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Worm algorithms: from loops to surfaces, from spin models to gauge theories

Tuesday, 18 February 2014 15:00 (30 minutes)

We discuss the obvious generalization of the successful 'worm' simulation methods
from scalar field theories to abelian gauge models. Due to the geometrically
different situation, gauge simulations along these lines (so-far) still suffer
from critical slowing down. Other aspects like the low noise estimation
of observables – here the Polyakov lines and partition function ratios –
do generalize. We exploit these to compare the 3D Z(2) gauge theory with effective string models.

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