results of $t' = 0, U = 2$

April 1, 2015

Abstract

This report contains results of $t' = 0, U = 2$, $T = 0.5, 0.25, 0.125$ which are simulated at fixed $n = 0.3, 0.6, 0.8, 0.875, 1.0$. We present four physical quantities including energy density E, kinetic energy density K, double occupancy density D and chemical potential μ. Three techniques have been used including $G^2\Gamma$-scheme, $[G^{(0)}]^2\Gamma^{(0)}$-scheme and $[G^{(0)}]^2U$-scheme. Extrapolation(in the order N) figures are shown in Section 2,3,4, and final results($N \to \infty$) are shown in Table1, 2, 3.

1 Fitting table

Table 1: Extrapolation results: $G^2\Gamma$, $[G^{(0)}]^2\Gamma^{(0)}$ and $[G^{(0)}]^2U$ series for $U = 2$, $T = 0.5$

	n	1.0	0.875	0.8	0.6	0.3
E	$G^2\Gamma$	-	-1.1478(6)	-1.1802(6)	-1.1676(4)	-0.8191(2)
	$[G^{(0)}]^2\Gamma^{(0)}$	-1.04998(10)	-	-	-	-
	$[G^{(0)}]^2U$	-1.05001(6)	-	-	-	-
K	$G^2\Gamma$	-	-1.4221(10)	-1.4017(7)	-1.2832(5)	-0.8452(2)
	$[G^{(0)}]^2\Gamma^{(0)}$	-1.4351(6)	-	-	-	-
	$[G^{(0)}]^2U$	-1.4355(4)	-	-	-	-
D	$G^2\Gamma$	-	0.1372(6)	0.1107(4)	0.0578(3)	0.01304(6)
	$[G^{(0)}]^2\Gamma^{(0)}$	0.1927(3)	-	-	-	-
	$[G^{(0)}]^2U$	0.1928(2)	-	-	-	-
μ	$G^2\Gamma$	-	0.482(2)	0.173(2)	-0.6804(8)	-2.1908(1)
	$[G^{(0)}]^2\Gamma^{(0)}$	1.0	-	-	-	-
	$[G^{(0)}]^2U$	1.0	-	-	-	-

2 Fitting table

Table 2: Extrapolation results: $G^2\Gamma$, $[G^{(0)}]^2\Gamma^{(0)}$ and $[G^{(0)}]^2U$ series for $U = 2$, $T = 0.25$

	n	1.0	0.875	0.8	0.6	0.3
	$G^2\Gamma$	-	-1.2325(6)	-1.2667(6)	-1.2548(4)	-0.8812(2)
E	$[G^{(0)}]^2\Gamma^{(0)}$	-1.1337(3)	-	-	-	-
	$[G^{(0)}]^2U$	-1.1339(2)	-	-	-	-
	$G^2\Gamma$	-	-1.5144(8)	-1.4963(7)	-1.3763(6)	-0.9089(3)
K	$[G^{(0)}]^2\Gamma^{(0)}$	-1.5247(6)	-	-	-	-
	$[G^{(0)}]^2U$	-1.5248(5)	-	-	-	-
	$G^2\Gamma$	-	0.1410(5)	0.1148(3)	0.0607(3)	0.01387(6)
D	$[G^{(0)}]^2\Gamma^{(0)}$	0.1955(4)	-	-	-	-
	$[G^{(0)}]^2U$	0.1955(4)	-	-	-	-
	$G^2\Gamma$	-	0.527(3)	0.245(2)	-0.5755(8)	-2.1045(1)
μ	$[G^{(0)}]^2\Gamma^{(0)}$	1.0	-	-	-	-
	$[G^{(0)}]^2U$	1.0	-	-	-	-

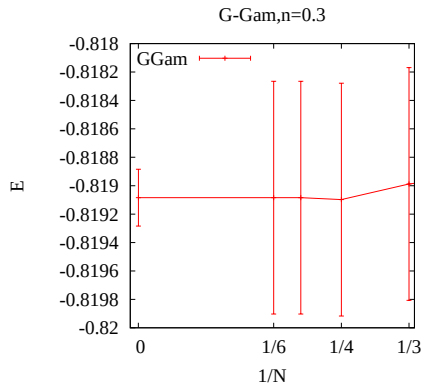
3 Fitting table

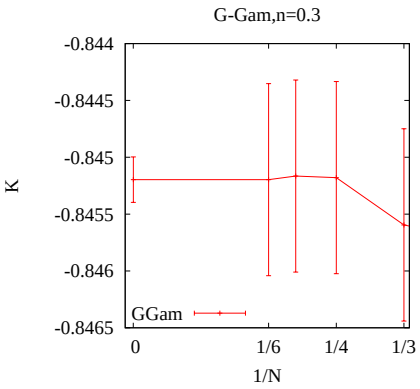
Table 3: Extrapolation results: $G^2\Gamma$, $[G^{(0)}]^2\Gamma^{(0)}$ and $[G^{(0)}]^2U$ series for $U = 2$, $T = 0.25$

