

STEIN'S METHOD FOR APPROXIMATING STATIONARY DISTRIBUTIONS OF FAST MIXING GLAUBER DYNAMICS

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In this talk we review Stein's method and exchangeable pair couplings. Using such a coupling we provide a general bound on the Wasserstein distance between two arbitrary distributions of sequences of Bernoulli random variables. The bound is in terms of a mixing quantity for the Glauber dynamics of one of the sequences, and a simple expectation of the other. The result is applied to estimate, with explicit error, expectations of functions of random vectors for some Ising models and exponential random graphs in "high temperature" regimes.

This is joint work with Nathan Ross, University of Melbourne, Australia