



## 复旦大学数学科学学院 数学综合报告会

报告题目: **About the invariance principle and its applications  
on credit risk models**

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**摘要:** The notion of risk has entered everyone's mind and the risk hedging has become part of everyday life of market actors. From a technical point of view, the risk hedging depends on the information about the future risks. However, this information may not be available for everyone. This leaves a doubt as to the effectiveness of the risk hedging strategy. This being so, the market shows a relative stability, whatever if everyone shares the same information. This contradictory situation needs an explication. A recent study of the invariance principle seems to give a good theoretical model to this market stability phenomenon. This talk gives a presentation of the invariance principle and some of its applications. We begin with the reduction method, which is a computation rule in the theory of enlargement of filtration, and it constitutes the basis of the invariance principle. Then, we define the invariance probability measure and prove its existence and the first consequences. As applications, we present notably how the invariance principle affects the computation of BSDE equations arising in the credit risk models. Helped with this application on BSDE computation, we give a brief literature summary about the pricing in defaultable market, which shows how naturally the invariance principle arises from the default pricing theory and how it extends the classical results. We end the presentation by some words on the transfer formulas and applications to Markovian credit risk models.

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