



## 复旦大学数学科学学院 数学综合报告会

报告题目: Probabilistic interpretation of a system of coupled Hamilton-Jacobi-Bellman-Isaacs equations

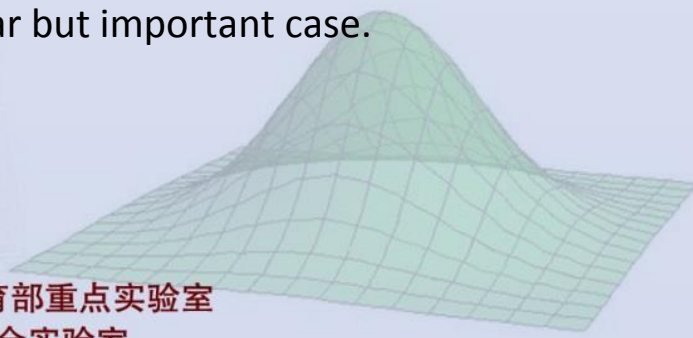
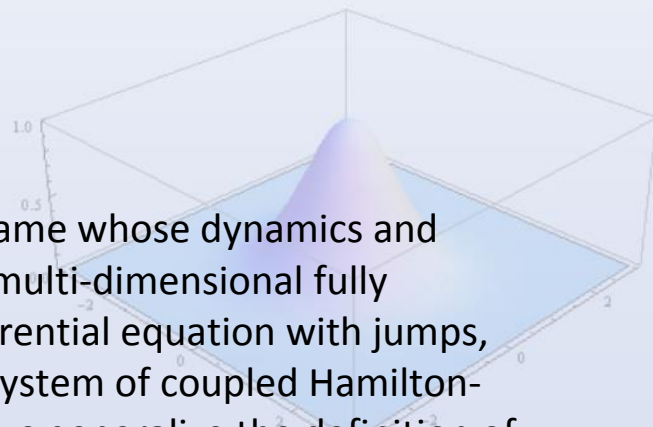
报告人: 魏庆萌 博士 (东北师范大学)

时间: 2020-11-17 星期二 10:30-11:30

地点: 光华东主楼1501室

报告摘要:

By introducing a stochastic differential game whose dynamics and multi-dimensional cost functionals form a multi-dimensional fully coupled forward-backward stochastic differential equation with jumps, we give a probabilistic interpretation to a system of coupled Hamilton-Jacobi-Bellman-Isaacs equations. For this, we generalize the definition of the value function initially defined only for deterministic times and states to stopping times and random variables. The generalization plays a key role in the proof of a strong dynamic programming principle. This strong dynamic programming principle allows us to show that the value function is a viscosity solution of our system of coupled HJBI equations. The uniqueness is obtained for a particular but important case.



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