

Importance Sampling Using the Semi-Regenerative Method

J. M. Calvin, P. W. Glynn, and M.K. Nakayama

Proceedings of the 2001 Winter Simulation Conference, 441-450(2001)

- [CalvinGNakayama01.pdf](#)

We discuss using the semi-regenerative method, importance sampling, and stratification to estimate the expected cumulative reward until hitting a fixed set of states for a discrete-time Markov chain on a countable state space. We develop a general theory for this problem and present several central limit theorems for our estimators. We also present some empirical results from applying these techniques to simulate a reliability model.