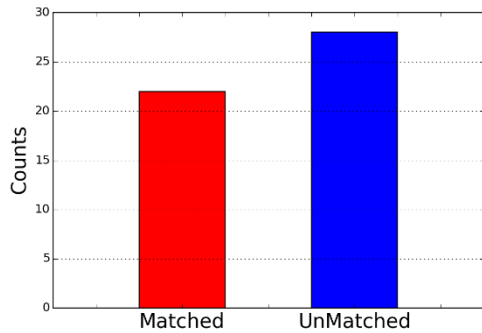


Figure D. 1706: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

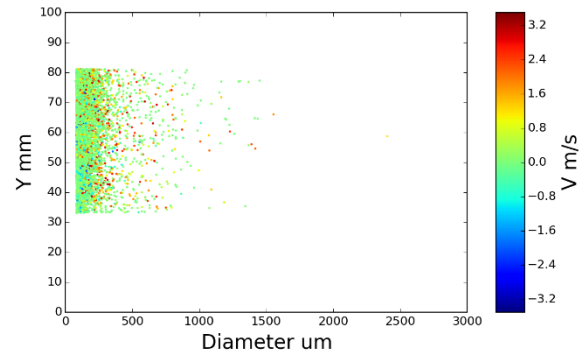


Figure D. 1709: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

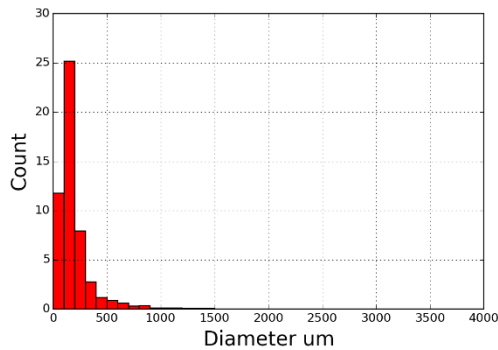


Figure D. 1707: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

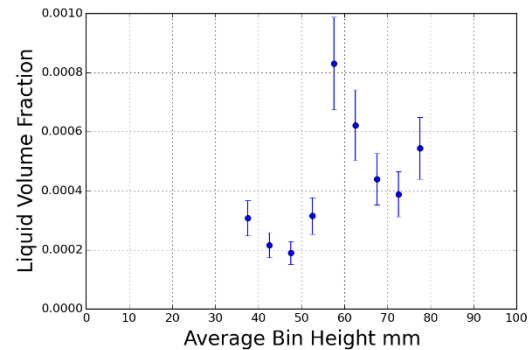


Figure D. 1710: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

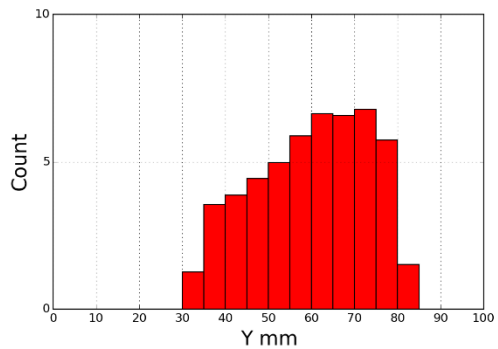


Figure D. 1708: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2.1 Matched Only Droplets for .LA Image

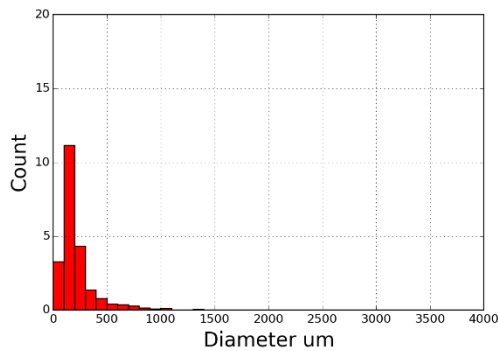


Figure D. 1711: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

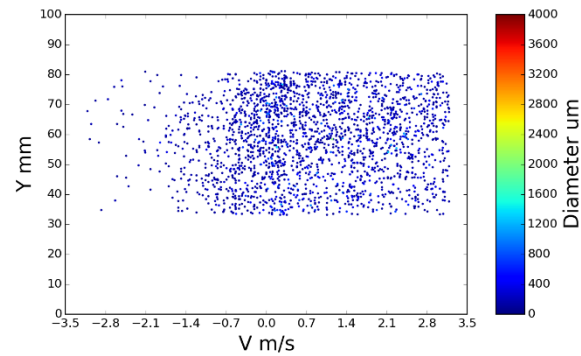


Figure D. 1714: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

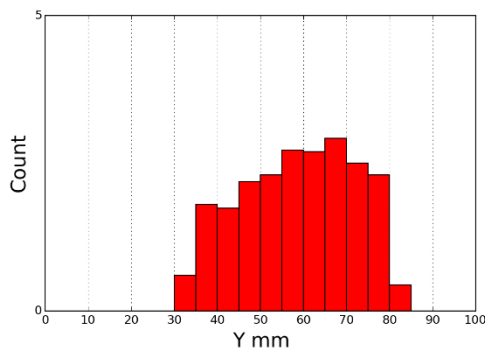


Figure D. 1712: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

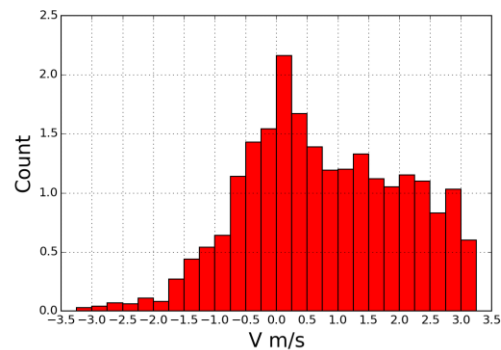


Figure D. 1715: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

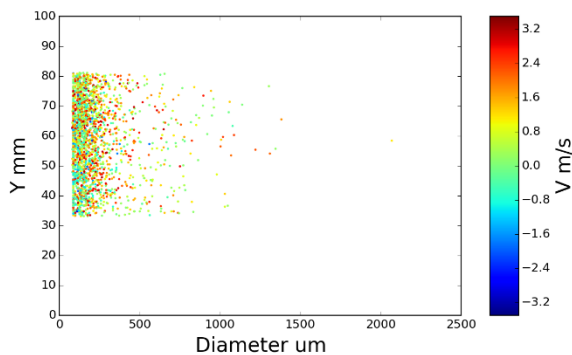


Figure D. 1713: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2.1 Matched Only Droplets for .LB Image

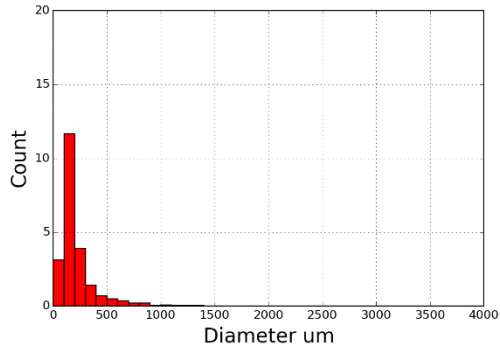


Figure D. 1716: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

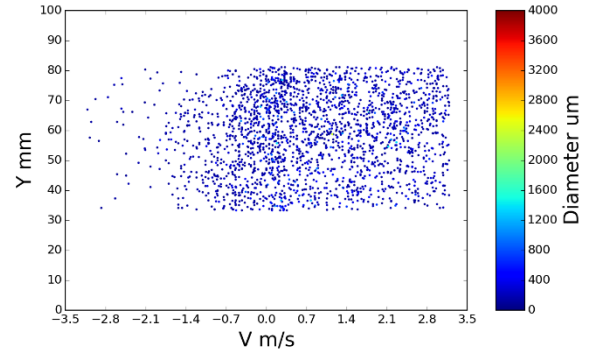


Figure D. 1719: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

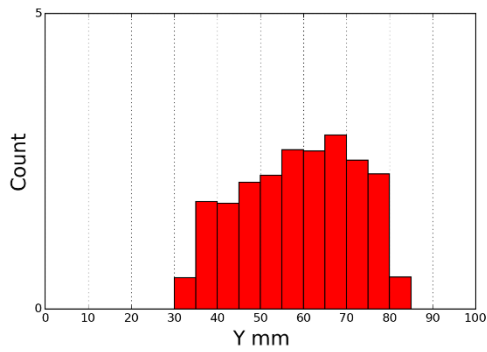


Figure D. 1717: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

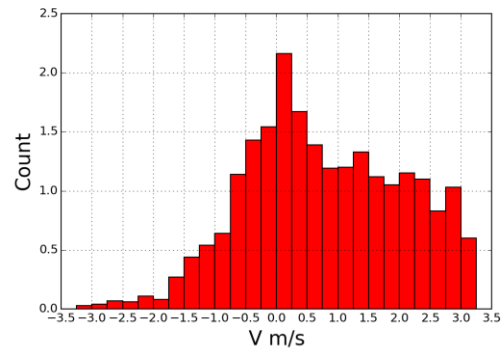


Figure D. 1720: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

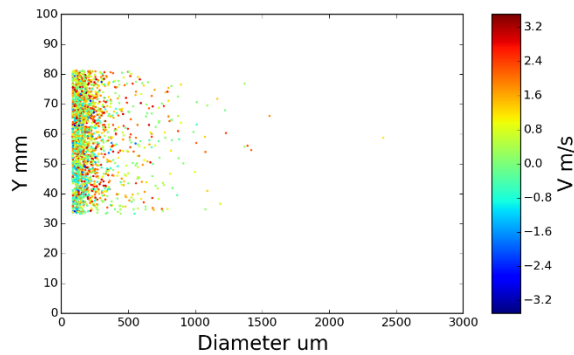


Figure D. 1718: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2.1 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	7.02	7.26	81.2	1235	206.9	155.1	81.2	1306	203.9	154.9
40-60mm	21.03	21.37	81.2	1233	194.2	136.1	81.2	1289	193.2	135.6
60-80mm	17.05	17.25	76.0	1458	194.1	139.4	81.2	1483	195.1	139.1
80-100mm	0.7	0.74	81.2	883.4	186.7	145.3	86.1	624.3	174.7	97.2
All	45.8	46.62	76.0	1458	196.0	140.6	81.2	1483	195.2	139.6
			Height A (mm)				Height B (mm)			
Highest Particle			81.1409				81.1409			
Lowest Particle			33.2058				33.1992			