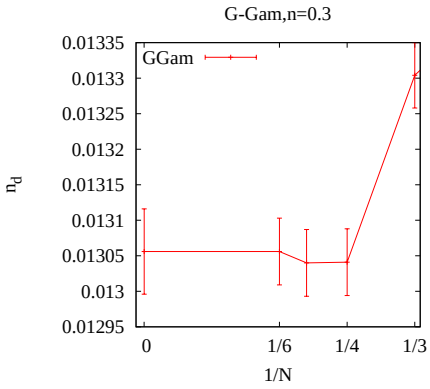
	n	1.0	0.875	0.8	0.6	0.3
	$G^2\Gamma$	-	-1.2600(6)	-1.2951(6)	-1.2790(4)	-0.8975(2)
E	$[G^{(0)}]^2\Gamma^{(0)}$	-	-	-	-	-
	$[G^{(0)}]^2U$	-1.1613(5)	-	-	-	-
	$G^2\Gamma$	-	-1.5464(7)	-1.529(1)	-1.4025(6)	-0.9257(2)
K	$[G^{(0)}]^2\Gamma^{(0)}$	-	-	-	-	-
	$[G^{(0)}]^2U$	-1.554(1)	-	-	-	-
	$G^2\Gamma$	-	0.1431(5)	0.1169(3)	0.0617(2)	0.01410(5)
D	$[G^{(0)}]^2\Gamma^{(0)}$	-	-	-	-	-
	$[G^{(0)}]^2U$	0.1961(9)	-	-	-	-
	$G^2\Gamma$	-	0.558(3)	0.2897(7)	-0.5423(5)	-2.0874(1)
μ	$[G^{(0)}]^2\Gamma^{(0)}$	-	-	-	-	-
	$[G^{(0)}]^2U$	1.0	-	-	-	-

