Non-Equilibrium Sampling

Alain Durmus*[1]

[1]ENS (Paris-Saclay) – Ecole Normale Supérieure de Paris - ENS Paris – France

Résumé

Travaux en collaboration avec Achille Thin, Yazid Janati, Sylvain Le Corff, Charles Ollion, Arnaud Doucet, Eric Moulines, Christian Robert

Sampling from a complex distribution$\pi$and approximating its intractable normalizing constant Z are challenging problems. In this talk, a novel family of importance samplers (IS) and Markov chain Monte Carlo (MCMC) samplers is derived. Given an invertible map T, these schemes combine (with weights) elements from the forward and backward orbits through points sampled from a proposal distribution ρ.$Themap$T$doesnotleavethetarget$\pi$invariant, hencethenameNEO, standingforNon-EquilibriumOrbits.NEO-ISprovidesunbiasedestimatorsofthenormalizingconstantandself-normalizedISestimator$
$MCMCcombinesmultipleNEO-ISestimatesofthenormalizingconstantandaniteratedsampling-importanceresampli$

*Intervenant