Table D. 189: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	3.46	86.1	1235	236.1	165.5	81.2	1306	237.1	175.6	-2.920	2.680	0.040	0.680	-2.290	3.180	1.000	1.350
40-60mm	10.11	81.2	1233	221.0	151.8	81.2	1289	221.5	155.3	-3.080	3.180	0.060	0.700	-2.970	3.180	0.840	1.320
60-80mm	7.33	86.1	1458	219.1	148.7	86.1	1483	219.3	155.3	-2.960	3.140	0.040	0.750	-3.130	3.180	0.990	1.200
80-100mm	0.27	81.2	575.5	191.8	109.4	86.1	624.3	189.5	113.6	-1.790	1.020	0.050	0.590	-1.060	2.500	0.820	0.860
All	21.17	81.2	1458	222.4	152.7	81.2	1483	222.7	158.3	-3.080	3.180	0.050	0.720	-3.130	3.180	0.920	1.280

Table D. 190: Matched Droplet Info

D.8.2.1 All Droplets for .LA Image

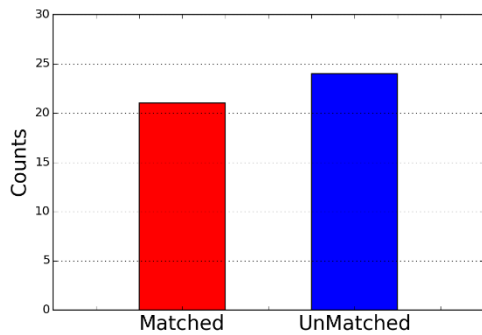


Figure D. 1721: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

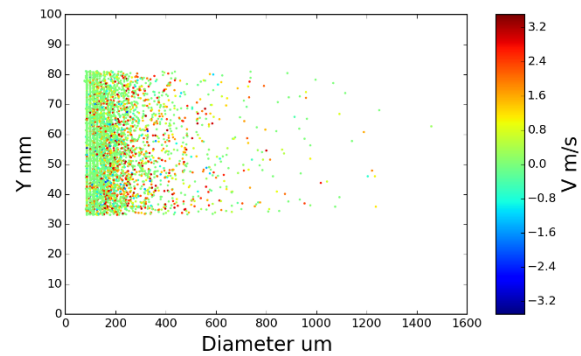


Figure D. 1724: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

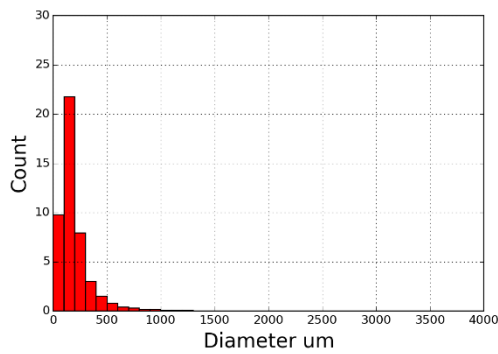


Figure D. 1722: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

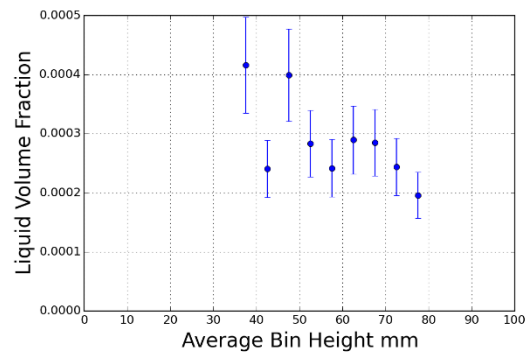


Figure D. 1725: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

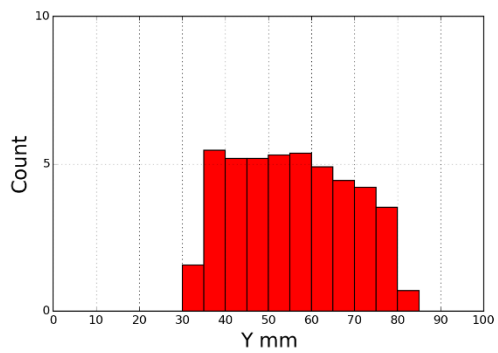


Figure D. 1723: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2.1 All Droplets for .LB Image

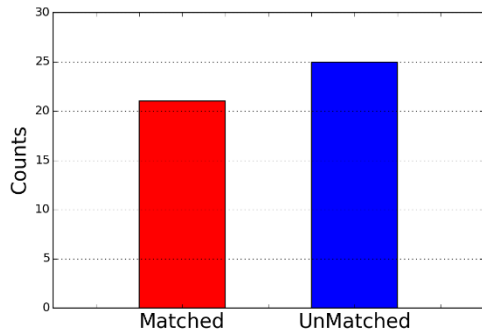


Figure D. 1726: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

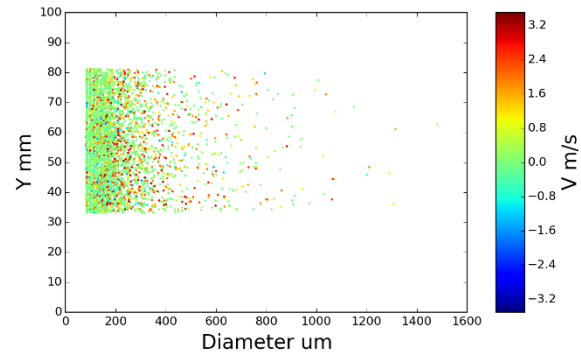


Figure D. 1729: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

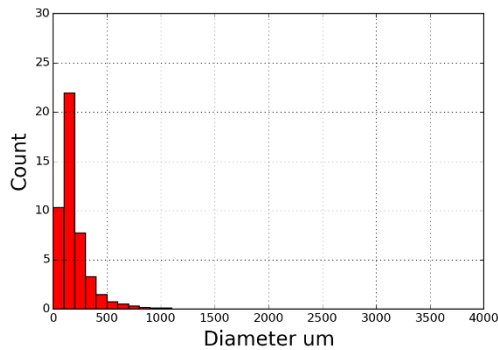


Figure D. 1727: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

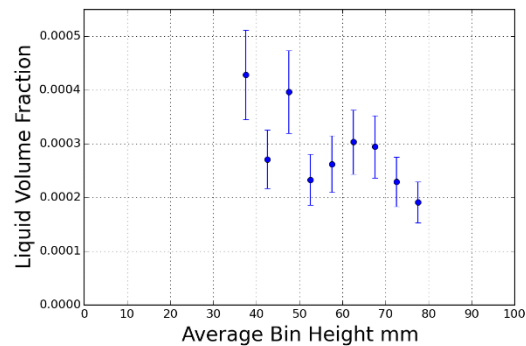


Figure D. 1730: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

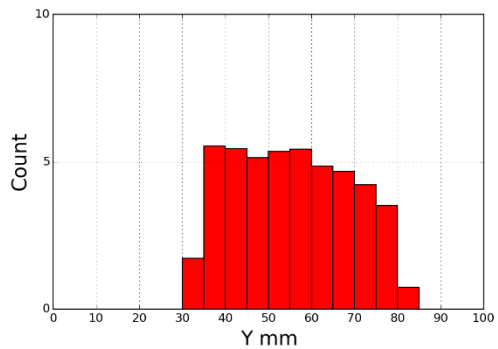


Figure D. 1728: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2.1 Matched Only Droplets for .LA Image

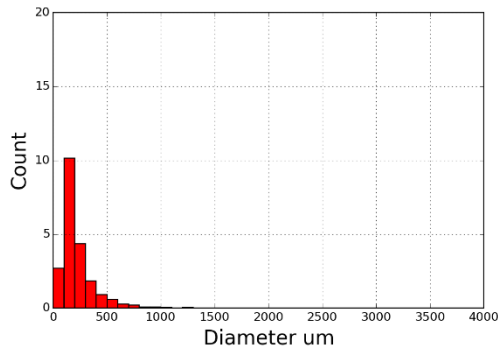


Figure D. 1731: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

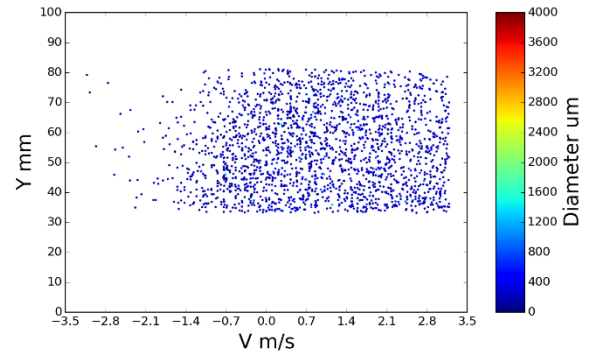


Figure D. 1734: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

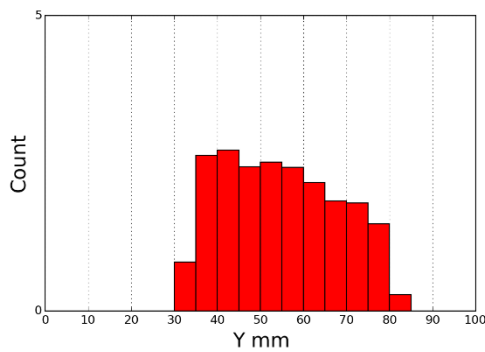


Figure D. 1732: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

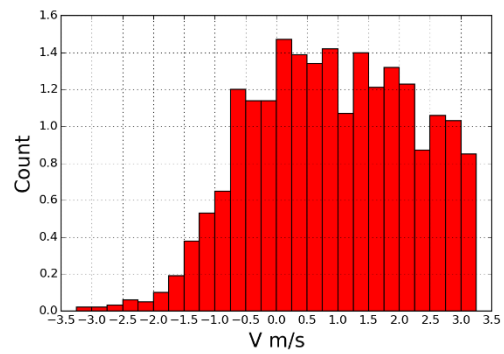


Figure D. 1735: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

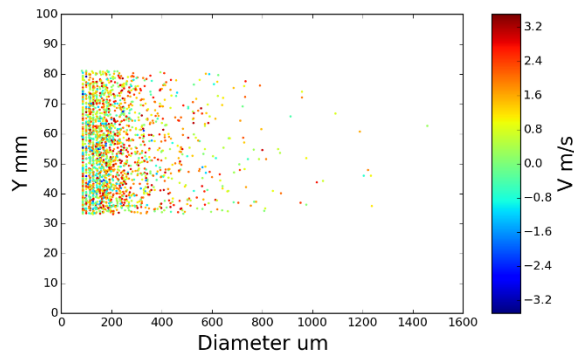


Figure D. 1733: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2.1 Matched Only Droplets for .LB Image