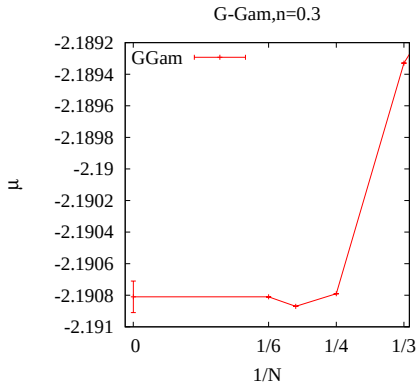
4 $T = 0.5$

4.1 $T = 0.5$, $n = 0.3$

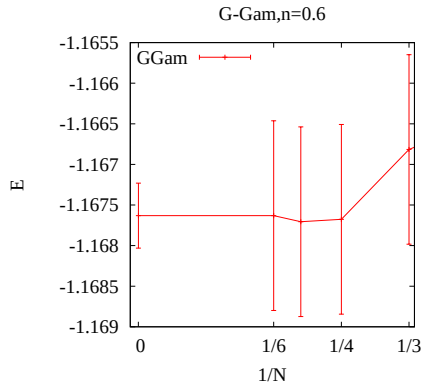


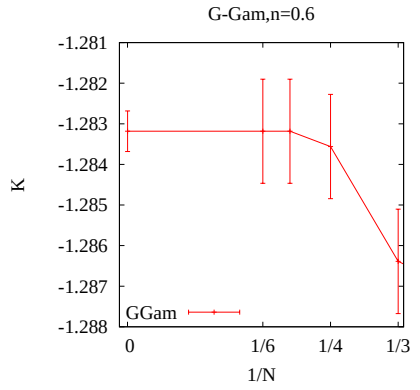


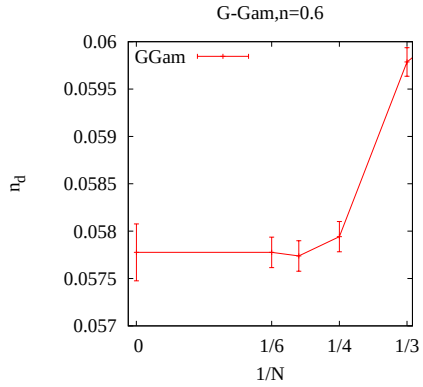


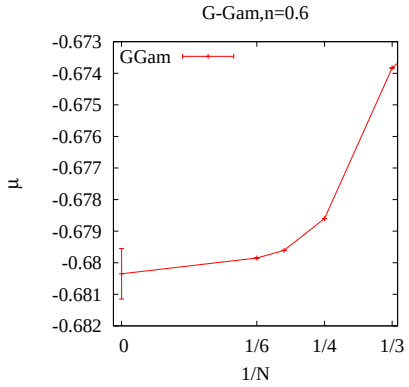


4.2 $T = 0.5$, $n = 0.6$

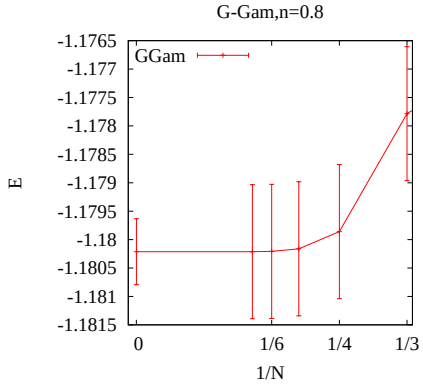


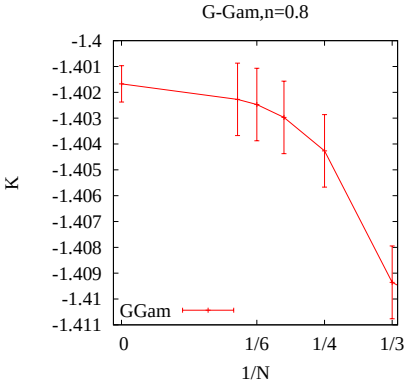


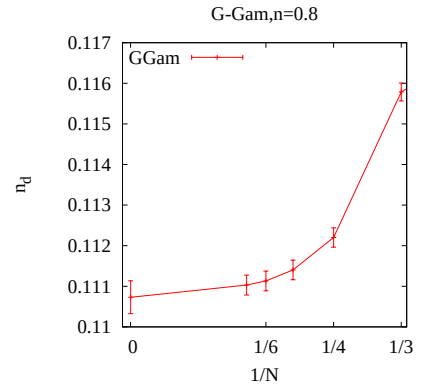

G-Gam,n=0.6
GGam
0.06
0.0595
0.059
0.0585
0.058
0.0575
0.057
n_d
0
1/6
1/4
1/3
1/N

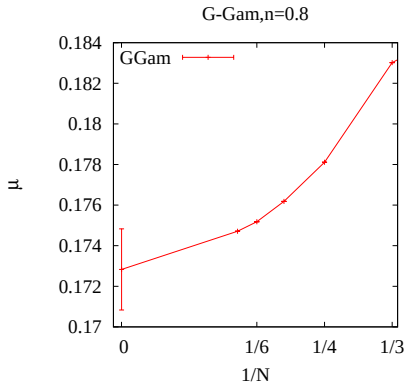

G-Gam,n=0.6
GGam
-0.673
-0.674
-0.675
-0.676
-0.677
-0.678
-0.679
-0.68
-0.681
-0.682
μ
0
1/6
1/4
1/3
1/N

4.3 $T = 0.5$, $n = 0.8$

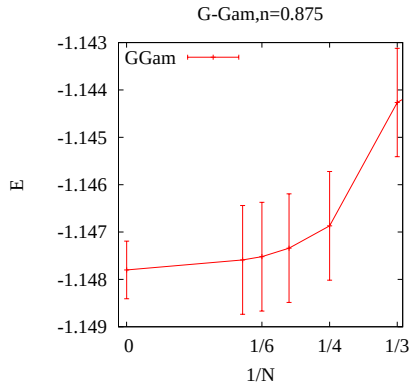

G-Gam,n=0.8
GGam
-1.1765
-1.177
-1.1775
-1.178
-1.1785
-1.179
-1.1795
-1.18
-1.1805
-1.181
-1.1815
E
0
1/6
1/4
1/3
1/N

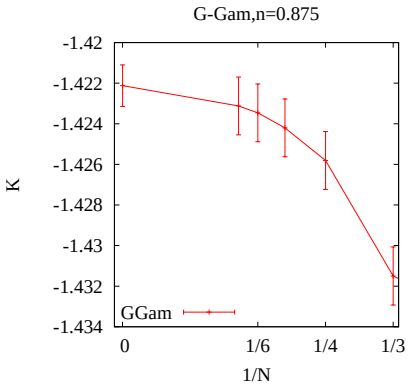

G-Gam,n=0.8
GGam
-1.4
-1.401
-1.402
-1.403
-1.404
-1.405
-1.406
-1.407
-1.408
-1.409
-1.41
-1.411
K
0
1/6
1/4
1/3
1/N

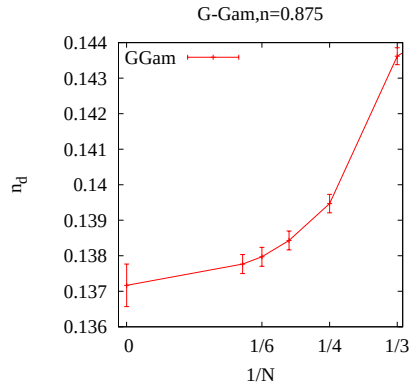

G-Gam,n=0.8
GGam
0.117
0.116
0.115
0.114
0.113
0.112
0.111
0.11
n_d
0
1/6
1/4
1/3
1/N

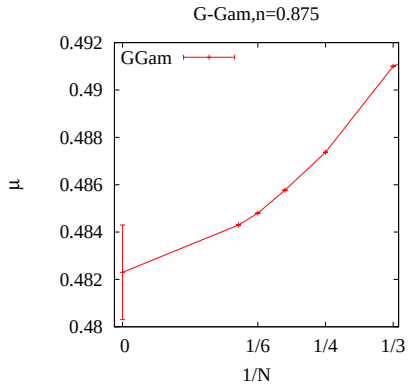

G-Gam,n=0.8
GGam
0.184
0.182
0.18
0.178
0.176
0.174
0.172
0.17
μ
0
1/6
1/4
1/3
1/N

