

Hypocoercivity of Piecewise Deterministic Markov Processes

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Mots-clés : Markov process, MCMC, hypocoercivity, asymptotic variance

Several variants of PDMPs allow to sample from posterior distributions, namely the Randomized Hamiltonian Monte Carlo, the Zig-Zag process and the Bouncy Particle Sampler. The hypocoercivity techniques proposed in [1] produces spectral gap estimates with explicit dependence on the parameters of the dynamics, for a very general class of PDMPs. Moreover the general framework we consider allows to compare quantitatively the bounds on the asymptotic variance found for the different methods.

Références

- [1] Dolbeault, J., Mouhot, C., and Schmeiser, C. (2015). Hypocoercivity for linear kinetic equations conserving mass. *Trans. AMS*, 367:38073828

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