Institut für Mathematik

Seminar zur Stochastik

Dienstag, 13. November 2018
12 Uhr c. t.
SR 307, Carl-Zeiss-Str. 3

Herr Dr. Long Teng
(Bergische Universität Wuppertal)

"A multi-step scheme based on cubic spline for solving BSDEs"

Abstract: In this work we propose a multi-step scheme on time-space grids for solving backward stochastic differential equations, where cubic spline interpolating polynomials are used to approximate the time-integrands with given values of these integrands at chosen multiple time levels. Compared to existing multi-step schemes, we obtain a better stability and admit more time levels for approximating. The resulting scheme is a semi-discretization in the time direction involving conditional expectations, which can be numerically solved by using the Gaussian quadrature rules and polynomial interpolations on the spatial grids. Several numerical examples including applications in finance are presented to demonstrate the high accuracy and stability of our new multi-step scheme.

Alle Interessierte sind herzlich eingeladen

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