

FEEDBACK STACKELBERG SOLUTIONS OF INFINITE-HORIZON STOCHASTIC DIFFERENTIAL GAMES

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We present a sufficient condition for a feedback Stackelberg equilibrium of a stochastic differential game on an infinite horizon. This condition gives rise to a system of elliptic partial differential equations involving a static Stackelberg game at the level of Lagrangian. As an example, we consider a linear quadratic problem, obtain the corresponding algebraic Riccati equation, and provide its solution in the scalar case.

Keywords: Differential games, feedback Stackelberg equilibrium, Riccati equation, infinite horizon.