4.4 $T = 0.5,\ n = 0.875$

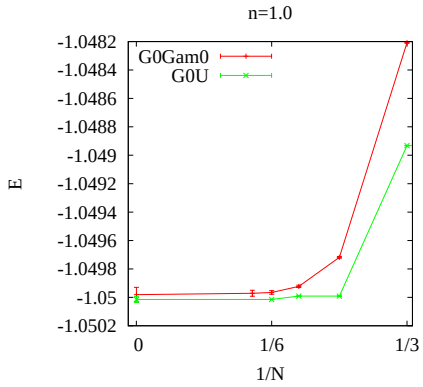


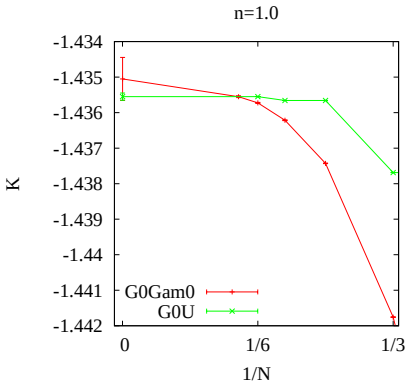


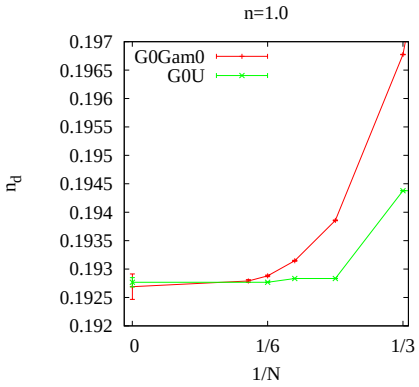




4.5 $T = 0.5,\ n = 1.0$

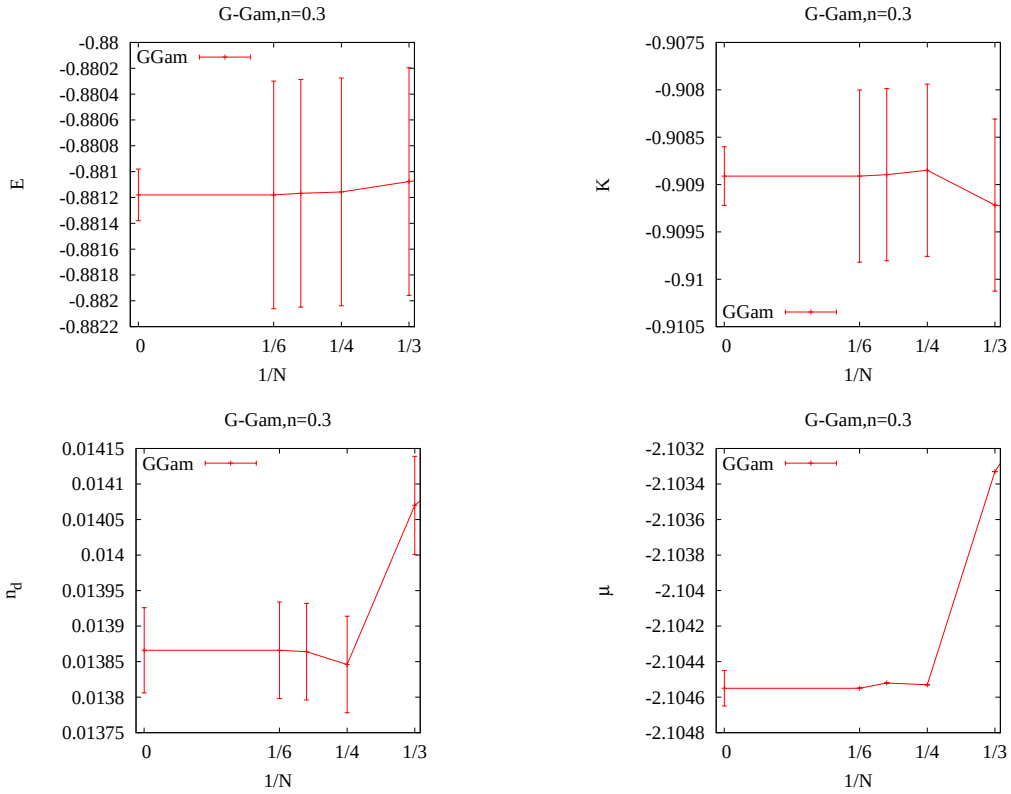




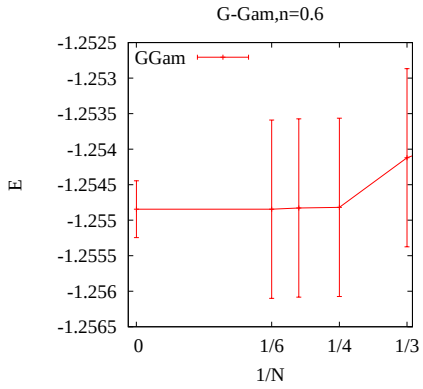


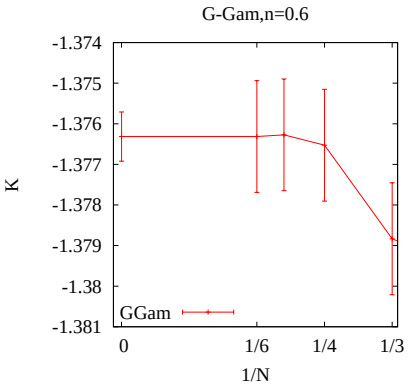
5 $T = 0.25$

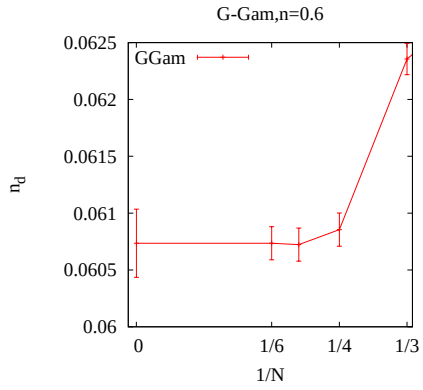
5.1 $T = 0.25$, $n = 0.3$

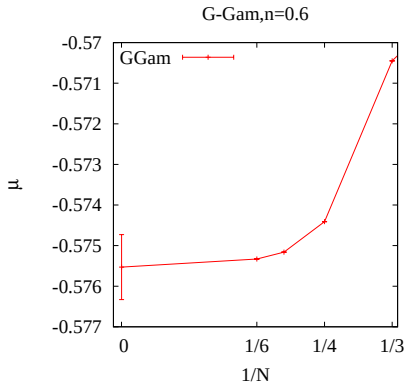


5.2 $T = 0.25$, $n = 0.6$

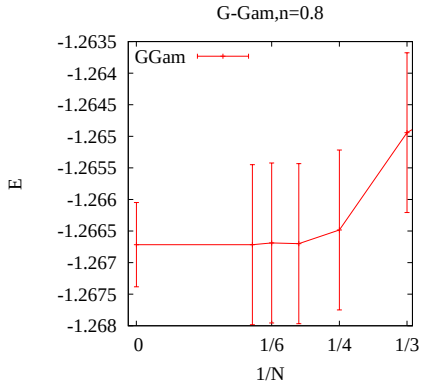


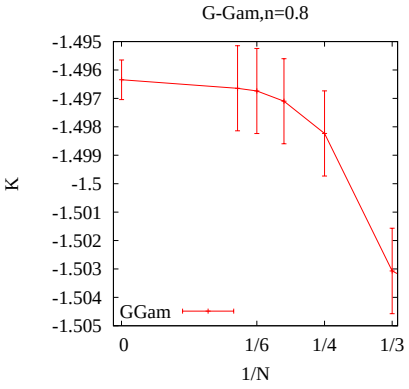


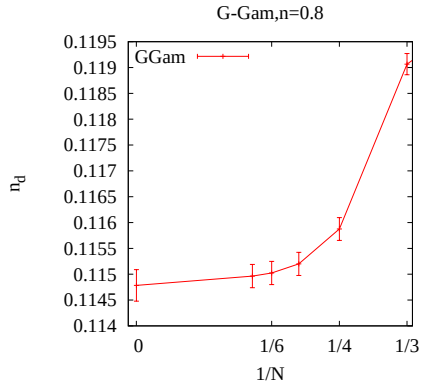


