

Abstract "Second-order BSDEs, jump uncertainty and applications in finance"

This short course will be devoted to recent progresses in the theory of second-order BSDEs and their application in so-called "robust" financial models. In the first course, we will review the recent literature on volatility uncertainty, putting an emphasis on the technical problems raised by the subtle issue of aggregation. Then, the rest of the course will be devoted to second-order BSDEs, their extensions to a jump setting and an application to utility maximization in a context of both volatility and jump uncertainty.