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"Nonlinear stochastic differential games involving a major player
and a large number of minor agents"

Abstract: We study 2-person zero-sum stochastic differential games, with one major player and a group of N minor agents which are collectively playing as another player. The game is studied in a weak formulation, and the payoff/cost functional is defined through a controlled backward stochastic differential equation. We study the limit behavior of these saddle point controls and of the associated Hamiltonian, and we characterize the limit of the saddle point controls as the unique saddle point control of the limit mean-field stochastic differential game.

This is a joint work with Rainer Buckdahn, and Shige Peng.