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Numerical Computation of Large Deviations Exponents via Simulation

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- [G96b.pdf](#)

Consider the problem of numerically computing the exponential rate at which the tail of the hitting time of a Markov chain to a given set decreases to zero. One approach involves computing the solution to an eigenvalue problem. In this paper, we use a regenerative representation for the exponential rate constant to construct an associated simulation-based estimator. A strong law and central limit theorem for the estimator are also presented.