

How to simplify optimal strategies in zero-sum stochastic games

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In zero-sum stochastic games, the players generally do not have optimal strategies, due to lack of continuity, and have to resort to approximately optimal strategies. However, in games in which a player does have an optimal strategy, it is an interesting question how complicated such an optimal strategy needs to be. We show, for various classes of stochastic games, that whenever an optimal strategy exists, optimality can be achieved in relatively simple classes of strategies, often in stationary strategies.