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A Simulation on the Efffect of Spins to the Emergence of Clustering in Network

We study a network model which involves spin–spin interactions and spin–link interactions. Each Ising spin can be in two states. The network property of interest is the clustering. It was found that the clustering is unrealistically dense in the Strauss's model. In this research, we observed the clustering at thermal equilibrium of each temperature and each energy couplings by Monte Carlo method. The simulation result shows that the number of triangles can be tuned by adjusting the coupling coefficients, unlike other more elementary models. The transition from low to unrealistically high triangular densities is also discussed.

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