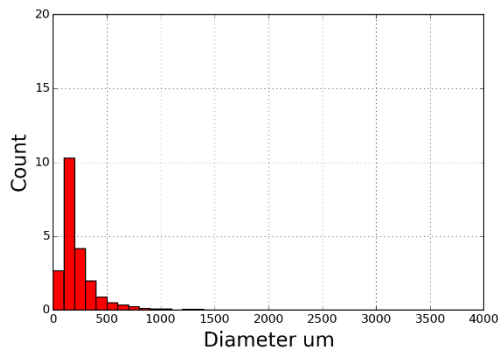


Figure D. 1736: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

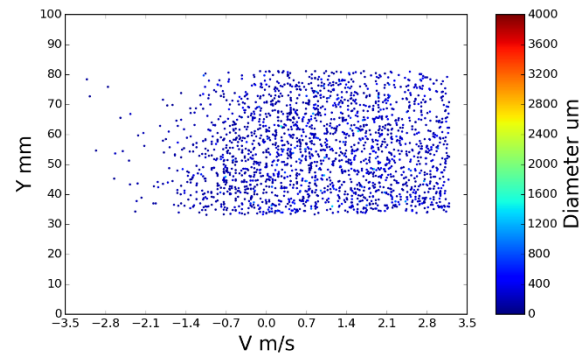


Figure D. 1739: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

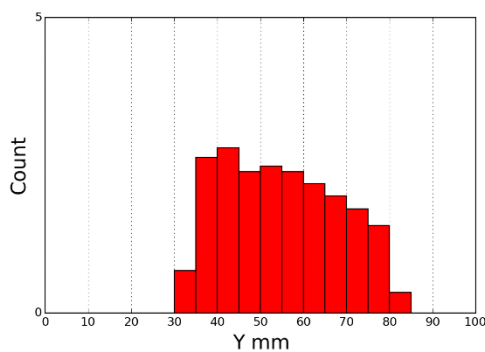


Figure D. 1737: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

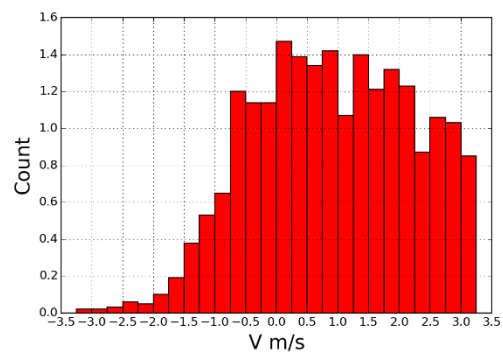


Figure D. 1740: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

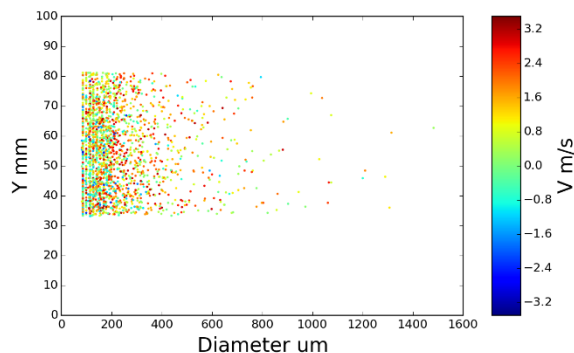


Figure D. 1738: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2.1 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	0.0	-	-	-	-	-	-	-	-
20-40mm	6.61	6.64	81.2	1259	207.2	148.2	81.2	1274	212.9	152.9
40-60mm	15.17	15.89	81.2	2425	209.6	174.1	81.2	2328	214.4	180.9
60-80mm	7.91	8.29	81.2	1729	235.8	196.6	81.2	1830	226.1	183.8
80-100mm	0.21	0.19	86.1	795.5	258.8	181.5	86.1	654.6	213.7	134.9
All	29.9	31.01	81.2	2425	216.3	175.6	81.2	2328	217.2	175.9
			Height A (mm)				Height B (mm)			
Highest Particle			81.1177				81.1282			
Lowest Particle			33.2172				33.1865			

Table D. 191: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin	Image	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-40mm	2.17	86.1	1259	255.1	168.1	81.2	1274	266.4	186.2	-2.860	3.050	0.200	0.820	-2.370	3.180	1.660	1.140
40-60mm	5.1	81.2	1508	257.0	199.6	81.2	1778	257.3	210.5	-2.790	3.180	0.310	0.710	-3.070	3.180	1.680	1.190
60-80mm	2.7	86.1	1729	299.3	220.7	81.2	1830	294.9	221.1	-2.900	3.070	0.270	0.700	-2.710	3.160	1.580	1.050
80-100mm	0.03	114.8	660.9	359.4	226.5	99.4	654.6	264.6	176.0	0.280	0.850	0.560	0.230	-0.210	0.840	0.400	0.450
All	10.0	81.2	1729	268.3	200.4	81.2	1830	269.5	209.4	-2.900	3.180	0.280	0.730	-3.070	3.180	1.640	1.140

Table D. 192: Matched Droplet Info

D.8.2.1 All Droplets for .LA Image

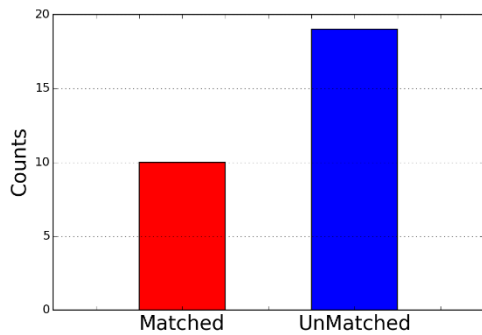


Figure D. 1741: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

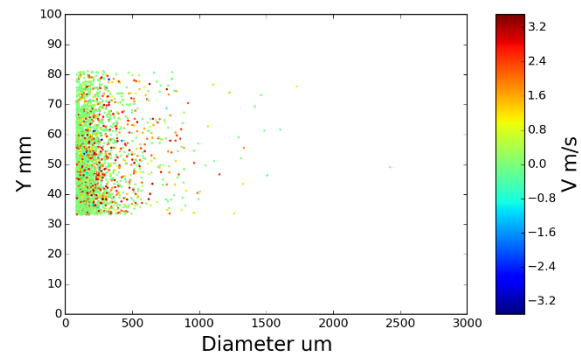


Figure D. 1744: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

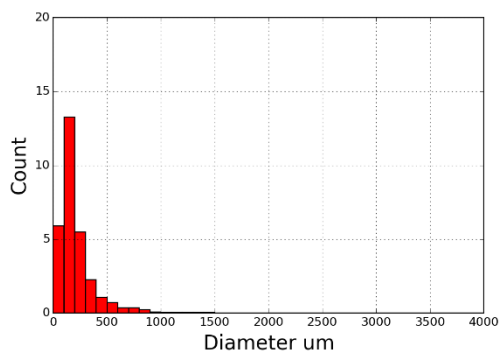


Figure D. 1742: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

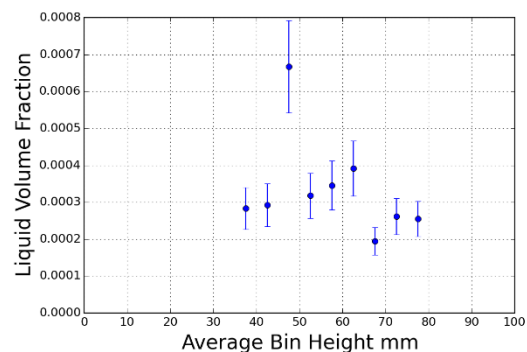


Figure D. 1745: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

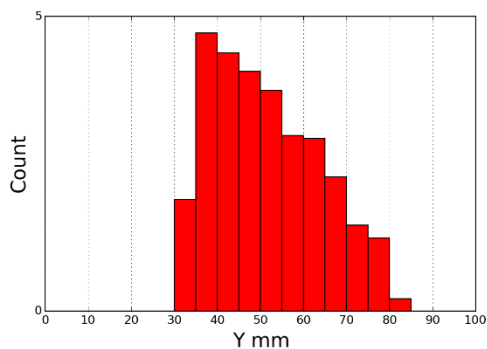


Figure D. 1743: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2.1 All Droplets for .LB Image

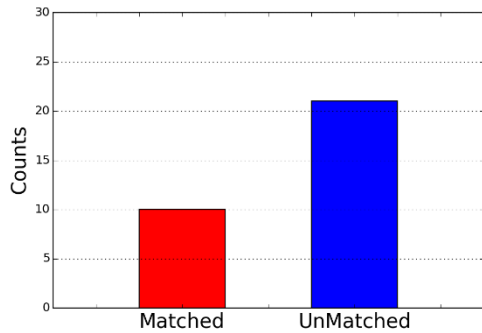


Figure D. 1746: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

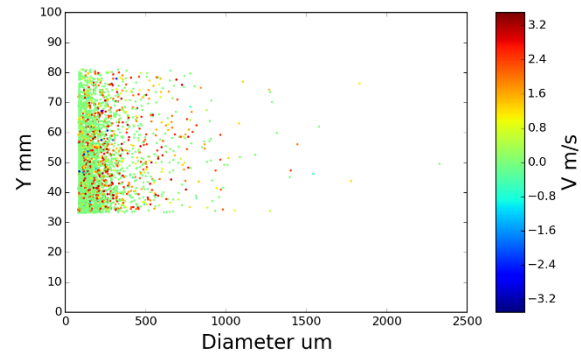


Figure D. 1749: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

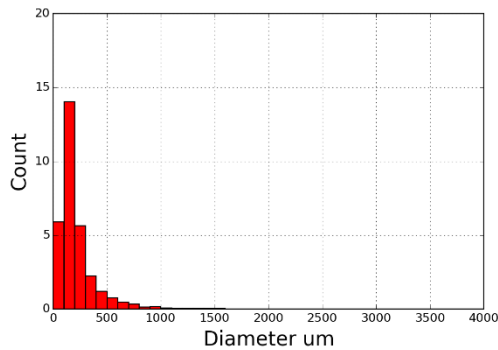


Figure D. 1747: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

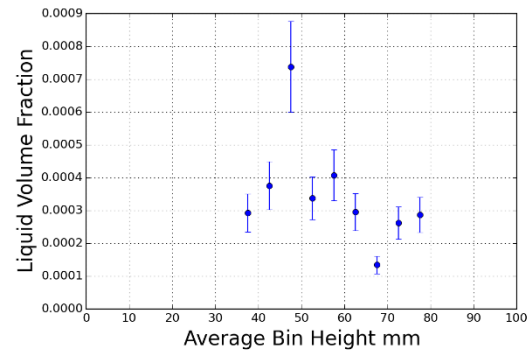


Figure D. 1750: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

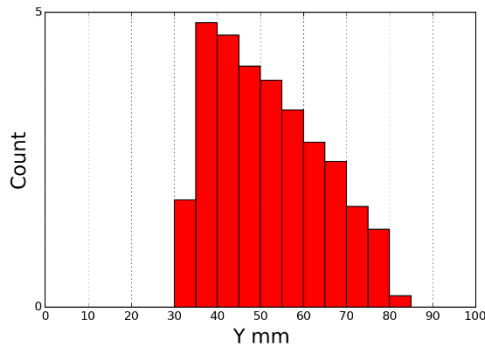


Figure D. 1748: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2.1 Matched Only Droplets for .LA Image

