Large deviation principles for Markov processes via Phi-Sobolev inequalities

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Abstract

Via Phi-Sobolev inequalities, we give some sharp integrability conditions on F for the large deviation principle of the empirical mean $frac{1}{T}{int_{0}^{T}{F(X_{s})}ds}$ for large time T, where F is unbounded with values in some separable Banach space. Several examples are provided.

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