

Perfect Information Stochastic Games with Purely Atomic Transitions

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Abstract

We consider discounted stochastic games with [1] Perfect information: at each state only one player is active, and [2] Purely atomic transitions: From each state, given each action of the active player, the transition to at most countably many states can occur with positive probability. We allow for the set of actions and the set of states to be uncountable and do not require any kind of continuity of reward functions or transition probabilities. Our main result is that a game satisfying [1] and [2] admits an adjusted subgame perfect epsilon-equilibrium, for every positive epsilon.