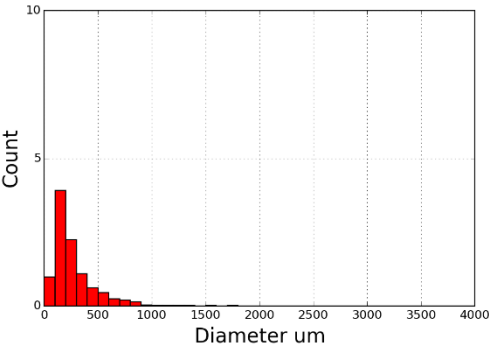


Figure D. 1751: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

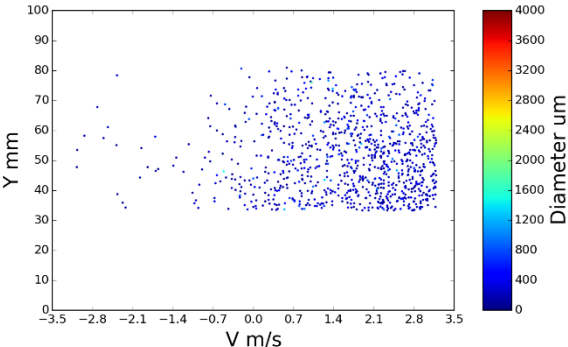


Figure D. 1754: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

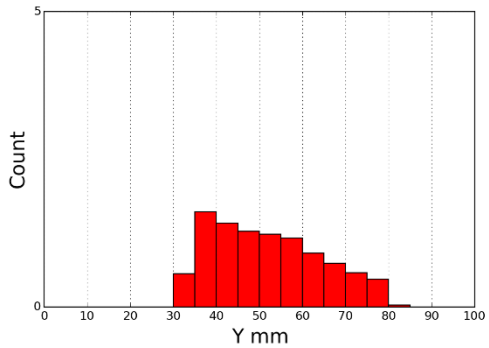


Figure D. 1752: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

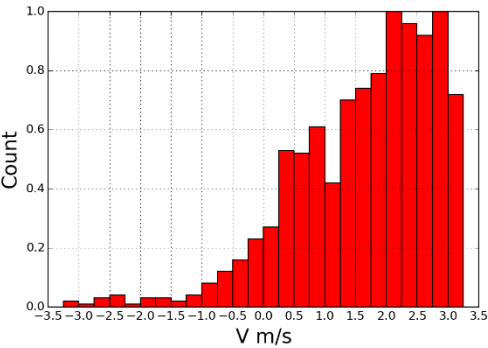


Figure D. 1755: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

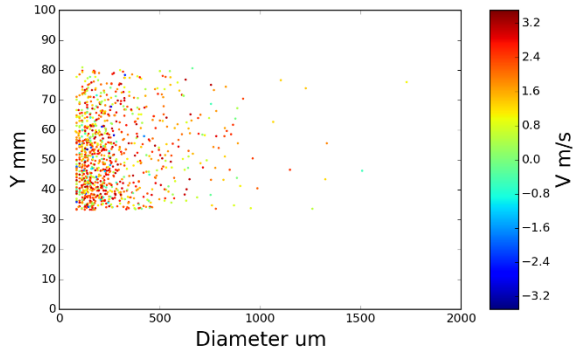


Figure D. 1753: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2.1 Matched Only Droplets for .LB Image

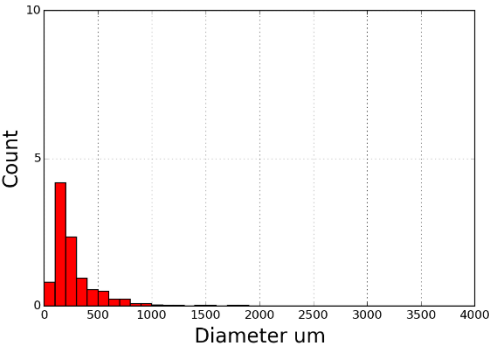


Figure D. 1756: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

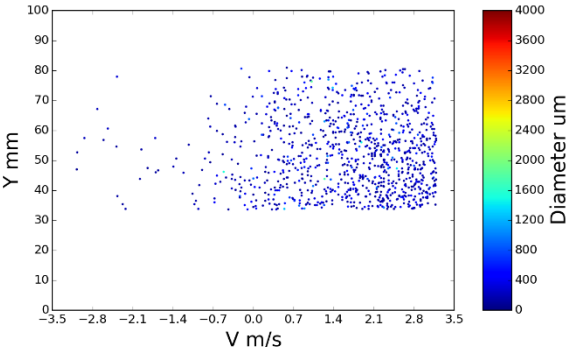


Figure D. 1759: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

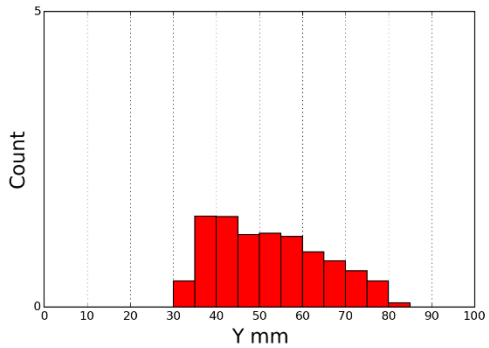


Figure D. 1757: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

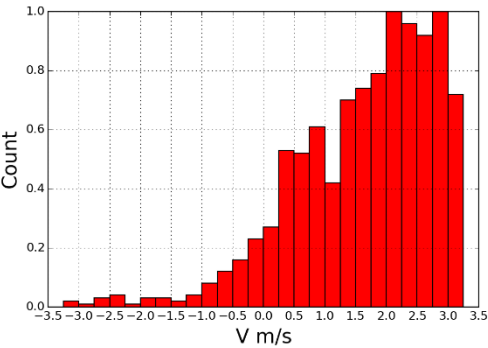


Figure D. 1760: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

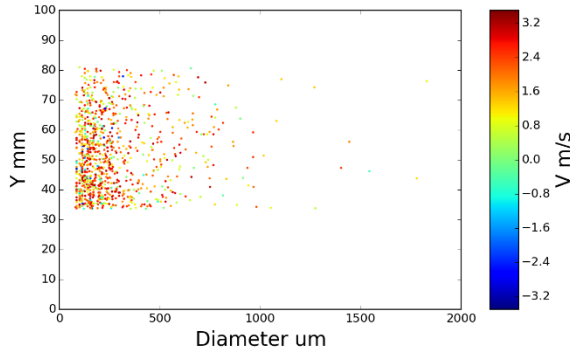


Figure D. 1758: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2.2 Lens 50mm Mag 0_13x

D.8.2.2 Depth J

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	2.41	2.24	182.5	3506	777.8	601.6	193.6	3939	848.0	805.7
20-40mm	3.29	3.38	182.5	1344	426.4	235.4	182.5	1281	417.7	222.5
40-60mm	4.0	4.0	170.7	1877	391.0	230.5	182.5	1857	395.1	238.1
60-80mm	5.14	5.3	182.5	1219	386.3	208.7	182.5	1341	382.2	207.8
80-100mm	3.47	3.53	182.5	1319	366.9	197.2	193.6	1403	354.8	181.4
All	18.31	18.45	170.7	3506	442.4	325.9	182.5	3939	442.8	376.7
			Height A (mm)				Height B (mm)			
Highest Particle			99.9506				99.9547			
Lowest Particle			10.8356				10.9214			

Table D. 193: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.61	193.6	3506	716.1	570.6	193.6	3599	762.9	647.0	-2.970	2.160	0.040	0.680	-1.560	2.160	0.250	0.690
20-40mm	1.85	193.6	1344	454.8	223.3	193.6	1167	449.6	216.4	-2.630	2.720	0.080	0.510	-1.510	3.070	0.930	0.940
40-60mm	1.87	193.6	1728	444.8	242.8	182.5	1857	451.0	257.3	-3.060	1.810	0.000	0.660	-0.690	3.110	1.330	0.980
60-80mm	2.07	182.5	1219	455.9	224.7	182.5	1300	455.0	231.5	-3.040	2.740	0.000	0.760	-3.070	3.090	1.000	1.250
80-100mm	1.4	193.6	1151	397.2	198.8	193.6	1097	389.2	191.3	-2.350	3.070	0.010	0.670	-1.600	3.120	1.250	0.980
All	7.8	182.5	3506	462.8	278.9	182.5	3599	464.4	296.6	-3.060	3.070	0.020	0.660	-3.070	3.120	1.050	1.070

