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**Andrew B Vizcarra\*** (avizcarr@math.purdue.edu). *Portfolio optimization under stochastic volatility and discrete observations*. Preliminary report.

We extend Merton's classical portfolio optimization problem by requiring the price process of the risky asset follow a stochastic volatility model, and assume that the portfolio manager has only discrete access to the continuous-time asset prices. The solution uses a new type of particle-filtering Monte-Carlo-type algorithm implemented forward in time in the case of power utility. We propose to study this forward behavior in relation to the novel idea of "forward performance." We further conjecture the existence of an optimal trading frequency in the presence of proportional transaction costs. (Received February 08, 2008)