# 北京师范大学 随机数学研究中心

# 学术报告

**报告人：** 石权 副研究员 (中科院应用数学所)

**题 目：** The derivative martingale in a branching Lévy process

**时 间：** 2022年1月6日 (周四) 下午4:00-5:00

**地 点：** 后主楼 1225

**摘 要：** A continuous-time particle system on the real line satisfying the branching property and an exponential integrability condition is called a branching Lévy process, and its law is characterized by a triplet $(\sigma^2, a, \Lambda)$. We obtain a necessary and sufficient condition for the convergence of the derivative martingale of such a process to a non-trivial limit in terms of $(\sigma^2, a, \Lambda)$. This extends previously known results on branching Brownian motions and branching random walks. To obtain this result, we rely on the spinal decomposition and establish a novel zero-one law on the perpetual integrals of centred Lévy processes conditioned to stay positive.This is joint work with Bastien Mallein.