



UC3M-ICMAT Seminar – 2015/2016

Applied Probability and Statistics

Numerical Approximations for Average Cost Markov Decision Processes

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12h00, *ICMAT, Aula Naranja*

The optimal value and the optimal policies of a stochastic control problem can be derived from the solution of the Bellman optimality equation. This equation, however, cannot be solved explicitly in general. We propose a technique that allows to obtain numerical approximations for the optimal value and the optimal policies of an average cost Markov control problem. We base our approach on the sampling of an underlying probability measure. The approximations are then shown to converge in probability at an exponential speed. Our results are illustrated by solving an inventory problem.

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