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Langevin Trajectories Between Fixed Concentrations AMIT SINGER, ZEEV SCHUSS, Department of Mathematics, Tel Aviv University, BOAZ NADLER, Department of Mathematics, Yale University — We consider the trajectories of particles diffusing between two infinite baths of fixed concentrations connected by a channel, e.g. a protein channel of a biological membrane. The steady state influx and efflux of Langevin trajectories at the boundaries of a finite volume containing the channel and parts of the two baths is replicated by absorbers and sources of outgoing and ingoing trajectories at the boundaries, with specified strengths, velocity and location distributions. We present a simulation scheme that maintains averaged fixed concentrations without creating spurious boundary layers.

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