

Patek, Stephen D.

On terminating Markov decision processes with a risk-averse objective function. (English)

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This paper deals with terminating risk-sensitive finite states Markov decision processes with an absorbing and cost-free extra state. So the terminating problem is to seek stochastic shortest paths. Introducing two dynamic programming operators, the author gives the following results. (i) The existence and characterization of an optimal policy. (ii) Convergence properties for value iteration and policy iteration. Moreover, he illustrates the results with two computational examples.

Reviewer: M.Nisio (Osaka)

MSC:

93E20 Optimal stochastic control

90C40 Markov and semi-Markov decision processes

49L20 Dynamic programming in optimal control and differential games

49J55 Existence of optimal solutions to problems involving randomness

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