

Eyring-Kramers law and exit rates for the overdamped Langevin process

Boris Nectoux

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The kinetic Monte Carlo method (kMC) is widely used in practice to accelerate the sampling of the exit event from a metastable state in Molecular Dynamics. Besides, the so-called accelerated algorithms introduced by A.F. Voter and al. are based on the fact that the exit event is well approximated by a kMC method parametrized by exit rates computed with the celebrated Eyring Kramers law. In this talk, I will present recent results, based on the quasi-stationary distribution approach, which justify rigorously this approximation for the overdamped Langevin process.

Collaborators: G. Di Gesù, T. Lelièvre, D. Le Peutrec.