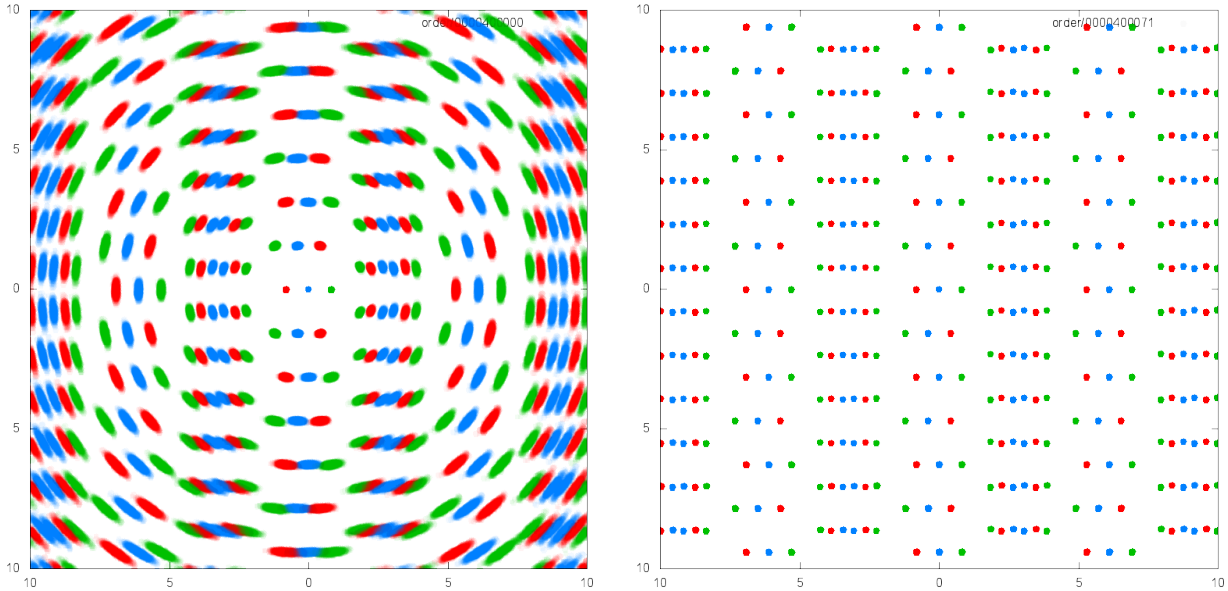
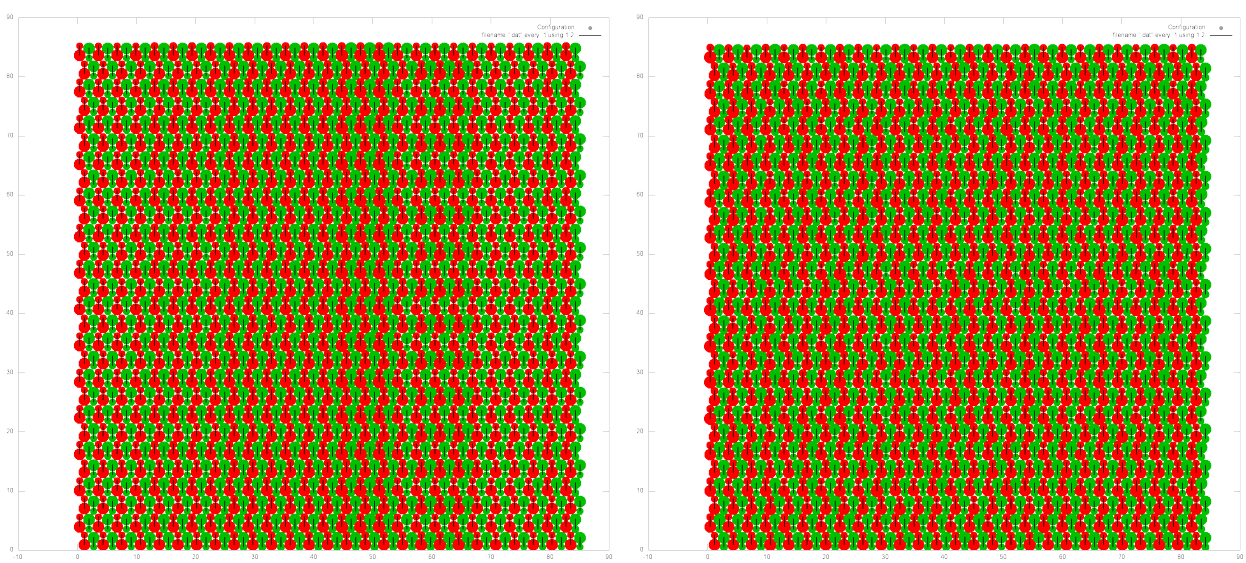
1 Snowman: Temp$= 0.2$, $r = 0.637556$, $d = 1.637556$, p2gg



(a) Pre minimisation

(b) Post CG minimisation

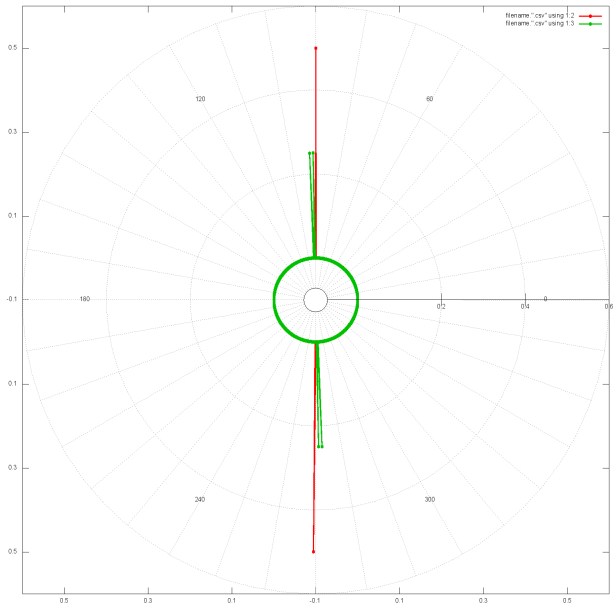
Figure 1: Order Parameter



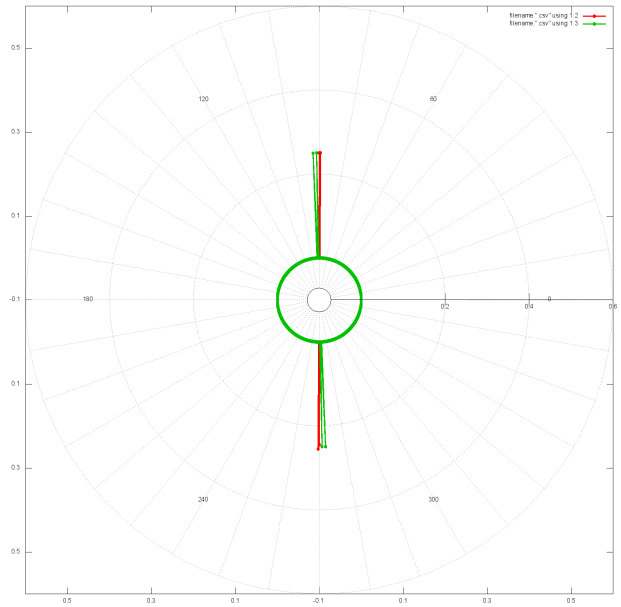
(a) Initial Configuration

(b) Final Configuration

Figure 2: Configuration



(a) Initial Configuration



(b) Final Configuration

Figure 3: Angle Distribution

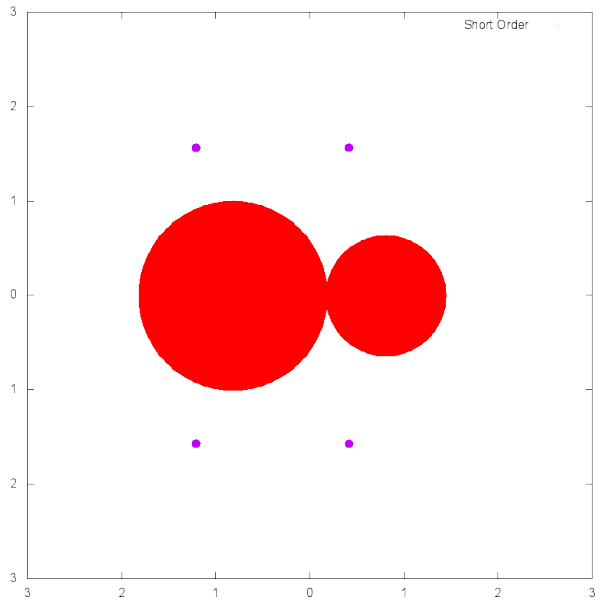


Figure 4: Short Range Ordering

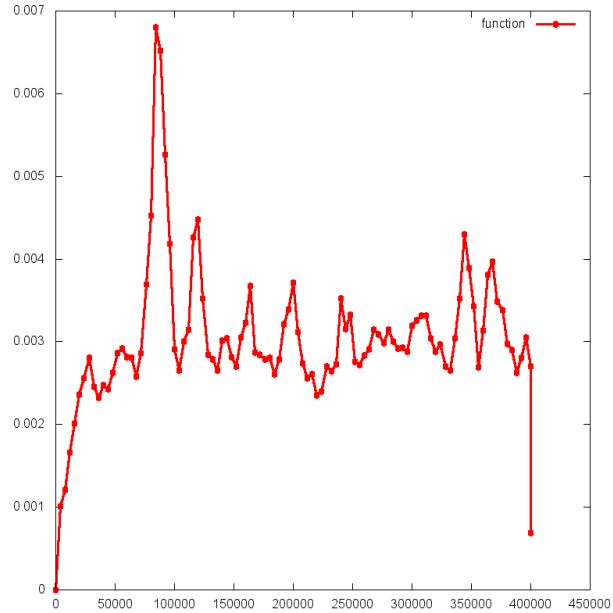


Figure 5: Mean Squared Displacement

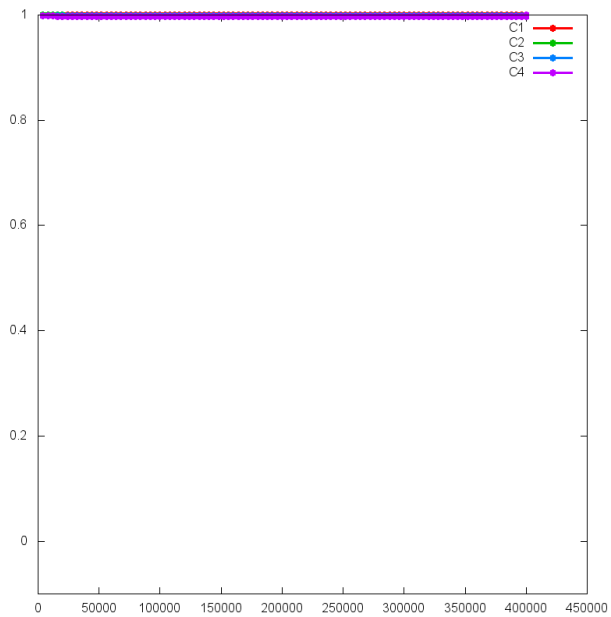


Figure 6: Rotational Relaxation

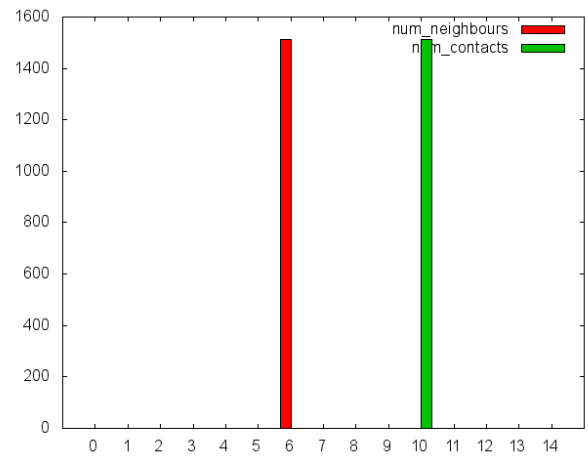


Figure 7: Contact Number

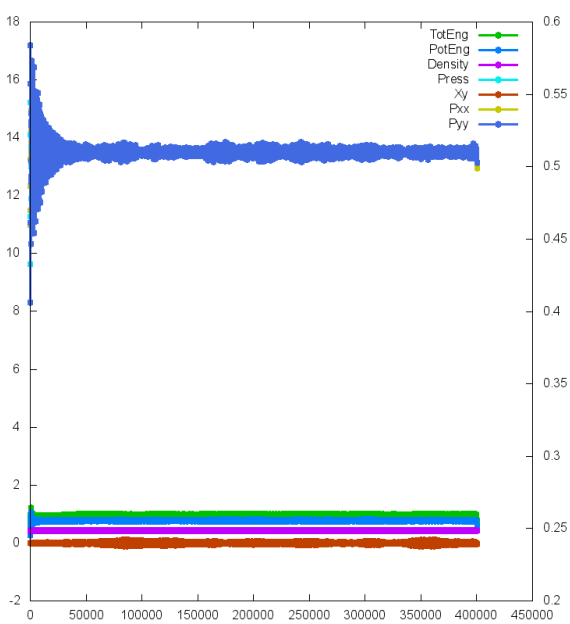
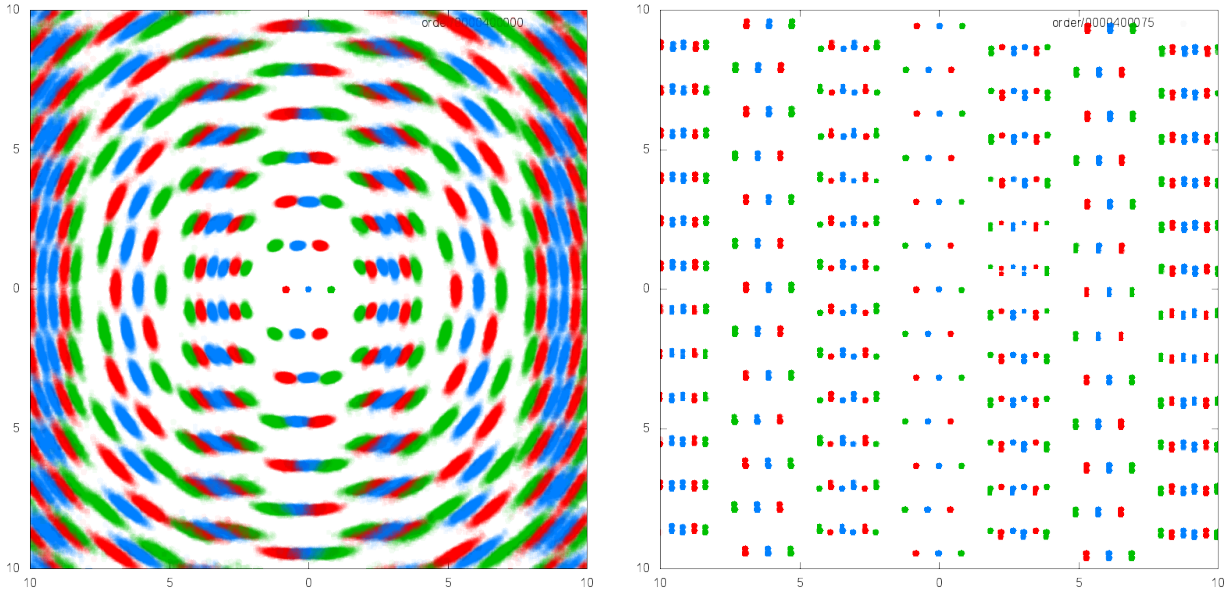


Figure 8: Properties

C1 Relaxation	0
C2 Relaxation	0
C3 Relaxation	0
C4 Relaxation	0
Diffusion Constant	0.0001
Average bond fraction	0.9940
Local Order	1.0000
Global Order	1.0000
Circle Order	1.0000
contacts	1.0000
neighbours	0.6000
pairing	0.1667
Density	0.4183
Total Energy	0.7788
Packing Fraction	0.9241

Table 1: Data

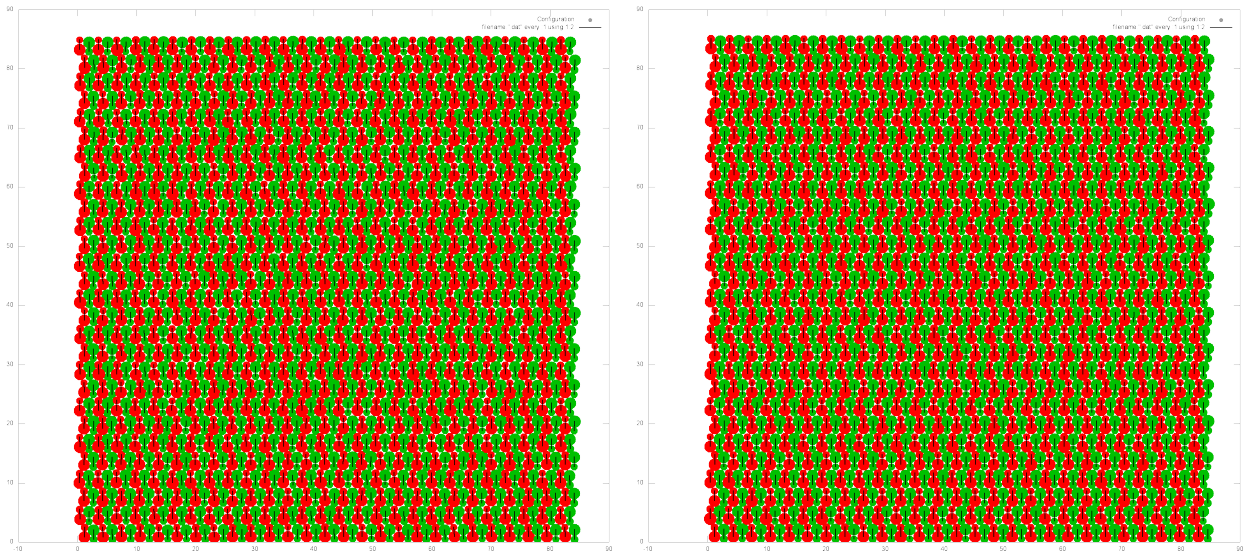
2 Snowman: Temp$= 0.5$, $r = 0.637556$, $d = 1.637556$, p2gg



(a) Pre minimisation

(b) Post CG minimisation

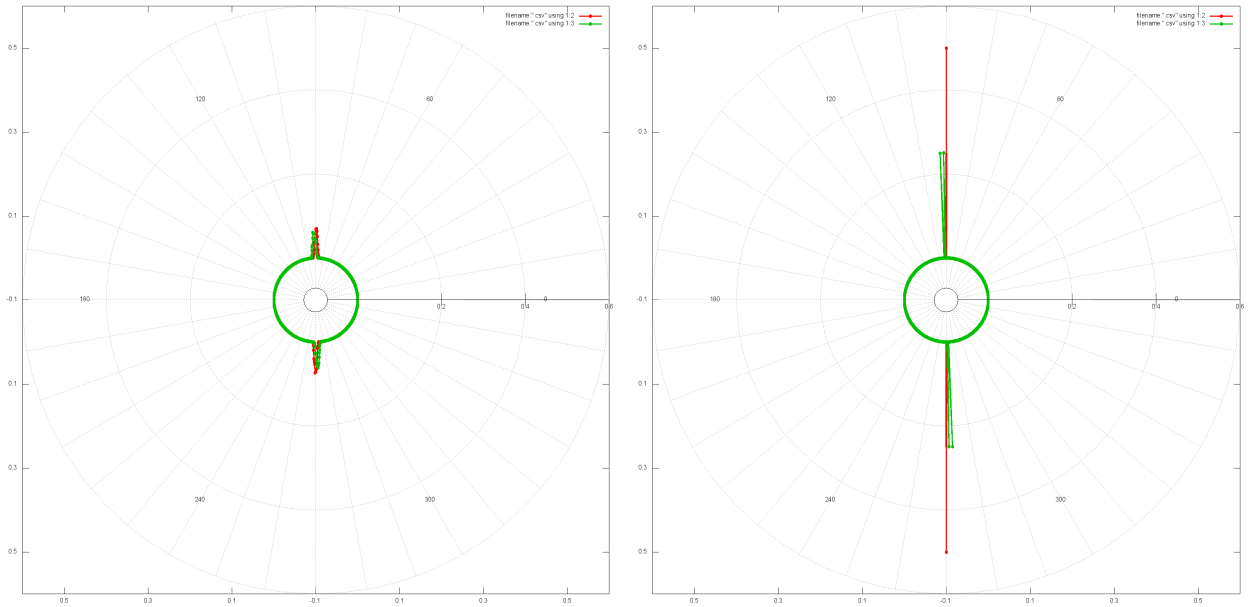
Figure 9: Order Parameter



(a) Initial Configuration

(b) Final Configuration

Figure 10: Configuration



(a) Initial Configuration (b) Final Configuration

Figure 11: Angle Distribution

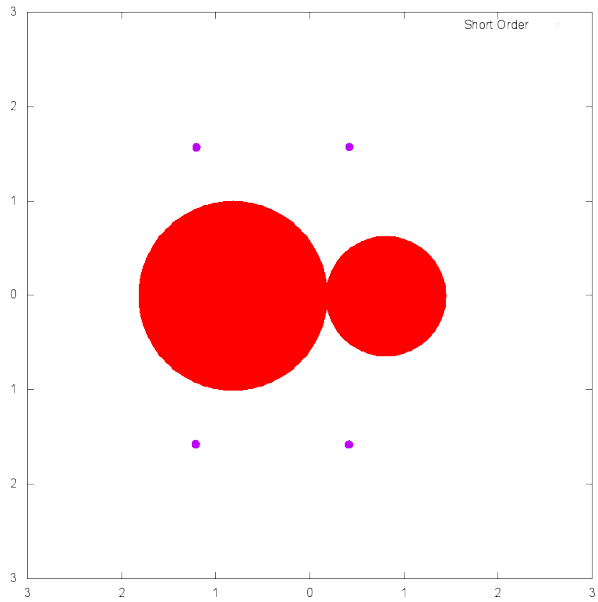


Figure 12: Short Range Ordering

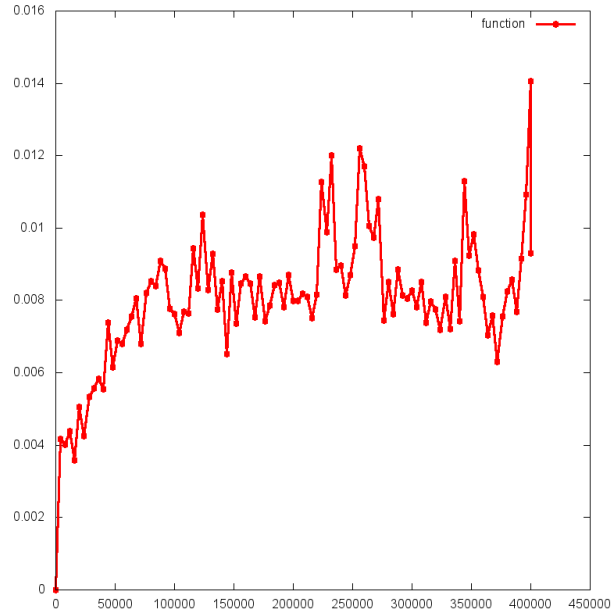


Figure 13: Mean Squared Displacement

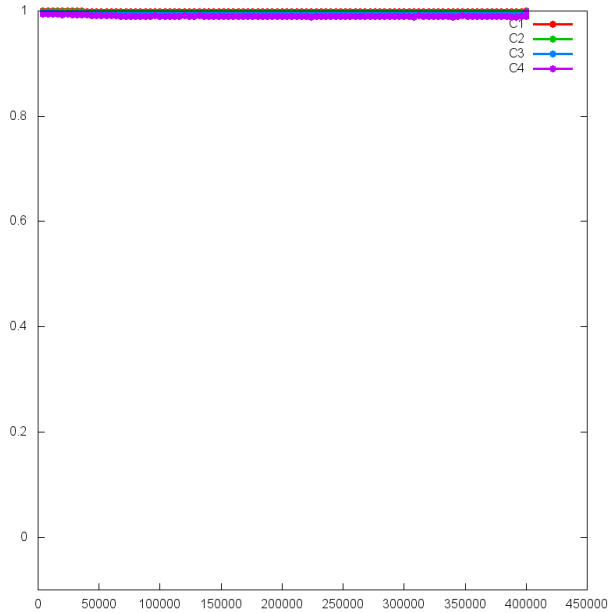


Figure 14: Rotational Relaxation

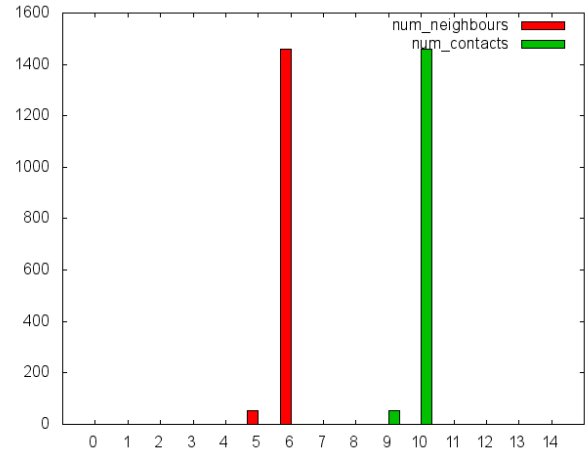


Figure 15: Contact Number

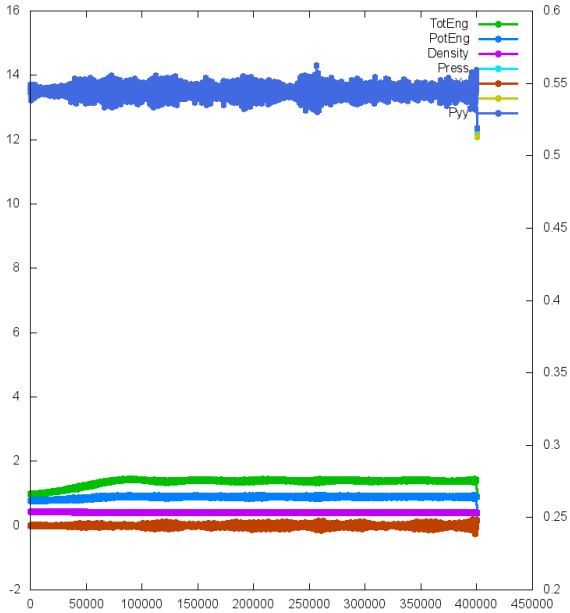
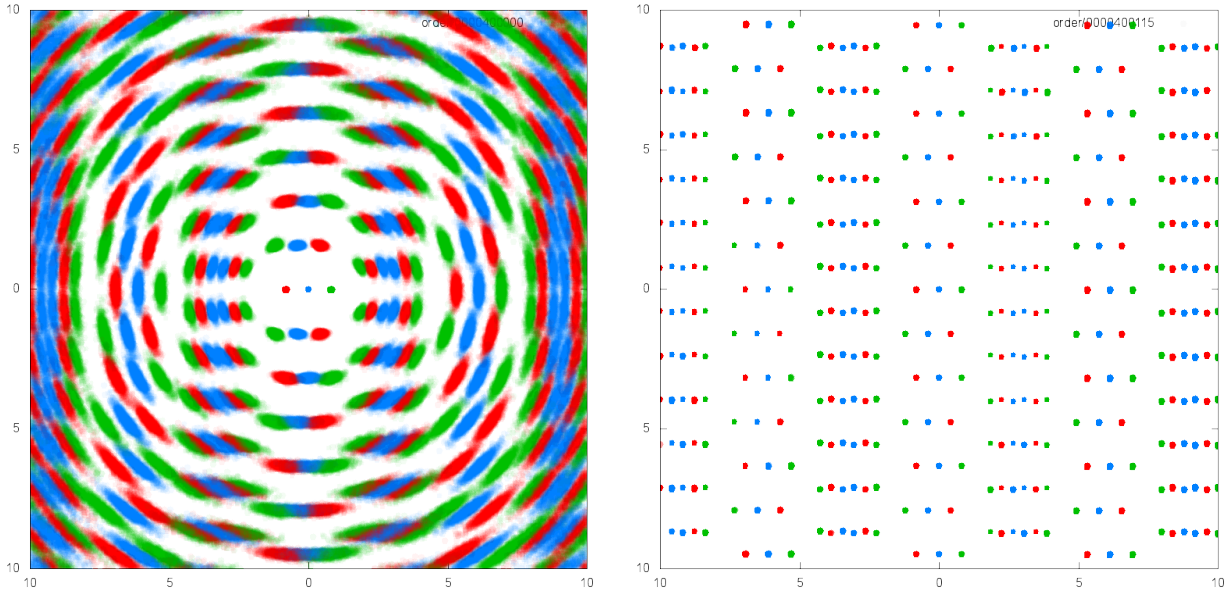


Figure 16: Properties

C1 Relaxation	0
C2 Relaxation	0
C3 Relaxation	0
C4 Relaxation	0
Diffusion Constant	0.0012
Average bond fraction	0.9968
Local Order	1.0000
Global Order	1.0000
Circle Order	0.9821
contacts	0.9000
neighbours	0.5000
pairing	0.1671
Density	0.4156
Total Energy	0.8923
Packing Fraction	0.9183

Table 2: Data

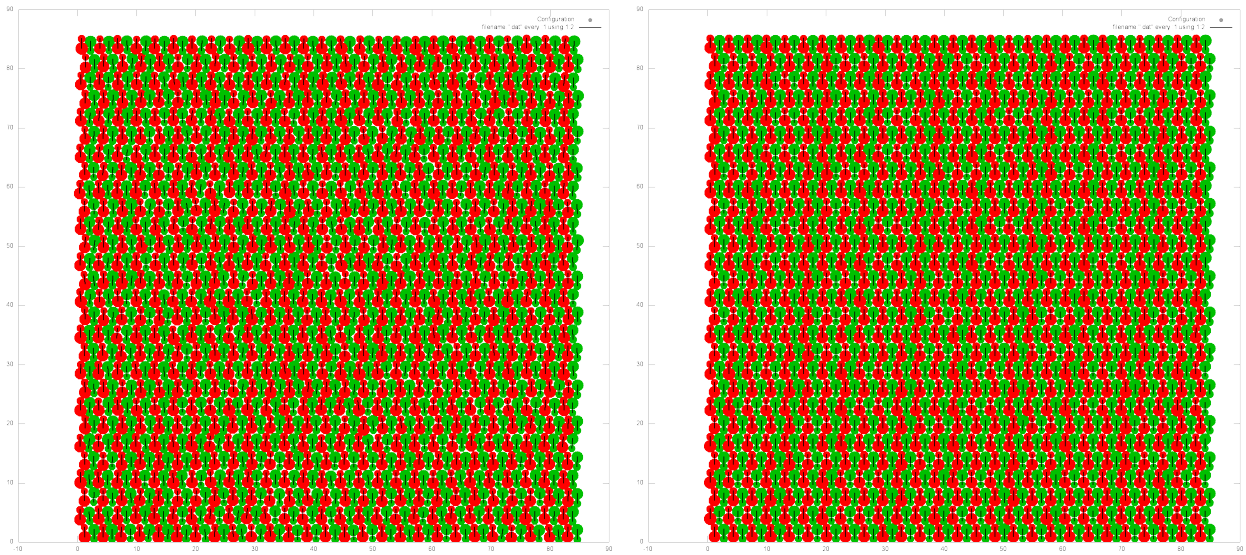
3 Snowman: Temp$= 0.8$, $r = 0.637556$, $d = 1.637556$, p2gg