Table D. 194: Matched Droplet Info

D.8.2.2 All Droplets for .LA Image

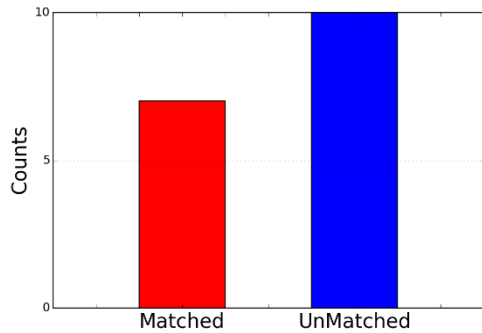


Figure D. 1761: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

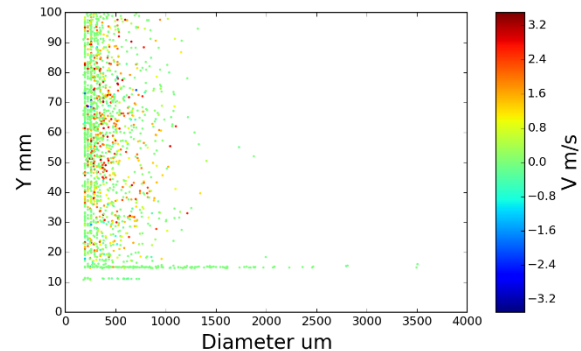


Figure D. 1764: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

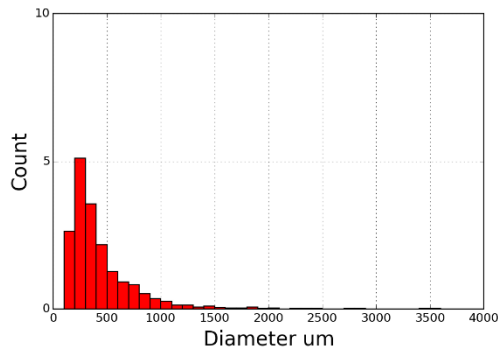


Figure D. 1762: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

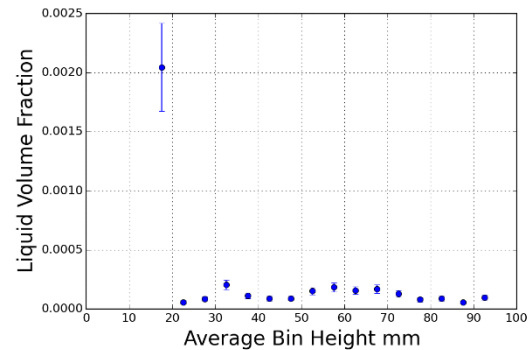


Figure D. 1765: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

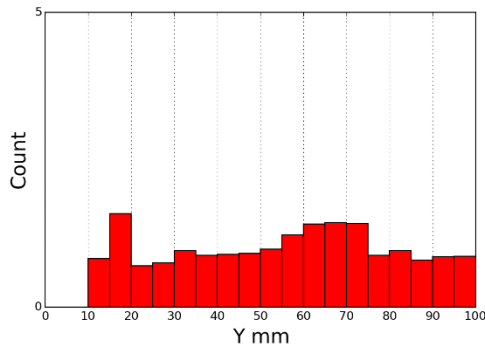


Figure D. 1763: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2.2 All Droplets for .LB Image

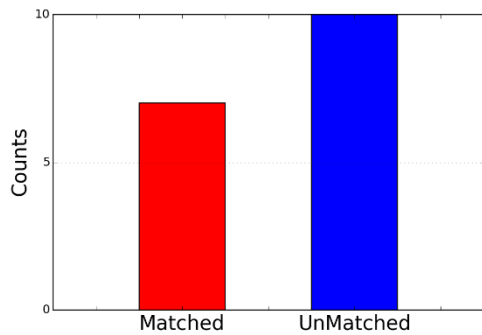


Figure D. 1766: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

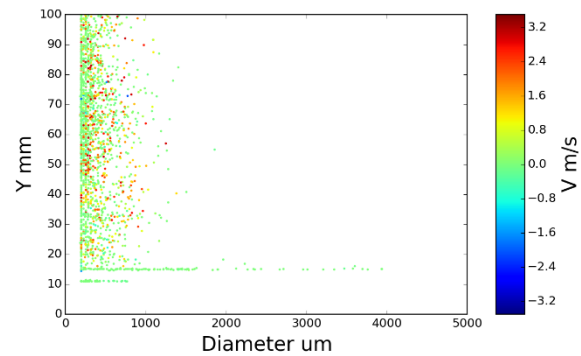


Figure D. 1769: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

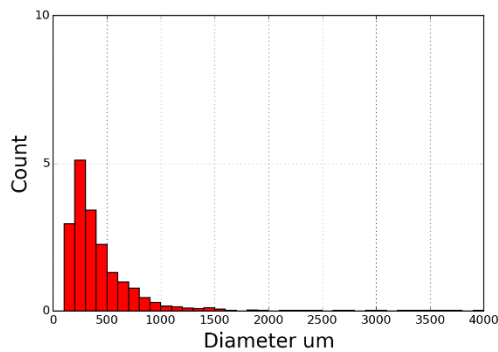


Figure D. 1767: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

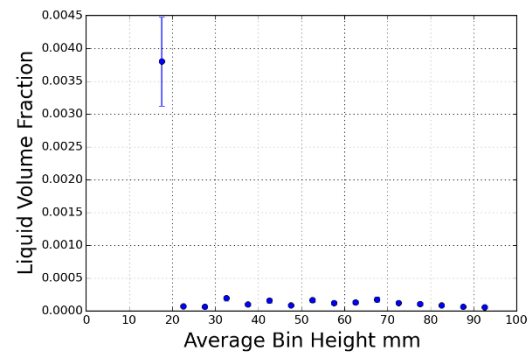


Figure D. 1770: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

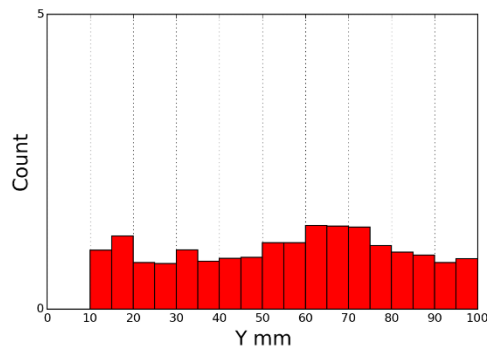


Figure D. 1768: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2.2 Matched Only Droplets for .LA Image

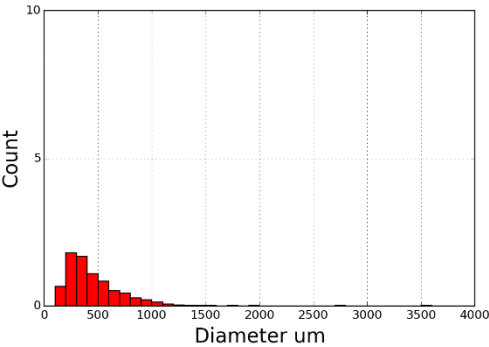


Figure D. 1771: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

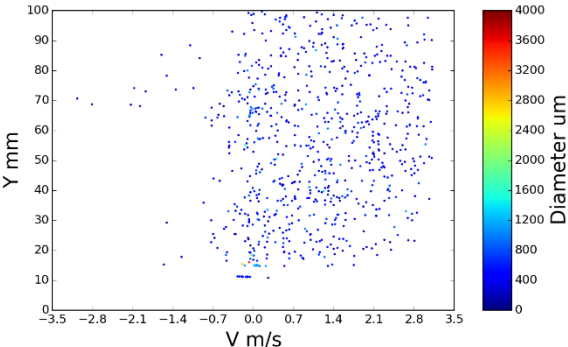


Figure D. 1774: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

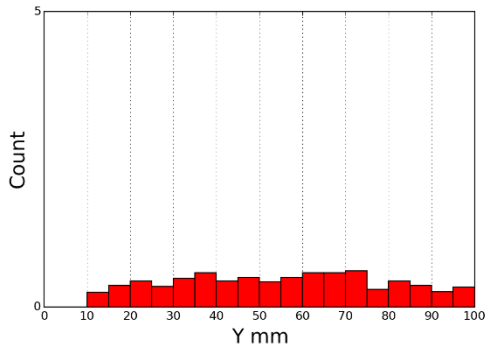


Figure D. 1772: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

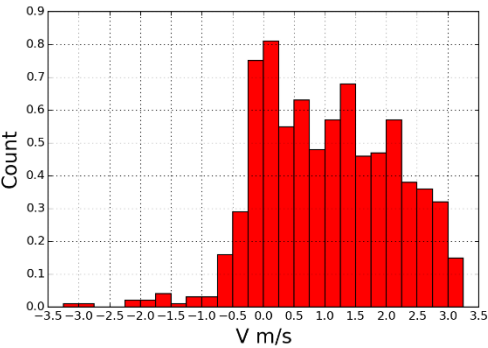


Figure D. 1775: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

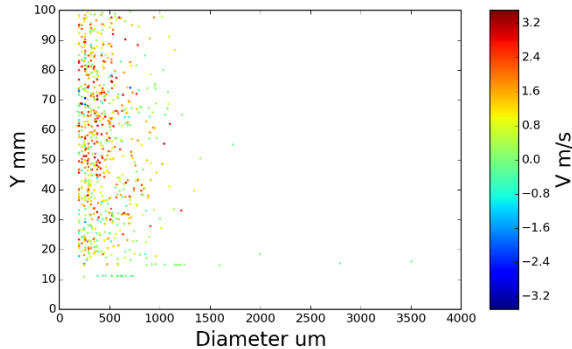


Figure D. 1773: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2.2 Matched Only Droplets for .LB Image

