INSTITUT DE MATHÉMATIQUES - PROBABILITÉS

ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

SEMINAIRE DE PROBABILITES

Mercredi 12 avril 2006 à 16h15

Salle MA 11, 1er étage, Bâtiment MA, EPFL, Ecublens

Prof. Alexander NOVIKOV

University of Technology, Sydney

présentera une conférence intitulée

Boundary Crossing Problems for Ornstein-Uhlenbeck Processes: Some Explicit and Asymptotic Results

Résumé: Ornstein-Uhlenbeck (O-U) processes with discrete and continuous-time parameter are used in many engineering, statistical, actuarial and other applications. In this talk, we discuss several approaches to boundary crossing problems for O-U processes. These include integro-differential equations and martingale techniques. We find some explicit formulas for the Laplace transform of first passage times. As applications, we consider the Exponentially Weighted Moving Average (EWMA) procedure (used in statistical quality control) and ruin probabilities under discrete and continuous-time settings.

Note. Prof. A. Novikov is known to many for his "Novikov criterion" used in Girsanov's theorem.

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