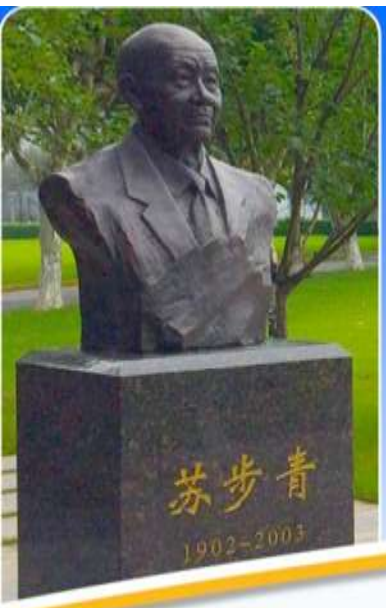


复旦大学数学科学学院

数学综合报告会

报告题目：**Decomposition of random times, application to default times**

报告人：Monique JEANBLANC

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报告时间：2018-10-10 星期三 11:00-12:00

报告地点：光华东主楼 2001

摘要：

We provide a general model of default time, extending the models of Jiao and Li (modelling sovereign risks) and Gehmlich and Schmidt (dynamic defaultable term structure modelling beyond intensity paradigm).

We show that any random time τ can be decomposed in two parts as $\tau= \tau_1 \wedge \tau_2$ under the condition that the first random time τ_1 avoids stopping times in the reference filtration $\mathbb F$, and the second time τ_2 is thin, i.e., its graph is included in a countable union of graphs of stopping times in the reference filtration $\mathbb F$. Under the condition $\tau_1\vee \tau_2=\infty$, the decomposition is unique. This decomposition is based on a study of the dual optional projection of τ, as the decomposition of a stopping time into accessible and totally inaccessible is based on the dual predictable projection. We show that for a thin time τ_2, any $\mathbb F$-martingale is a semimartingale in its progressive enlargement with τ_2 and we give its semimartingale decomposition.

We prove that any martingale in the reference filtration is a semimartingale in the progressive enlargement with τ if and only if the same property holds for the progressive enlargement with τ_1 and we give its semimartingale representation.

We establish in that the immersion property holds for τ if and only if it holds for τ_1.

(Joint work with Anna Aksamit, Tahir Choulli)

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