(a) Pre minimisation

(b) Post CG minimisation

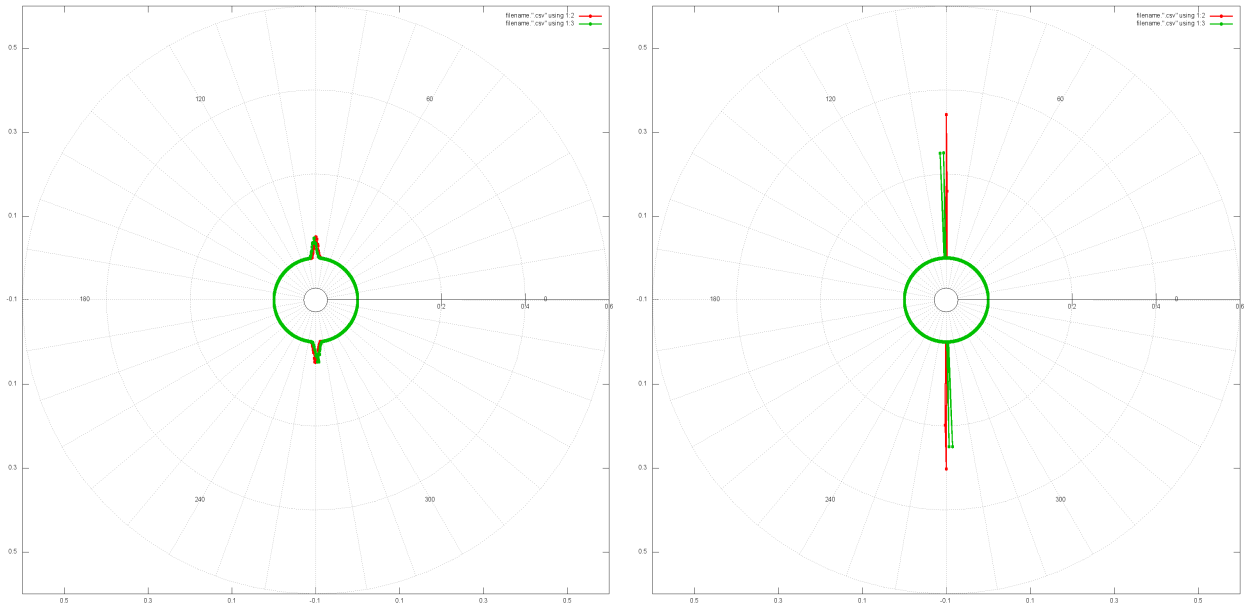
Figure 17: Order Parameter



(a) Initial Configuration

(b) Final Configuration

Figure 18: Configuration



(a) Initial Configuration (b) Final Configuration

Figure 19: Angle Distribution

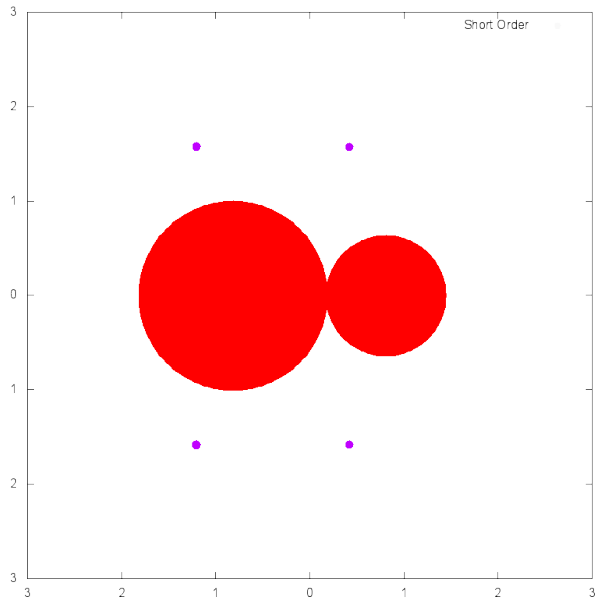


Figure 20: Short Range Ordering

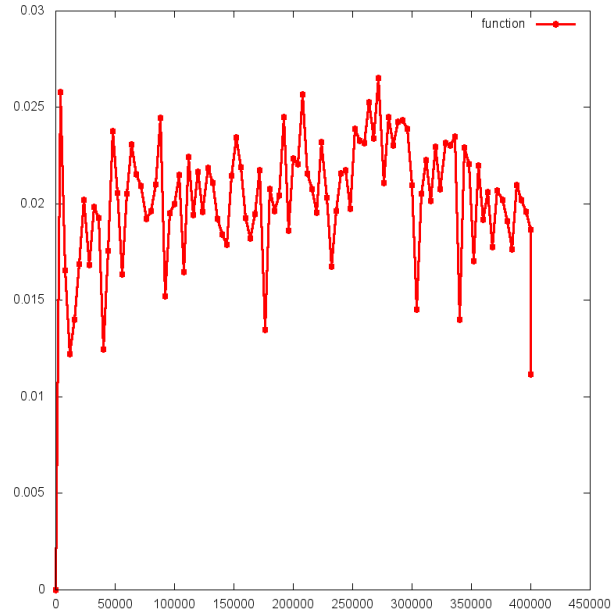


Figure 21: Mean Squared Displacement

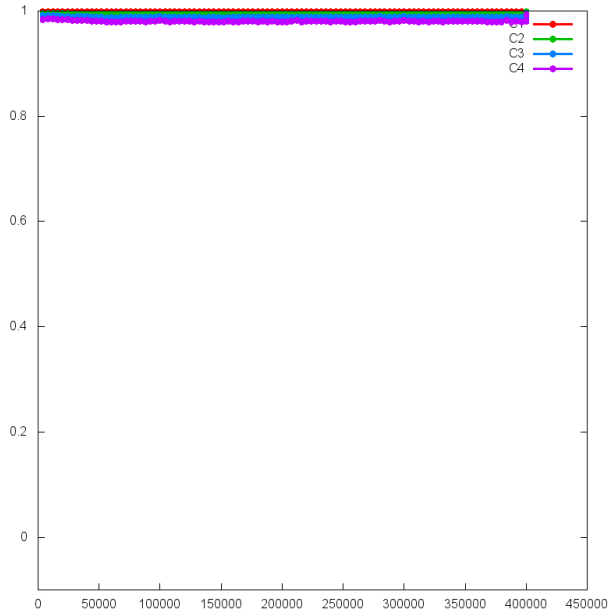


Figure 22: Rotational Relaxation

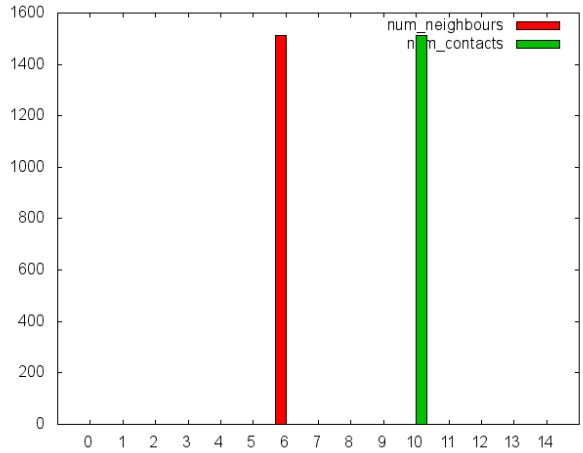


Figure 23: Contact Number

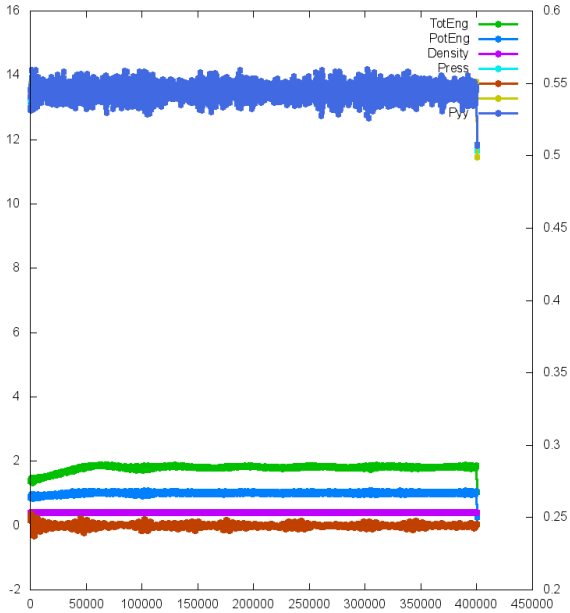
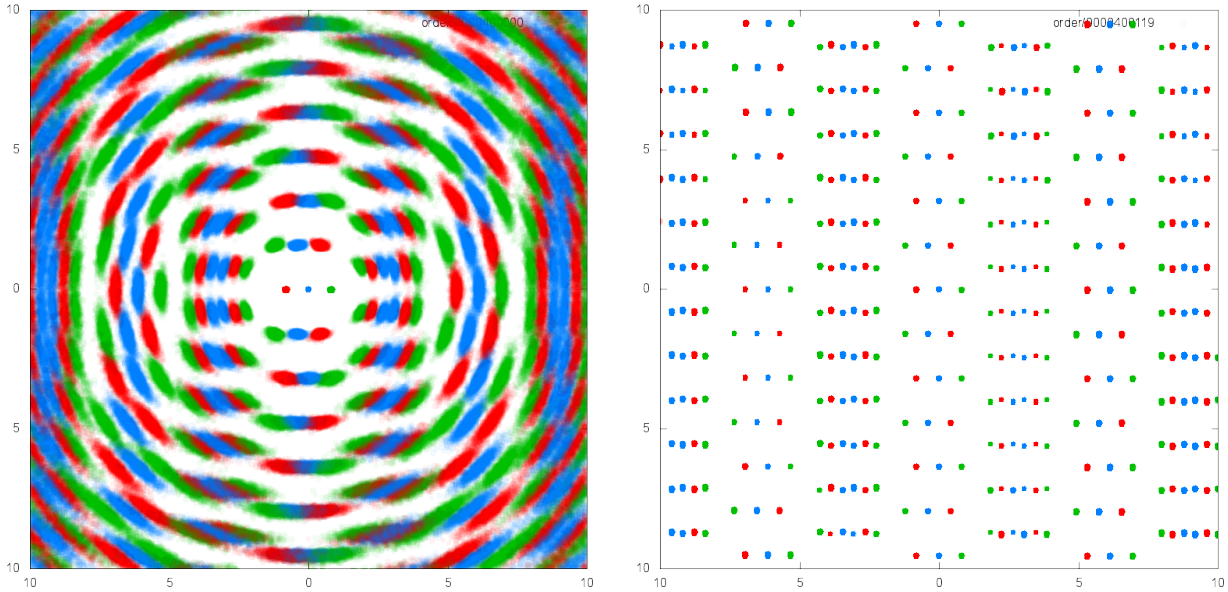


Figure 24: Properties

C1 Relaxation	0
C2 Relaxation	0
C3 Relaxation	0
C4 Relaxation	0
Diffusion Constant	0.0014
Average bond fraction	0.9998
Local Order	1.0000
Global Order	1.0000
Circle Order	1.0000
contacts	1.0000
neighbours	0.6000
pairing	0.1667
Density	0.4136
Total Energy	1.0429
Packing Fraction	0.9137

Table 3: Data

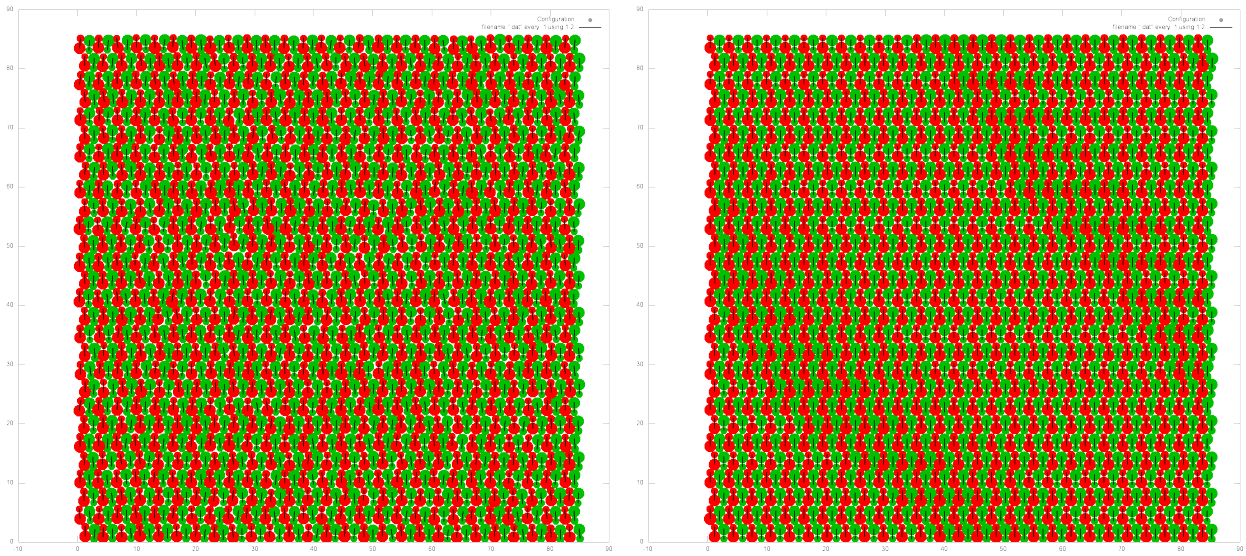
4 Snowman: Temp$= 1.0$, $r = 0.637556$, $d = 1.637556$, p2gg



(a) Pre minimisation

(b) Post CG minimisation

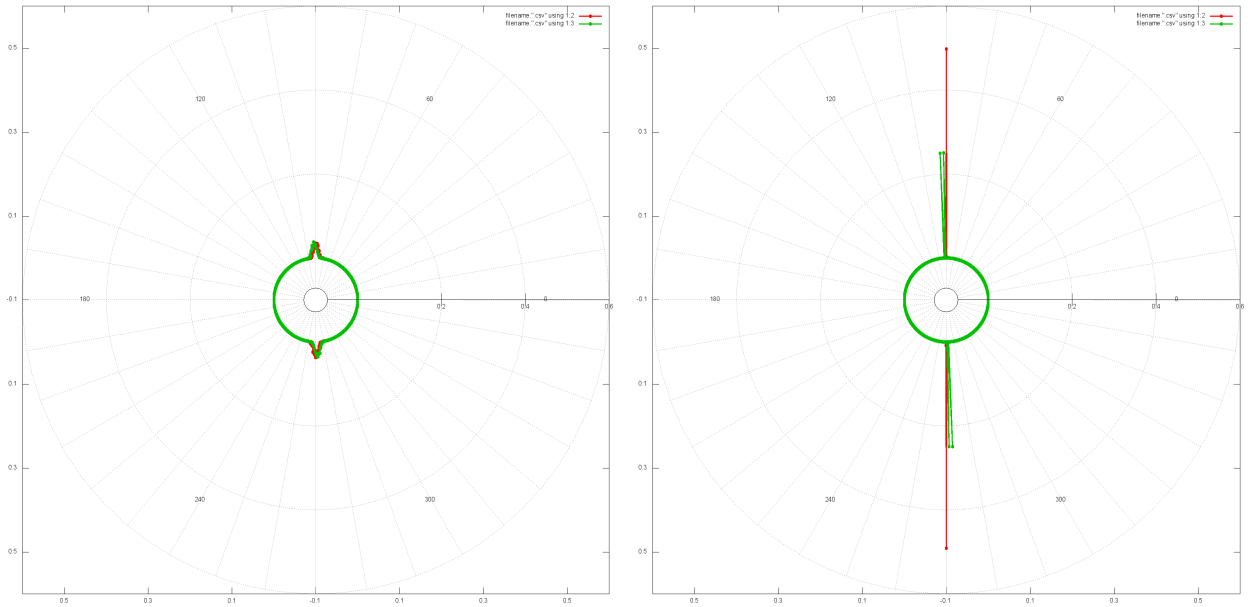
Figure 25: Order Parameter



(a) Initial Configuration

(b) Final Configuration

Figure 26: Configuration



(a) Initial Configuration (b) Final Configuration

Figure 27: Angle Distribution

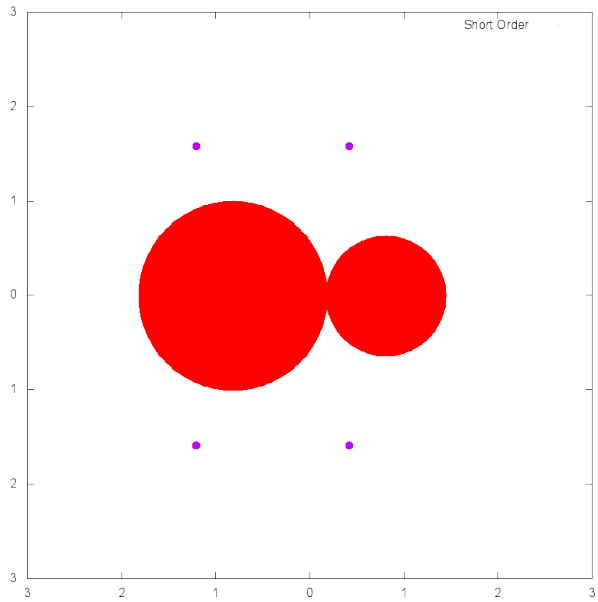


Figure 28: Short Range Ordering

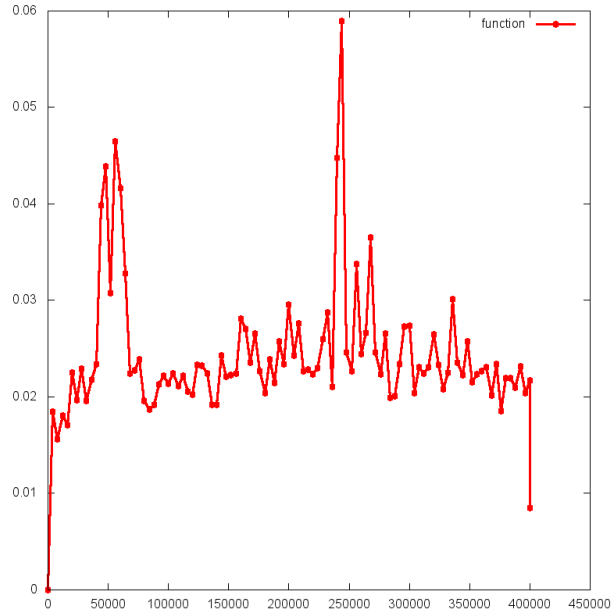


Figure 29: Mean Squared Displacement

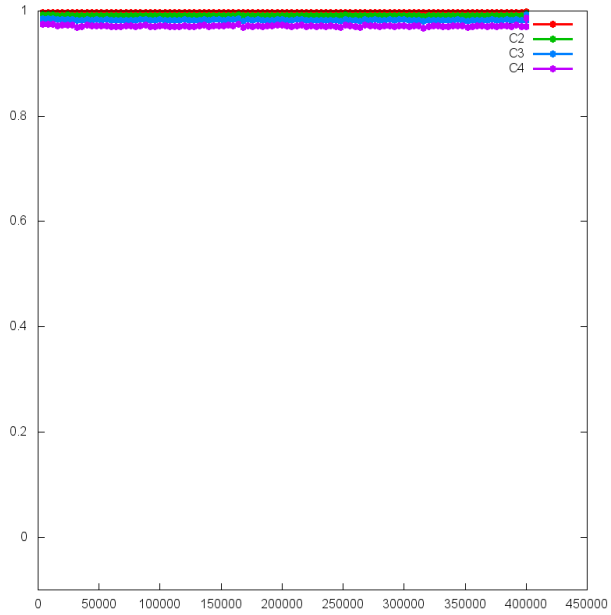


Figure 30: Rotational Relaxation

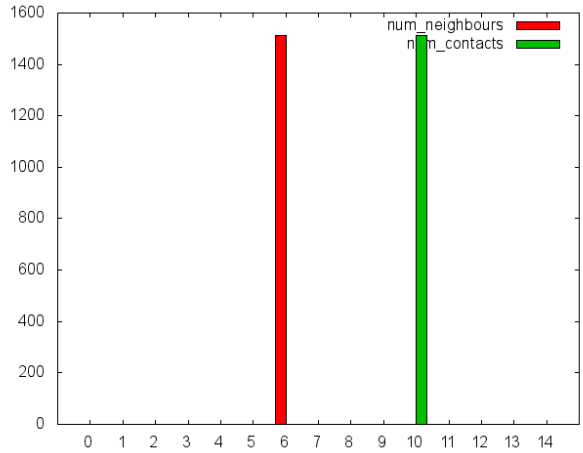


Figure 31: Contact Number

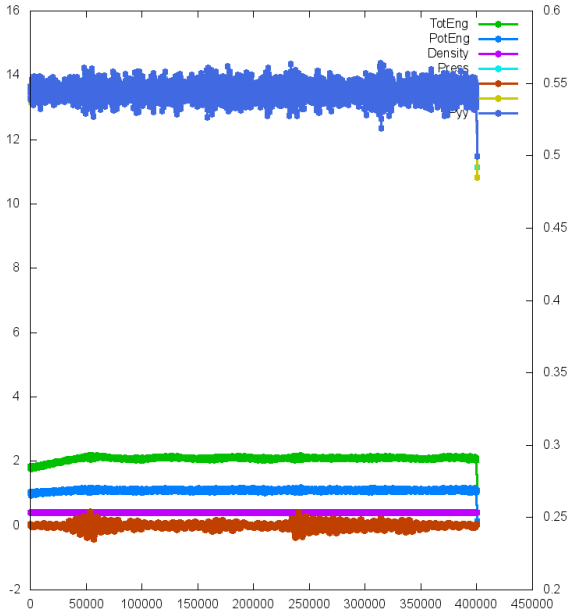
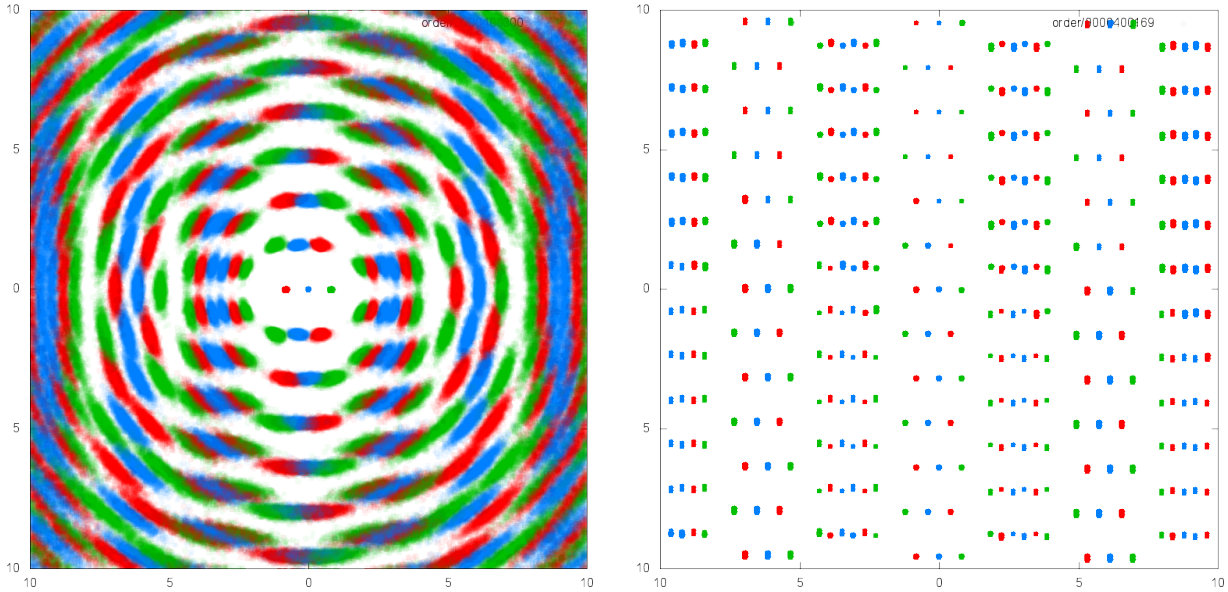


Figure 32: Properties

C1 Relaxation	0
C2 Relaxation	0
C3 Relaxation	0
C4 Relaxation	0
Diffusion Constant	0.0011
Average bond fraction	1.0020
Local Order	1.0000
Global Order	1.0000
Circle Order	1.0000
contacts	1.0000
neighbours	0.6000
pairing	0.1667
Density	0.4117
Total Energy	1.0941
Packing Fraction	0.9096

Table 4: Data

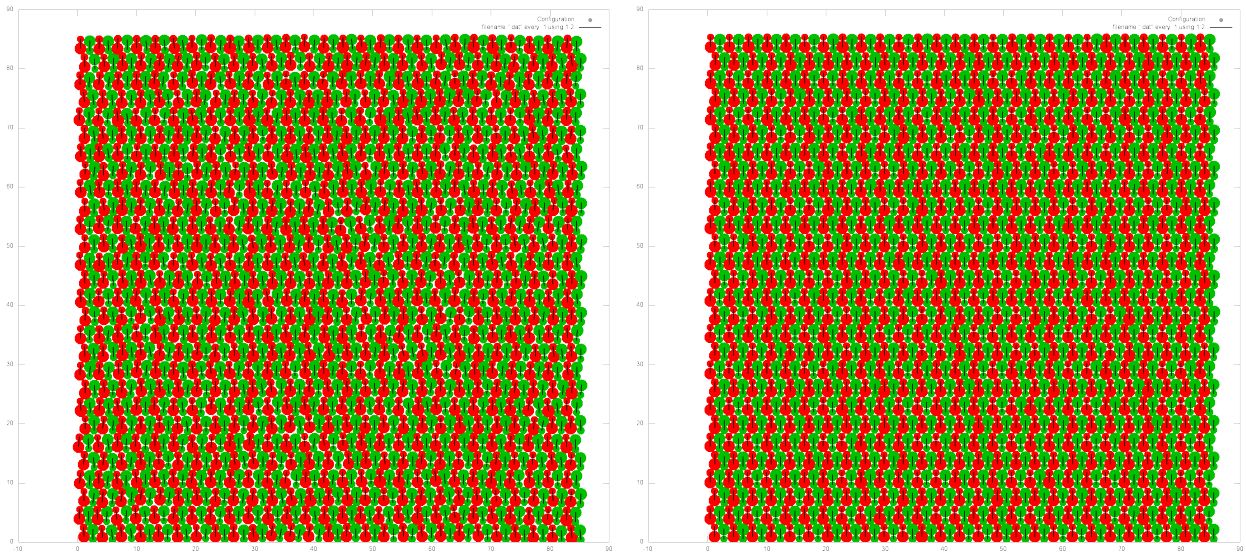
5 Snowman: Temp$= 1.3$, $r = 0.637556$, $d = 1.637556$, p2gg



(a) Pre minimisation

(b) Post CG minimisation

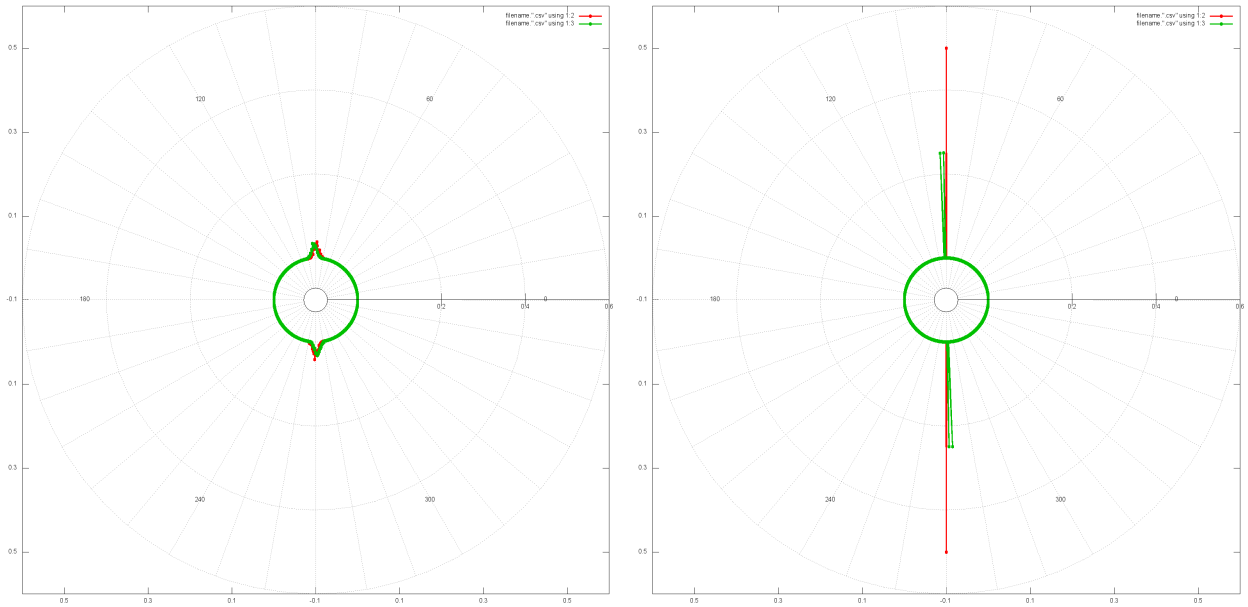
Figure 33: Order Parameter



(a) Initial Configuration

(b) Final Configuration

Figure 34: Configuration



(a) Initial Configuration (b) Final Configuration

Figure 35: Angle Distribution

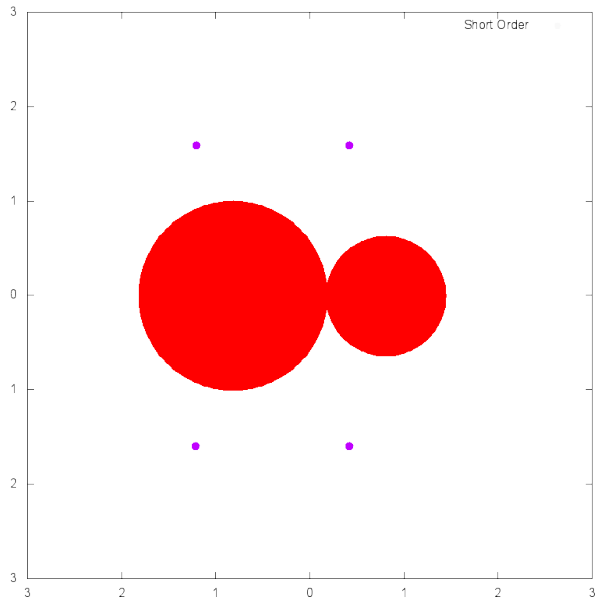


Figure 36: Short Range Ordering

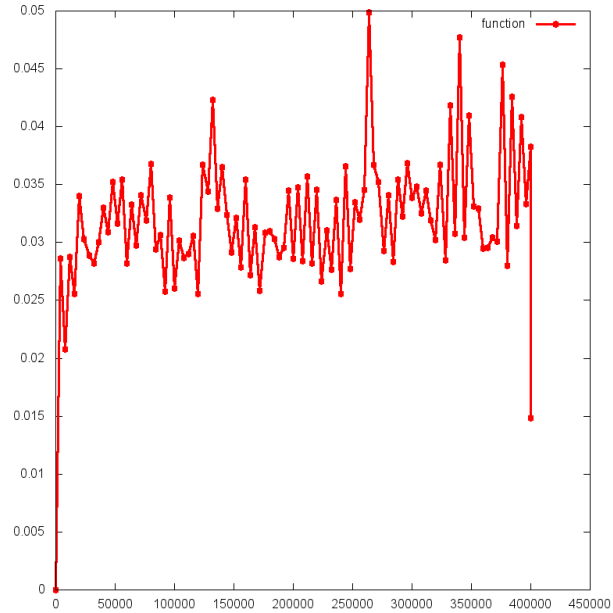


Figure 37: Mean Squared Displacement

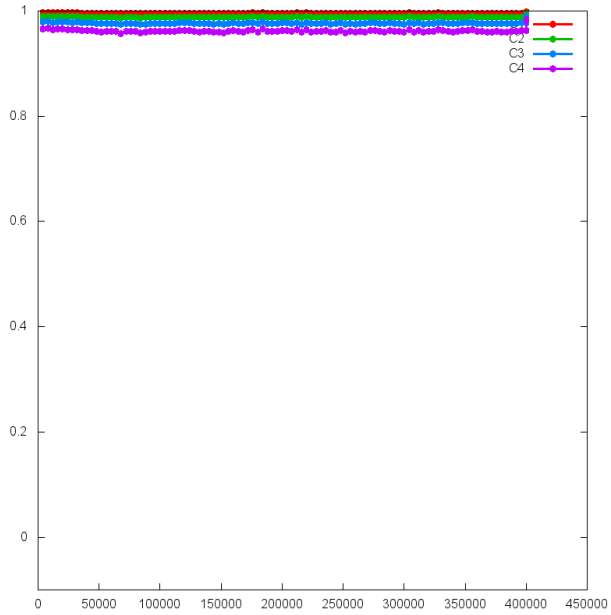


Figure 38: Rotational Relaxation

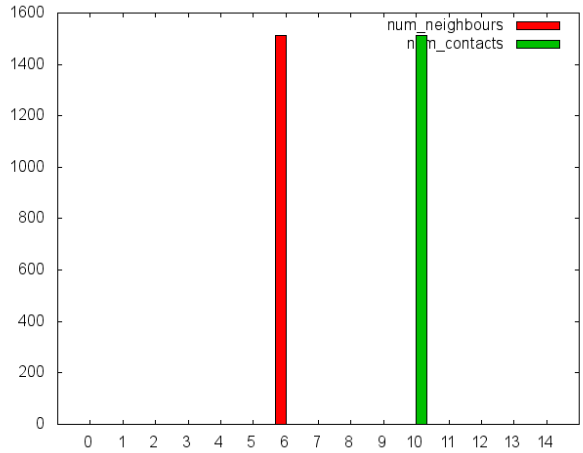


Figure 39: Contact Number

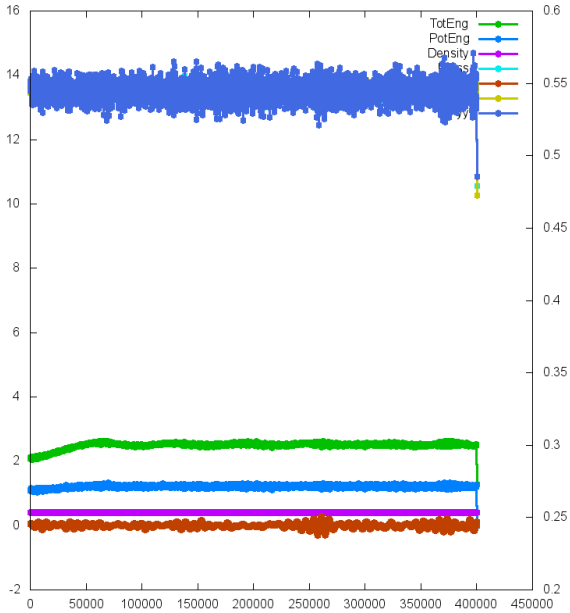
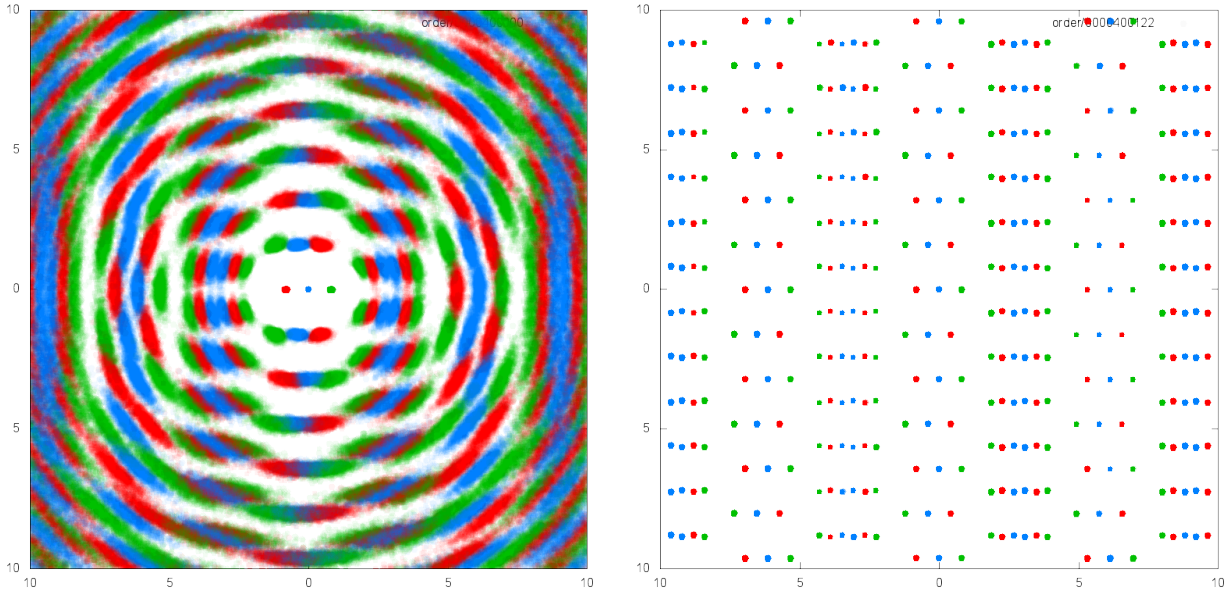


Figure 40: Properties

C1 Relaxation	0
C2 Relaxation	0
C3 Relaxation	0
C4 Relaxation	0
Diffusion Constant	0.0019
Average bond fraction	1.0049
Local Order	1.0000
Global Order	1.0000
Circle Order	1.0000
contacts	1.0000
neighbours	0.6000
pairing	0.1667
Density	0.4095
Total Energy	1.2753
Packing Fraction	0.9046

