Consensus and transitions in coupled Sznajd networks MATTHEW
LUDDEN[1], University of Maine — In this work we investigate two coupled square
lattice networks undergoing Sznajd model dynamics. The coupling between the
networks is quantified by a coupling strength p. Monte Carlo simulations indicate
that the exit probability of each network (to reach either all spins up or all down)
depends on p and the initial density of up spins d in the other network. For fixed
initial densities, we find a critical coupling p_c, above which no further changes in the
exit probability are observed. We also find p_c to decrease linearly with increasing d.
The consensus time scales with system size as L^α, where $\alpha = \alpha(p,d)$. The conditions
that must be met for the two networks to reach consensus are also considered.

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