

数学与系统科学研究院
计算数学所网络学术报告

报告人: **Prof. Xiaojie Wang**

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报告题目:

**Mean-square convergence rates of
implicit Euler-type and Milstein-type
methods for nonlinear SDEs with
non-Lipschitz coefficients:
applications to financial models**

邀请人: 洪佳林 研究员

报告时间: 2020年7月5日(周日)

下午 15:00-16:00

报告工具: 腾讯会议 (ID: 517 635 352)

直播地址:

<https://meeting.tencent.com/s/nK2jC4uFXkQw>

Abstract:

This talk is concerned with mean-square convergence rates of implicit Euler-type and Milstein-type methods for nonlinear SDEs with non-Lipschitz coefficients. By deriving upper mean-square error bounds only involved with the exact solution processes, we provide a new approach of error analysis for the considered implicit methods, which does not rely on a priori high-order moment estimates of the numerical approximations. Based on the obtained error bounds, we recover the expected convergence rates of the implicit Euler-type and Milstein-type methods. As applications, we also reveal the desired mean-square convergence rates of the positivity preserving schemes for financial SDE models.

欢迎大家参加！