Table 5: Data

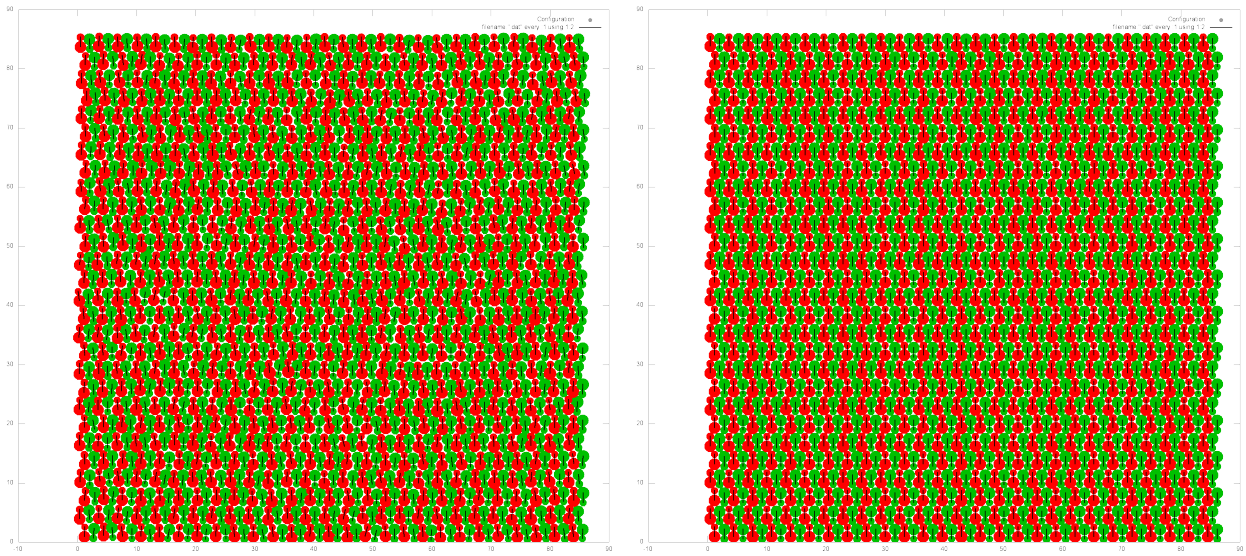
6 Snowman: Temp$= 1.6$, $r = 0.637556$, $d = 1.637556$, p2gg



(a) Pre minimisation

(b) Post CG minimisation

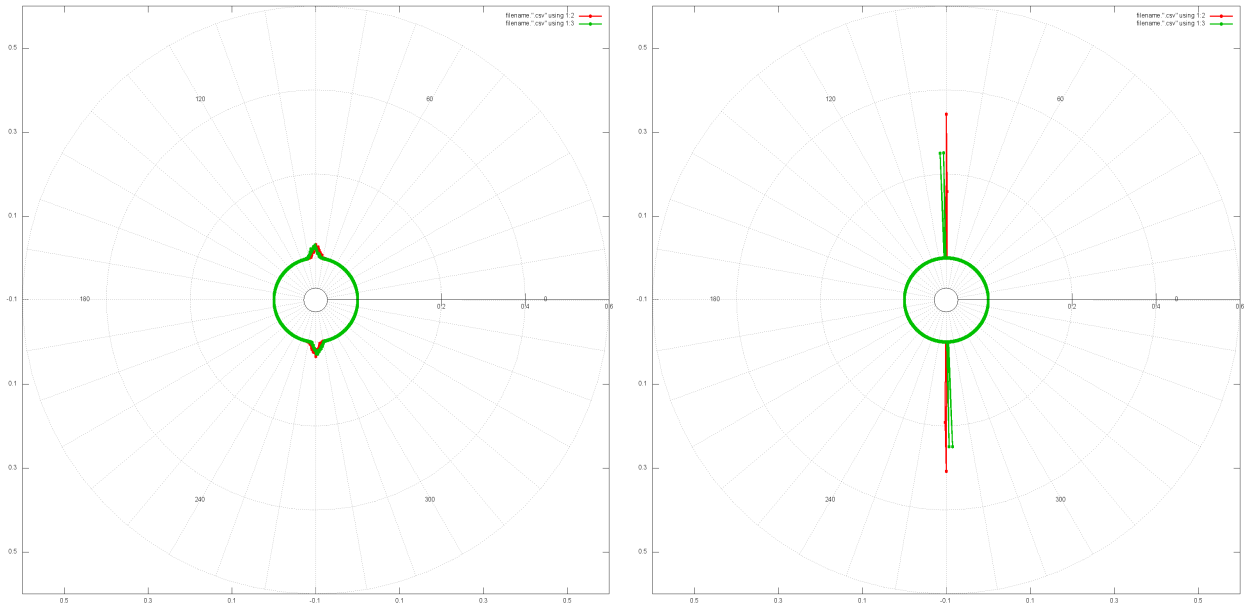
Figure 41: Order Parameter



(a) Initial Configuration

(b) Final Configuration

Figure 42: Configuration



(a) Initial Configuration (b) Final Configuration

Figure 43: Angle Distribution

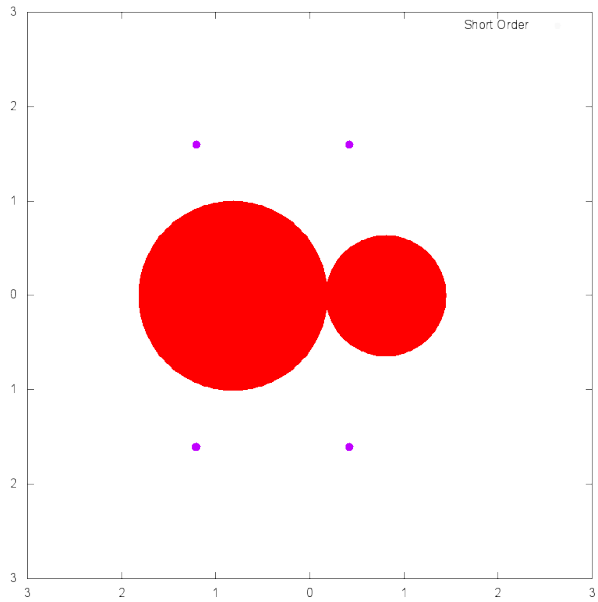


Figure 44: Short Range Ordering

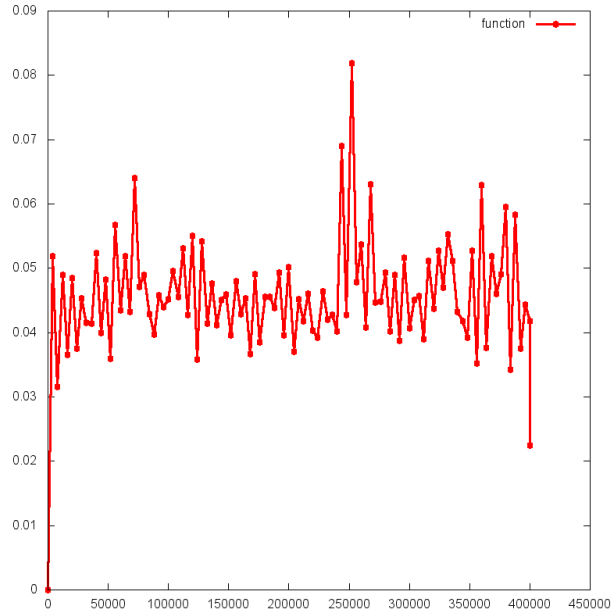


Figure 45: Mean Squared Displacement

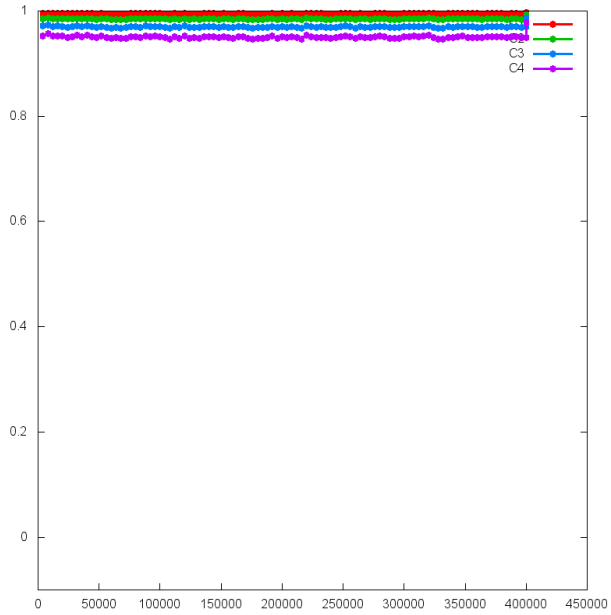


Figure 46: Rotational Relaxation

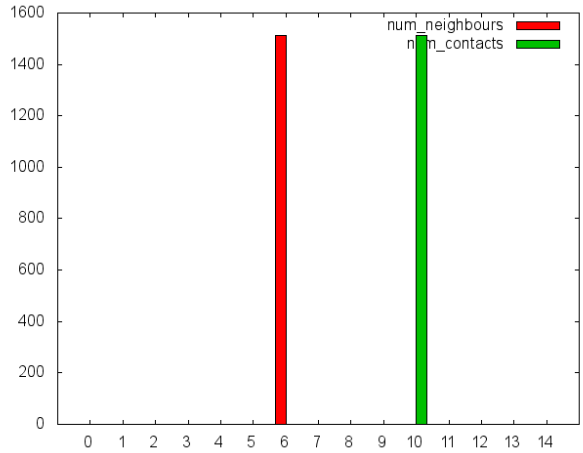


Figure 47: Contact Number

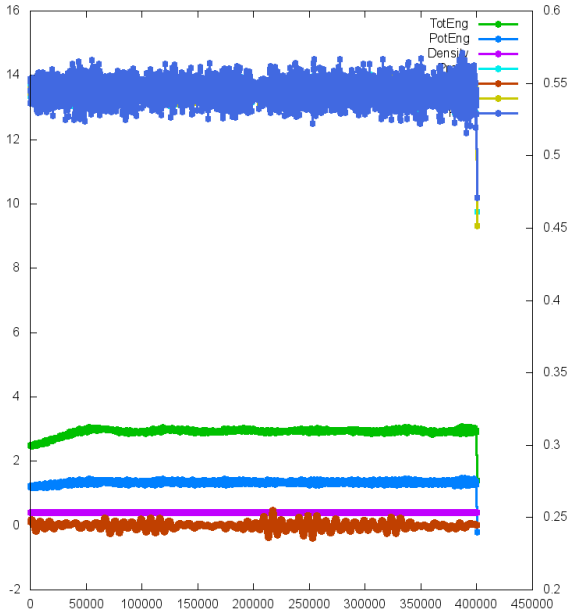
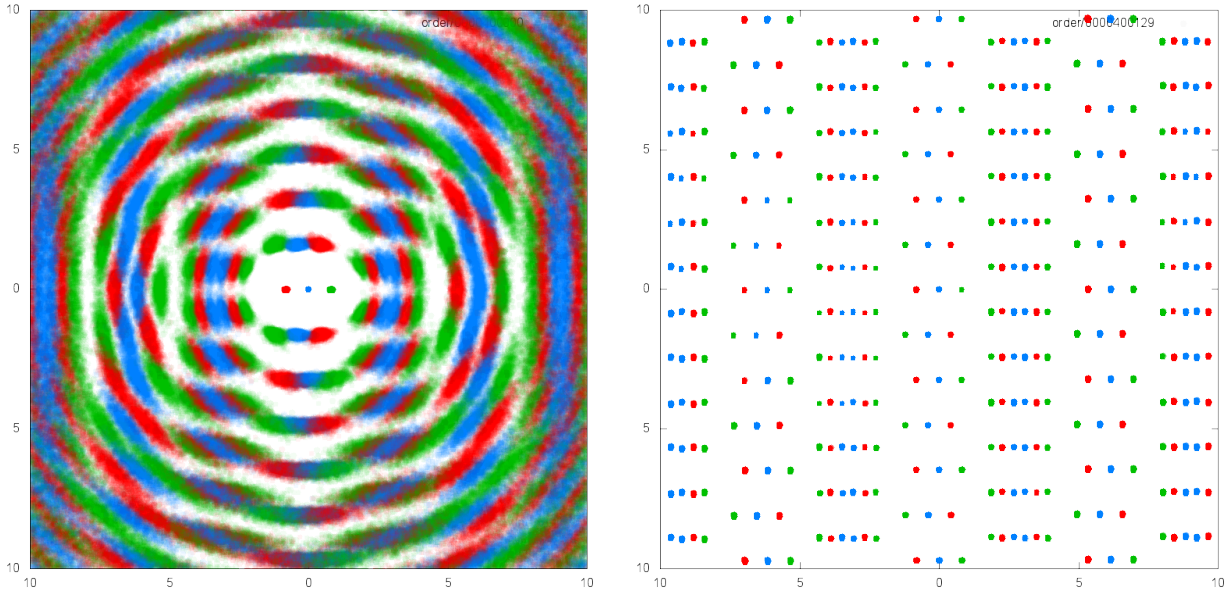


Figure 48: Properties

C1 Relaxation	0
C2 Relaxation	0
C3 Relaxation	0
C4 Relaxation	0
Diffusion Constant	0.0028
Average bond fraction	1.0090
Local Order	1.0000
Global Order	1.0000
Circle Order	1.0000
contacts	1.0000
neighbours	0.6000
pairing	0.1667
Density	0.4061
Total Energy	1.4028
Packing Fraction	0.8973

Table 6: Data

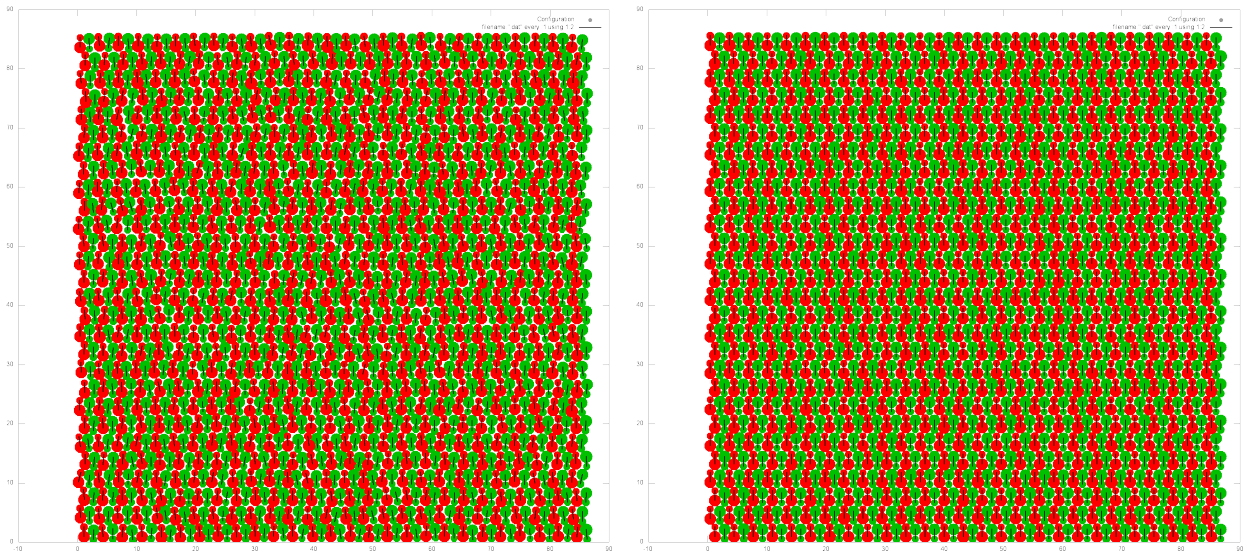
7 Snowman: Temp$= 2.0$, $r = 0.637556$, $d = 1.637556$, p2gg



(a) Pre minimisation

(b) Post CG minimisation

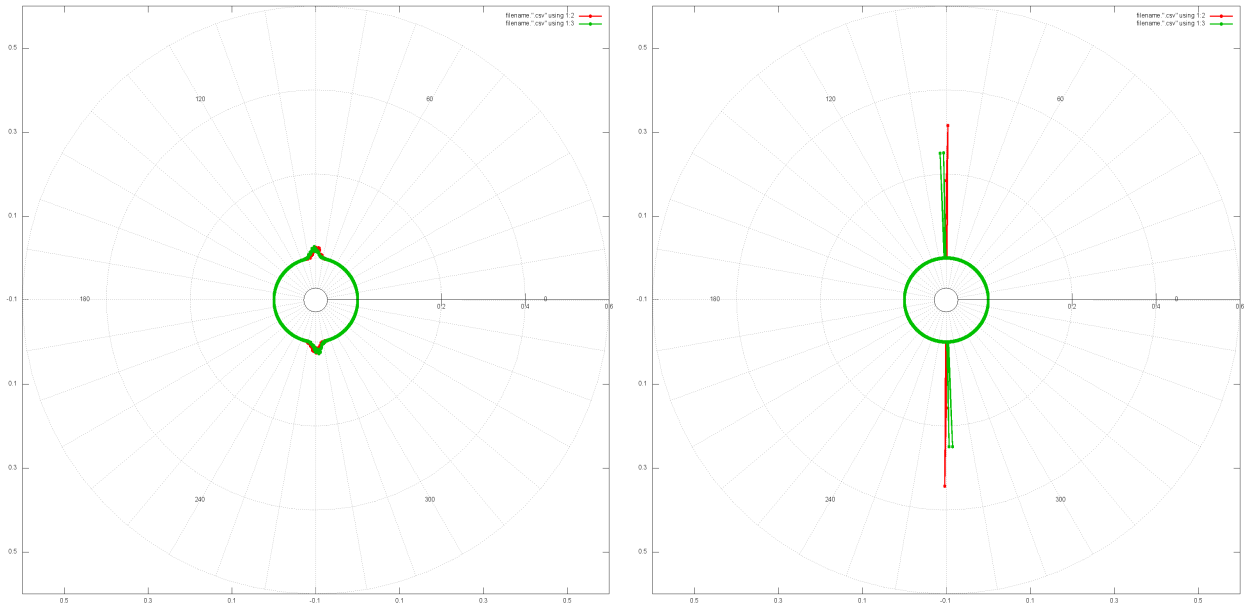
Figure 49: Order Parameter



(a) Initial Configuration

(b) Final Configuration

Figure 50: Configuration



(a) Initial Configuration (b) Final Configuration

Figure 51: Angle Distribution

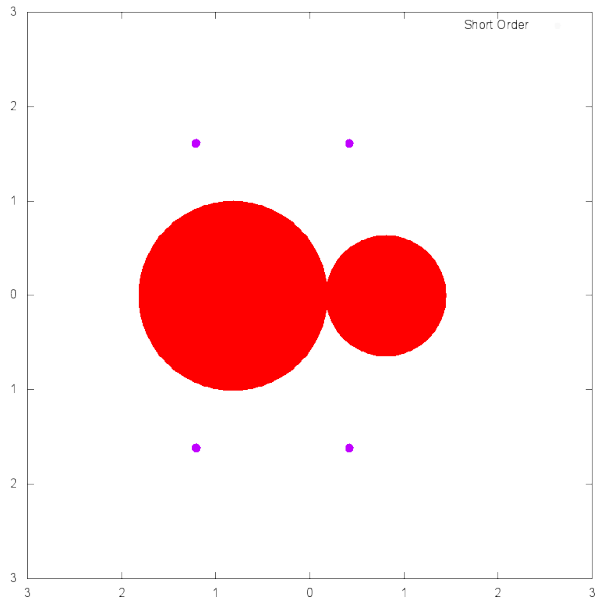


Figure 52: Short Range Ordering

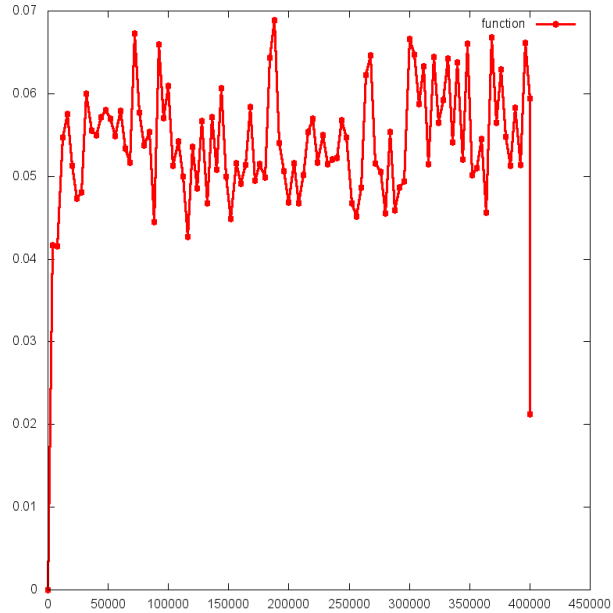


Figure 53: Mean Squared Displacement

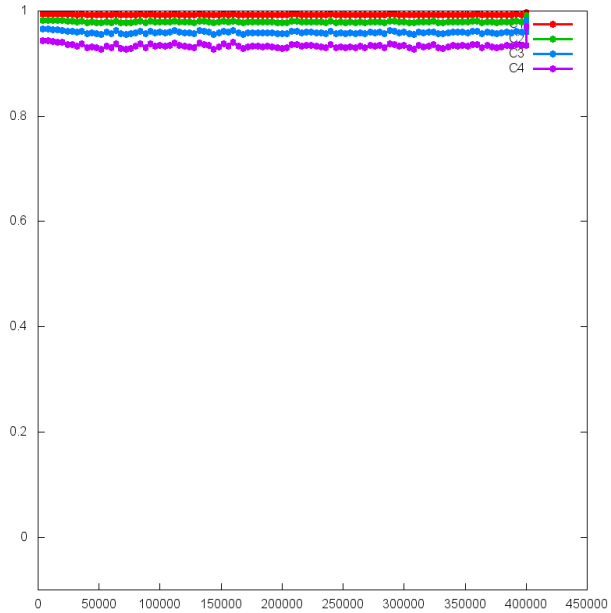


Figure 54: Rotational Relaxation

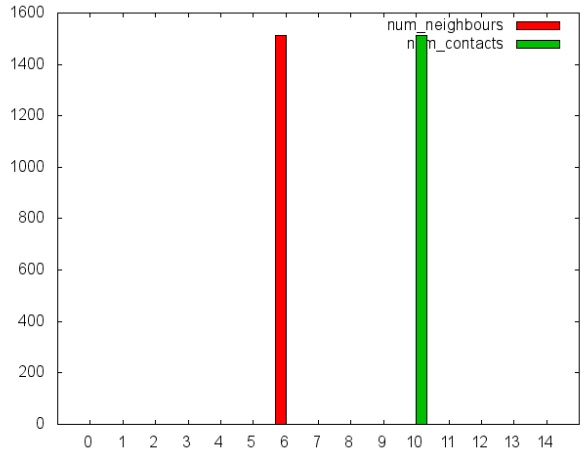


Figure 55: Contact Number

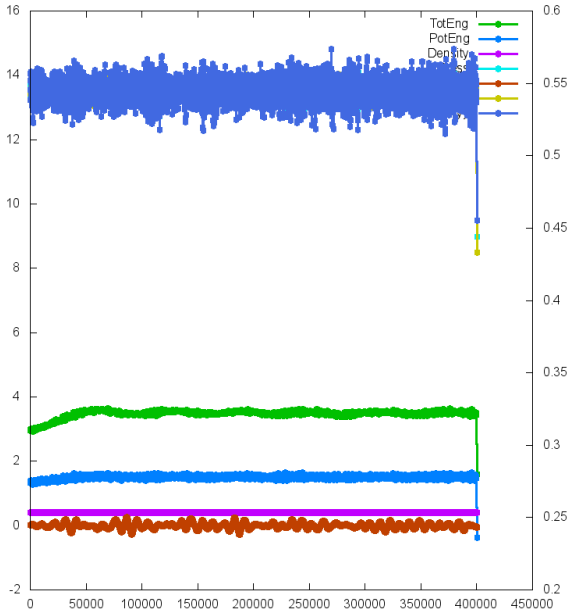
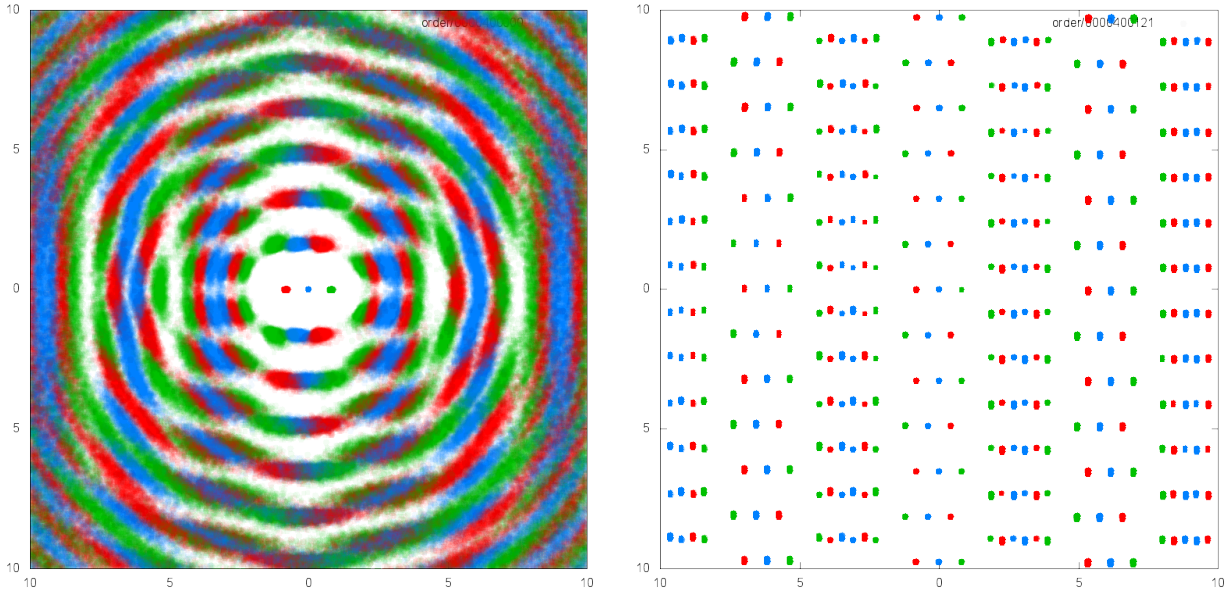


Figure 56: Properties

C1 Relaxation	0
C2 Relaxation	0
C3 Relaxation	0
C4 Relaxation	0
Diffusion Constant	0.0027
Average bond fraction	1.0132
Local Order	1.0000
Global Order	1.0000
Circle Order	1.0000
contacts	1.0000
neighbours	0.6000
pairing	0.1667
Density	0.4028
Total Energy	1.5919
Packing Fraction	0.8899

Table 7: Data

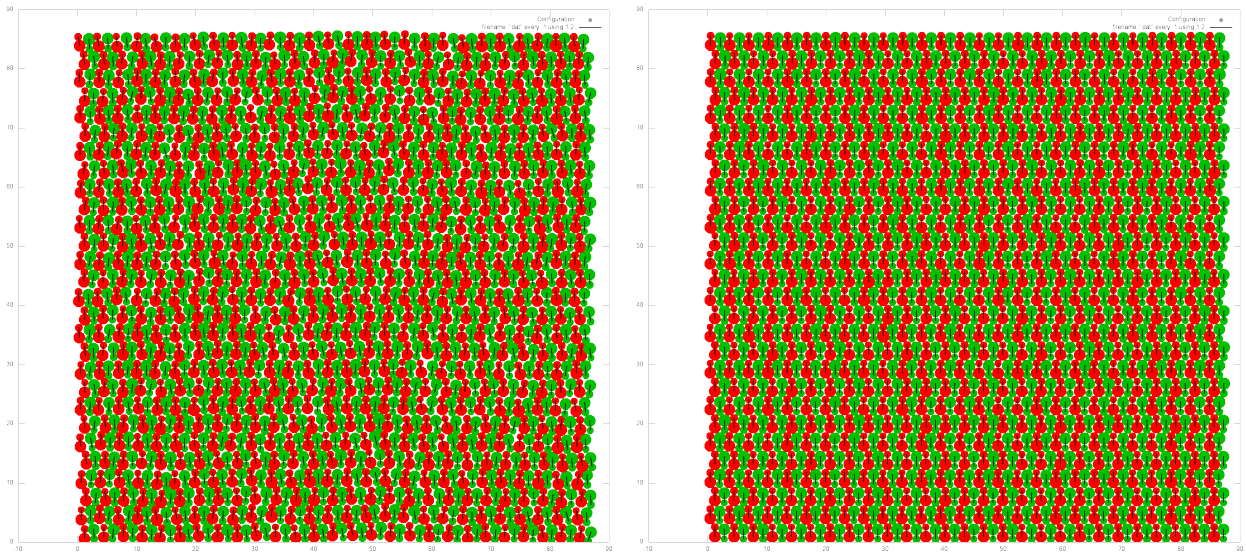
8 Snowman: Temp$= 2.3$, $r = 0.637556$, $d = 1.637556$, p2gg



(a) Pre minimisation

(b) Post CG minimisation

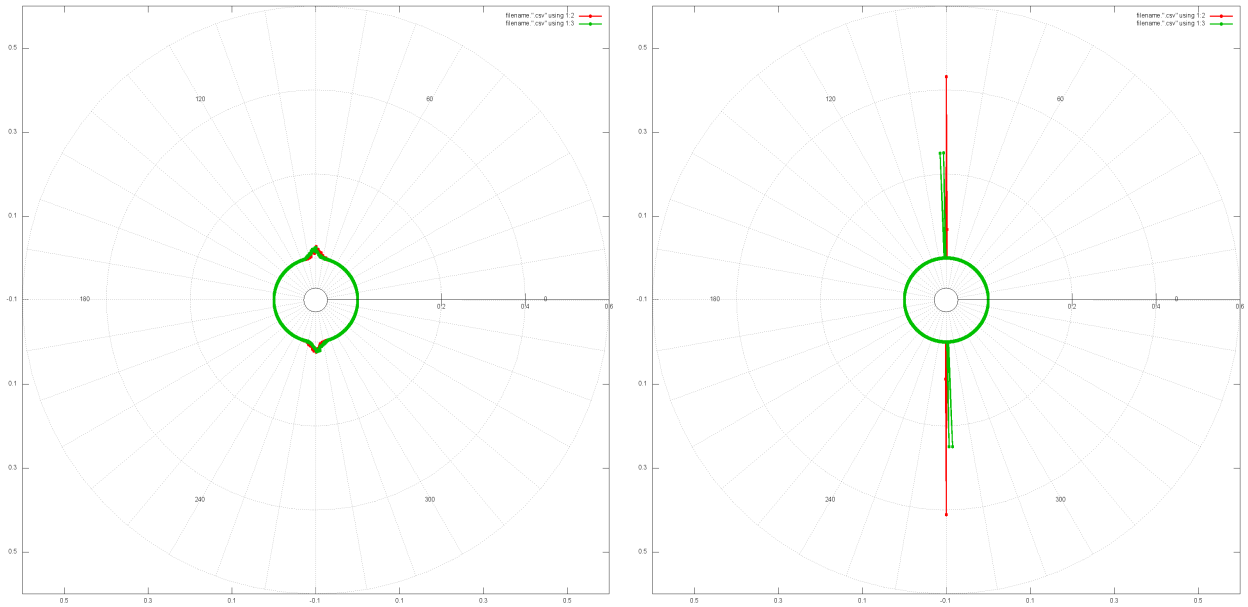
Figure 57: Order Parameter



(a) Initial Configuration

(b) Final Configuration

Figure 58: Configuration



(a) Initial Configuration (b) Final Configuration

Figure 59: Angle Distribution

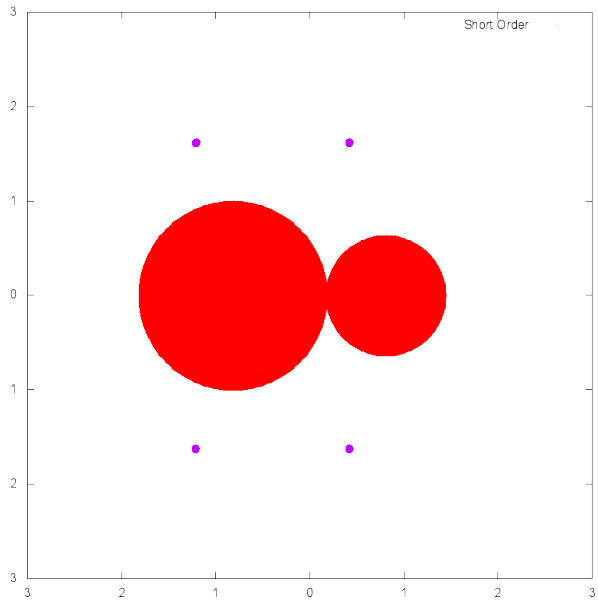


Figure 60: Short Range Ordering

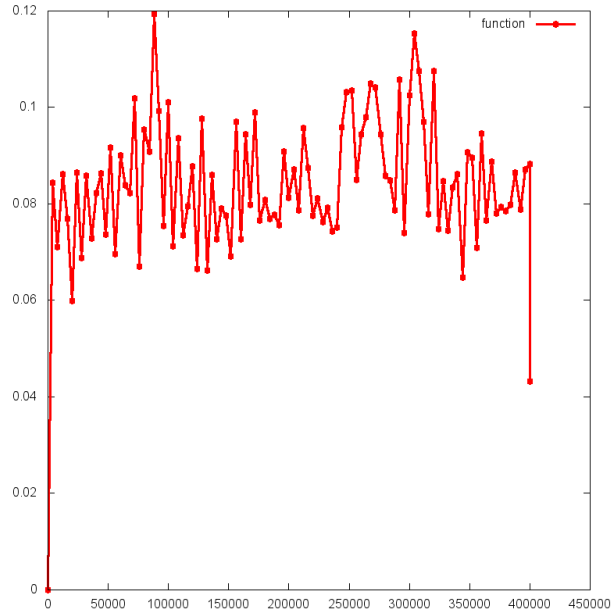


Figure 61: Mean Squared Displacement

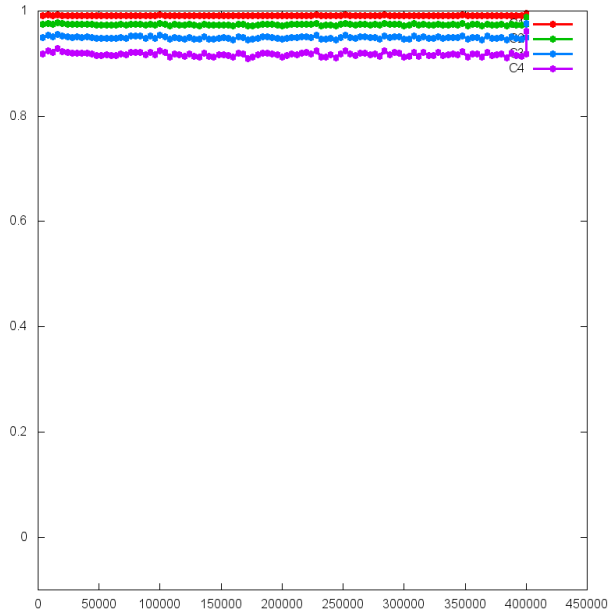


Figure 62: Rotational Relaxation

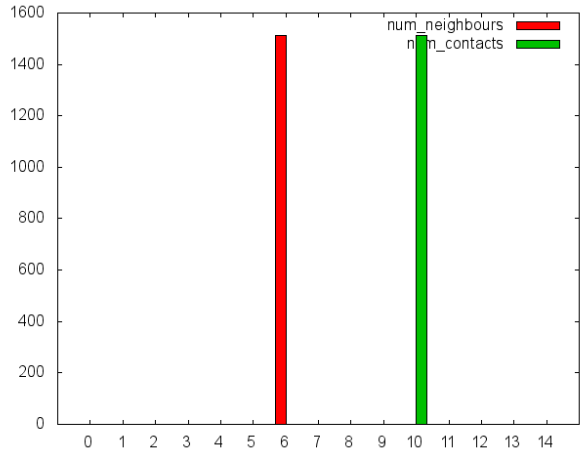


Figure 63: Contact Number

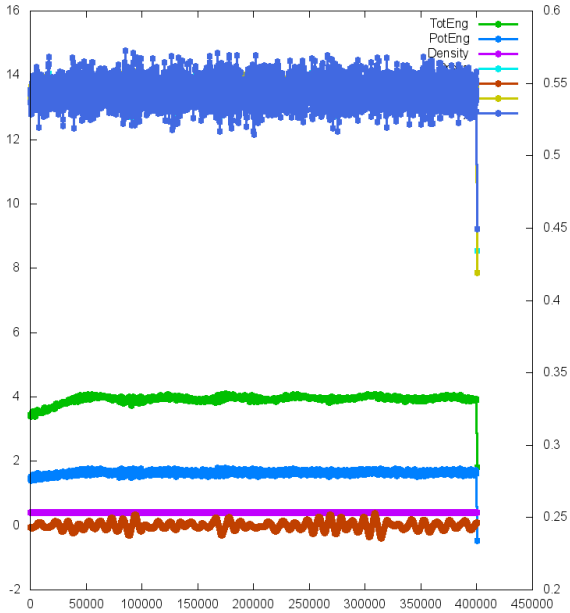
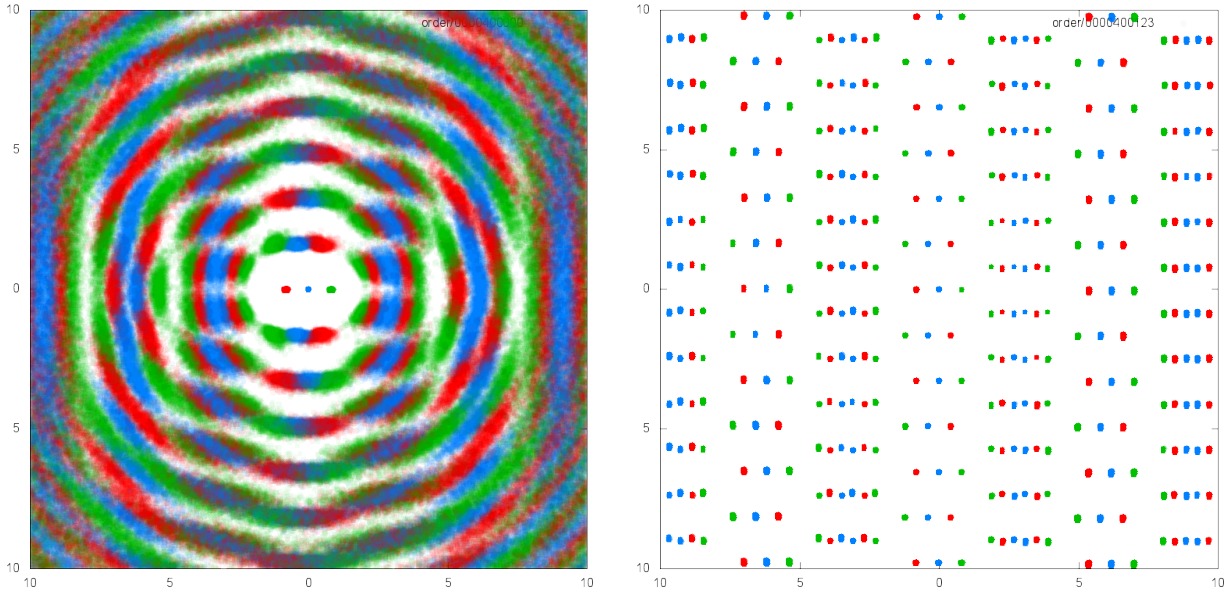