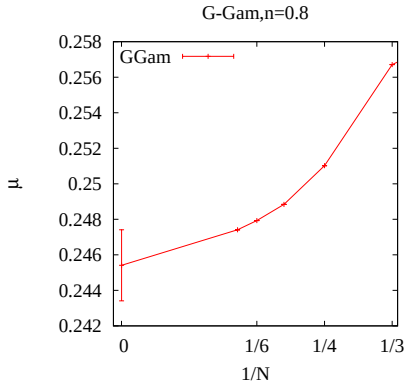


5.3 $T = 0.25$, $n = 0.8$

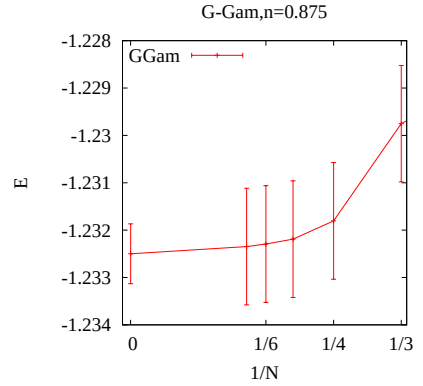


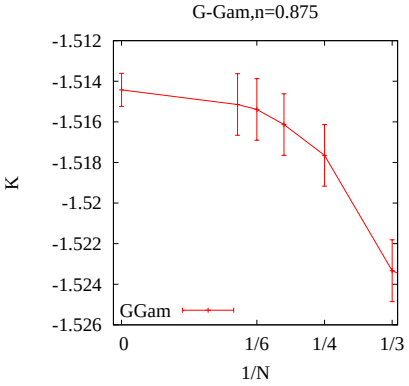


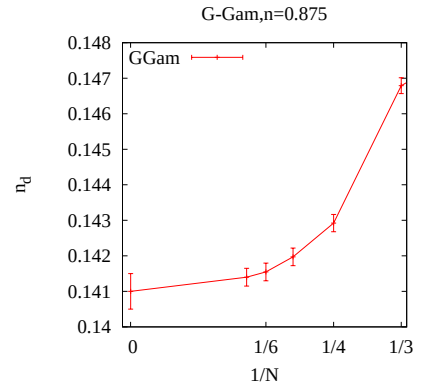


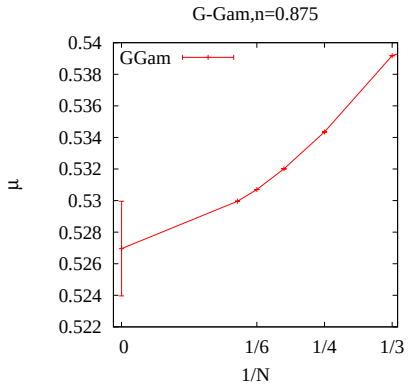


5.4 $T = 0.25$, $n = 0.875$

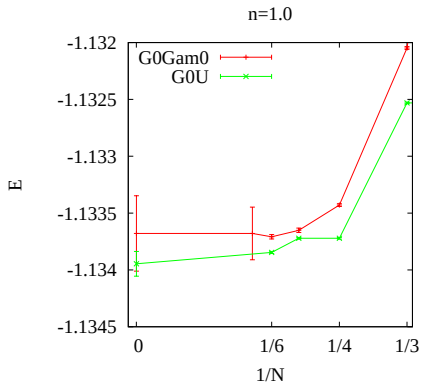


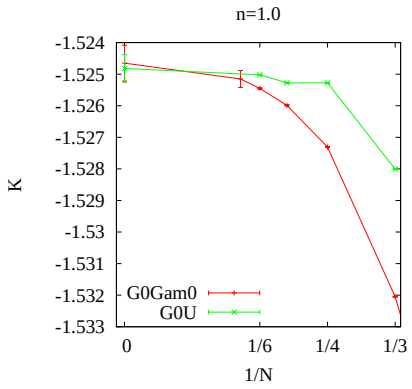


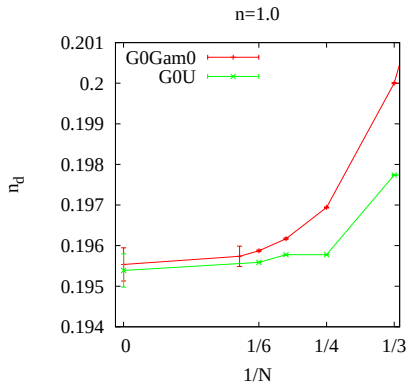




5.5 $T = 0.25$, $n = 1.0$

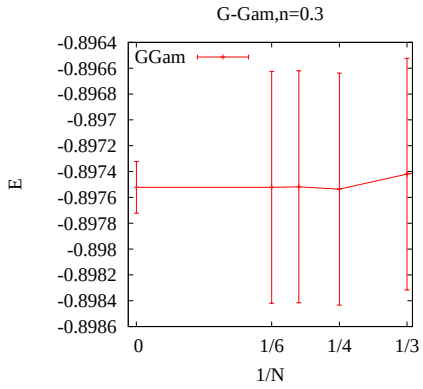


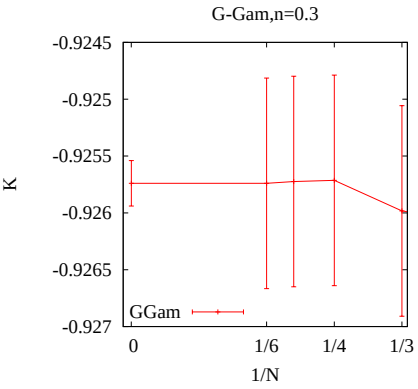


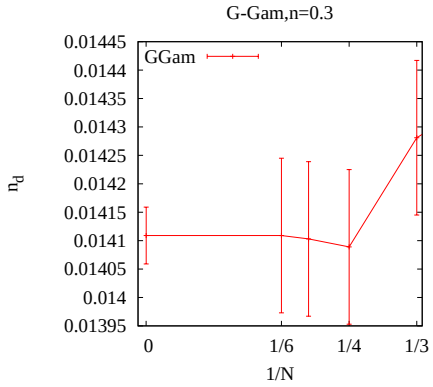


