1026-60-77 **Ionut Florescu*** (ifloresc@stevens.edu), Castle Point on the Hudson, Stevens Institute of Technology, Hoboken, NJ 07030. *Coefficient Estimation for Diffusion Equations with a hidden factor.* Preliminary report.

When using continuous time stochastic processes to model real life situations there are two main issues to be considered. One is to use the process to answer whichever questions are asked, and the second is to verify whether the selected process actually is good for the model. Recently, the second issue is starting to regain the primary role it deserves. In this talk I will present the problem of estimating coefficients in a system of two diffusion processes when one of them is unobservable, but does not depend on the observed one. The class of stochastic volatility models used in finance is a primary example of such situations. (Received February 13, 2007)