Figure 64: Properties

C1 Relaxation	0
C2 Relaxation	0
C3 Relaxation	0
C4 Relaxation	0
Diffusion Constant	0.0054
Average bond fraction	1.0165
Local Order	1.0000
Global Order	1.0000
Circle Order	1.0000
contacts	1.0000
neighbours	0.6000
pairing	0.1667
Density	0.4003
Total Energy	1.8201
Packing Fraction	0.8843

Table 8: Data

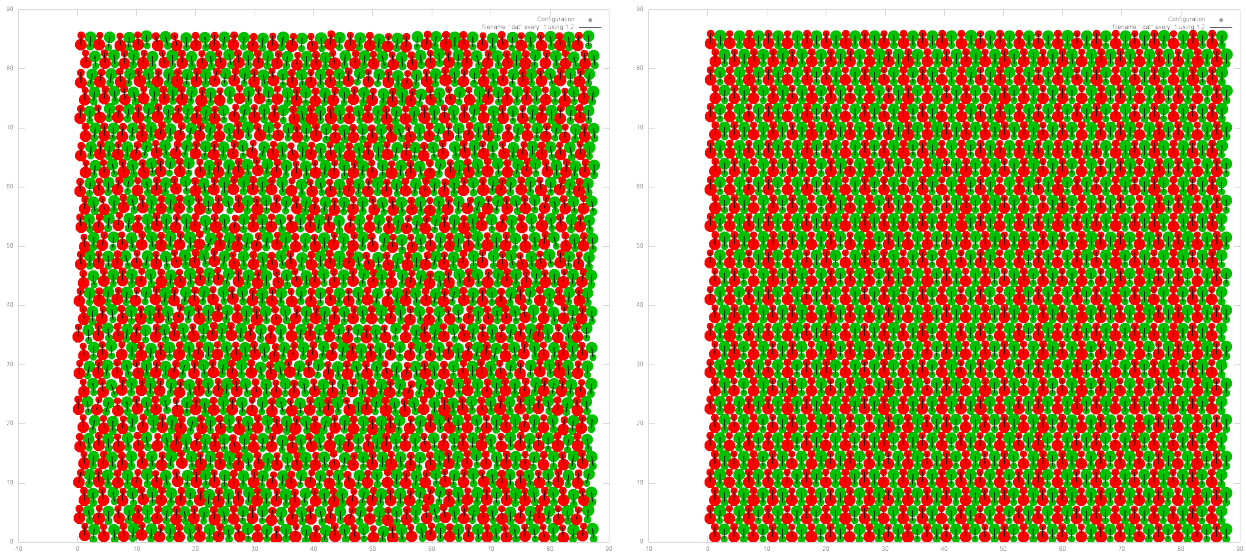
9 Snowman: Temp$= 2.6$, $r = 0.637556$, $d = 1.637556$, p2gg



(a) Pre minimisation

(b) Post CG minimisation

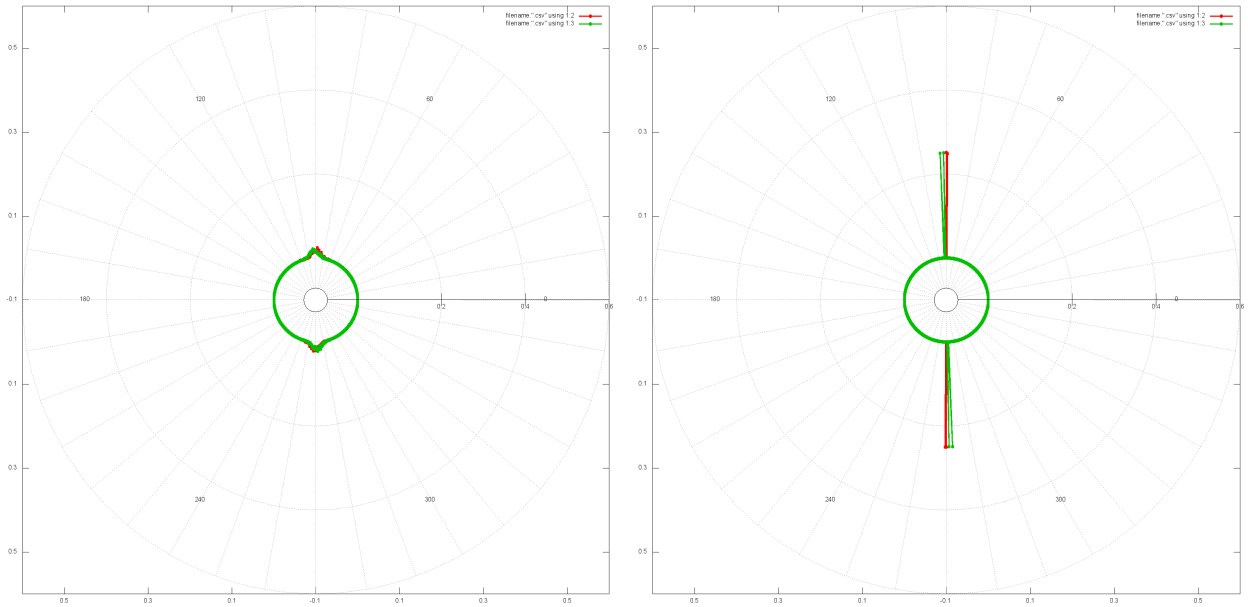
Figure 65: Order Parameter



(a) Initial Configuration

(b) Final Configuration

Figure 66: Configuration



(a) Initial Configuration (b) Final Configuration

Figure 67: Angle Distribution

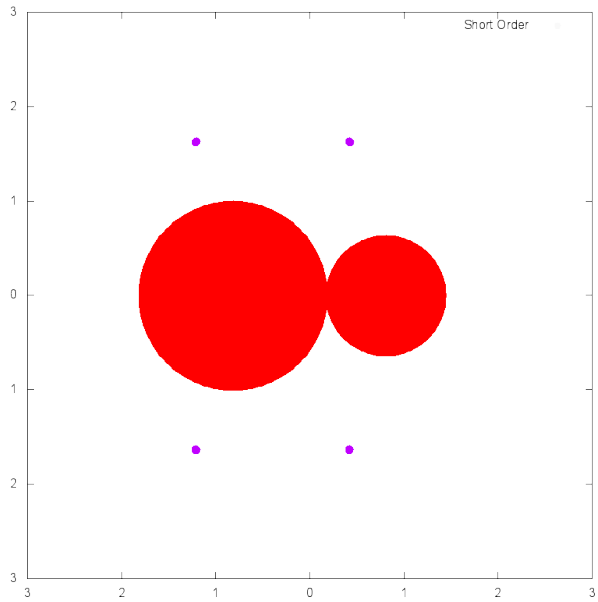


Figure 68: Short Range Ordering

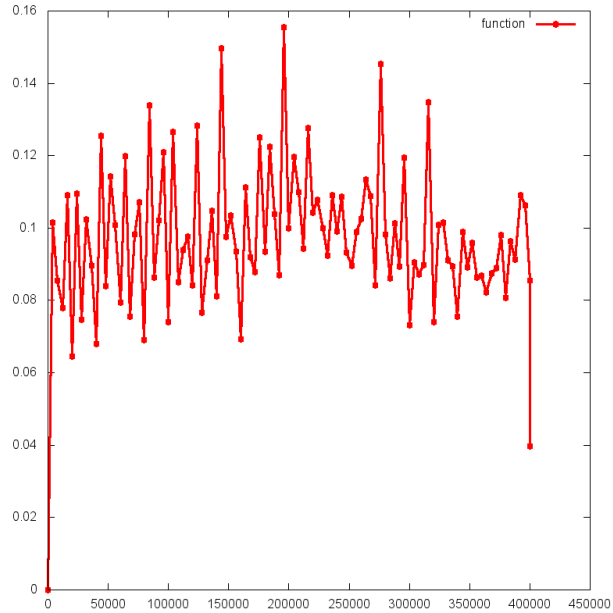


Figure 69: Mean Squared Displacement

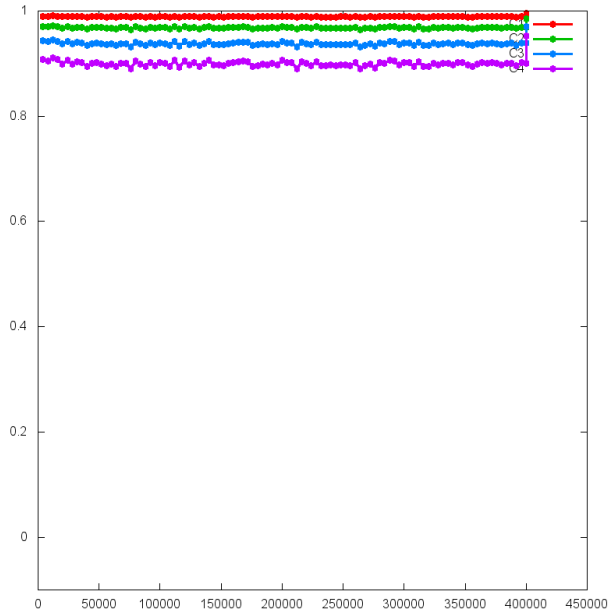


Figure 70: Rotational Relaxation

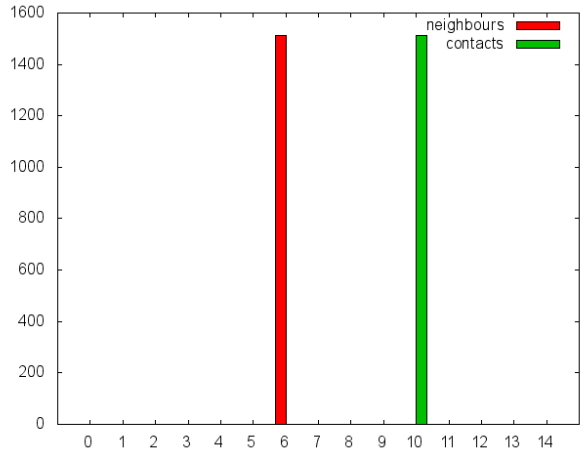


Figure 71: Contact Number

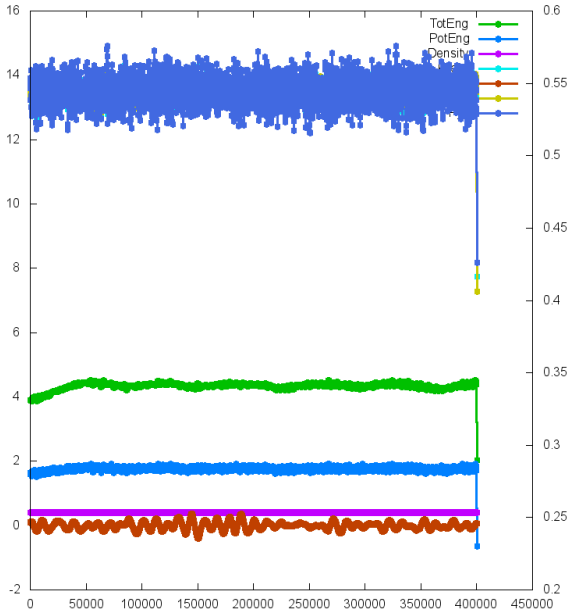
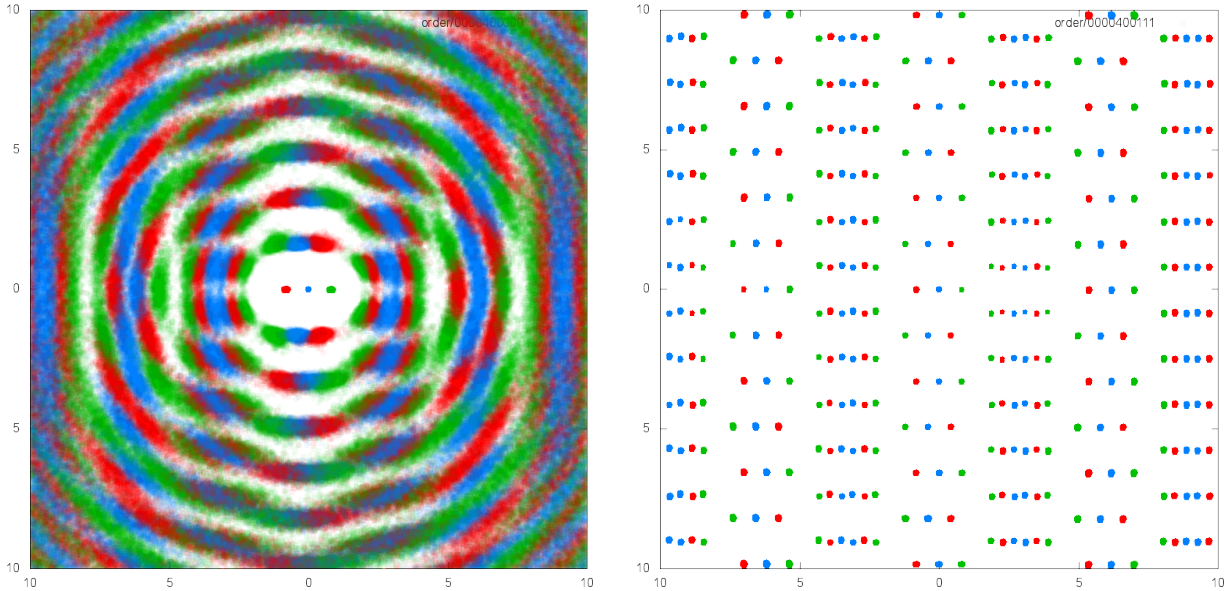


Figure 72: Properties

C1 Relaxation	0
C2 Relaxation	0
C3 Relaxation	0
C4 Relaxation	0
Diffusion Constant	0.0050
Average bond fraction	1.0211
Local Order	1.0000
Global Order	1.0000
Circle Order	1.0000
contacts	1.0000
neighbours	0.6000
pairing	0.1667
Density	0.3968
Total Energy	2.0314
Packing Fraction	0.8767

Table 9: Data

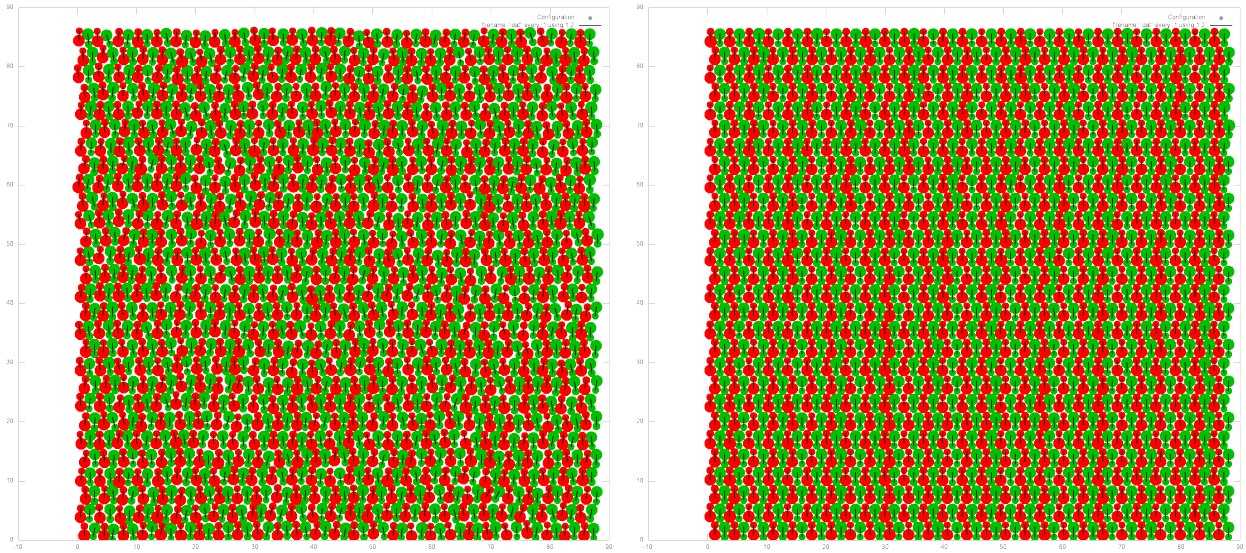
10 Snowman: Temp= 2.8, $r = 0.637556$, $d = 1.637556$, p2gg



(a) Pre minimisation

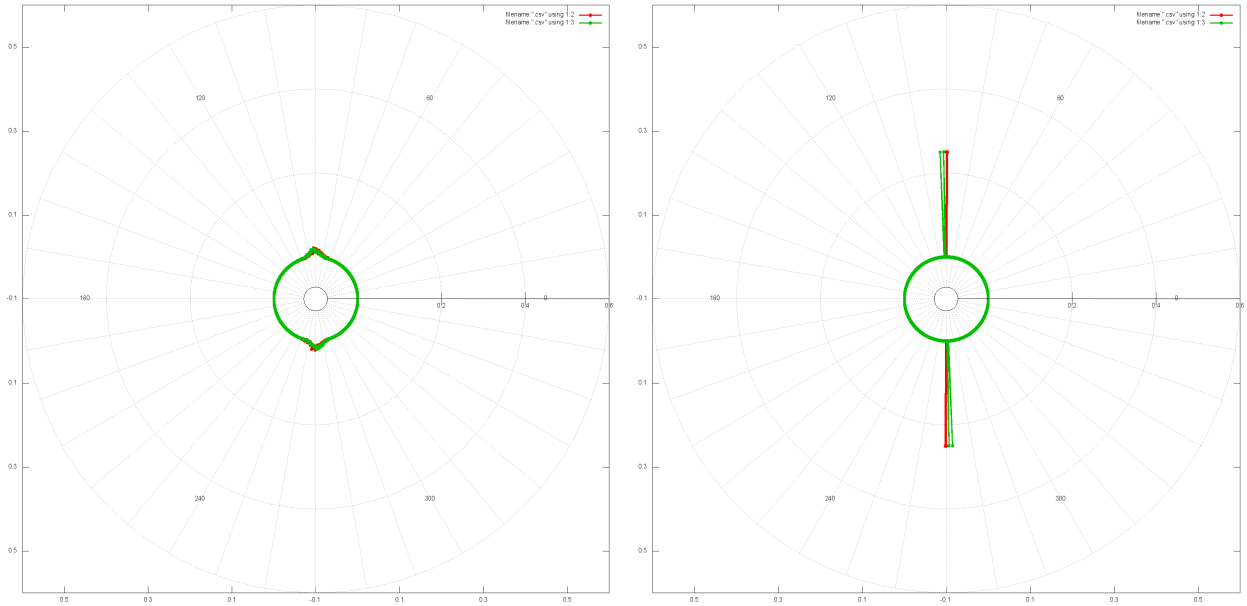
(b) Post CG minimisation

Figure 73: Order Parameter



(a) Initial Configuration (b) Final Configuration

Figure 74: Configuration



(a) Initial Configuration (b) Final Configuration

Figure 75: Angle Distribution

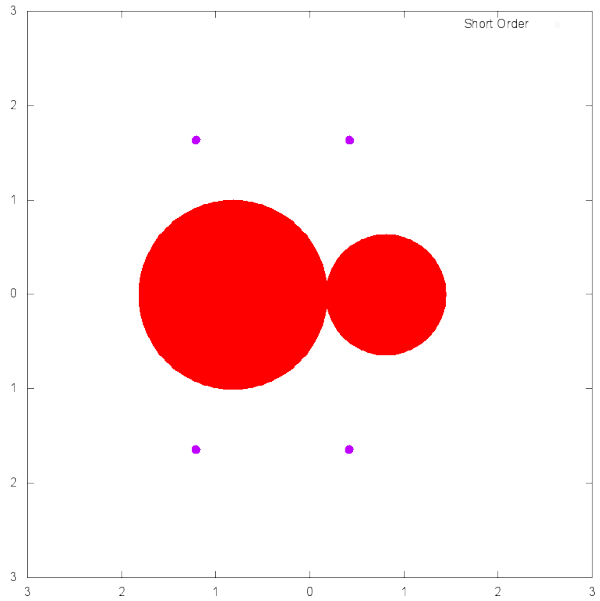


Figure 76: Short Range Ordering

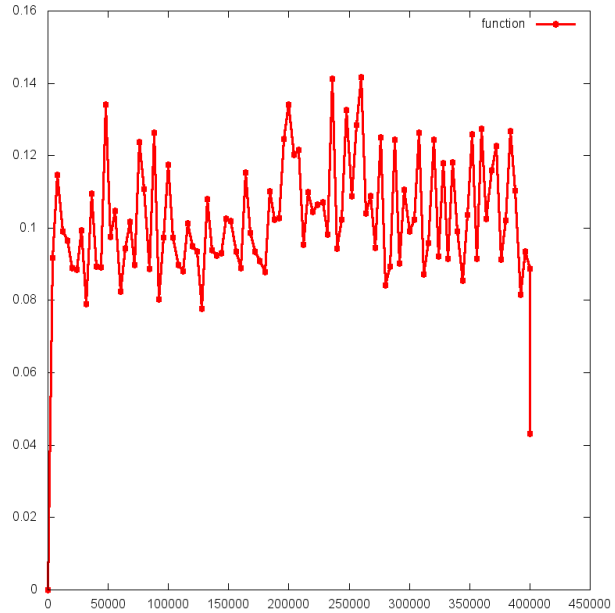


Figure 77: Mean Squared Displacement

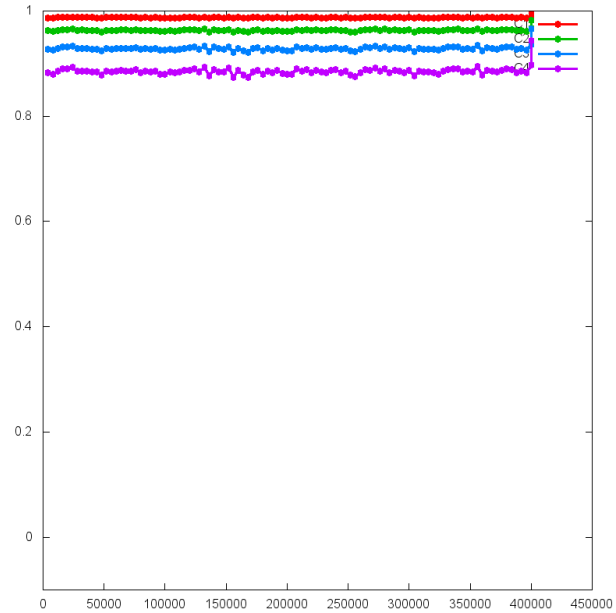


Figure 78: Rotational Relaxation

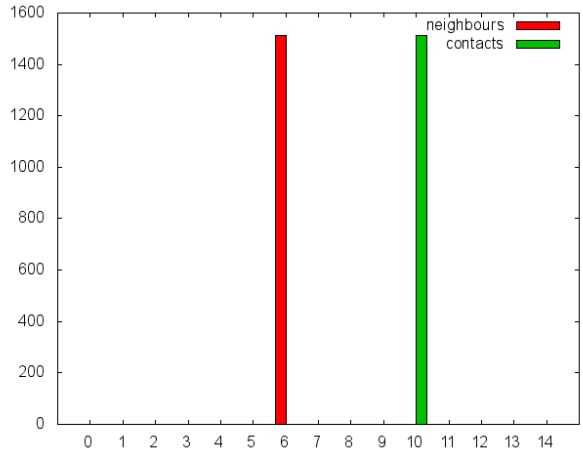


Figure 79: Contact Number

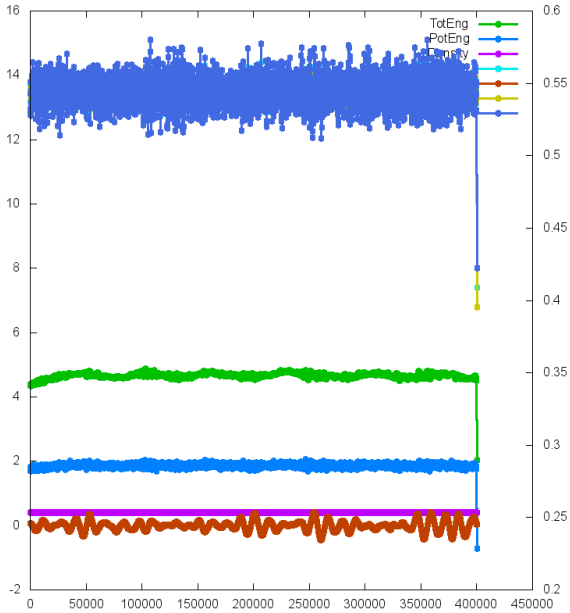
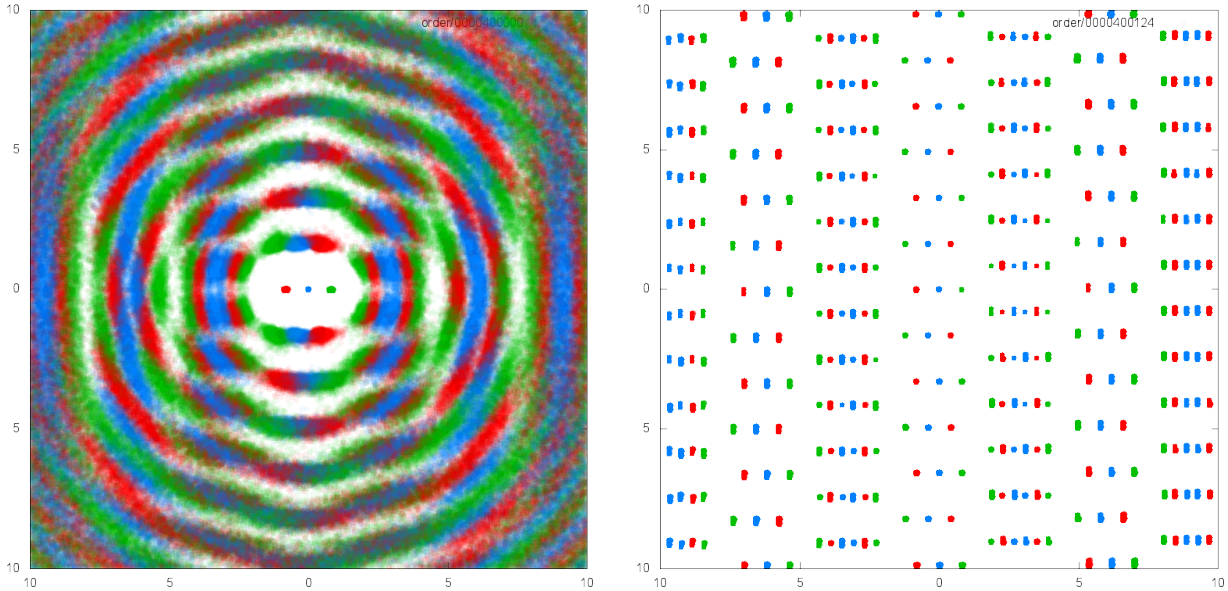


Figure 80: Properties

C1 Relaxation	0
C2 Relaxation	0
C3 Relaxation	0
C4 Relaxation	0
Diffusion Constant	0.0054
Average bond fraction	1.0235
Local Order	1.0000
Global Order	1.0000
Circle Order	1.0000
contacts	1.0000
neighbours	0.6000
pairing	0.1667
Density	0.3950
Total Energy	2.0312
Packing Fraction	0.8726

Table 10: Data

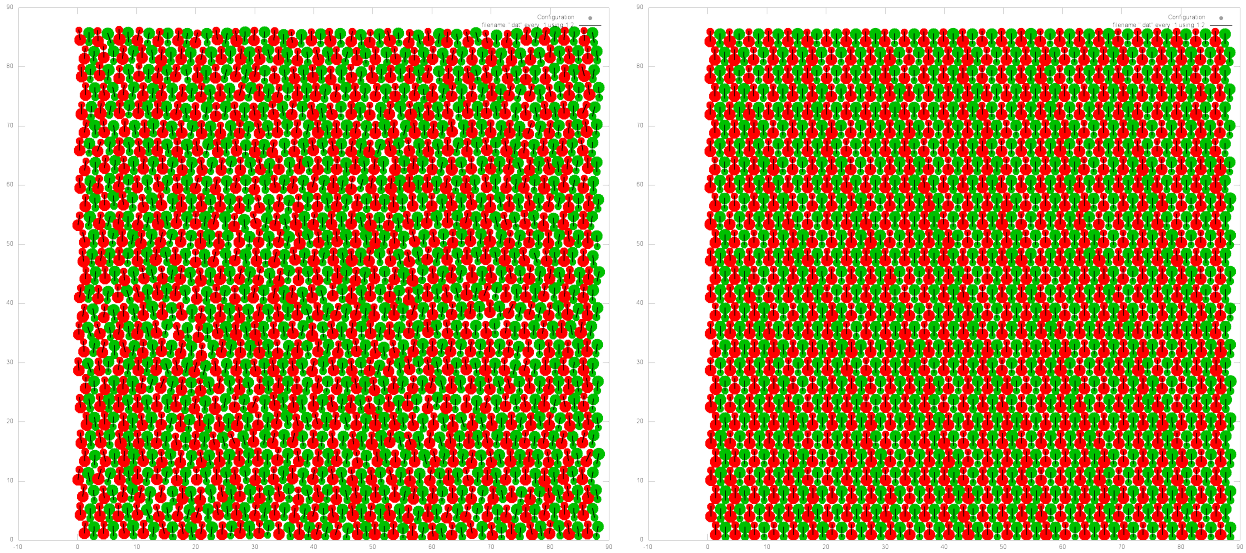
11 Snowman: Temp= 2.9, $r = 0.637556$, $d = 1.637556$, p2gg