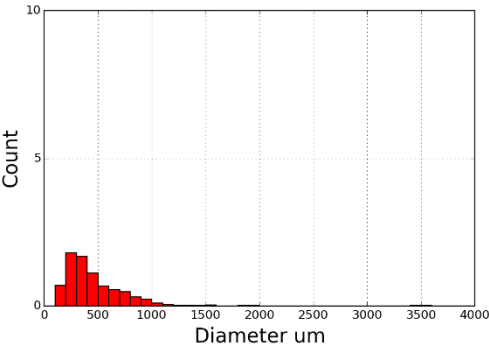


Figure D. 1776: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

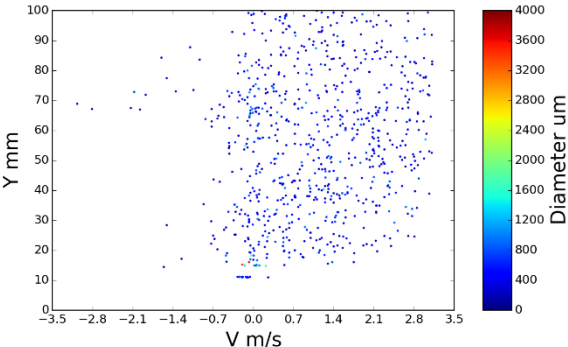


Figure D. 1779: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

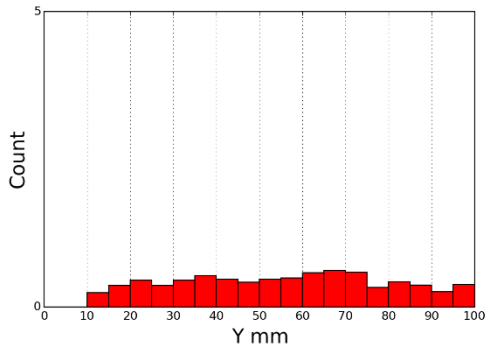


Figure D. 1777: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

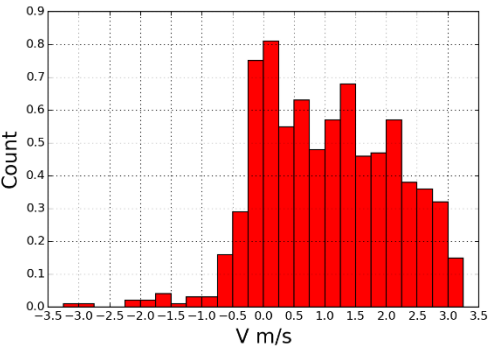


Figure D. 1780: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

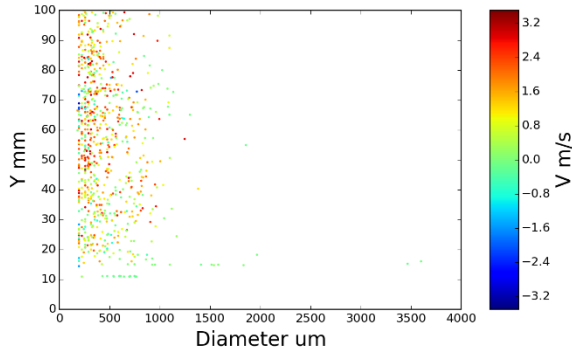


Figure D. 1778: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2.2 Depth K

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	2.12	1.98	182.5	3963	624.9	511.8	193.6	3778	561.1	462.7
20-40mm	5.04	5.03	193.6	1484	411.7	236.4	182.5	1596	408.6	231.5
40-60mm	5.25	5.15	193.6	1648	389.6	232.8	193.6	1675	397.9	233.9
60-80mm	4.2	4.22	182.5	1713	379.1	225.1	193.6	1798	379.7	226.4
80-100mm	3.02	2.89	193.6	1360	414.6	219.6	182.5	1214	408.0	210.6
All	19.63	19.27	182.5	3963	422.3	283.8	182.5	3778	415.0	266.5
			Height A (mm)				Height B (mm)			
Highest Particle			99.9547				99.9824			
Lowest Particle			13.9359				13.7232			

Table D. 195: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.73	193.6	1485	473.9	287.1	193.6	1904	499.7	359.1	-2.670	2.520	0.050	0.780	-0.570	2.910	0.900	0.960
20-40mm	2.77	193.6	1484	458.5	242.6	193.6	1596	466.8	255.2	-3.080	2.880	0.030	0.690	-2.950	3.080	0.990	1.070
40-60mm	2.51	193.6	1648	450.6	258.1	193.6	1675	451.4	263.4	-2.970	1.670	0.100	0.620	-3.000	3.120	1.300	1.220
60-80mm	1.7	182.5	1713	448.1	256.4	193.6	1798	452.4	269.7	-3.120	2.600	0.130	0.760	-3.010	3.110	1.140	1.180
80-100mm	1.28	193.6	1087	480.4	217.8	193.6	1050	475.6	213.1	-1.760	2.130	0.010	0.540	-2.760	3.070	1.250	1.040
All	8.99	182.5	1713	458.7	250.4	193.6	1904	463.4	264.5	-3.120	2.880	0.070	0.680	-3.010	3.120	1.130	1.130

Table D. 196: Matched Droplet Info

D.8.2.2 All Droplets for .LA Image

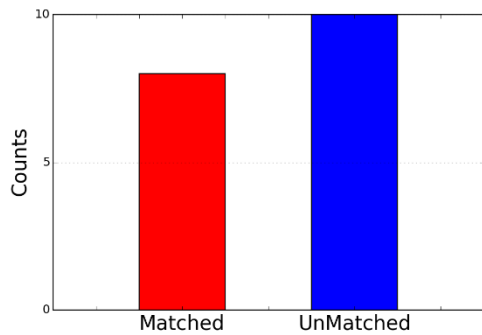


Figure D. 1781: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

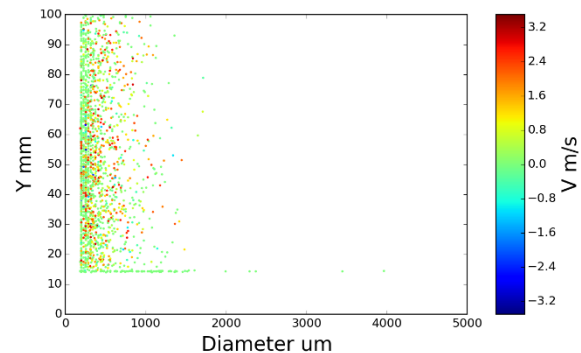


Figure D. 1784: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

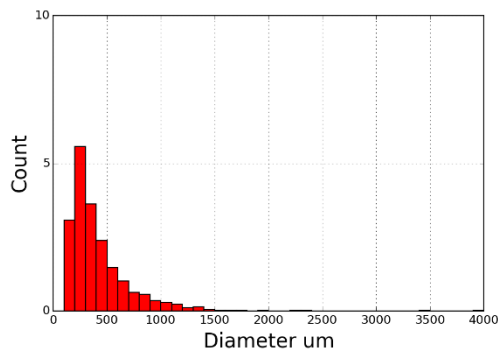


Figure D. 1782: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

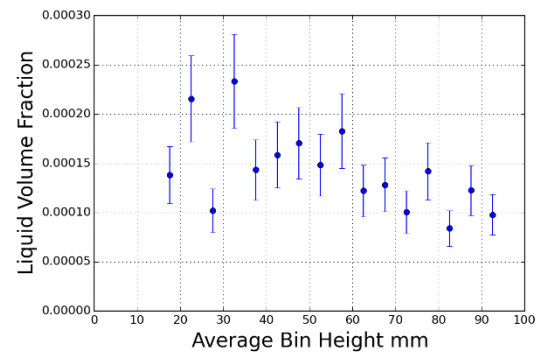


Figure D. 1785: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

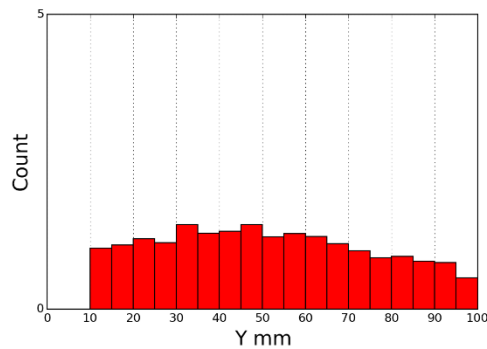


Figure D. 1783: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2.2 All Droplets for .LB Image

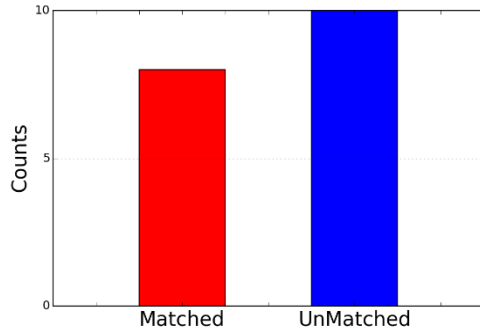


Figure D. 1786: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

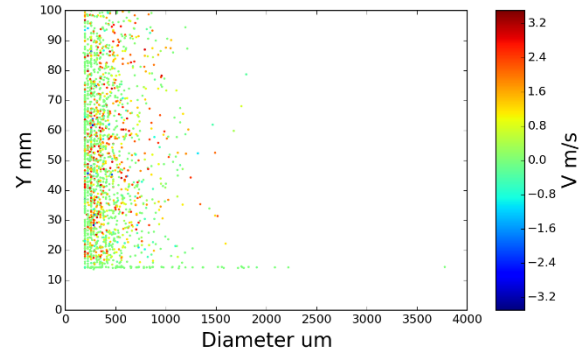


Figure D. 1789: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

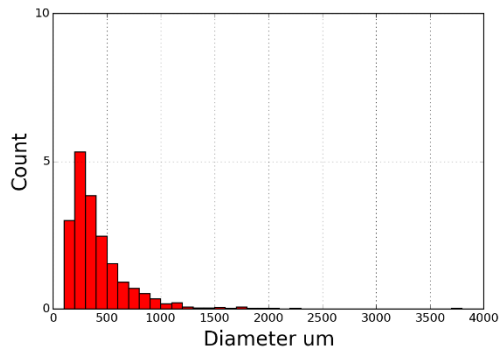


Figure D. 1787: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

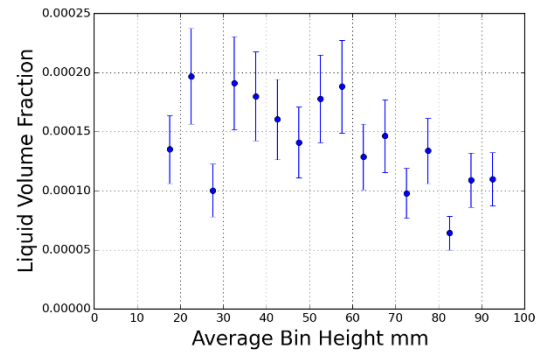


Figure D. 1790: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

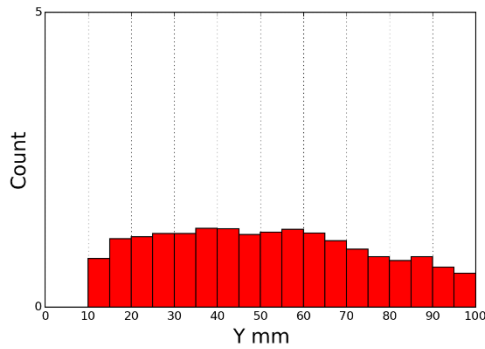


Figure D. 1788: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2.2 Matched Only Droplets for .LA Image

