复旦大学数学科学学院

数学综合报告会

报告题目：Rough stochastic filtering

报告人：Prof. Peter K. Friz（TU and WIAS Berlin）

时间：2025-10-16 星期四10:00-11:00

地点：光华楼东主楼1601

报告摘要：

The theory of rough stochastic differential equations (arXiv:2106.10340) is applied to revisit classical problems in stochastic filtering. We provide rough counterparts to the Kallianpur-Striebel formula and the Zakai and Kushner-Stratonovich equations, seen to coincide with classical objects upon randomization. We follow Crisan-Pardoux (arXiv:2411.11125) in doing so in a correlated diffusion setting. Well-posedness of the (rough) filtering equation is seen to hold under dimension-independent regularity assumption, in contrast to the stochastic case.
(Joint work with Fabio Bugini, Khoa Lê, Huilin Zhang)

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