(a) Pre minimisation

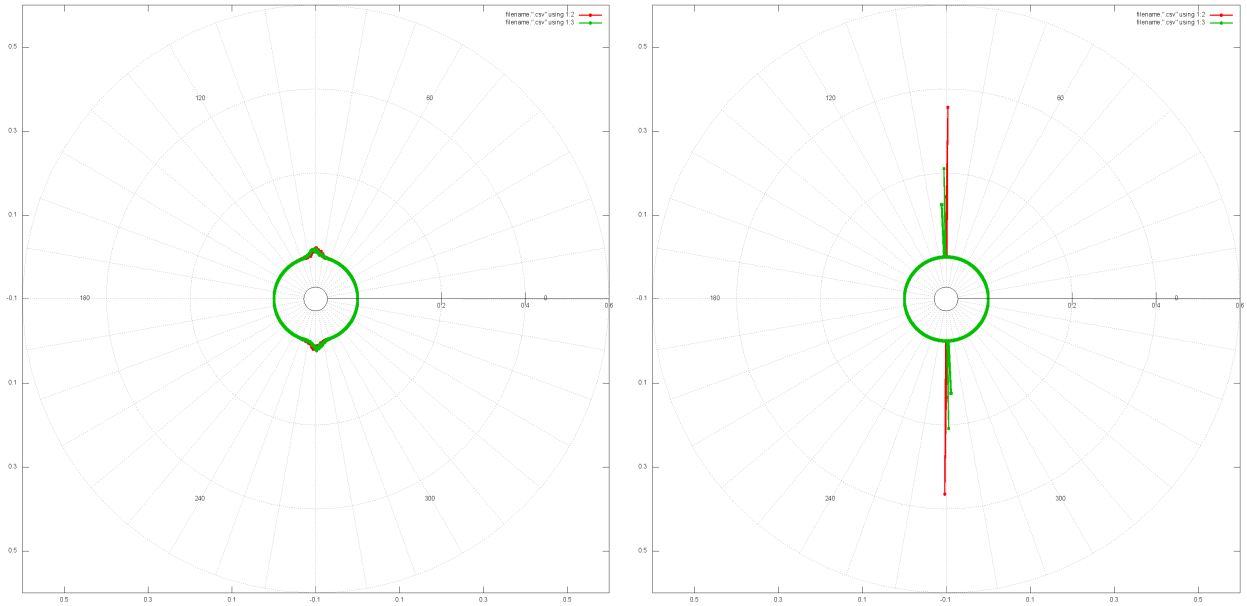
(b) Post CG minimisation

Figure 81: Order Parameter



(a) Initial Configuration (b) Final Configuration

Figure 82: Configuration



(a) Initial Configuration (b) Final Configuration

Figure 83: Angle Distribution

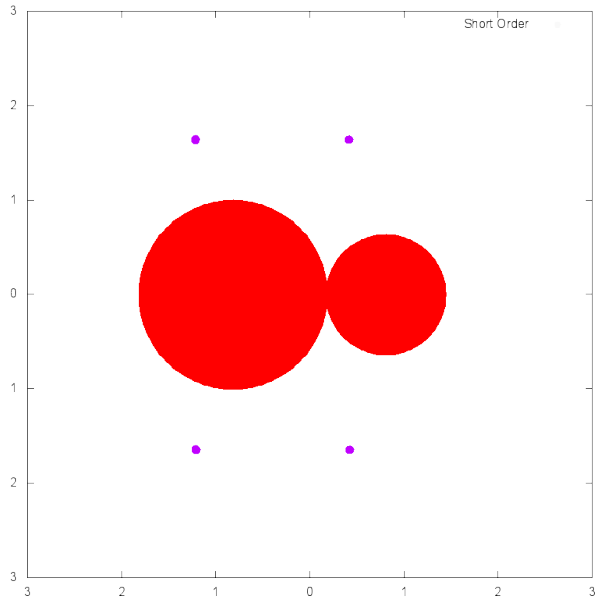


Figure 84: Short Range Ordering

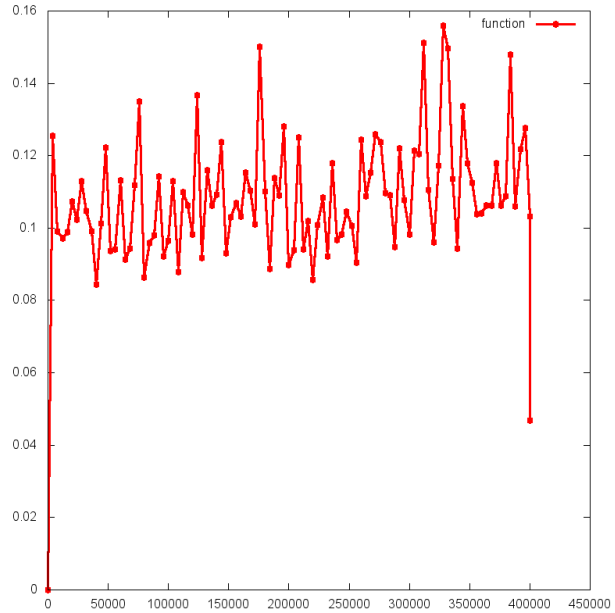


Figure 85: Mean Squared Displacement

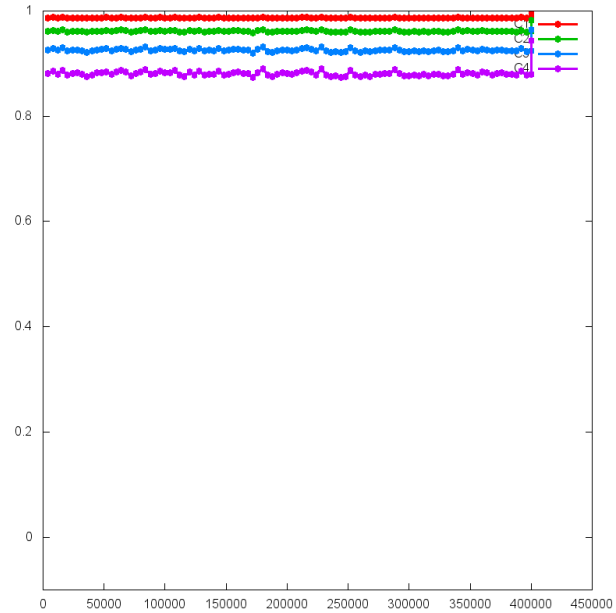


Figure 86: Rotational Relaxation

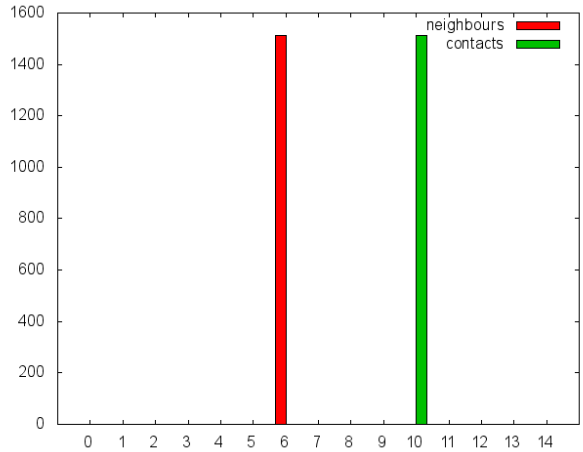


Figure 87: Contact Number

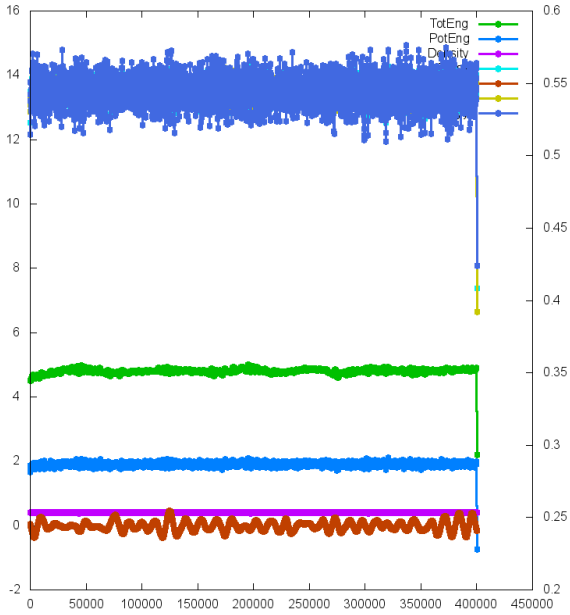
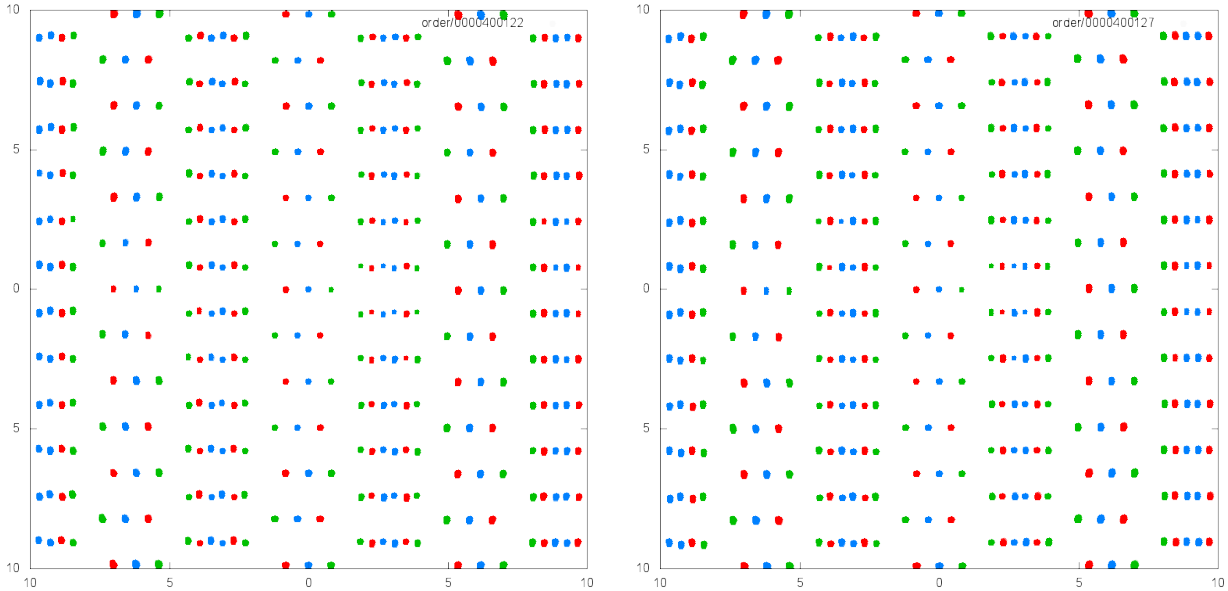


Figure 88: Properties

C1 Relaxation	0
C2 Relaxation	0
C3 Relaxation	0
C4 Relaxation	0
Diffusion Constant	0.0058
Average bond fraction	1.0244
Local Order	1.0000
Global Order	1.0000
Circle Order	1.0000
contacts	1.0000
neighbours	0.6000
pairing	0.1667
Density	0.3942
Total Energy	2.1981
Packing Fraction	0.8710

Table 11: Data

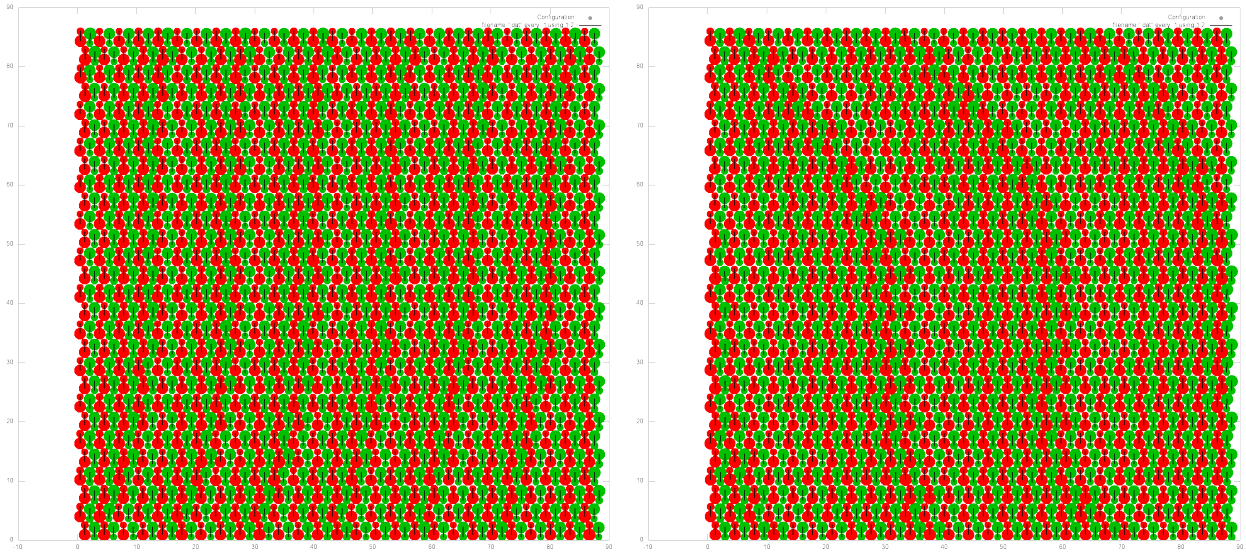
12 Snowman: Temp= 3.0, $r = 0.637556$, $d = 1.637556$, p2gg



(a) Pre minimisation

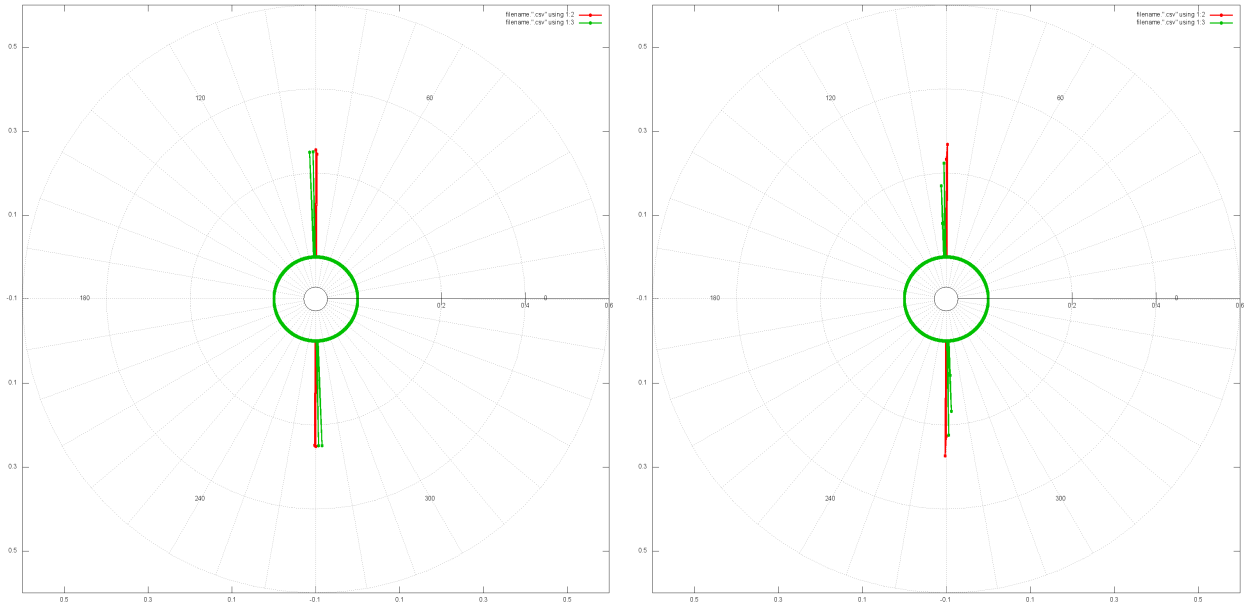
(b) Post CG minimisation

Figure 89: Order Parameter



(a) Initial Configuration (b) Final Configuration

Figure 90: Configuration



(a) Initial Configuration (b) Final Configuration

Figure 91: Angle Distribution

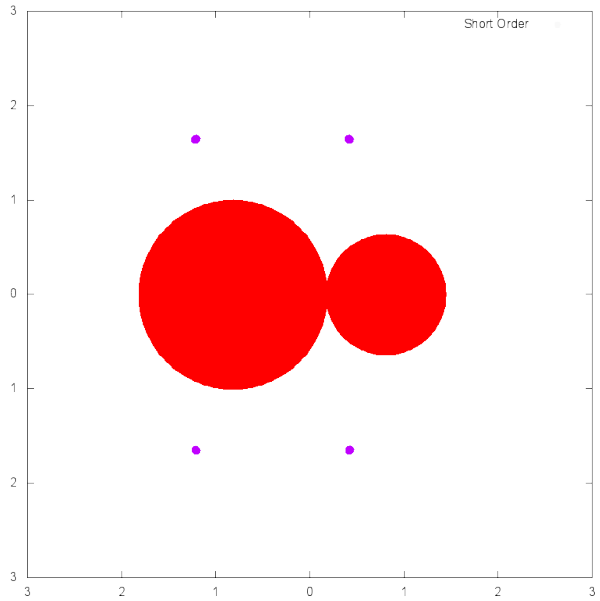


Figure 92: Short Range Ordering

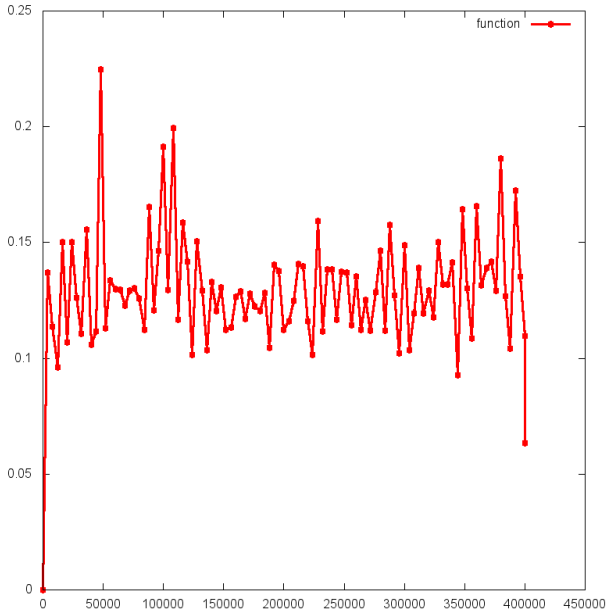


Figure 93: Mean Squared Displacement

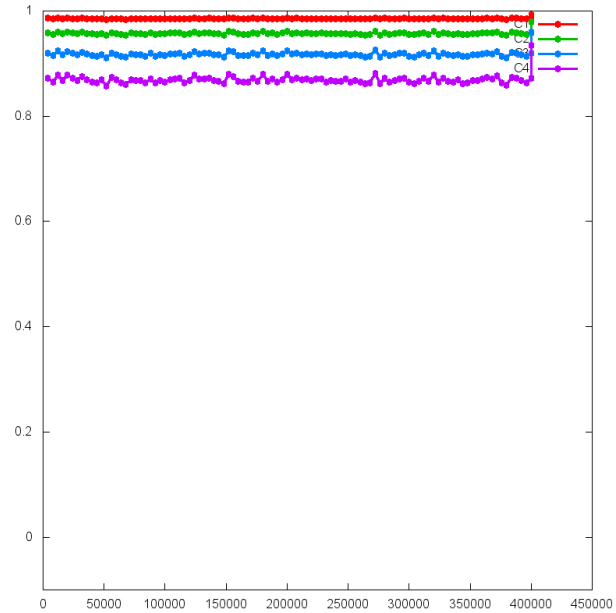


Figure 94: Rotational Relaxation

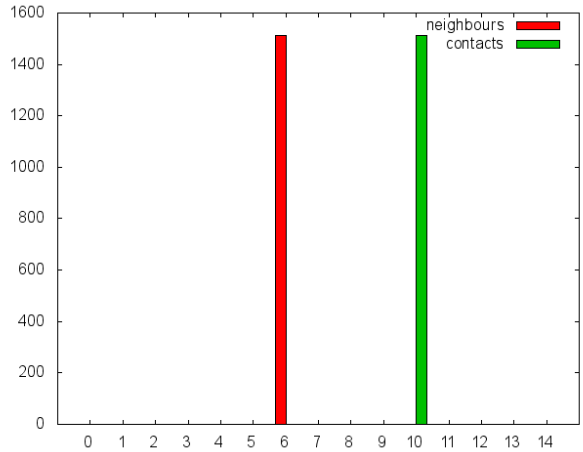


Figure 95: Contact Number

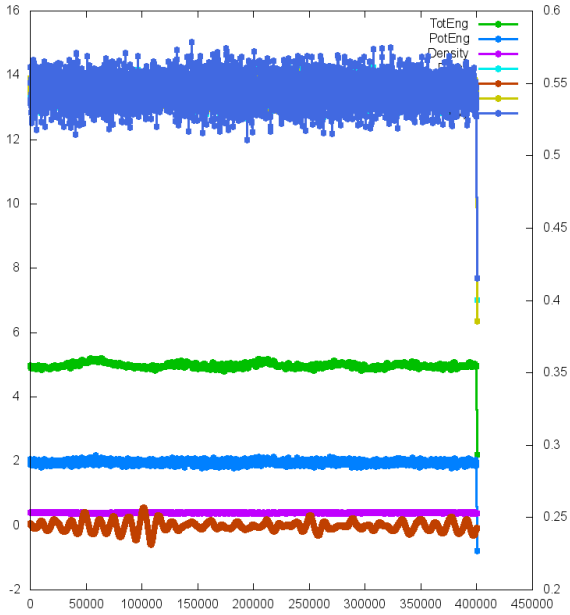
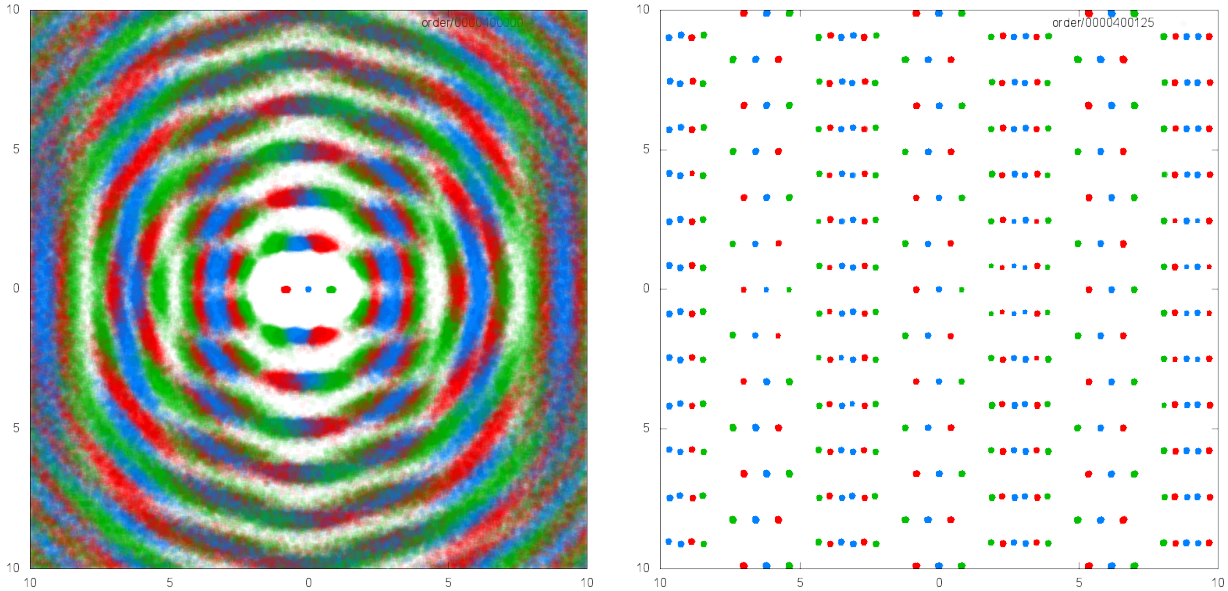


Figure 96: Properties

C1 Relaxation	0
C2 Relaxation	0
C3 Relaxation	0
C4 Relaxation	0
Diffusion Constant	0.0079
Average bond fraction	1.0266
Local Order	1.0000
Global Order	1.0000
Circle Order	1.0000
contacts	1.0000
neighbours	0.6000
pairing	0.1667
Density	0.3926
Total Energy	2.2137
Packing Fraction	0.8673

Table 12: Data

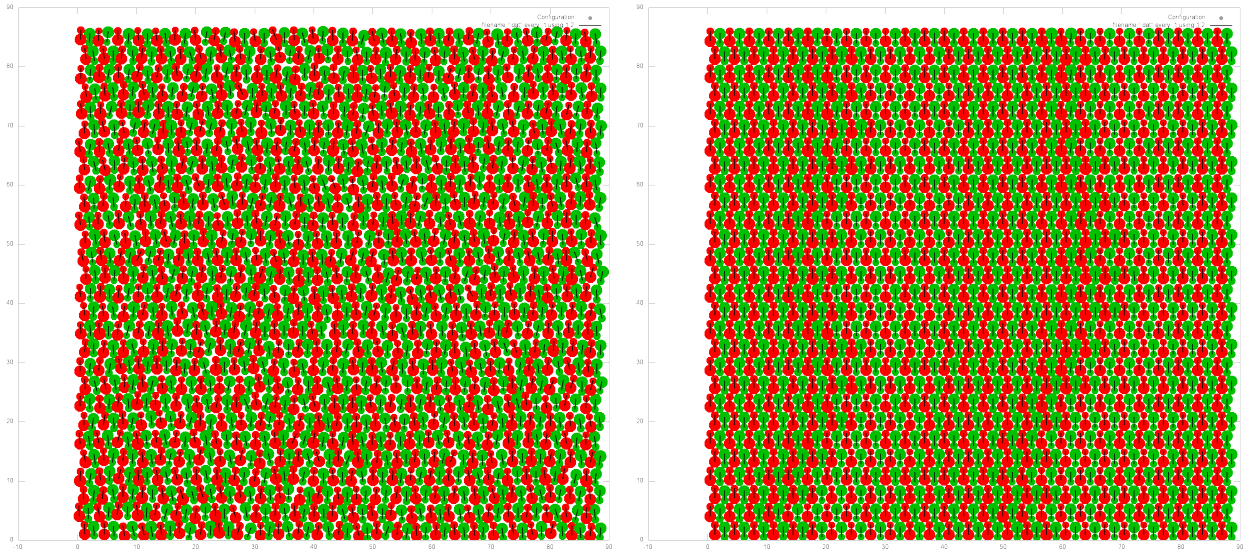
13 Snowman: Temp= 3.05, $r = 0.637556$, $d = 1.637556$, p2gg



(a) Pre minimisation

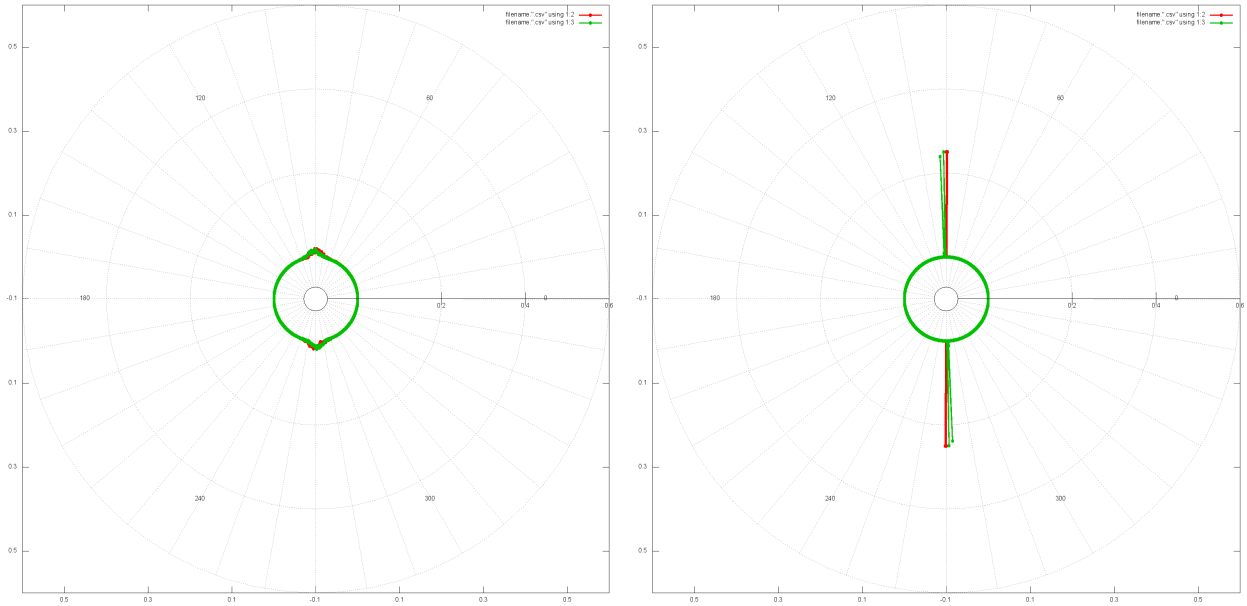
(b) Post CG minimisation

Figure 97: Order Parameter



(a) Initial Configuration (b) Final Configuration

Figure 98: Configuration



(a) Initial Configuration (b) Final Configuration

Figure 99: Angle Distribution

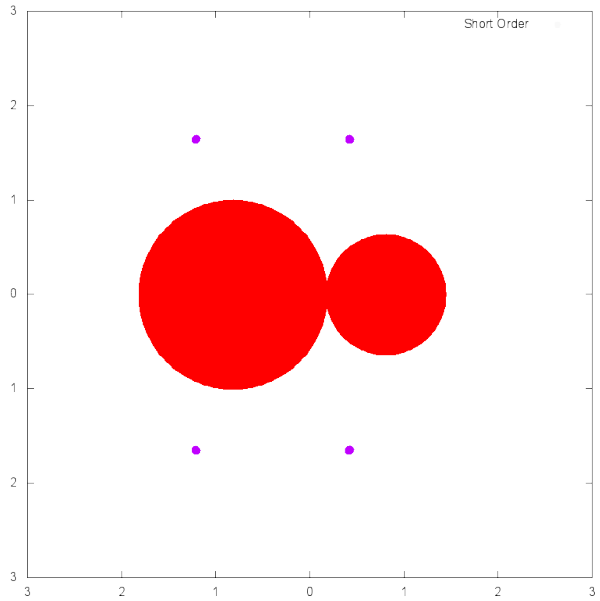


Figure 100: Short Range Ordering

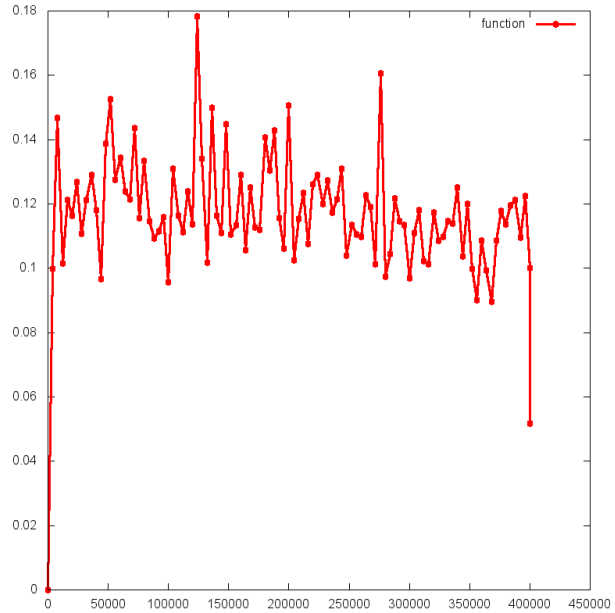


Figure 101: Mean Squared Displacement

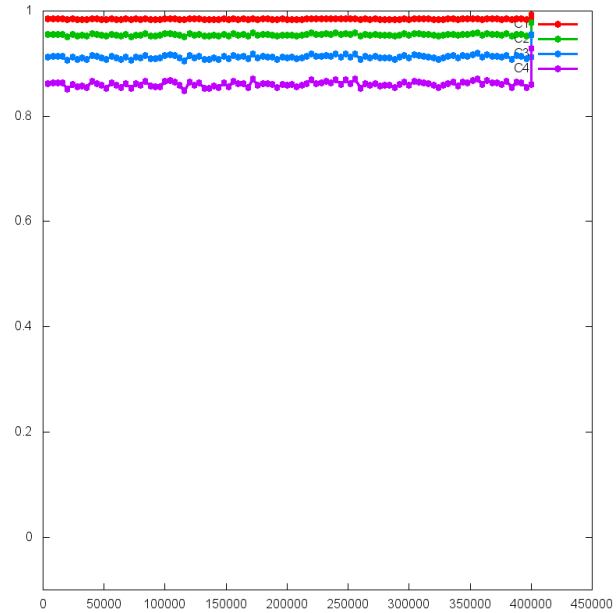


Figure 102: Rotational Relaxation

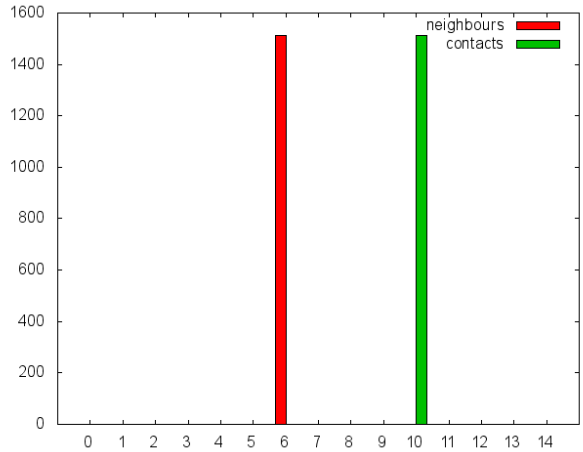


Figure 103: Contact Number

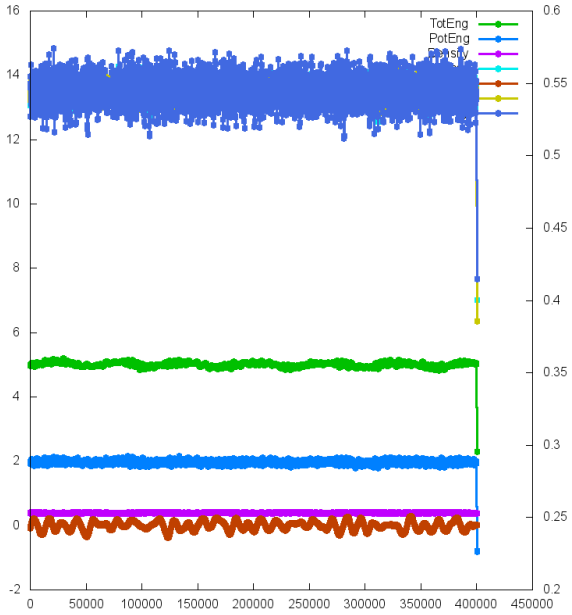
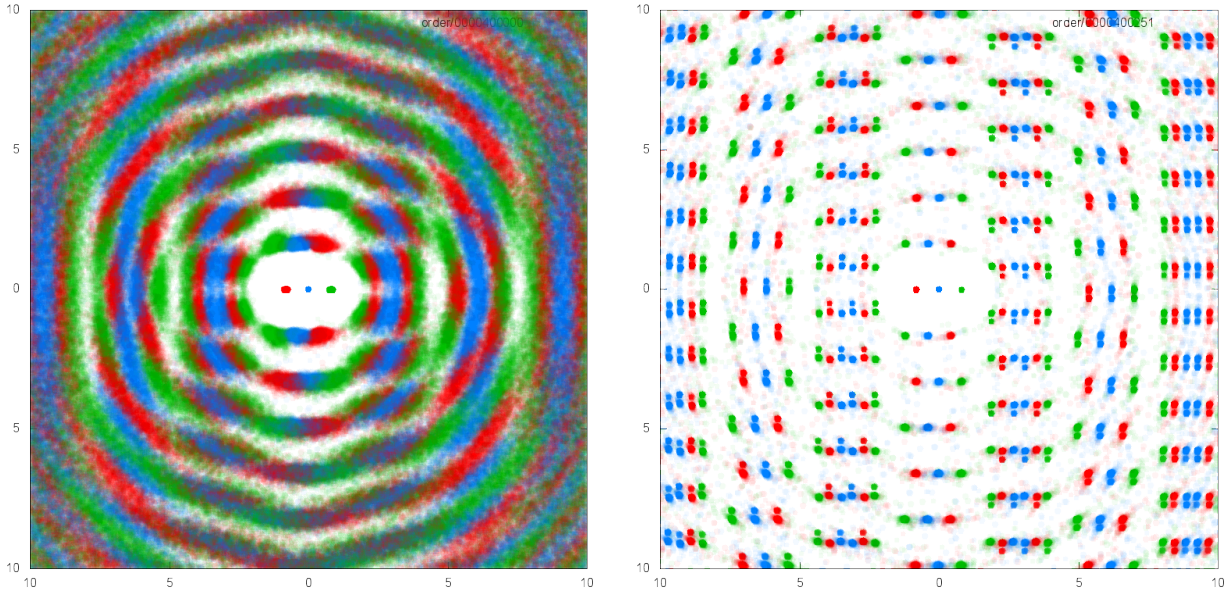


