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**Serges Love Teutu Talla\*** ([seteu1@morgan.edu](mailto:seteu1@morgan.edu)), Morgan State University, Department of Mathematics, 1700 East Cold Spring Lane, Baltimore, MD 21251, and **Isabelle Kemajou-Brown** ([elisabeth.brown@morgan.edu](mailto:elisabeth.brown@morgan.edu)), Morgan State University, Department of Mathematics - Actuarial Science, 1700 East Cold Spring Lane, Baltimore, MD 21251. *An Optimal Portfolio Control Problem*. Preliminary report.

In this talk, we will present steps of solution for a risk-sensitive optimal control problem under regime-switching in which the diffusion coefficients depends on the control. Our technique is based on the stochastic maximum principle using the expectation of the Hyperbolic Absolute Risk Aversion (HARA) function reduced to an exponential integral form. (Received September 13, 2019)