Institut für Mathematik

Seminar zur Stochastik

Donnerstag, 7. Dezember 2023
16 Uhr s.t.
SR 122 Carl-Zeiss-Str. 3

Dr. Berenice Anne Neumann
(Universität Trier)

"Markovian randomized equilibria for general Markovian Dynkin games in discrete time"

Abstract: We study a general formulation of the classical two-player Dynkin game in a Markovian discrete time setting. We show that an appropriate class of mixed, i.e., randomized, strategies in this context are Markovian randomized stopping times, which correspond to stopping at any given state with a state-dependent probability. One main result is an explicit characterization of Wald-Bellman type for Nash equilibria based on this notion of randomization. In particular, this provides a novel characterization for randomized equilibria for the zero-sum game, which we use, e.g., to establish a new condition for the existence and construction of pure equilibria, to obtain necessary and sufficient conditions for the non-existence of pure strategy equilibria, and to construct an explicit example with a unique mixed, but no pure equilibrium. We also provide existence and characterization results for the symmetric specification of our game. Finally, we establish existence of a characterizable equilibrium in Markovian randomized stopping times for the general game formulation under the assumption that the state space is countable.

Alle Interessierte sind herzlich eingeladen

Kontakt:
Stefan Ankirchner
Professur Stochastische Analysis
Institut für Mathematik
Ernst-Abbe-Platz 2
07743 Jena