

Kolloquium

Institut für Mathematik
Universität Innsbruck

Paolo Di Tella, Humboldt University Berlin

The Chaotic Representation Property of Certain Families of Martingales

We investigate the **chaotic representation property** of certain families of square integrable martingales, which we call **compensated-covariation stable families**. First, we introduce the **multiple integrals** with respect to elements of a compensated-covariation stable family of martingales. The **main result** is that **any compensated-covariation stable family of martingales which satisfies some further conditions possesses the chaotic representation property**.

As first examples, we consider continuous Gaussian families of martingales and independent families of compensated Poisson processes. Then we apply the result to the case of Lévy processes. We shall construct families of martingales relative to a Lévy filtration which possess the chaotic representation property. We give several examples including Teugels martingales.

Do·22·Mai 16:15·HS·D