1035-34-937 **Paul Eloe*** (Paul.Eloe@notes.udayton.edu), Department of Mathematics, University of Dayton, Dayton, OH 45469-2316, and **Ruihua Liu** (Ruihua.Liu@notes.udayton.edu). *Optimal Selling Rules in a Regime-Switching Exponential Gaussian Diffusion Model.*

This paper studies optimal selling rules in asset trading using a new regime-switching exponential Gaussian diffusion model. An optimization problem is solved using two methods, one applied to a boundary value problem and the other applied to the stochastic model. In this talk, we are particularly interested in the boundary value problem and provide an interesting application of the method of upper and lower solutions. It is worth noting that the stochastic analysis gives uniqueness of solutions and a numerical algorithm; the method of upper and lower solutions gives existence of solutions and an alternate numerical algorithm. (Received September 17, 2007)