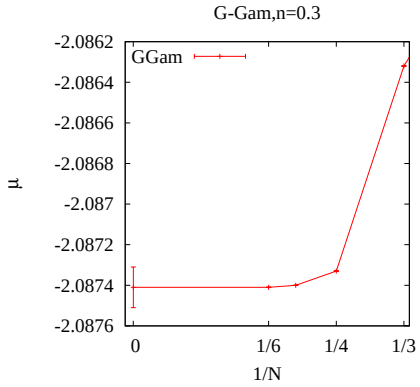
6 $T = 0.125$

6.1 $T = 0.125$, $n = 0.3$

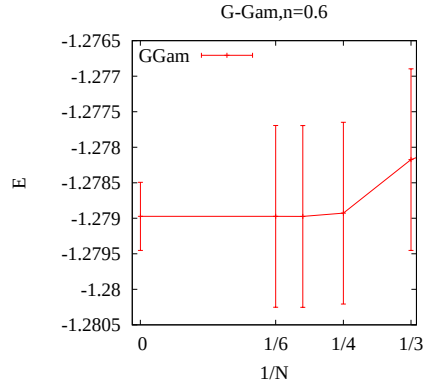


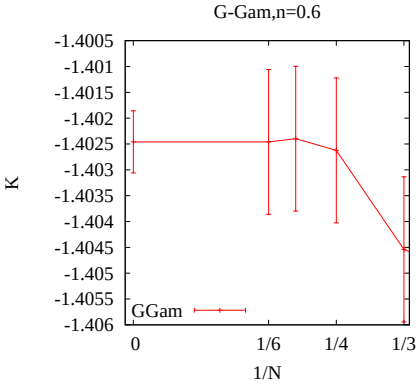


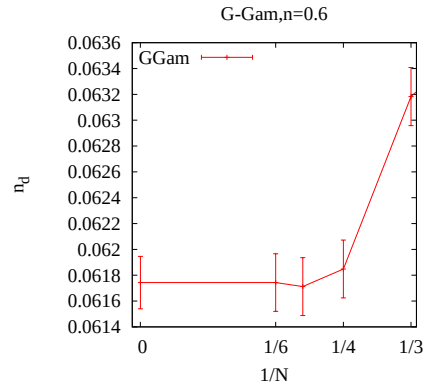

G-Gam,n=0.3
GGam
0.01445
0.0144
0.01435
0.0143
0.01425
0.0142
0.01415
0.0141
0.01405
0.014
0.01395
n_d
0
1/6
1/4
1/3
1/N

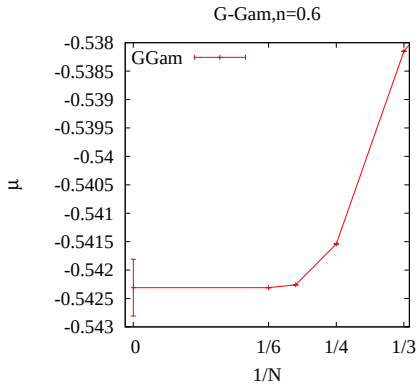

G-Gam,n=0.3
GGam
-2.0862
-2.0864
-2.0866
-2.0868
-2.087
-2.0872
-2.0874
-2.0876
μ
0
1/6
1/4
1/3
1/N

6.2 $T = 0.125$, $n = 0.6$

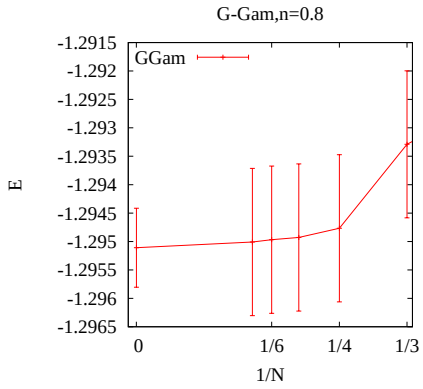

G-Gam,n=0.6
GGam
-1.2765
