

报告题目: Large ranking games with diffusion control 报告人: Dr. Chao Zhou (National University of Singapore, Singapore) 时间: 2022-09-28 星期三 14:00--15:00

地点: 腾讯会议号: 110-504-515, 密码: 200433

## 报告摘要:

We consider a symmetric stochastic differential game where each player can control the diffusion intensity of an individual dynamic state process, and the players whose states at a deterministic finite time horizon are among the best alpha of all states receive a fixed prize. Within the mean field limit version of the game we compute an explicit equilibrium, a threshold strategy that consists in choosing the maximal fluctuation intensity when the state is below a given threshold, and the minimal intensity else. We show that for large n the symmetric n-tuple of the threshold strategy provides an approximate Nash equilibrium of the n-player game. We also derive the rate at which the approximate equilibrium reward and the best response reward converge to each other, as the number of players n tends to infinity. Finally, we compare the approximate equilibrium for large games with the equilibrium of the two player case. This talk is based on the joint work with Stefan Ankirchner, Nabil Kazi-Tani and Julian Wendt.

非线性数学模型与方法教育部重点实验室 中法应用数学国际联合实验室 上海市现代应用数学重点实验室 复旦大学数学研究所