

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 $\langle M^2 \rangle$	$P(E)$	Value of $\langle E \rangle$
Beta = 0.0		<i>(theory with line on top)</i>	<i>Also include theory number</i>	<i>(theory with line on top)</i>	<i>Also include theory number</i>
Beta =0.1					
Beta =0.2					
....					
Beta=1.0					
Beta =Inf		<i>(theory with line on top)</i>	<i>Also include theory number</i>	<i>(theory with line on top)</i>	<i>Also include theory number</i>

Magnetization squared	Specific Heat
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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		<i>Theory:</i> <i>Numerics:</i>	<i>Theory:</i> <i>Numerics:</i>
0.3			
0.4			
0.5			
0.6			
Inf		<i>Theory:</i> <i>Numerics:</i>	<i>Theory:</i> <i>Numerics:</i>

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 .