-1.277
-1.2775
-1.278
-1.2785
-1.279
-1.2795
-1.28
-1.2805
E
0
1/6
1/4
1/3
1/N

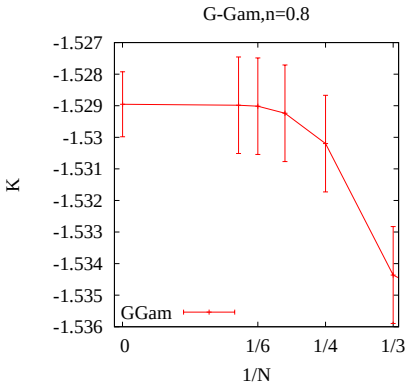

G-Gam,n=0.6
GGam
-1.4005
-1.401
-1.4015
-1.402
-1.4025
-1.403
-1.4035
-1.404
-1.4045
-1.405
-1.4055
-1.406
K
0
1/6
1/4
1/3
1/N

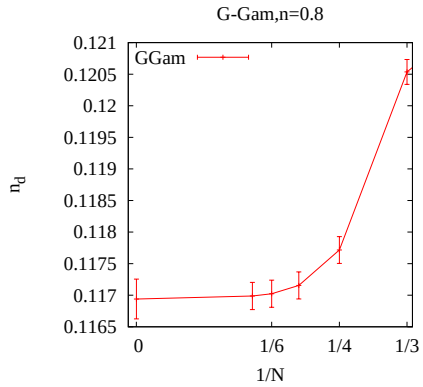

G-Gam,n=0.6
GGam
0.0636
0.0634
0.0632
0.063
0.0628
0.0626
0.0624
0.0622
0.062
0.0618
0.0616
0.0614
n_d
0
1/6
1/4
1/3
1/N

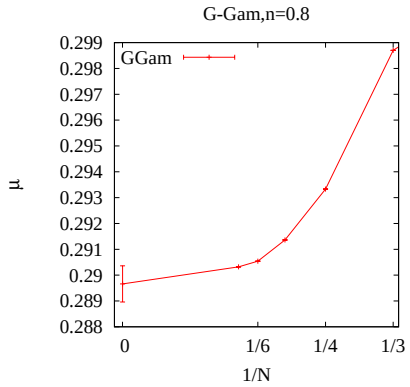

G-Gam,n=0.6
GGam
-0.538
-0.5385
-0.539
-0.5395
-0.54
-0.5405
-0.541
-0.5415
-0.542
-0.5425
-0.543
μ
0
1/6
1/4
1/3
1/N

