

CLASSICAL AND RECENT RESULTS ON THE STOCHASTIC DIFFERENTIAL EQUATIONS

BY

ALBERT N. SHIRYAEV

STEKLOV MATHEMATICAL INSTITUTE AND MOSCOW STATE UNIVERSITY

10 July 2012, 14:00, ISEG, Technical University of Lisbon

Abstract: The talk consists of two parts. In the first one, we describe the classical results on the existence of strong and weak solutions of the stochastic differential equation $dX_t = A(X_t)dt + B(X_t)dW_t$. In the second part, we concentrate our attention to the singular equations of the types $dX_t = -\text{Sgn } X_t dt + dW_t$, $dX_t = \text{Sgn } X_t dW_t$, $dX_t = I(X_t > 0)dW_t$, and $dX_t = \lambda dt + I(X_t > 0)dW_t$, with $\lambda < 0$ and $\lambda > 0$.

Location: ISEG (Anfiteatro I, 4º piso, Ed. Quelhas), Lisboa.