

Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Majority-vote model on a dynamic small-world square lattice THOMAS E. STONE, Husson University, SUSAN R. MCKAY, University of Maine — Majority-vote models are often used to study consensus building, coarsening dynamics, and phase transitions, among other phenomena. In addition to the microscope rules governing a particular model, it is well known that the relevant properties of each system depend crucially on the underlying lattice structure. Here we investigate a majority-vote with noise model on a square lattice with dynamic small-world rewiring via Monte Carlo simulation and finite size scaling analyses. We construct the order-disorder phase diagram and find the critical exponents associated with the continuous phase transition. We compare our results to those obtained from two-dimensional static small-world networks, as well as the isotropic lattice and mean-field limiting cases.

Thomas E. Stone
Husson University

Date submitted: 10 Nov 2011

Electronic form version 1.4