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Normal approximation for functions of hidden Markov models. (English) Zbl 07549541
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Summary: The generalized perturbative approach is an all-purpose variant of Stein’s method used to obtain rates of normal approximation.Originally developed for functions of independent random variables, this method is here extended to functions of the realization of a hidden Markov model. In this dependent setting, rates of convergence are provided in some applications, leading, in each instance, to an extra log-factor vis-à-vis the rate in the independent case.

MSC:
60F05 Central limit and other weak theorems
60K35 Interacting random processes; statistical mechanics type models; percolation theory
60D05 Geometric probability and stochastic geometry

Keywords:
Stein’s method; Markov chains; generalized perturbative approach; normal approximation; stochastic geometry

Full Text: DOI

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