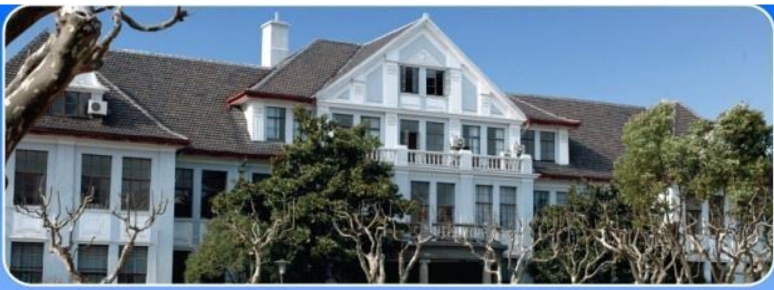

复旦大学数学科学学院

数学综合报告会

报告题目：Infinite horizon FBSDEs and LQ optimal control problems

报告人：于志勇 教授 (山东大学)

时间：2022-12-05 星期一 10:00-11:00

地点：腾讯会议 ID: 670-639-325， 密码：200433

报告摘要：

In this talk, we introduce a new infinite horizon domination-monotonicity framework. In this framework, by the method of continuation and some subtle techniques, we obtain an existence and uniqueness result and a pair of estimates for the solutions to a kind of infinite horizon coupled forward-backward stochastic differential equations (FBSDEs, for short). Then, the theoretical result of FBSDEs is applied to solve a stochastic linear-quadratic (LQ, for short) optimal control problem with random time-varying coefficients on infinite horizon. The unique open-loop optimal control is characterized by the solution of an infinite horizon FBSDE. Moreover, we find and illustrate a different phenomenon between the LQ problems on infinite horizon and finite horizon.

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