Titre

BSDEs WITH JUMPS AND FINITE OR INFINITE TIME HORIZON

présenté par

Ibrahima Faye

Département de Mathématiques

UFR SATIC, UADB

BP : 30, Bambey, Sénégal

Abstract: After the pioneer work of Pardoux and Peng on linear Backward stochastic differential equation (BSDE in short) with Lipschitz generator, the interest in such stochastic equations has increased thanks to the many domains of applications including stochastic representation of solutions of partial differential equations (PDEs in short). For example, Pardoux and Peng proved that BSDEs provide a probabilistic formula for solutions of quasilinear parabolic PDEs.

BSDEs with Poisson Process (BSDEP in short) were first discussed by Tang, Li and Wu. Studying such equations, Barles and al. obtained a probabilistic interpretation of a solution of a parabolic integral-partial differential equation (PIDE). This was done by means of a real-valued BSDEP with Lipschitzian generator. Since then many efforts have been done in relaxing the Lipschitz assumption of the generator of the BSDEs and the BSDEP.

A natural question is under which condition on the coefficients, the stochastic equation still has a solution. Our contribution is devoted to solving a real valued backward stochastic differential equation with jumps where the time horizon may be finite or infinite. Under linear...
growth generator, we prove existence of a minimal solution. Using a comparison theorem we show existence and uniqueness of solution to such equations when the generator is uniformly continuous and satisfies a weakly monotonic condition.

**Date et heure :** Lundi 14 Mars 2015 de 13h à 14h

**Lieu :** Centre de Ngoundiane, Salle Informatique 1

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