



Minisymposium 7 - Stochastic algorithms and Markov processes

Perfect simulation: a survey and recent developments

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The technique of *exact* or *perfect simulation* was introduced in the celebrated paper of Propp and Wilson (1996), which showed how in favourable cases one might improve Markov chain Monte Carlo algorithms so as to deliver exact draws from statistical equilibrium. Since then the technique has seen much theoretical and practical development.

This talk will review ideas of perfect simulation and present an update to the survey of Kendall (2005). In particular I will discuss general results which show how one might carry out perfect simulation *in principle* (if not in practice) for general geometrically ergodic Markov chains and some generalizations (joint work with Stephen Connor).

References

W. S. Kendall (2005), "Notes on Perfect Simulation" in *Markov chain Monte Carlo: Innovations and Applications* (edited by W. S. Kendall, F. Liang, J.-S. Wang); (2005) pp 93-146.

J. G. Propp and D. B. Wilson (1996), "Exact sampling with coupled Markov chains and applications to statistical mechanics", *Random Structures and Algorithms*, 9, 223-252.