Estimating by Simulation the Distribution of Hitting Times to Rarely Visited Sets Using Exponential Approximations

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Résumé

For a regenerative process, we propose various estimators of the cumulative distribution function, density function and quantile of the cumulative reward up to hitting a rarely visited set of states. The approaches exploit existing weak-convergence results for the hitting-time distribution, and we apply simulation to efficiently estimate parameters of the limiting distribution. Based on joint works with P.W. Glynn and M/K. Nakayama.

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