Figure 104: Properties

C1 Relaxation	0
C2 Relaxation	0
C3 Relaxation	0
C4 Relaxation	0
Diffusion Constant	0.0065
Average bond fraction	1.0270
Local Order	1.0000
Global Order	1.0000
Circle Order	1.0000
contacts	1.0000
neighbours	0.6000
pairing	0.1667
Density	0.3923
Total Energy	2.3006
Packing Fraction	0.8667

Table 13: Data

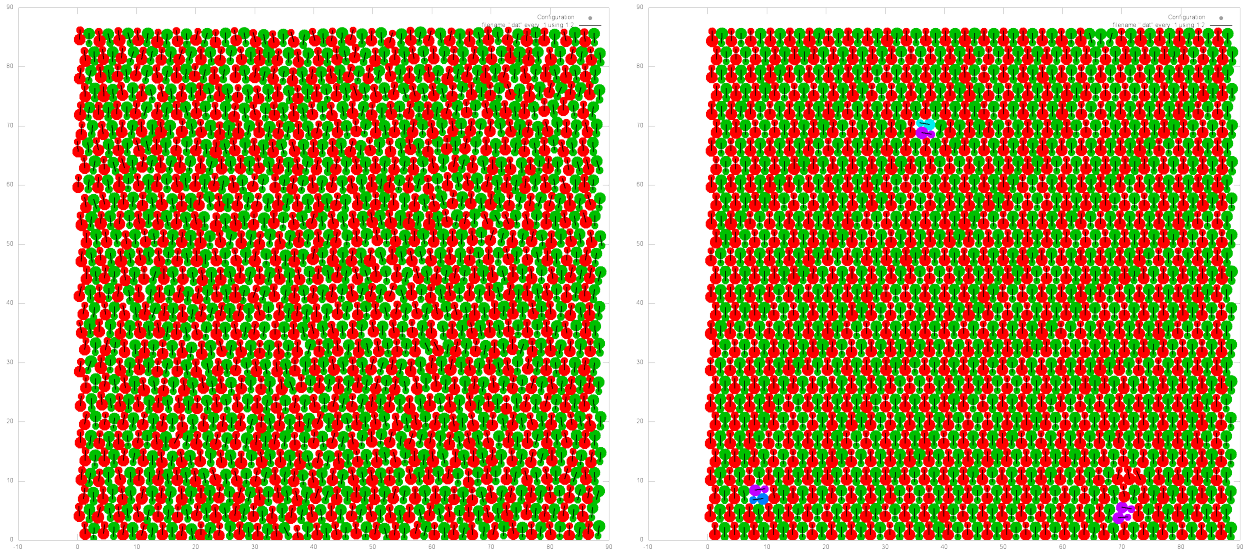
14 Snowman: Temp= 3.1, $r = 0.637556$, $d = 1.637556$, p2gg



(a) Pre minimisation

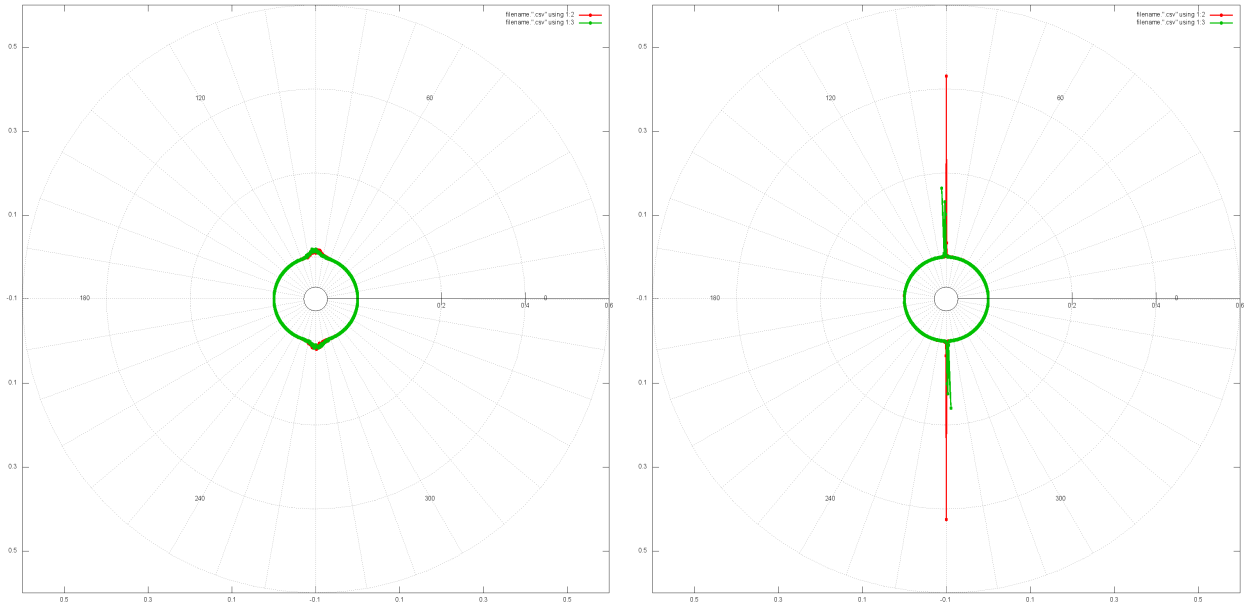
(b) Post CG minimisation

Figure 105: Order Parameter



(a) Initial Configuration (b) Final Configuration

Figure 106: Configuration



(a) Initial Configuration (b) Final Configuration

Figure 107: Angle Distribution

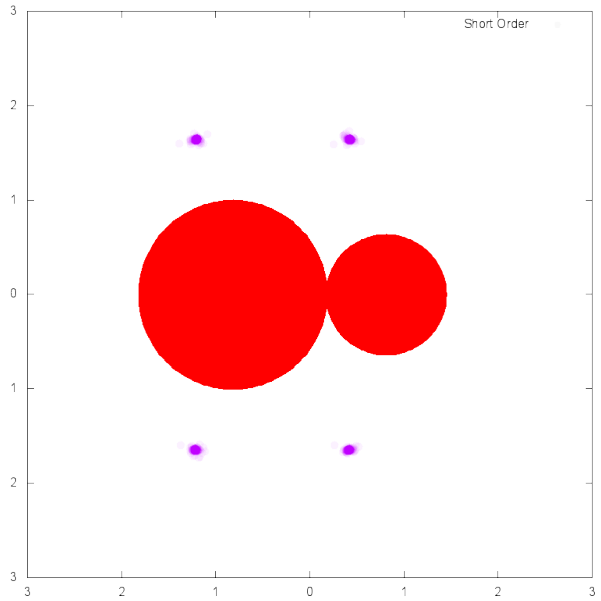


Figure 108: Short Range Ordering

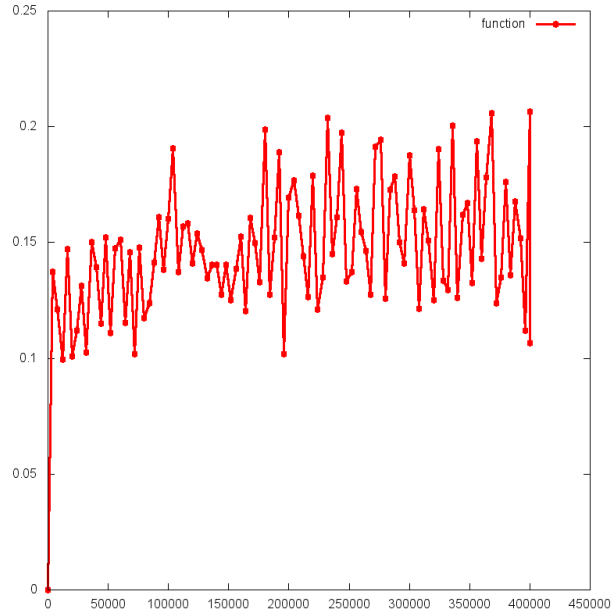


Figure 109: Mean Squared Displacement

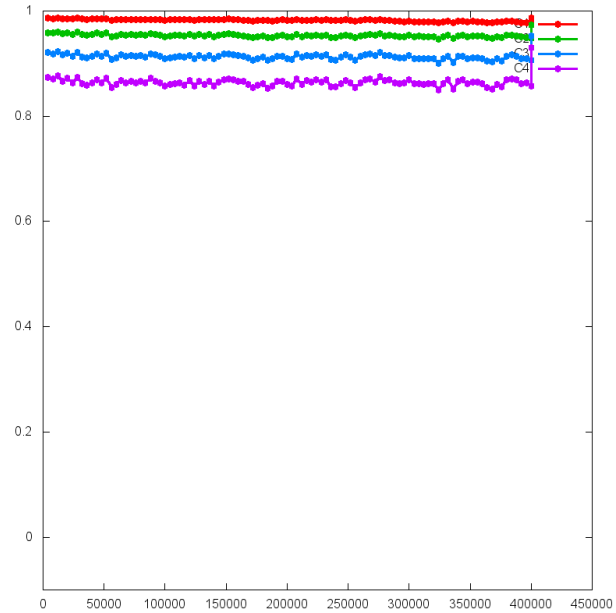


Figure 110: Rotational Relaxation

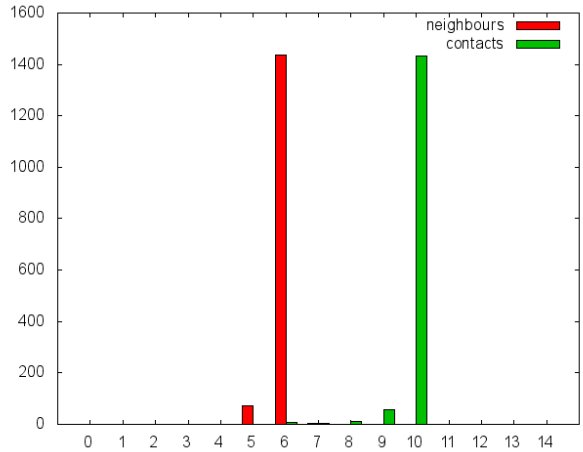


Figure 111: Contact Number

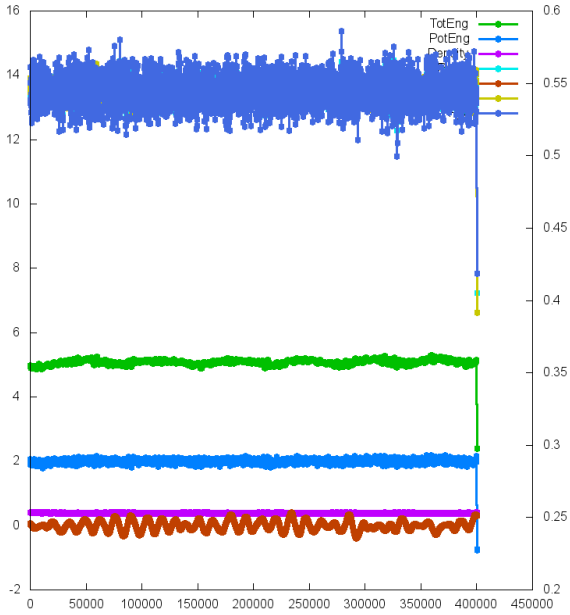
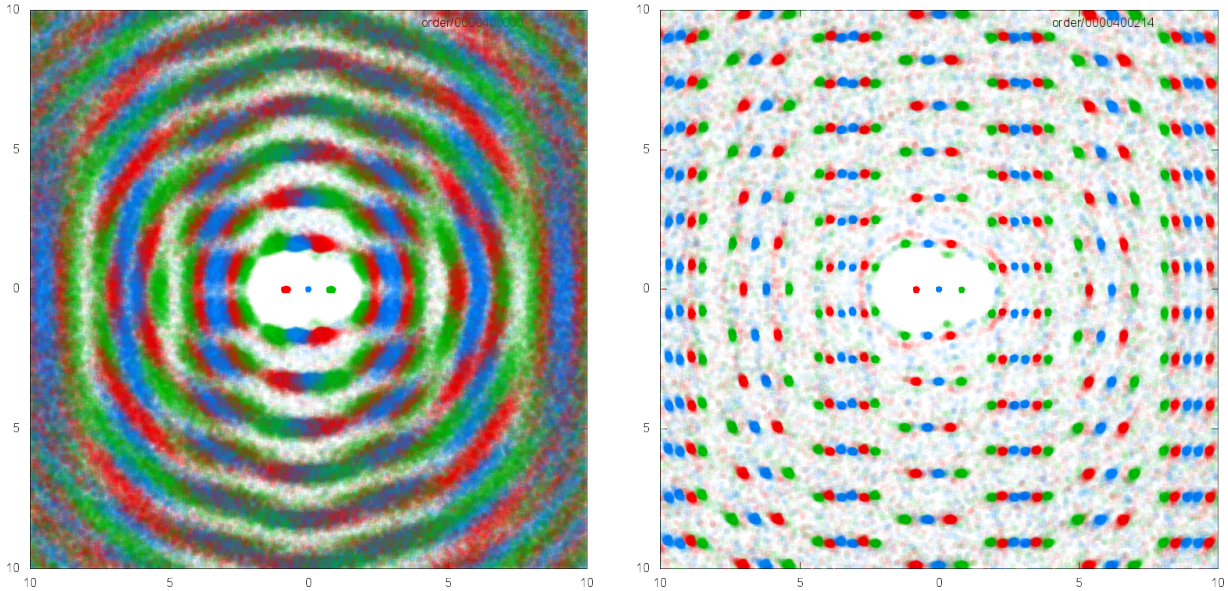


Figure 112: Properties

C1 Relaxation	0
C2 Relaxation	0
C3 Relaxation	0
C4 Relaxation	0
Diffusion Constant	0.0133
Average bond fraction	1.0251
Local Order	0.9936
Global Order	0.9916
Circle Order	0.9613
contacts	0.9000
neighbours	0.5000
pairing	0.1667
Density	0.3931
Total Energy	2.3959
Packing Fraction	0.8684

Table 14: Data

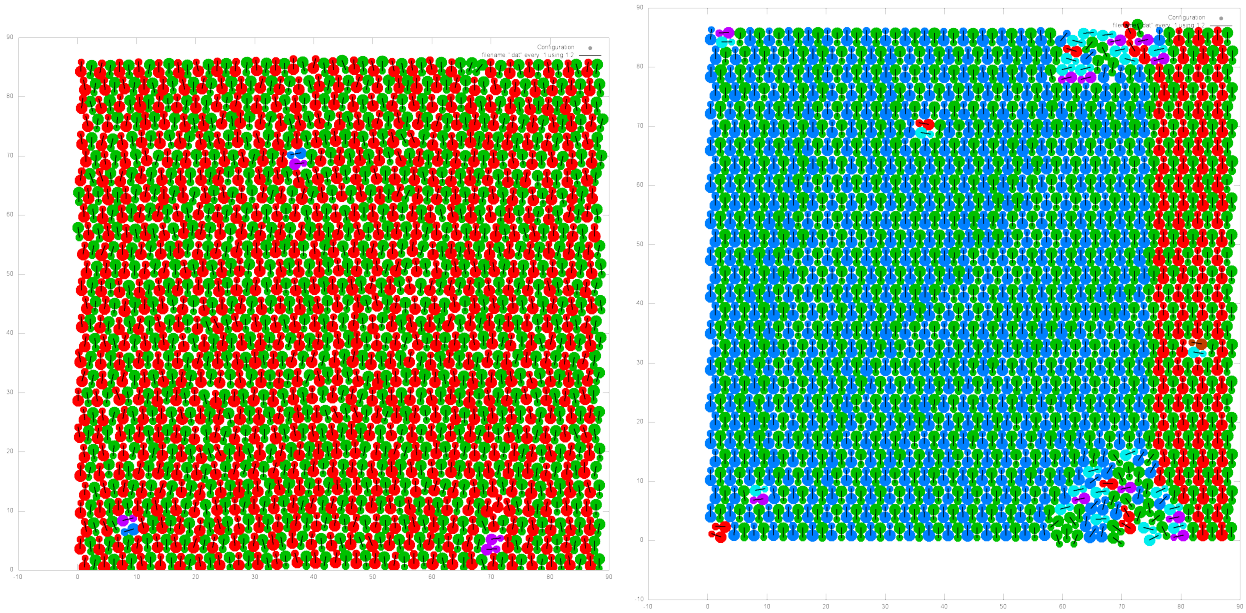
15 Snowman: Temp= 3.15, $r = 0.637556$, $d = 1.637556$, p2gg



(a) Pre minimisation

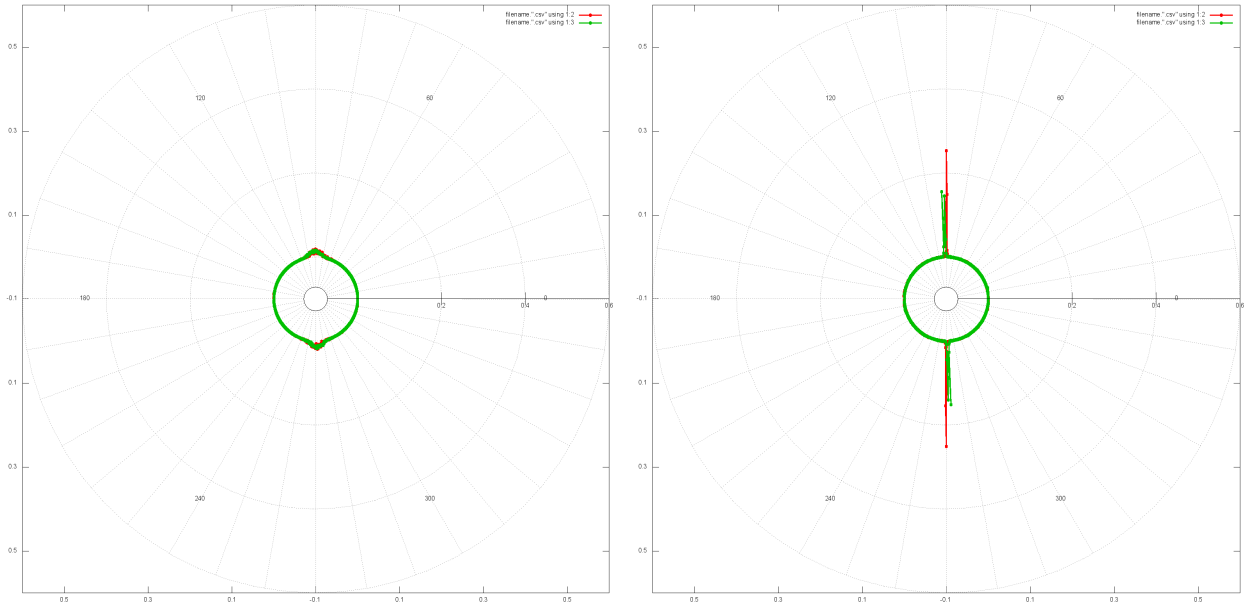
(b) Post CG minimisation

Figure 113: Order Parameter



(a) Initial Configuration (b) Final Configuration

Figure 114: Configuration



(a) Initial Configuration (b) Final Configuration

Figure 115: Angle Distribution

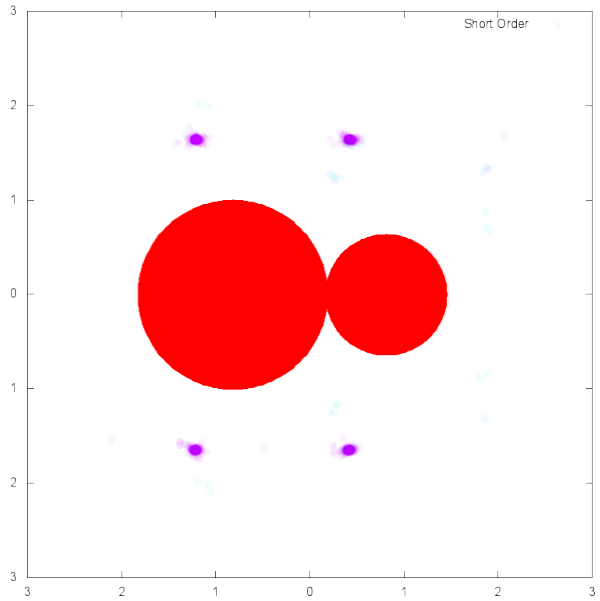


Figure 116: Short Range Ordering

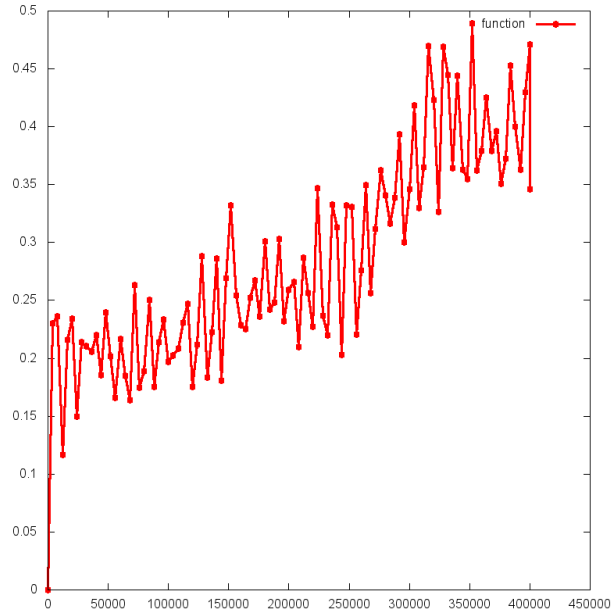


Figure 117: Mean Squared Displacement

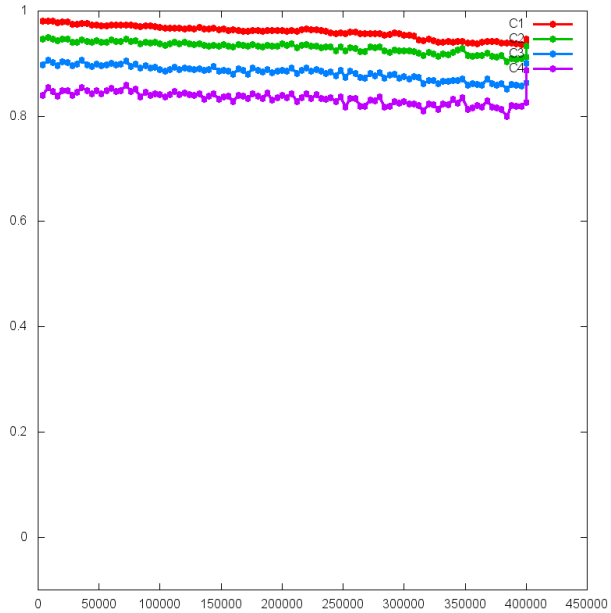


Figure 118: Rotational Relaxation

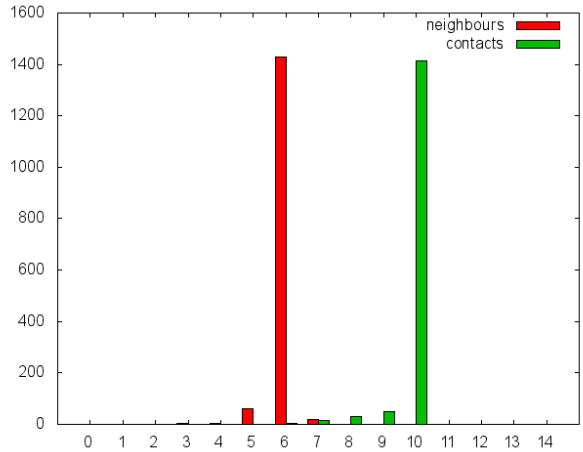


Figure 119: Contact Number

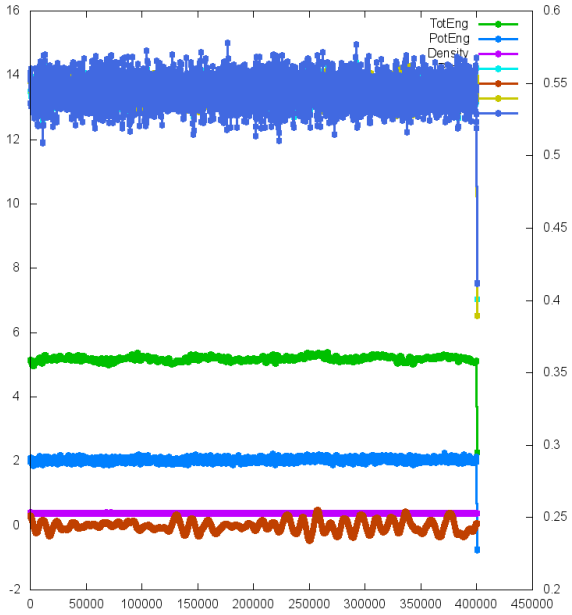
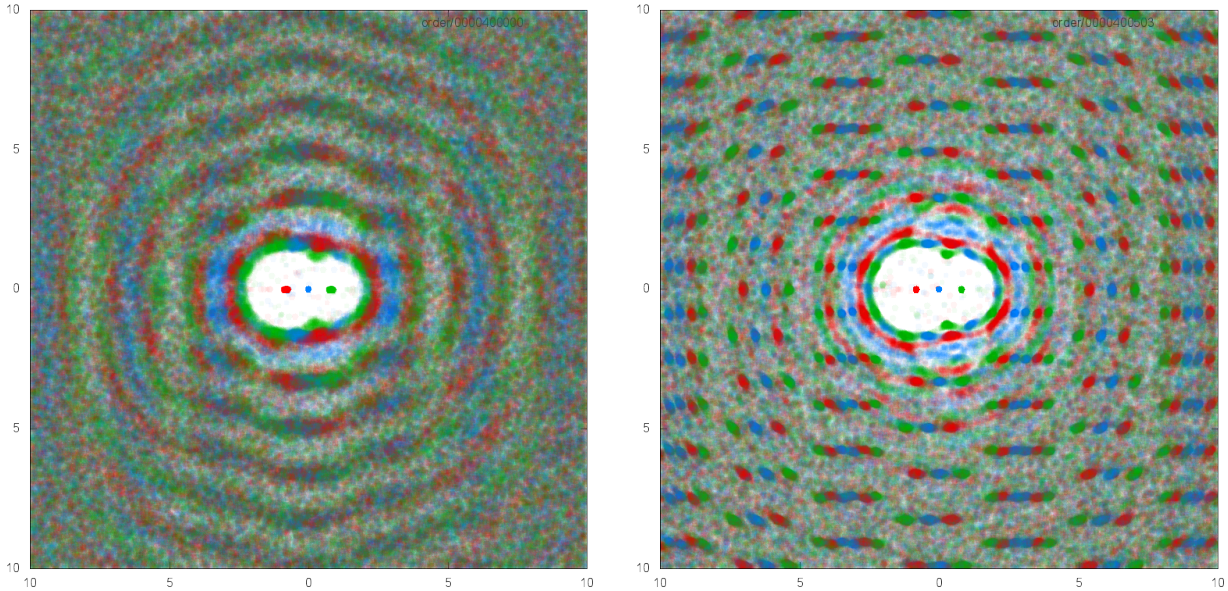


Figure 120: Properties

C1 Relaxation	0
C2 Relaxation	0
C3 Relaxation	0
C4 Relaxation	0
Diffusion Constant	0.0432
Average bond fraction	1.0263
Local Order	0.9595
Global Order	0.9360
Circle Order	0.9345
contacts	0.9000
neighbours	0.5000
pairing	0.1658
Density	0.3918
Total Energy	2.2756
Packing Fraction	0.8657

Table 15: Data

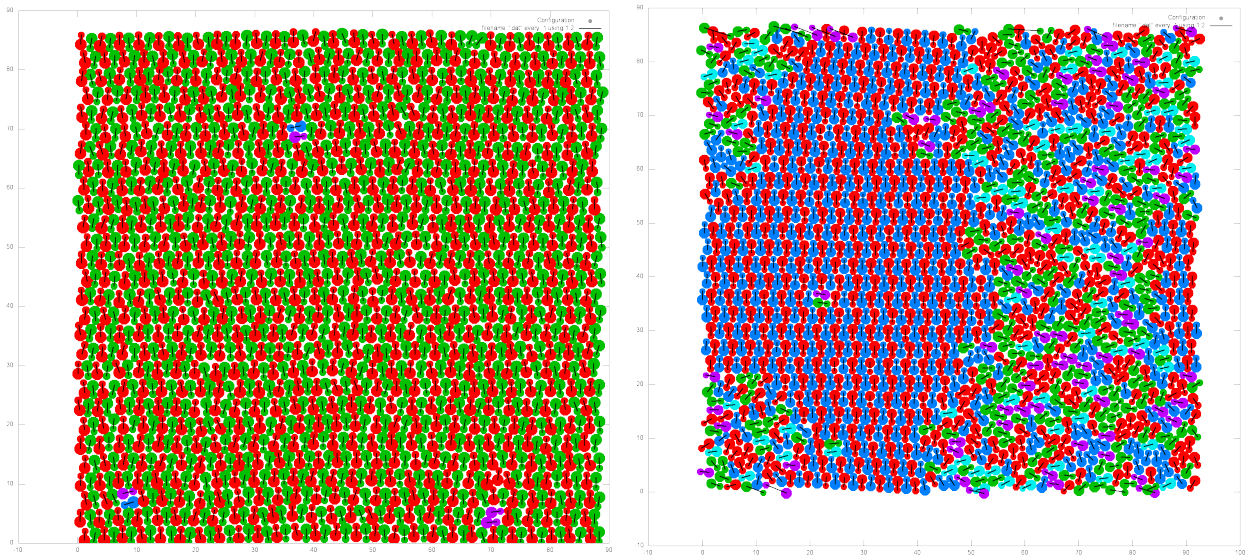
16 Snowman: Temp= 3.2, $r = 0.637556$, $d = 1.637556$, p2gg



(a) Pre minimisation

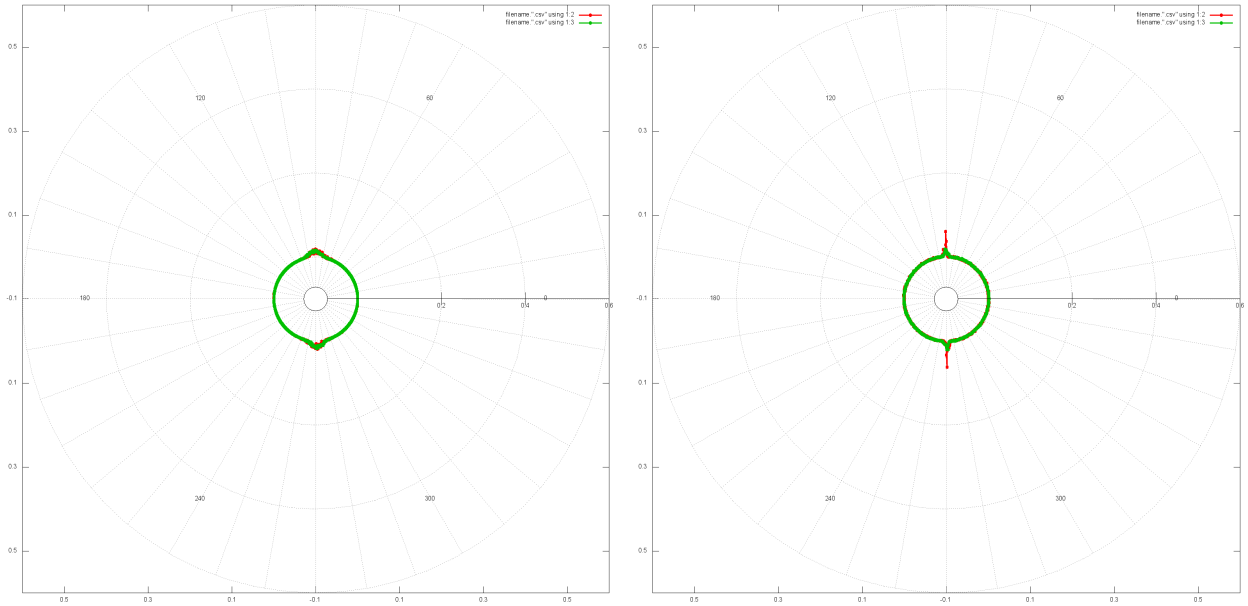
(b) Post CG minimisation

Figure 121: Order Parameter



(a) Initial Configuration (b) Final Configuration

Figure 122: Configuration



(a) Initial Configuration (b) Final Configuration

Figure 123: Angle Distribution

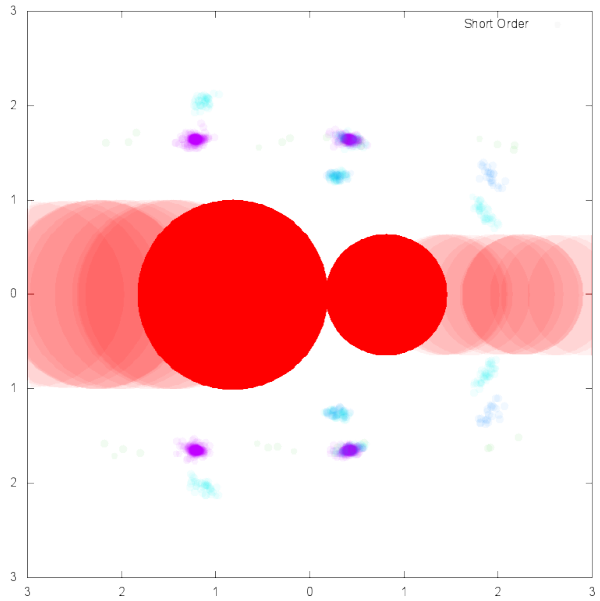


Figure 124: Short Range Ordering

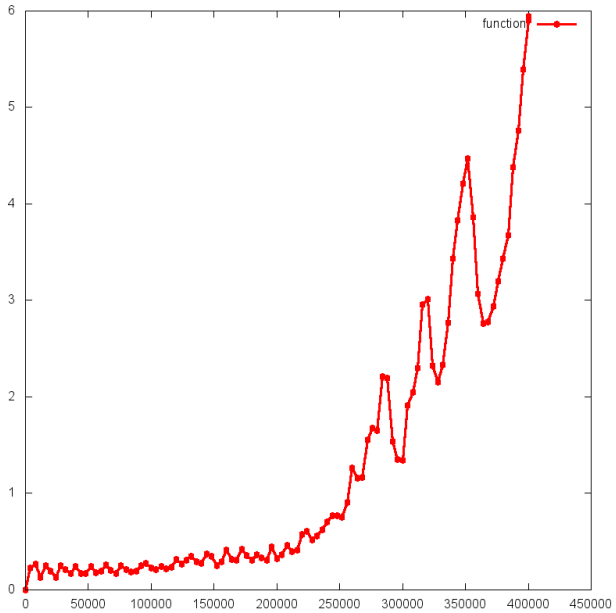


Figure 125: Mean Squared Displacement

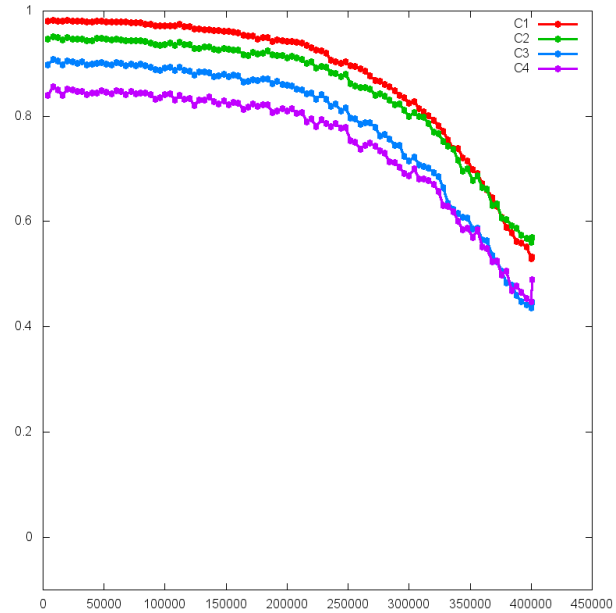


Figure 126: Rotational Relaxation

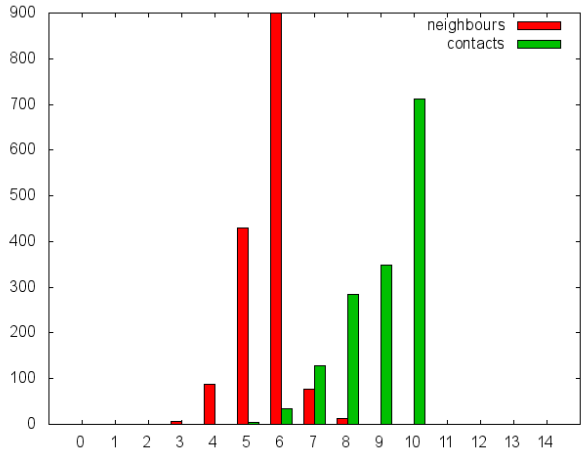


Figure 127: Contact Number

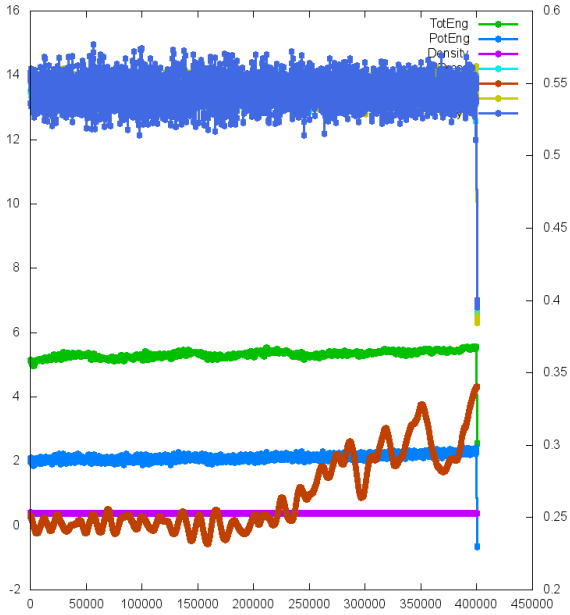
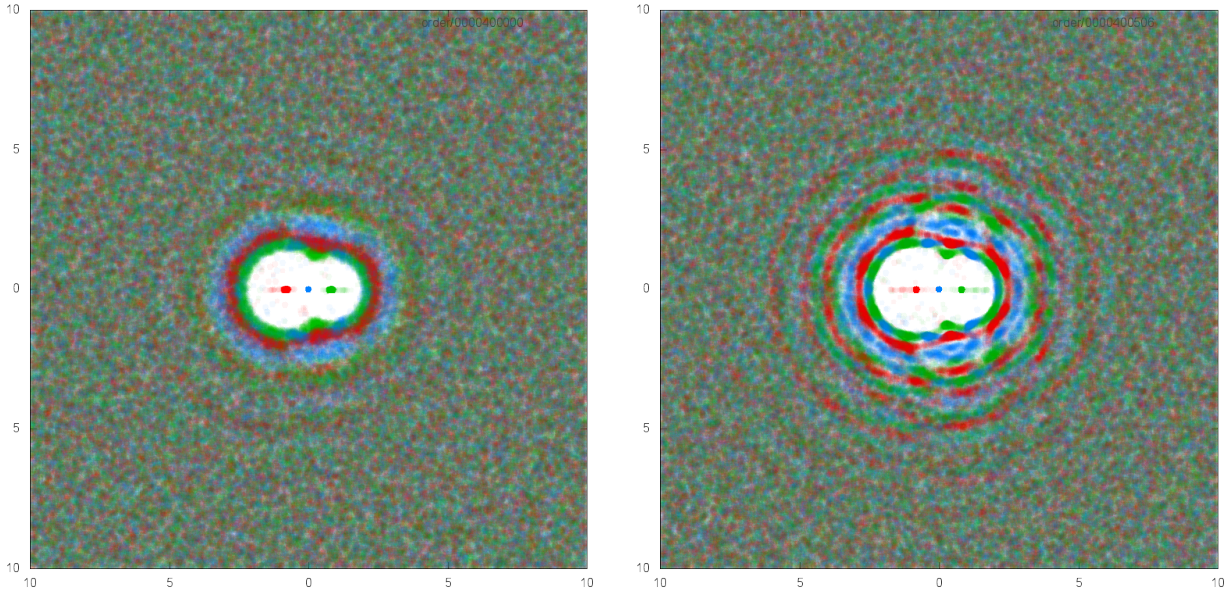


