深圳北理莫斯科大学
УНИВЕРСИТЕТ МГУ-ППИ В ШЭНЬЧЖЭНЕ
SHENZHEN MSU-BIT UNIVERSITY

# 应用数学讲座

## Научный Семинар по Прикладной Математике

## Research Seminar on Applied Mathematics

# 应用数学报告（68）

**报告人 / Докладчик / Speaker: 熊捷 教授**（南方科技大学）

**题目 / Название / Title: Well-posedness of the martingale problem for super-Brownian motion with interactive branching**

**时间 / Время / Time：19 Oct. 2022, 16:00-20:00**

**地点 / Место / Venue: 腾讯会议：217-396-916　　会议密码：777777**

**摘要 / Аннотация / Abstract**:

Applying the Foster-Lyapunov type criteria and a martingale method, we study a two-dimensional process $(X, Y)$ arising as the unique nonnegative solution to a pair of stochastic differential equations driven by independent Brownian motions and compensated spectrally positive L\‘evy random measures. Both processes $X$ and $Y$ can be identified as continuous-state nonlinear branching processes where the evolution of $Y$ is negatively affected by $X$. Assuming that process $X$ extinguishes, i.e. it converges to $0$ but never reaches $0$ in finite time, and process $Y$ converges to $0$, we identify rather sharp conditions under which the process $Y$ exhibits, respectively, one of the following behaviors: extinction with probability one, extinguishing with probability one or both extinction and extinguishing occurring with strictly positive probabilities.

## 熊捷教授简介：

熊捷教授，南方科技大学讲席教授，博士生导师。1983 年在北京大学数学系获得学士学位，1986 年获得北京大学概率统计系硕士学位，1992 年在美国北卡罗莱纳大学教堂山分校统计系获得博士学位。曾在美国田纳西大学、澳门大学担任教授，2017 年底加入南方科技大学数学系，担任讲席教授。随机过滤、随机偏微分方程和金融数学方向的知名专家。熊教授的研究领域包括随机微分方程、马氏过程、极限理论、随机分析、数理金融等，在 Annals of Probability, Probability Theory and Related Field, Annals of Applied Probability , Stochastis Process. Appl., SIAM J. Control Optim. 等期刊发表论文 100 余篇。

*访问学者以及需要做报告的学者请联系* ***张晔*** *教授 / Всем желающим выступить с докладами на семинаре просьба обращаться к* ***Чжану Е*** ye.zhang@smbu.edu.cn