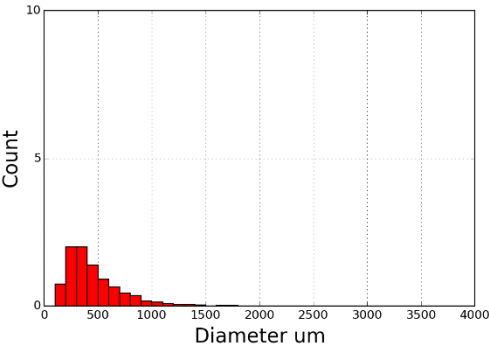


Figure D. 1791: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

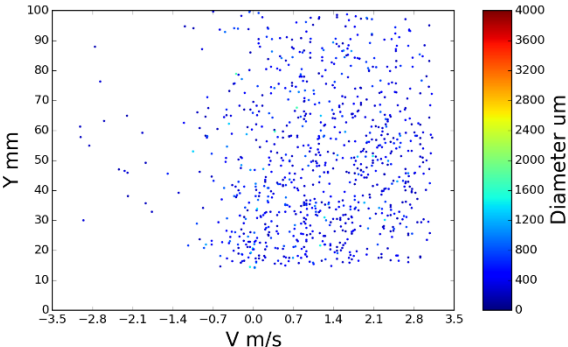


Figure D. 1794: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

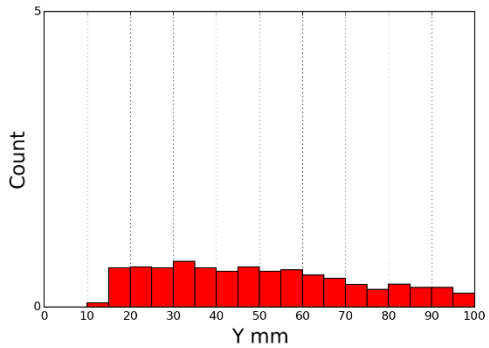


Figure D. 1792: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

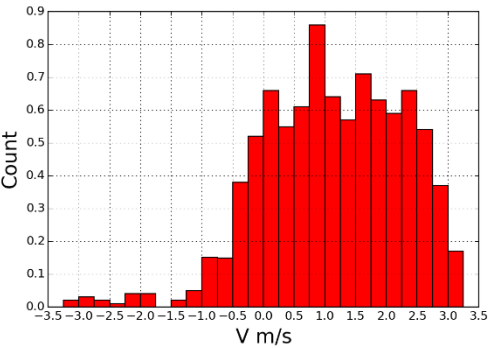


Figure D. 1795: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

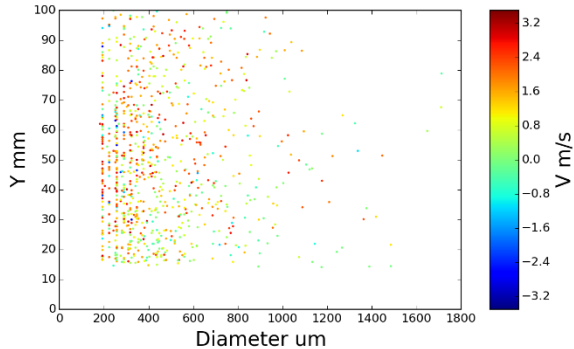


Figure D. 1793: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2.2 Matched Only Droplets for .LB Image

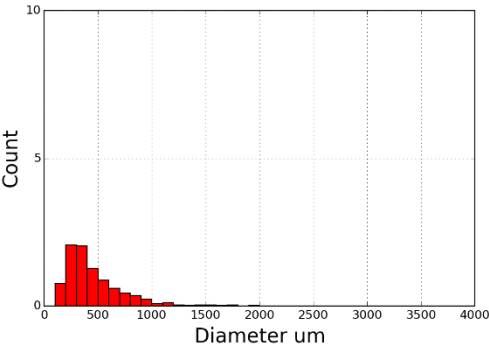


Figure D. 1796: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

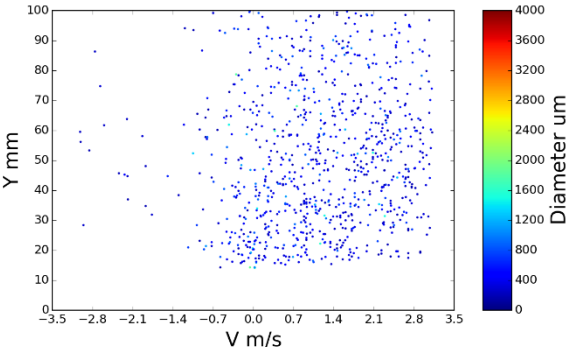


Figure D. 1799: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

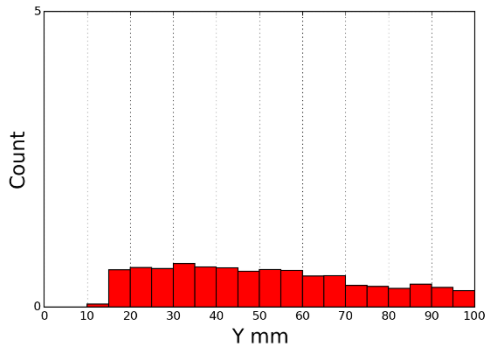


Figure D. 1797: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

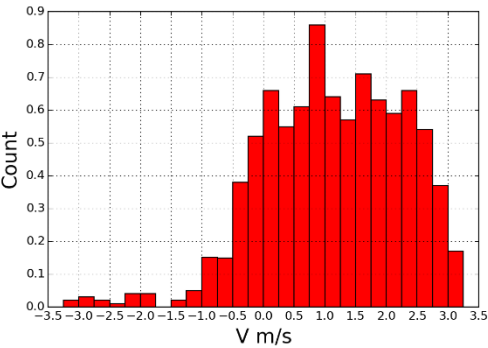


Figure D. 1800: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

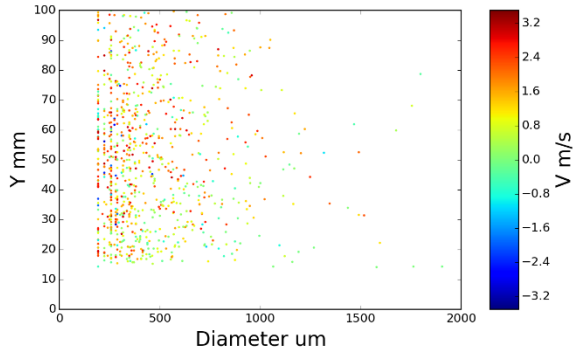


Figure D. 1798: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2.2 Depth L

All Droplets										
	Average Droplet Counts per Image		Diameter A (um)				Diameter B (um)			
Height Bin	Image A	Image B	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	2.02	2.07	193.6	3177	598.4	562.0	182.5	3660	627.3	555.1
20-40mm	4.21	4.22	182.5	1844	417.2	273.6	193.6	2350	422.8	282.3
40-60mm	3.56	3.39	182.5	1899	385.4	246.2	182.5	2649	382.7	250.2
60-80mm	2.27	2.27	182.5	1387	425.7	238.9	182.5	1402	393.1	229.9
80-100mm	1.66	1.6	182.5	1214	440.0	230.1	182.5	1188	408.7	208.4
All	13.72	13.55	182.5	3177	439.8	325.1	182.5	3660	437.3	329.1
			Height A (mm)				Height B (mm)			
Highest Particle			99.9792				99.9547			
Lowest Particle			13.0330				13.0084			

Table D. 197: All Droplet Info

Matched Only Droplets																	
	Average Droplet Counts Per Image	Diameter A (um)				Diameter B (um)				X-Velocity (m/s)				Y-Velocity (m/s)			
Height Bin		Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD	Min	Max	Mean	STD
0-20mm	0.77	193.6	2235	563.0	429.8	193.6	2271	583.7	457.4	-2.640	1.300	0.030	0.640	-2.390	3.010	0.790	1.220
20-40mm	2.02	182.5	1844	462.3	298.1	193.6	2350	466.5	328.6	-2.810	2.600	0.150	0.590	-1.970	3.120	1.260	1.080
40-60mm	1.29	193.6	1899	453.2	264.6	193.6	1992	428.4	251.1	-2.180	1.400	0.090	0.530	-0.990	3.120	1.440	1.020
60-80mm	0.88	182.5	1387	478.3	247.2	182.5	1402	452.2	245.0	-1.630	2.240	0.310	0.590	-0.910	3.120	1.330	0.970
80-100mm	0.66	193.6	1214	520.2	234.1	182.5	1188	496.8	220.9	-0.700	1.510	0.210	0.410	-0.600	3.060	1.320	0.930
All	5.62	182.5	2235	483.3	301.2	182.5	2350	473.7	312.3	-2.810	2.600	0.160	0.570	-2.390	3.120	1.250	1.070

Table D. 198: Matched Droplet Info

D.8.2.2 All Droplets for .LA Image

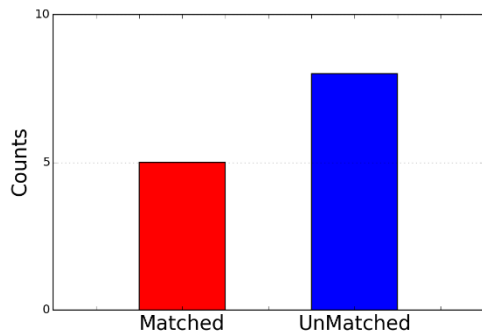


Figure D. 1801: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

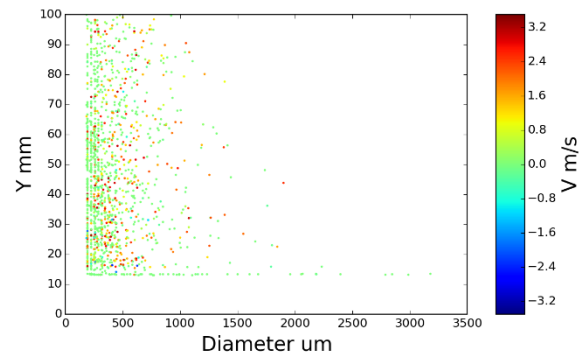


Figure D. 1804: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

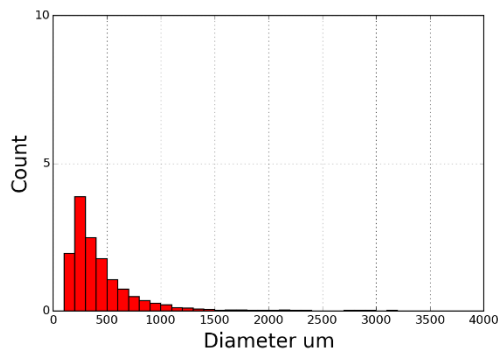


Figure D. 1802: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

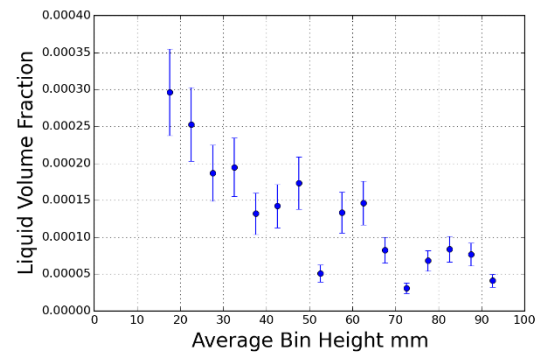


Figure D. 1805: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

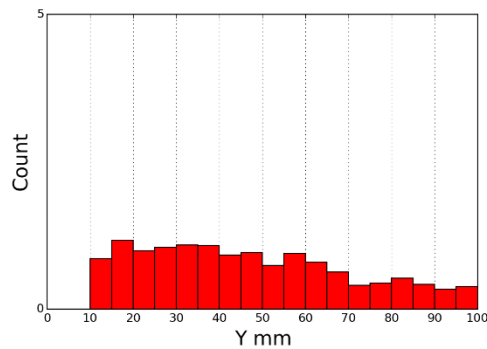


Figure D. 1803: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2.2 All Droplets for .LB Image

