

A Dirichlet Form approach to MCMC Optimal Scaling

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January 24, 2018

Abstract: In this talk I will discuss the use of Dirichlet forms to deliver proofs of optimal scaling results for Markov chain Monte Carlo algorithms (specifically, Metropolis-Hastings random walk samplers) under regularity conditions which are substantially weaker than those required by the original approach (based on the use of infinitesimal generators). The Dirichlet form method has the added advantage of providing an explicit construction of the underlying infinite-dimensional context. In particular, this enables us directly to establish weak convergence to the relevant infinite-dimensional diffusion.

(Joint with Giacomo Zanella and Mylene Bدار.)

Reference:

Zanella, G., Bدار, M., Kendall, W. S. (2016). A Dirichlet Form approach to MCMC Optimal Scaling. To appear in *Stochastic Processes and Their Applications*. See also arXiv, 1606.01528, 22pp. URL: arxiv.org/abs/1606.01528.