Statistical Mechanics

Page 1:

3x3 grid
Beta=0.3
Theory Curve with Monte Carlo curve on top of it

Page 2:

Inverse Temperature	Snapshot	P(M^2)	Value of <M^2>	P(E)	Value of <E>
Beta = 0.0		*(theory with line on top)*	*Also include theory number*	*(theory with line on top)*	*Also include theory number*
Beta =0.1					
Beta =0.2					
….					
Beta=1.0					
Beta =Inf		*(theory with line on top)*	*Also include theory number*	*(theory with line on top)*	*Also include theory number*

Magnetization squared	Specific Heat

Where is my transition

Page 3: Renormalization Group

L=81 x 81 Snapshots

Beta	81 x 81	Coarse-Grained 27x27	Coarse-Grained 9x9
0.0		*Theory:* *Numerics:*	*Theory:* *Numerics:*
0.3			
0.4			
0.5			
0.6			
Inf		*Theory:* *Nmerics:*	*Theory:* *Numerics:*

Where is the transition?

Magnetization squared data for coarse-grained 27 x 27 (from 81 x 81) and native 27 x 27. You must include theory points for beta=0 for both these curves.

R(J) vs J

Where are the fixed points. Which fixed points correspond to which phases (or critical transition)

R(J) curve with arrows.

Estimate the critical exponent ν.