



Minisymposium 7 - Stochastic algorithms and Markov processes

Exact simulation for discrete time spin systems and unilateral fields

EMILIO DE SANTIS (ROMA)

We present a generalization of the technique of Häggström and Steif (2000) for the exact simulation of finite sections of infinite-volume Gibbs random fields. The main role is played by an auxiliary binary field, which indicates the sampling region. Percolation bounds can be used to prove that the algorithm terminates almost surely. In the simplest case this field is Bernoulli; however a new blocking technique can be used that destroy the independence property but extend the validity of the algorithm. A connection with stationary unilateral fields in the plane, considered by Pickard (1980) and Galbraith and Walley (1982), is discussed.