6.3 $T = 0.125,\ n = 0.8$

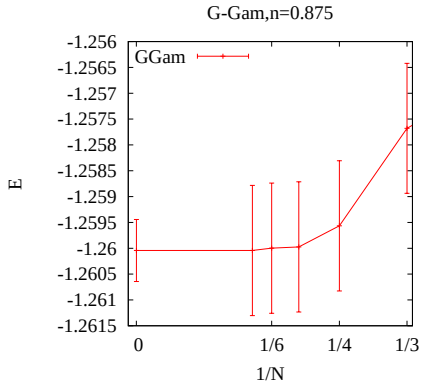


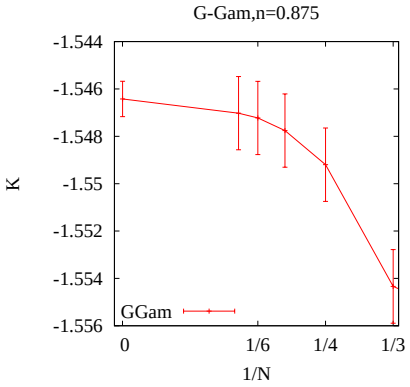


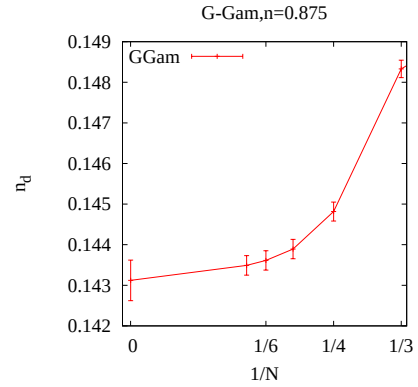


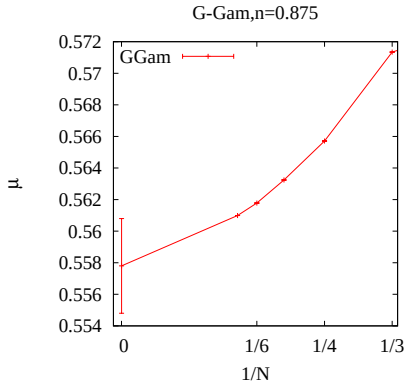


6.4 $T = 0.125,\ n = 0.875$

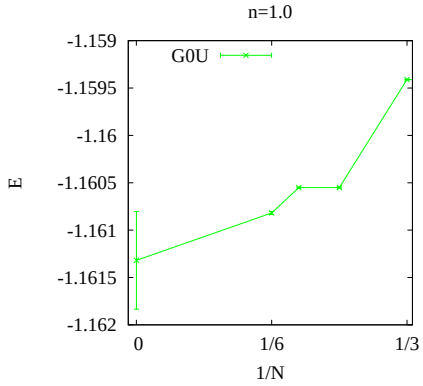


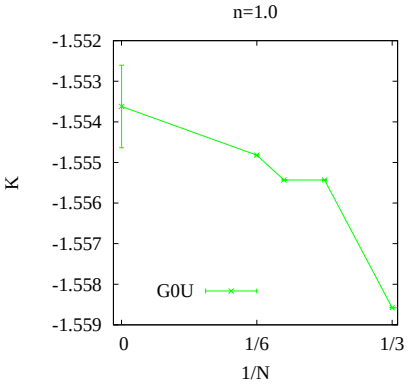


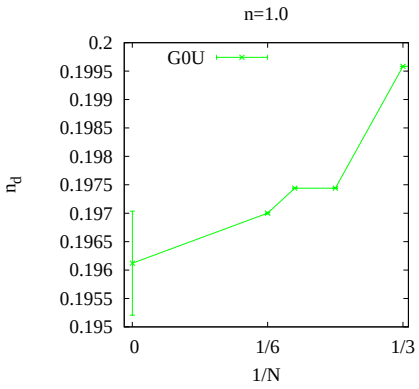

G-Gam,n=0.875
GGam
0.149
0.148
0.147
0.146
0.145
0.144
0.143
0.142
n_d
0
1/6
1/4
1/3
1/N


G-Gam,n=0.875
GGam
0.572
0.57
0.568
0.566
0.564
0.562
0.56
0.558
0.556
0.554
μ
0
1/6
1/4
1/3
1/N

6.5 $T = 0.125$, $n = 1.0$


n=1.0
G0U
-1.159
-1.1595
-1.16
-1.1605
-1.161
-1.1615
-1.162
E
0
1/6
1/3
1/N


n=1.0
G0U
-1.552
-1.553
-1.554
-1.555
-1.556
-1.557
-1.558
-1.559
K
0
1/6
1/3
1/N


n=1.0
G0U
0.2
0.1995
0.199
0.1985
0.198
0.1975
0.197
0.1965
0.196
0.1955
0.195
n_d
0
1/6
1/3
1/N