

Abstract Submitted
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Estimate Exponential Large Mean Exit Time for Diffusion Process XIANG ZHOU, HUI WANG, Brown University — We propose an efficient numerical method to estimate the mean exit time of a high dimensional diffusion process associated with an Ito SDE with a gradient drift and small ϵ diffusion coefficient, starting from a stable equilibrium of the drift. It is well-known that the mean exit time is exponential large in ϵ and thus the direct simulation of the SDE requires long time integration. Our method only requires the simulation time $O(1/\epsilon)$ and is based on the Ornstein-Uhlenbeck diffusion in each dimension.

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