НАЦИОНАЛЕН СЕМИНАР ПО СТОХАСТИКА

На 17 октомври 2018 г. (сряда) от 14:00 часа в зала 403 на ИМИ – БАН, доклад на тема:

"Асимптотични решения на обратната задача на Ширяев"

ще изнесе Дончо Дончев (ФМИ – СУ).

Abstract: In our recent paper, we characterized the exit density of a Brownian motion through one-sided smooth boundaries in terms of a solution of some parabolic second-order PDE. It turns out that this equation can be reduced to a first-order PDE. It is shown that the solution to the last equation admits an analytic representation only for three classes of boundaries – parabolic boundaries, square-root boundaries and rational boundaries. Our approach is substantiated by an example, where we find the exit density of a boundary not studied so far.

Next, we discuss the inverse first exit problem. We derive an asymptotic formula, that describes the small time behaviour of the exit density $p_f(t)$ that corresponds to a boundary $f(t)$. Making use of this formula, we construct a function $f(t)$ such that $\log(p_f(t)) = \log(p_\eta(t)) + o(t)$ for a large family of densities $p_\eta(t)$ of non-negative random variables.

Поканват се всички интересуващи се.