Figure 128: Properties

C1 Relaxation	0
C2 Relaxation	0
C3 Relaxation	0
C4 Relaxation	0
Diffusion Constant	0.7415
Average bond fraction	1.0264
Local Order	0.7181
Global Order	0.5946
Circle Order	0.4924
contacts	0.9000
neighbours	0.5000
pairing	0.1597
Density	0.3821
Total Energy	2.5328
Packing Fraction	0.8443

Table 16: Data

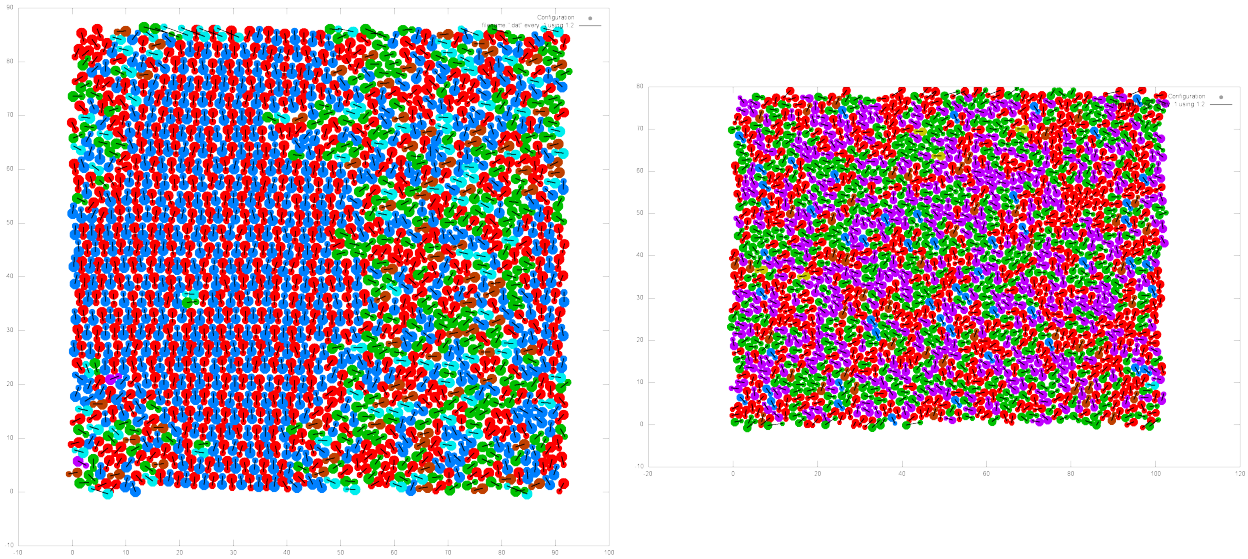
17 Snowman: Temp= 3.3, $r = 0.637556$, $d = 1.637556$, p2gg



(a) Pre minimisation

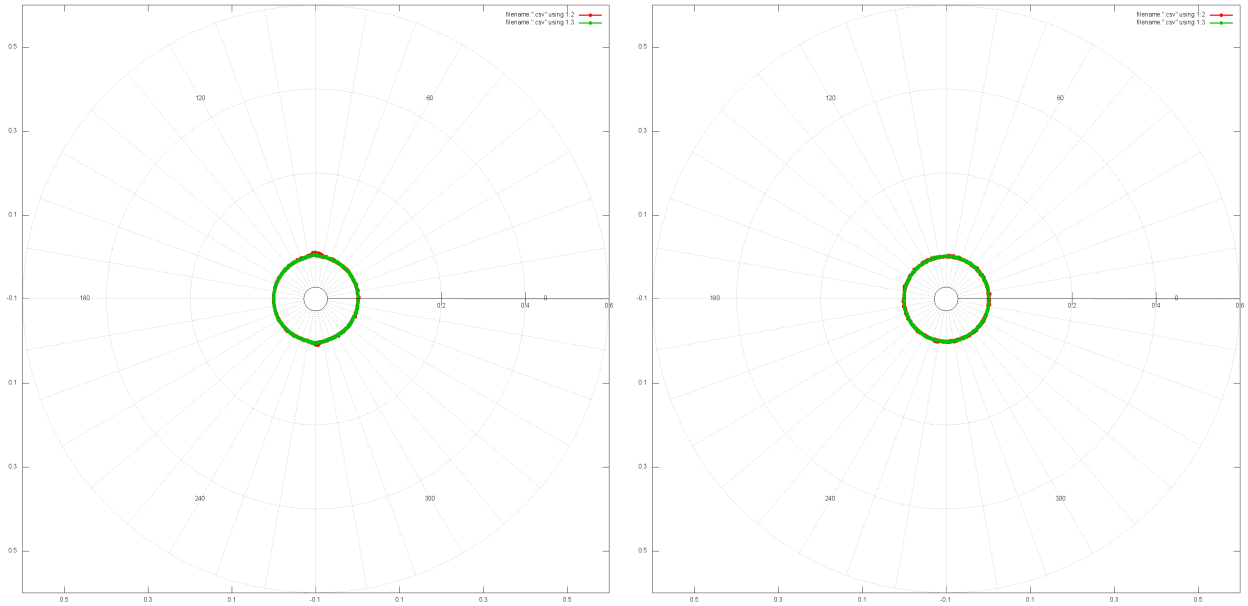
(b) Post CG minimisation

Figure 129: Order Parameter



(a) Initial Configuration (b) Final Configuration

Figure 130: Configuration



(a) Initial Configuration (b) Final Configuration

Figure 131: Angle Distribution

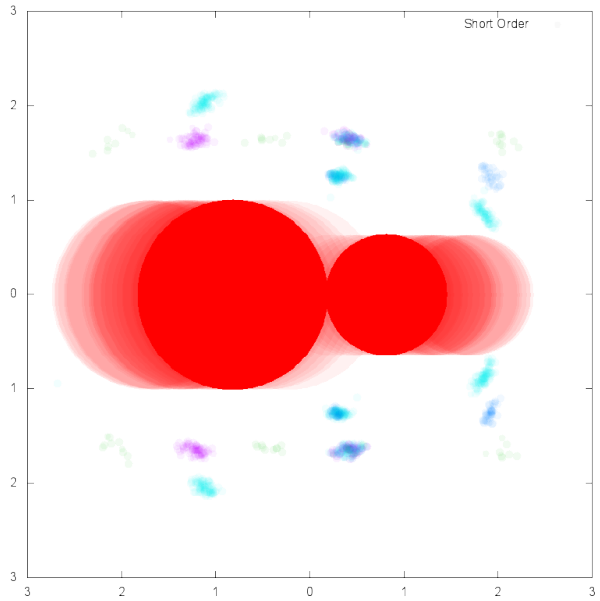


Figure 132: Short Range Ordering

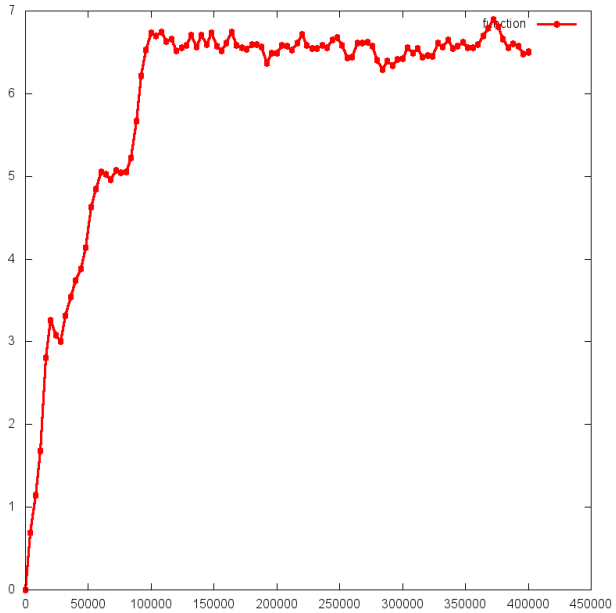


Figure 133: Mean Squared Displacement

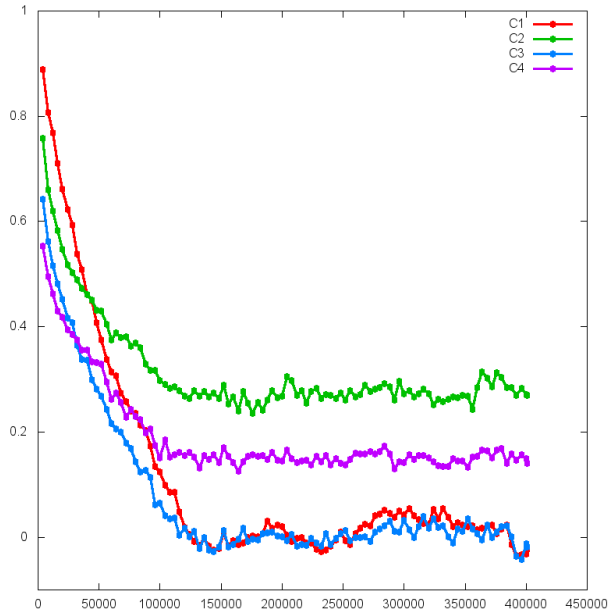


Figure 134: Rotational Relaxation

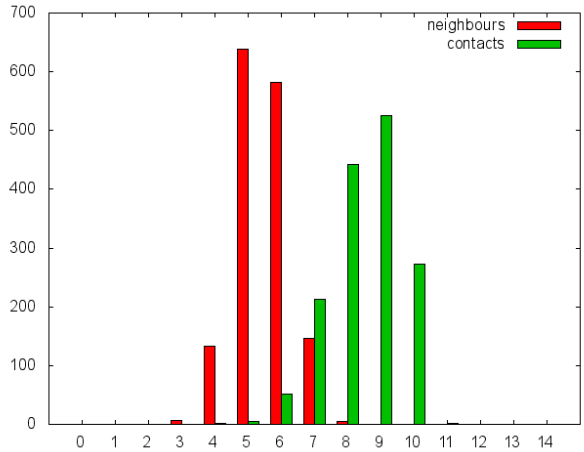


Figure 135: Contact Number

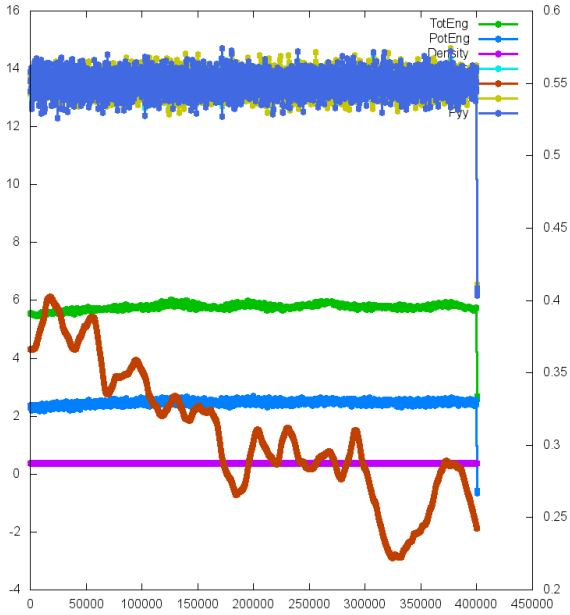
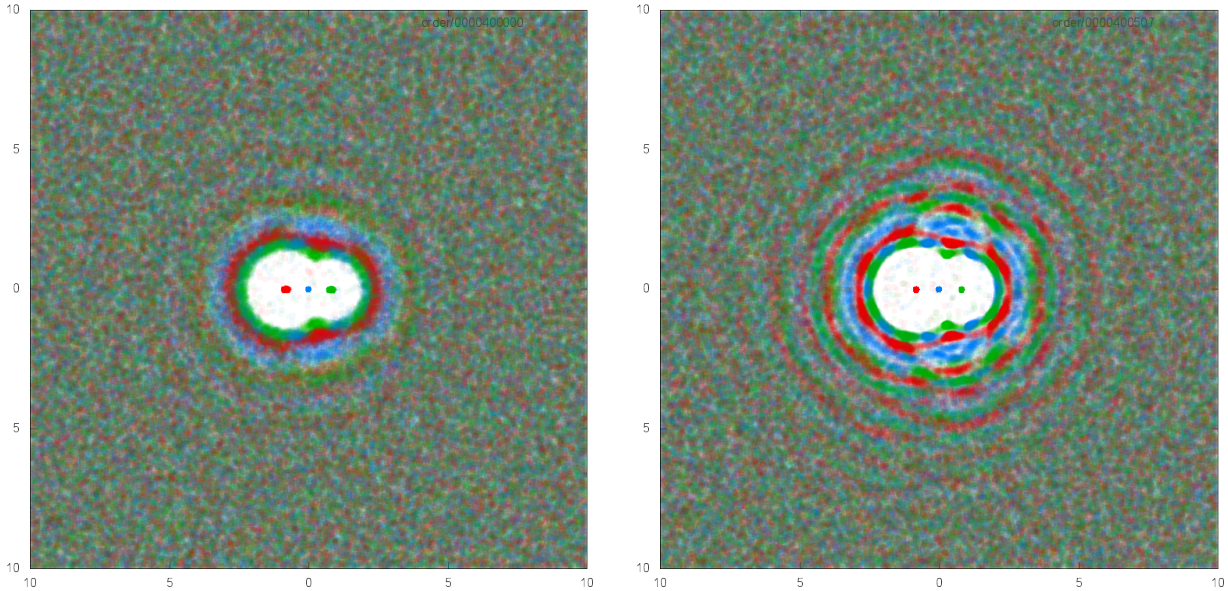


Figure 136: Properties

C1 Relaxation	0.319 596
C2 Relaxation	0.409 482
C3 Relaxation	0.329 583
C4 Relaxation	0.329 583
Diffusion Constant	0.8117
Average bond fraction	1.0277
Local Order	0.5279
Global Order	0.5002
Circle Order	0.2057
contacts	0.8000
neighbours	0.5000
pairing	0.1545
Density	0.3765
Total Energy	2.5979
Packing Fraction	0.8318

Table 17: Data

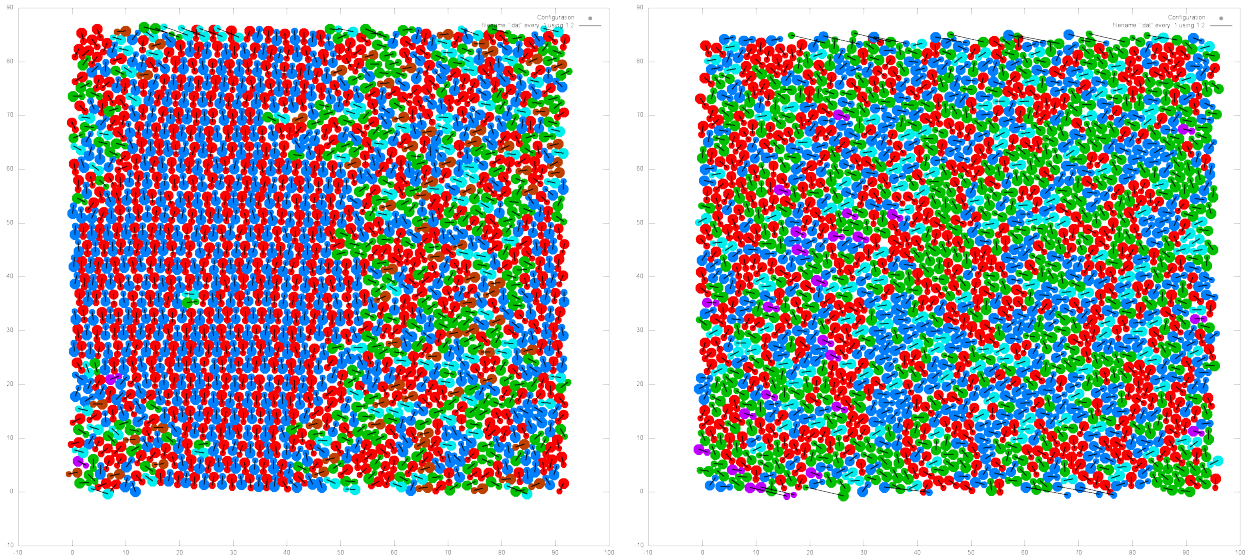
18 Snowman: Temp= 3.5, $r = 0.637556$, $d = 1.637556$, p2gg



(a) Pre minimisation

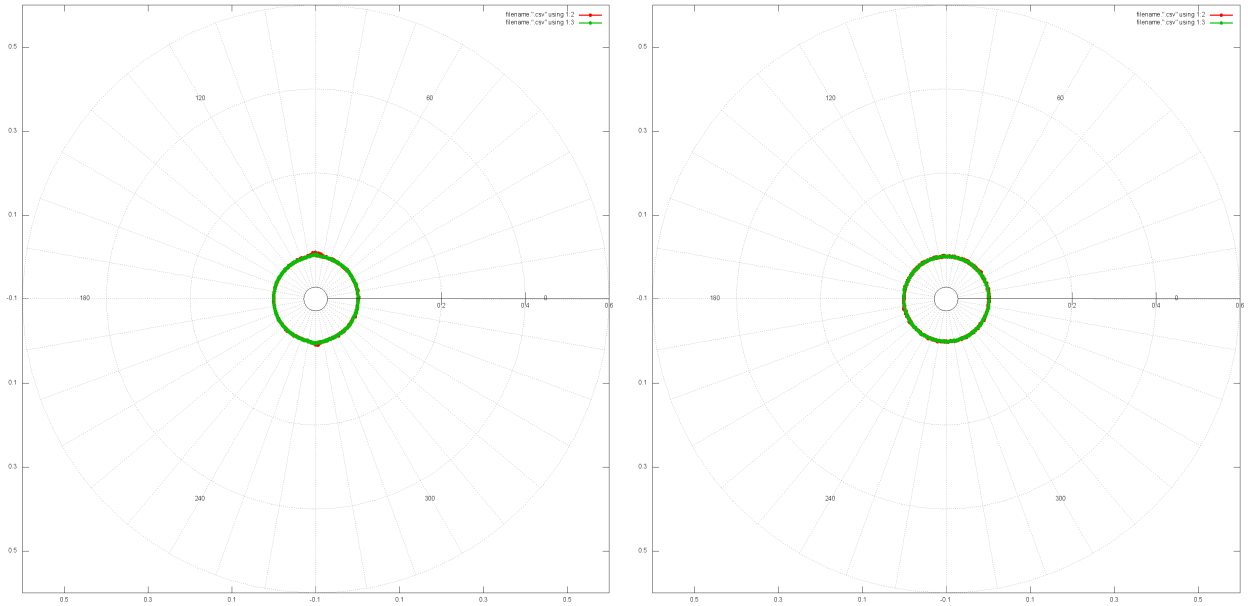
(b) Post CG minimisation

Figure 137: Order Parameter



(a) Initial Configuration (b) Final Configuration

Figure 138: Configuration



(a) Initial Configuration (b) Final Configuration

Figure 139: Angle Distribution

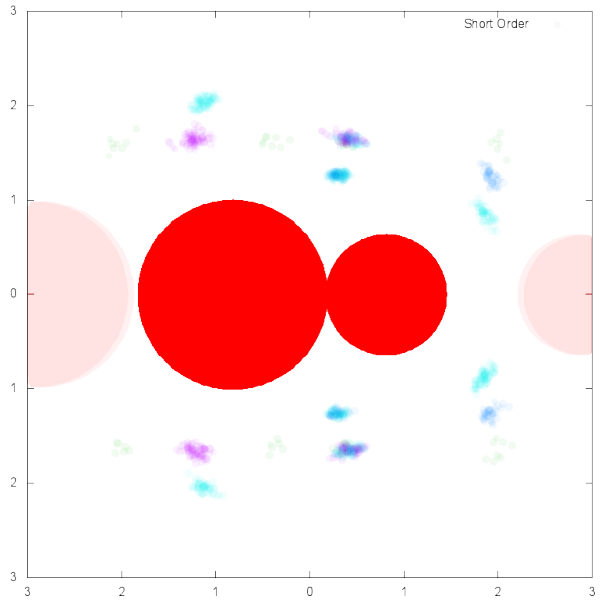


Figure 140: Short Range Ordering

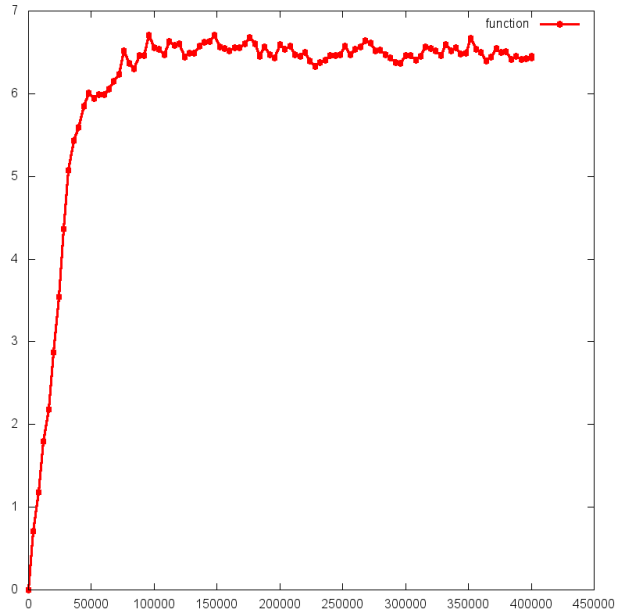


Figure 141: Mean Squared Displacement

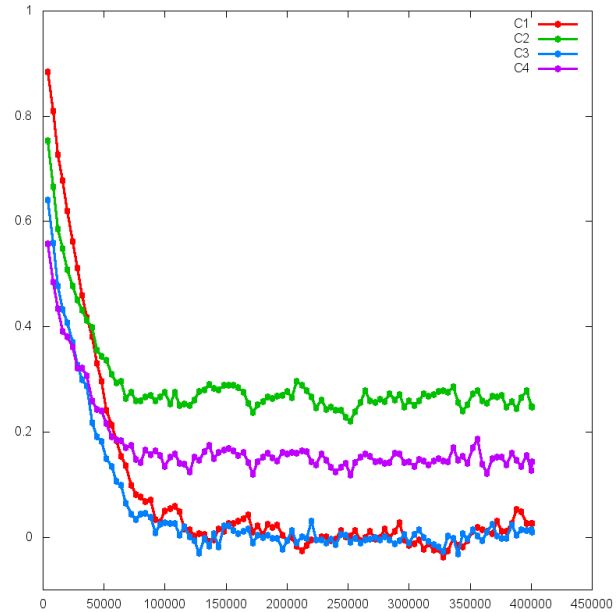


Figure 142: Rotational Relaxation

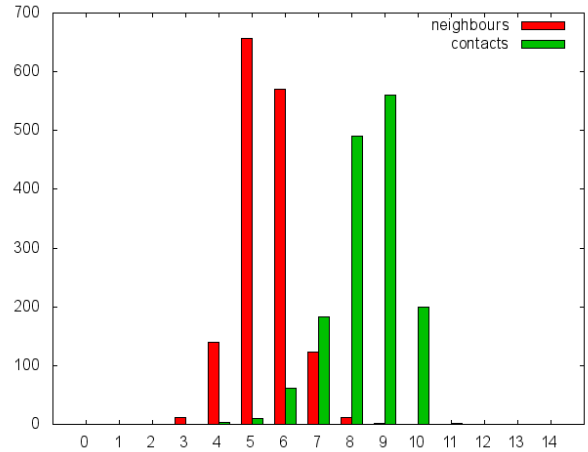


Figure 143: Contact Number

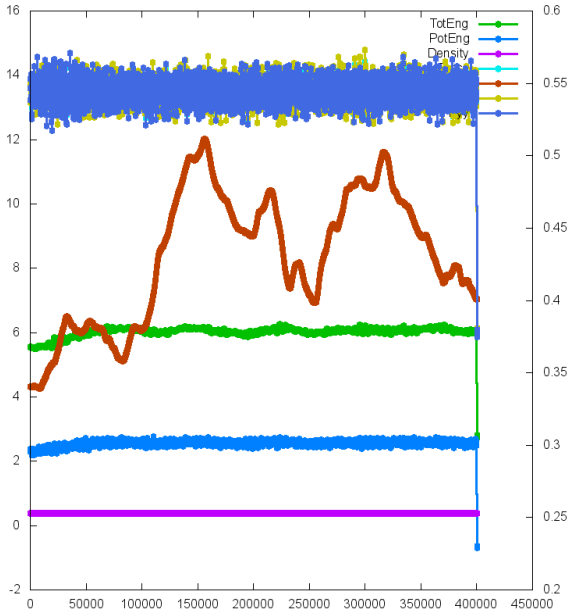
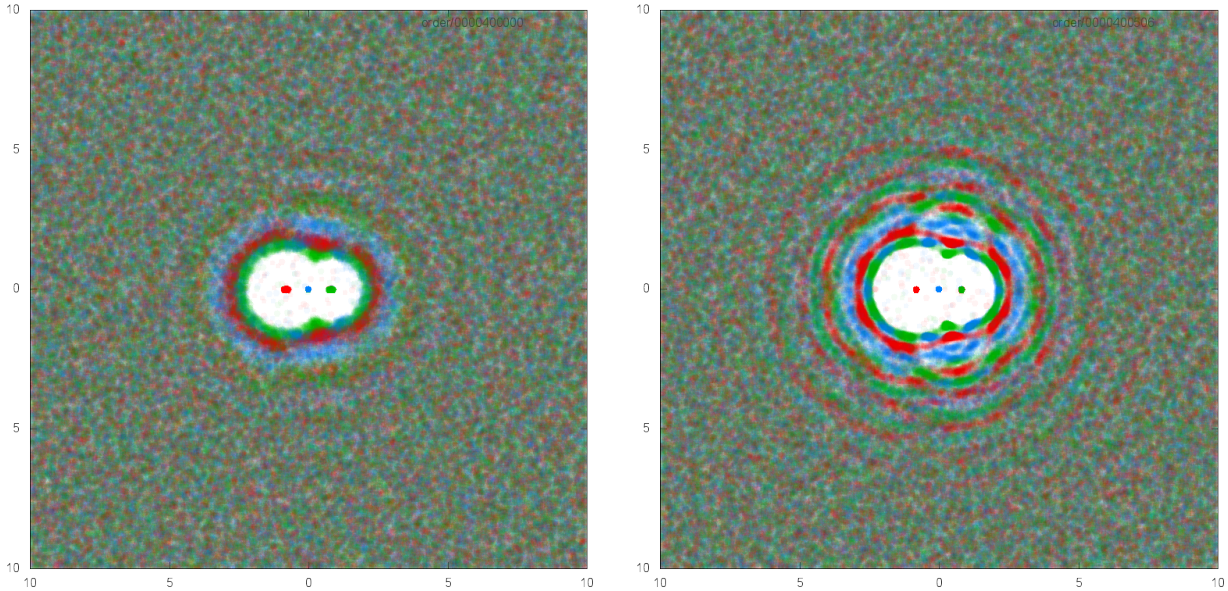


Figure 144: Properties

C1 Relaxation	0.339 57
C2 Relaxation	0.429 456
C3 Relaxation	0.309 608
C4 Relaxation	0.249 684
Diffusion Constant	0.8029
Average bond fraction	1.0295
Local Order	0.5195
Global Order	0.5009
Circle Order	0.1690
contacts	0.8000
neighbours	0.5000
pairing	0.1540
Density	0.3739
Total Energy	2.7445
Packing Fraction	0.8260

Table 18: Data

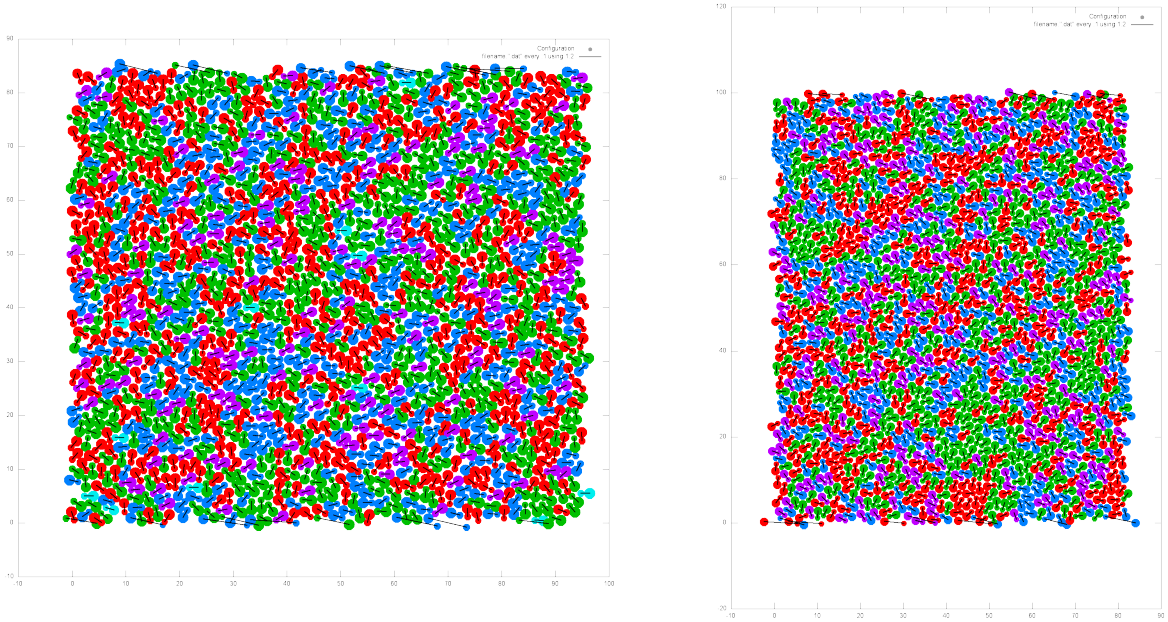
19 Snowman: Temp= 4.0, r = 0.637556, d = 1.637556, p2gg