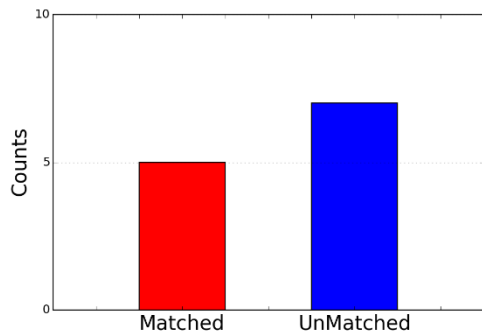


Figure D. 1806: CHC Count Comparison R-123 55F 10000Btu 30000Lb Rot Tri

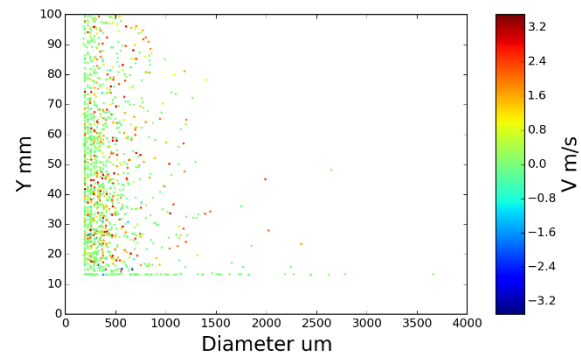


Figure D. 1809: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

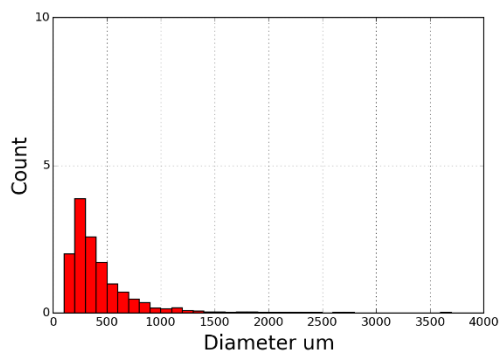


Figure D. 1807: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

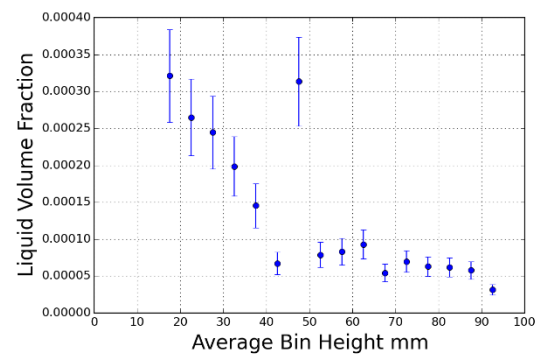


Figure D. 1810: Void Fraction R-123 55F 10000Btu 30000Lb Rot Tri

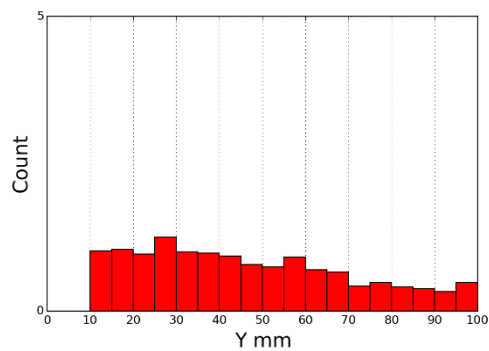


Figure D. 1808: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2.2 Matched Only Droplets for .LA Image

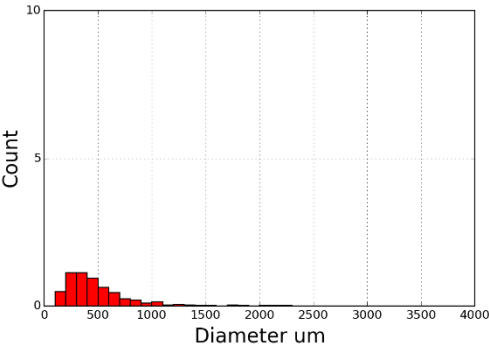


Figure D. 1811: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

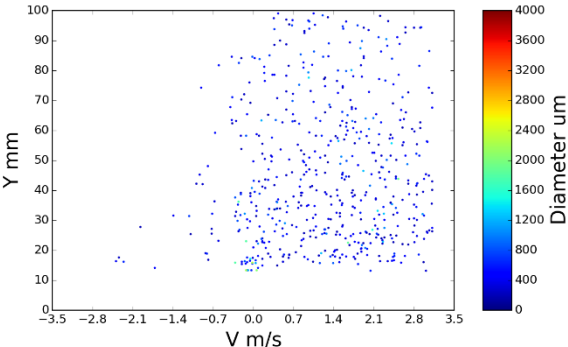


Figure D. 1814: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

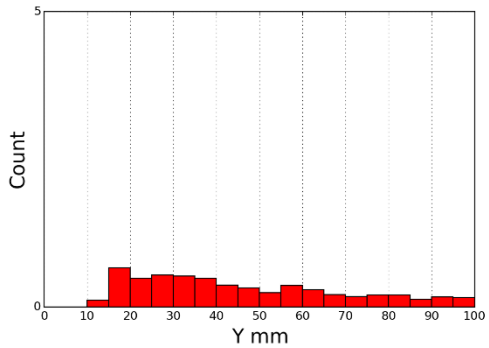


Figure D. 1812: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

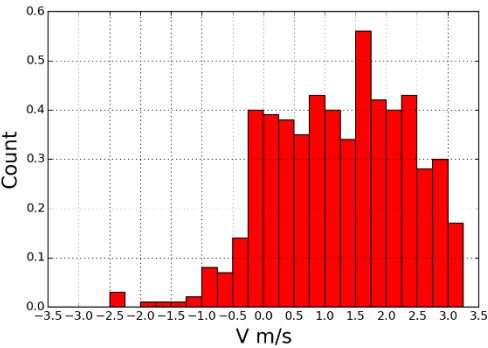


Figure D. 1815: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

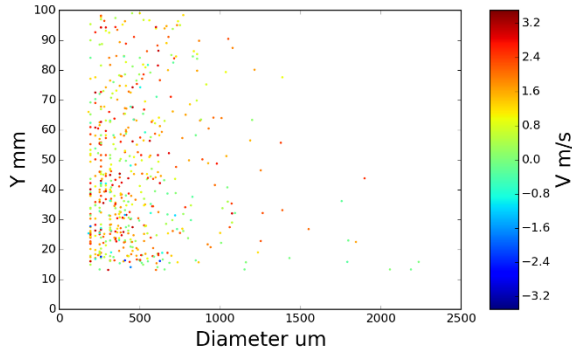


Figure D. 1813: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri

D.8.2.2 Matched Only Droplets for .LB Image

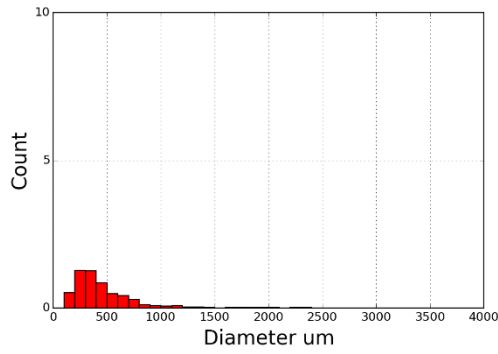


Figure D. 1816: Droplet Diameter Histogram R-123 55F 10000Btu 30000Lb Rot Tri

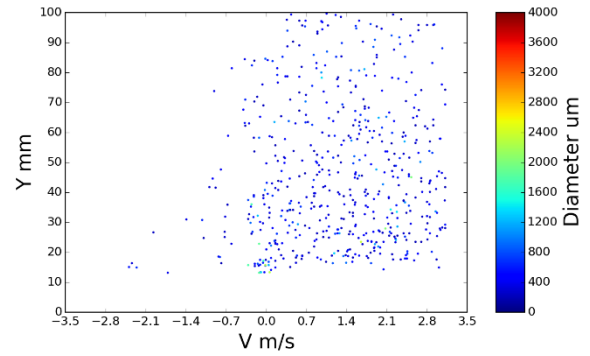


Figure D. 1819: Droplet Height vs Vertical Velocity R-123 55F 10000Btu 30000Lb Rot Tri

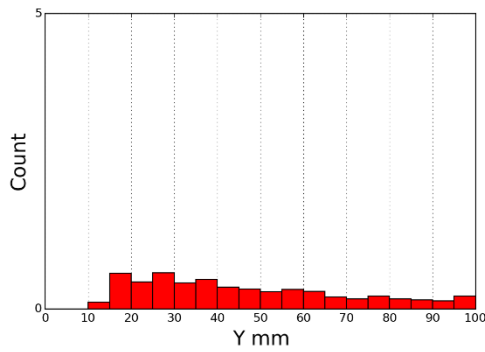


Figure D. 1817: Droplet Height Histogram R-123 55F 10000Btu 30000Lb Rot Tri

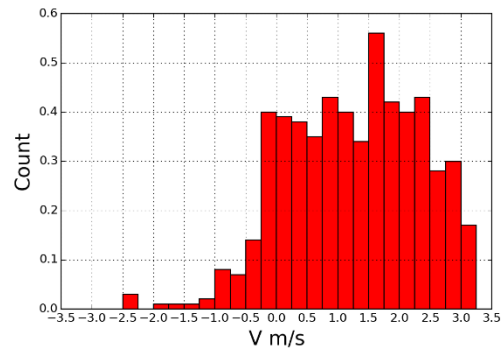


Figure D. 1820: Droplet Vertical Velocity Histogram R-123 55F 10000Btu 30000Lb Rot Tri

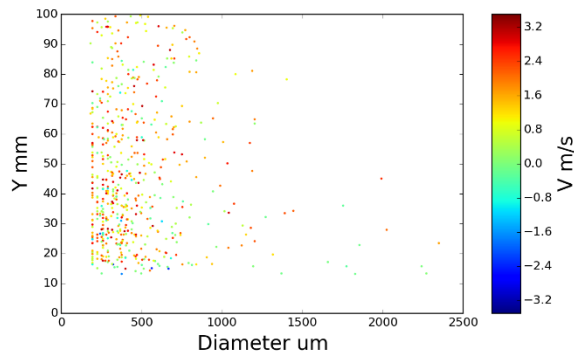


Figure D. 1818: Droplet Height vs Diameter R-123 55F 10000Btu 30000Lb Rot Tri