(a) Pre minimisation

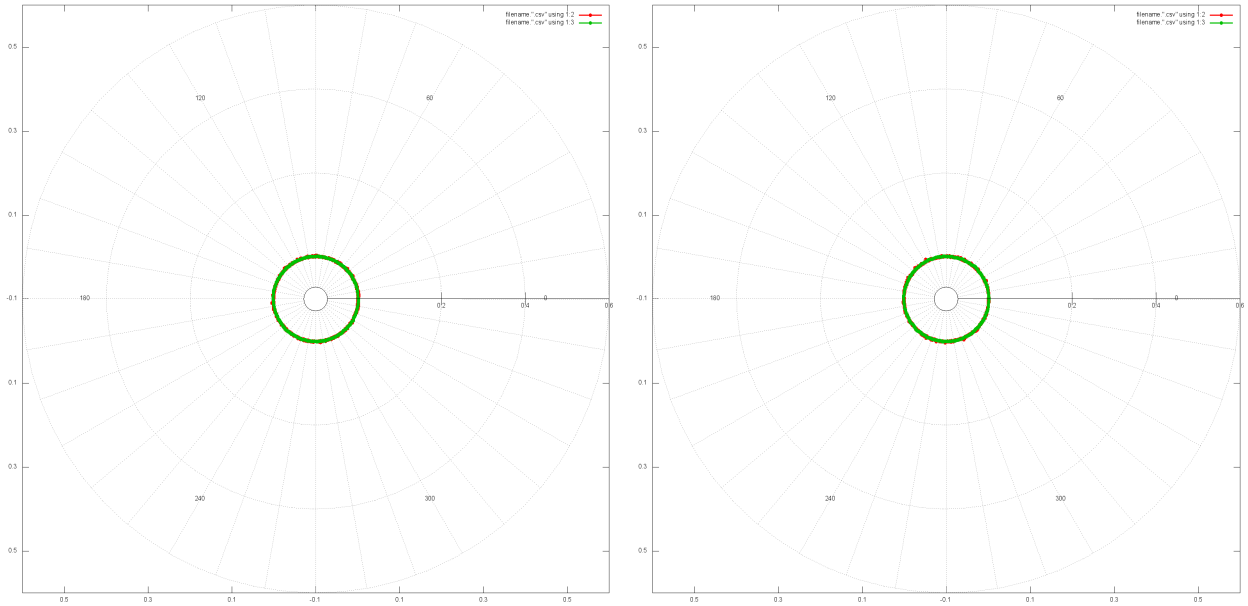
(b) Post CG minimisation

Figure 145: Order Parameter



(a) Initial Configuration (b) Final Configuration

Figure 146: Configuration



(a) Initial Configuration (b) Final Configuration

Figure 147: Angle Distribution

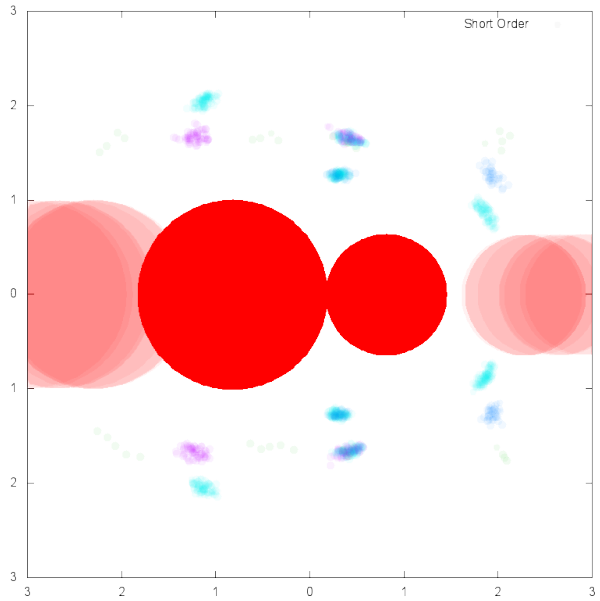


Figure 148: Short Range Ordering

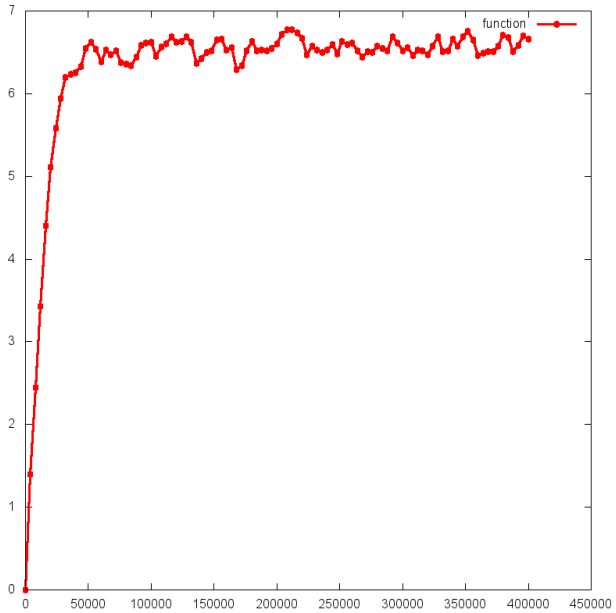


Figure 149: Mean Squared Displacement

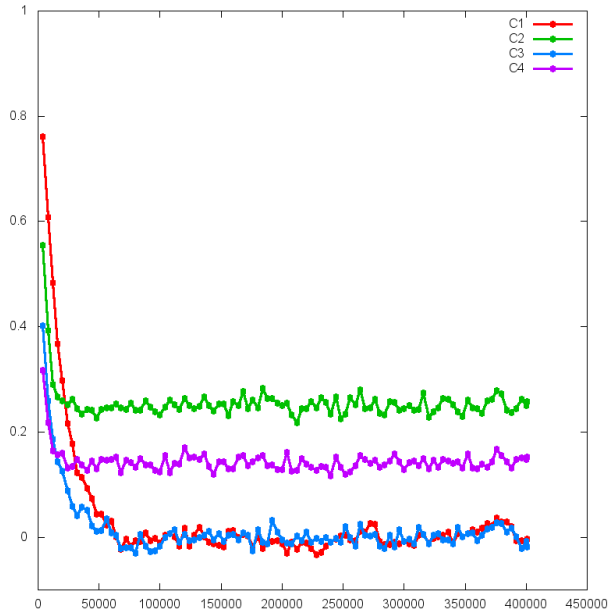


Figure 150: Rotational Relaxation

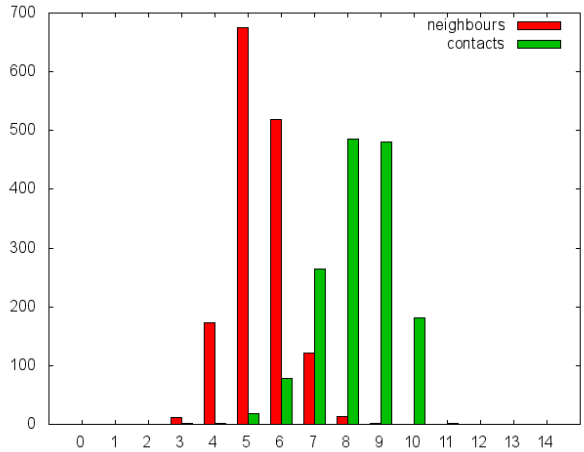


Figure 151: Contact Number

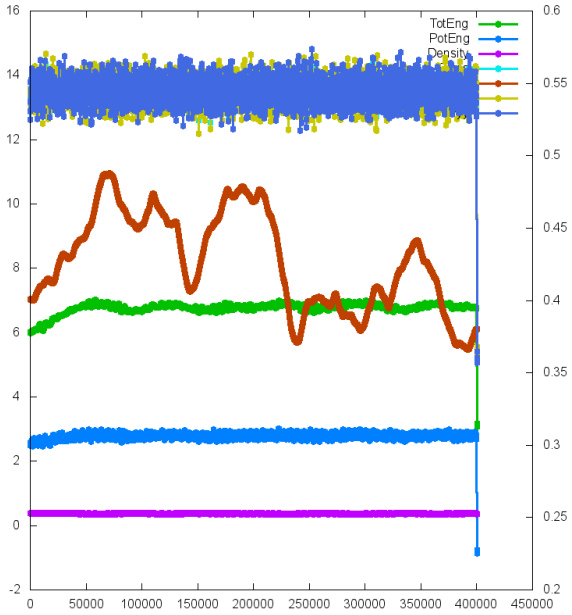
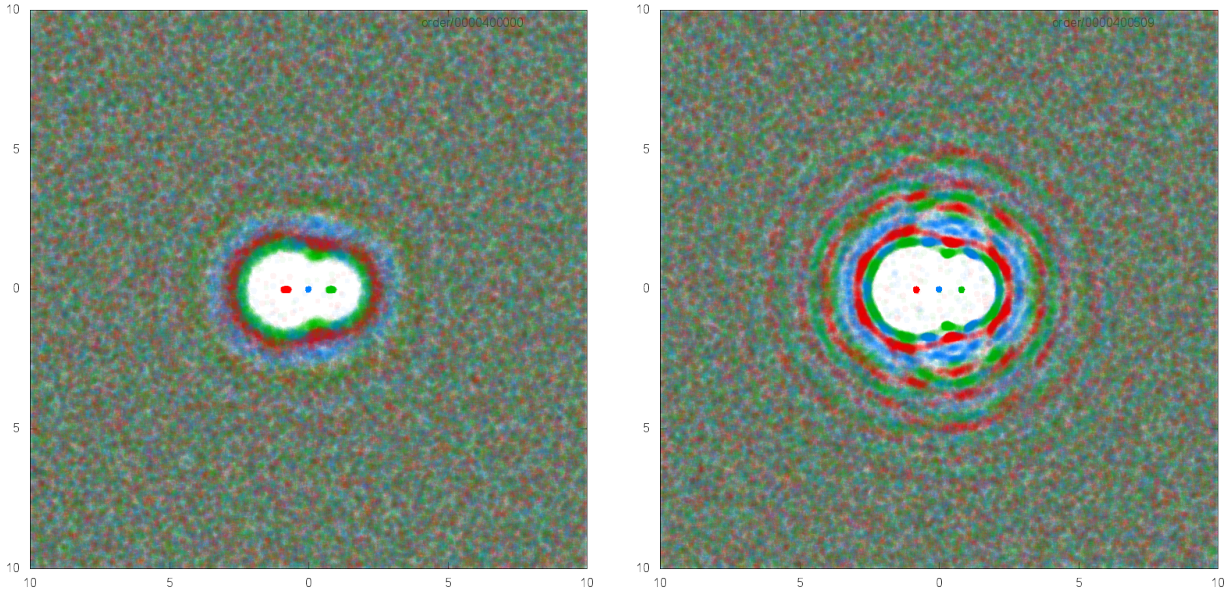


Figure 152: Properties

C1 Relaxation	0.169 785
C2 Relaxation	0.079 898 9
C3 Relaxation	0.169 785
C4 Relaxation	0.059 924 2
Diffusion Constant	0.8316
Average bond fraction	1.0349
Local Order	0.5229
Global Order	0.5000
Circle Order	0.1524
contacts	0.8000
neighbours	0.5000
pairing	0.1525
Density	0.3683
Total Energy	3.0709
Packing Fraction	0.8137

Table 19: Data

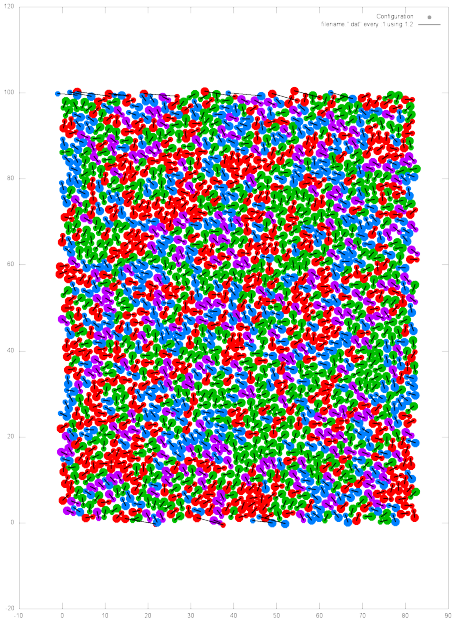
20 Snowman: Temp= 4.5, $r = 0.637556$, $d = 1.637556$, p2gg



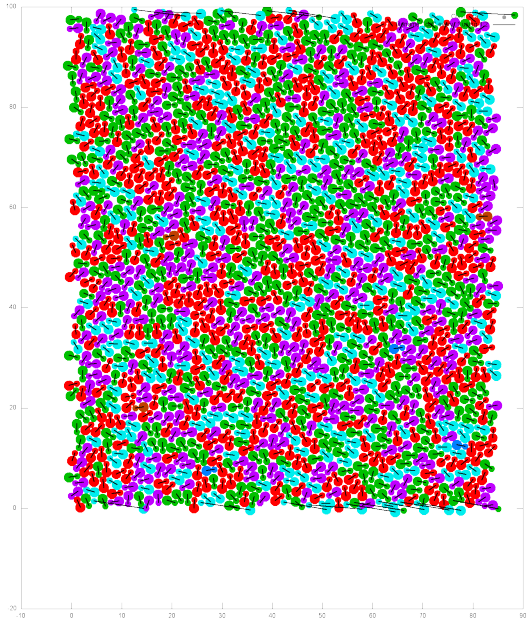
(a) Pre minimisation

(b) Post CG minimisation

Figure 153: Order Parameter

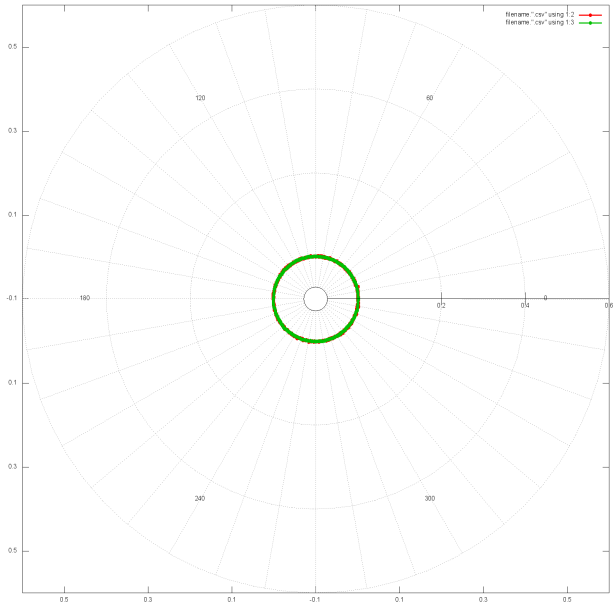


(a) Initial Configuration

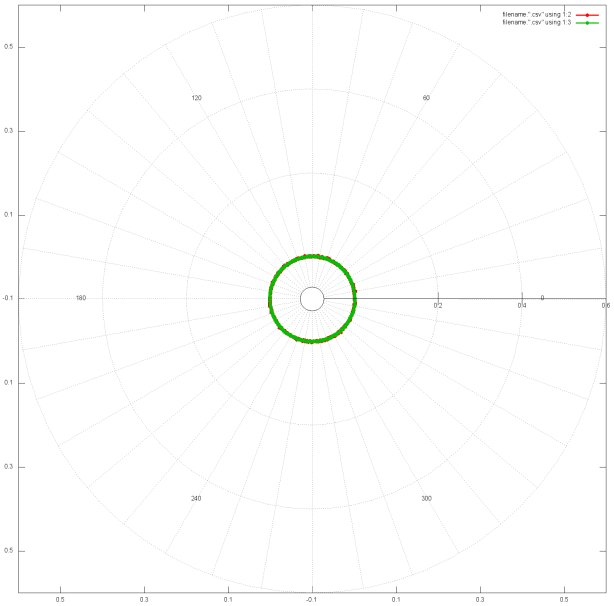


(b) Final Configuration

Figure 154: Configuration



(a) Initial Configuration



(b) Final Configuration

Figure 155: Angle Distribution

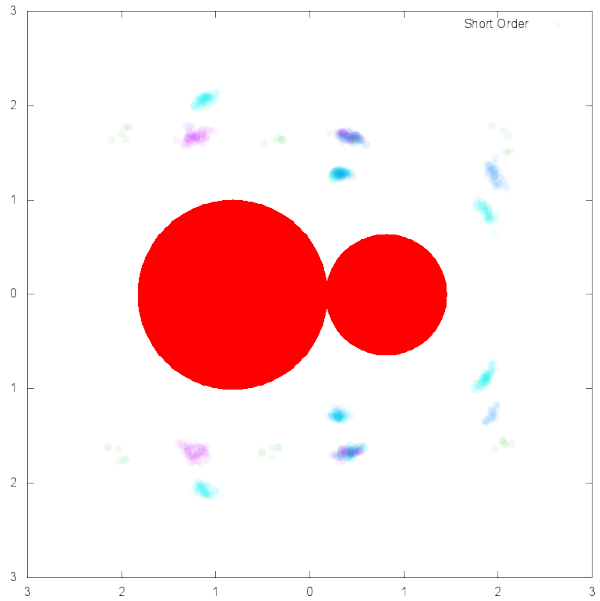


Figure 156: Short Range Ordering

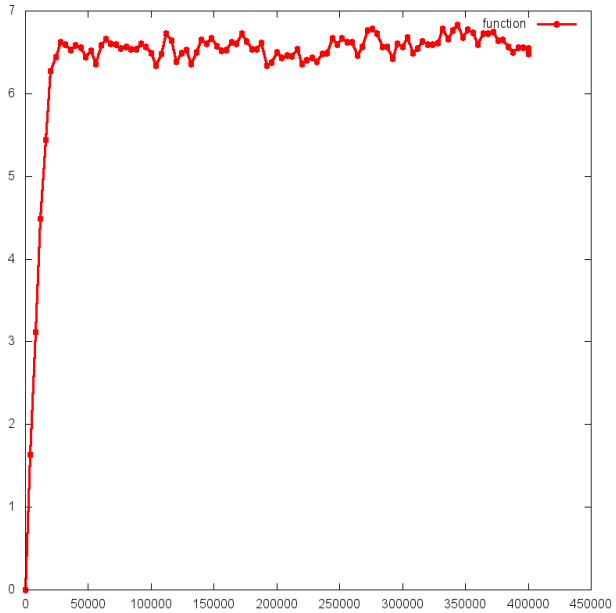


Figure 157: Mean Squared Displacement

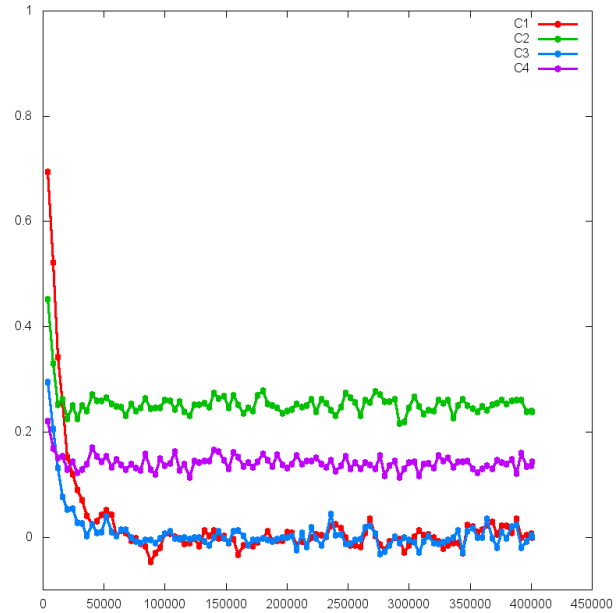


Figure 158: Rotational Relaxation

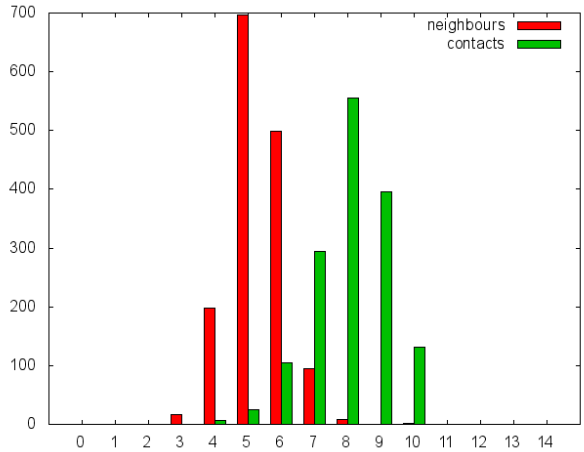


Figure 159: Contact Number

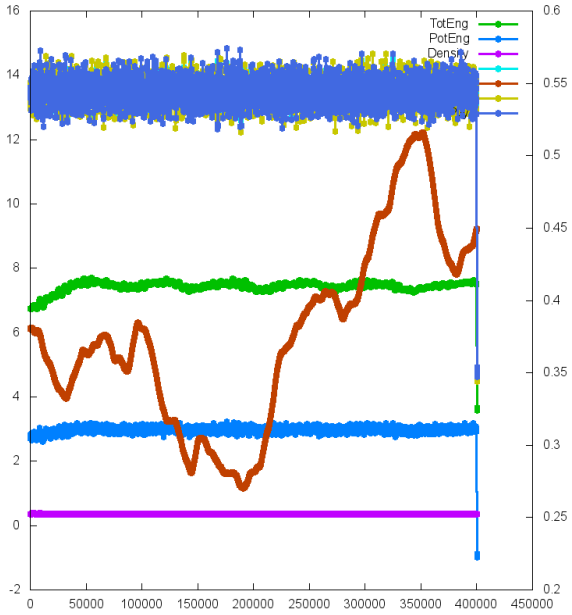
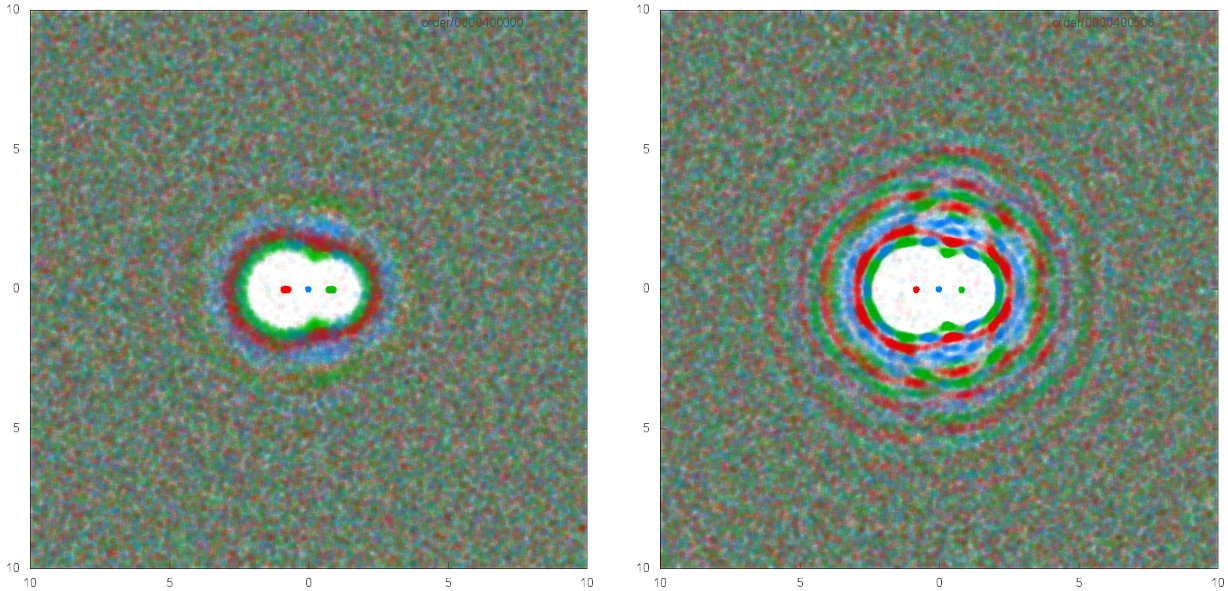


Figure 160: Properties

C1 Relaxation	0.179 771
C2 Relaxation	0.049 936 5
C3 Relaxation	0.179 771
C4 Relaxation	0.049 936 5
Diffusion Constant	0.8087
Average bond fraction	1.0406
Local Order	0.5201
Global Order	0.5002
Circle Order	0.1220
contacts	0.8000
neighbours	0.5000
pairing	0.1510
Density	0.3626
Total Energy	3.5767
Packing Fraction	0.8011

Table 20: Data

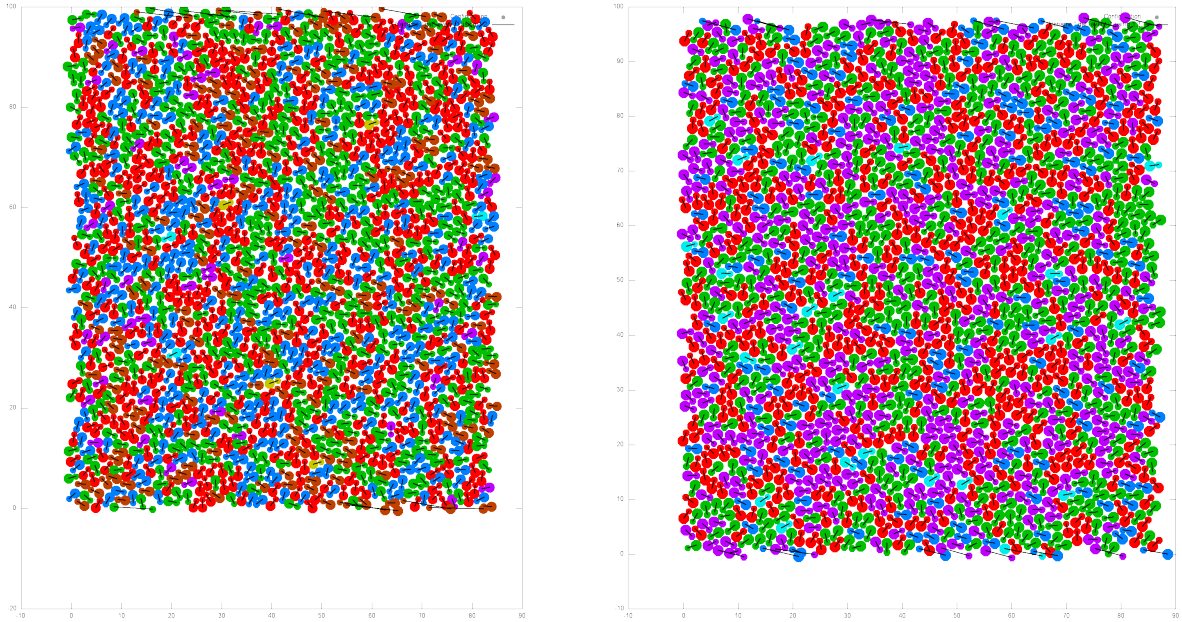
21 Snowman: Temp= 5.0, $r = 0.637556$, $d = 1.637556$, p2gg



(a) Pre minimisation

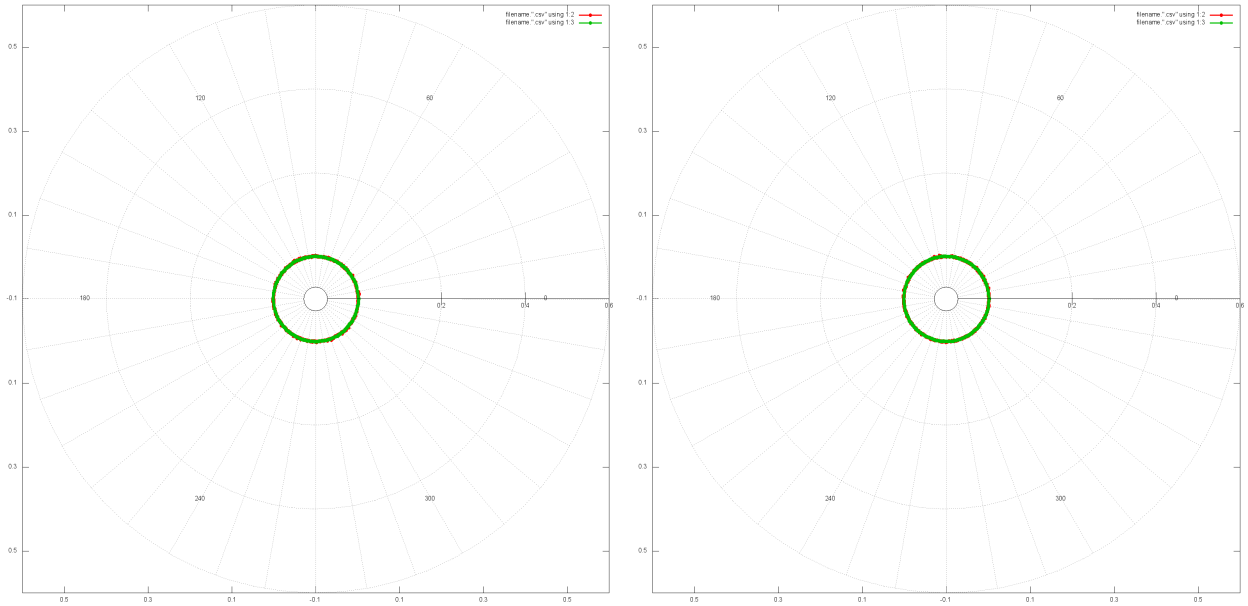
(b) Post CG minimisation

Figure 161: Order Parameter



(a) Initial Configuration (b) Final Configuration

Figure 162: Configuration



(a) Initial Configuration (b) Final Configuration

Figure 163: Angle Distribution

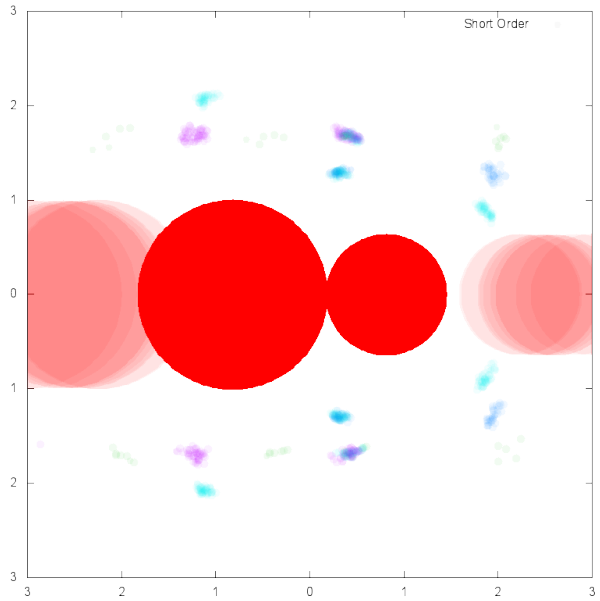


Figure 164: Short Range Ordering

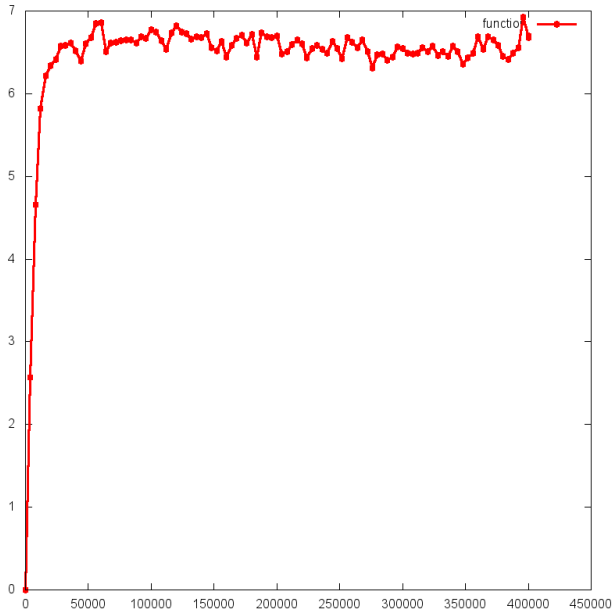


Figure 165: Mean Squared Displacement

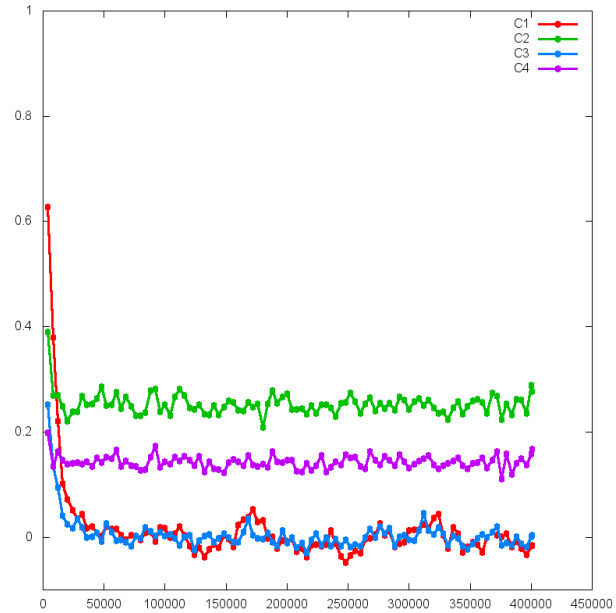


Figure 166: Rotational Relaxation

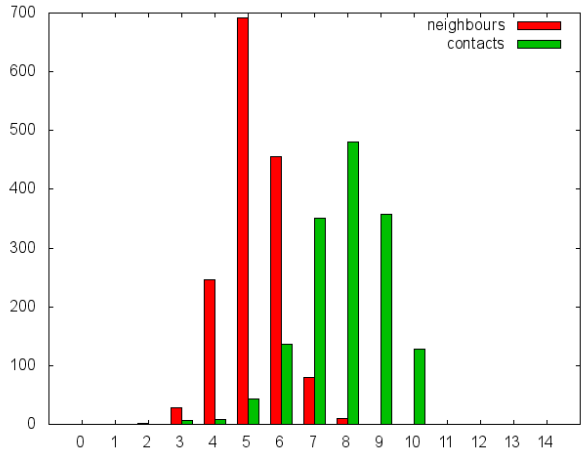


Figure 167: Contact Number

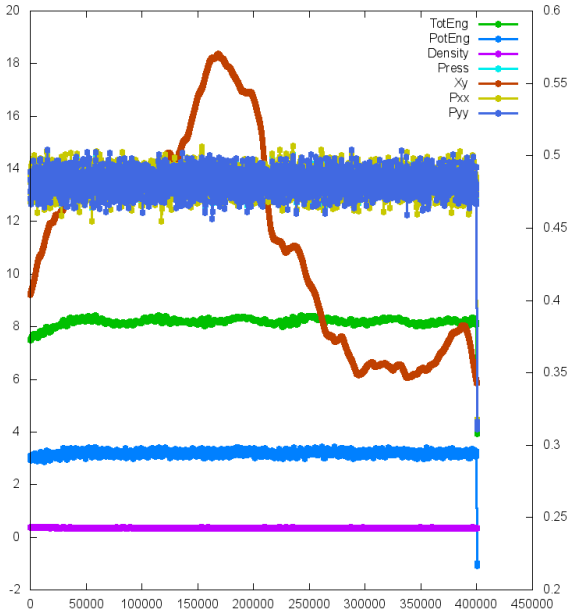


Figure 168: Properties

C1 Relaxation	0.169 785
C2 Relaxation	0.039 949 5
C3 Relaxation	0.089 886 3
C4 Relaxation	0.019 974 7
Diffusion Constant	0.8361
Average bond fraction	1.0437
Local Order	0.5137
Global Order	0.5001
Circle Order	0.1260
contacts	0.7000
neighbours	0.5000
pairing	0.1506
Density	0.3589
Total Energy	3.9254
Packing Fraction	0.7929

Table 21: Data