1057-60-182   **Ha-Young Kim*** (`kim156@purdue.edu`), 150 N. University Street, West Lafayette, IN 47907-2067, and **Frederi G Viens** (`viens@stat.purdue.edu`), 150 N. University Street, West Lafayette, IN 47907-2067. *Portfolio Optimization with Discrete Proportional Transaction Costs under Stochastic Volatility.*

This study is devoted to evaluating the optimal self-financing portfolio and the optimal trading frequency on a risky and risk-free asset to maximize the expected future utility of the terminal wealth in a stochastic volatility setting, when proportional transaction costs are incurred at each discrete trading time. The HARA utility function is used, allowing a simple approximation of the optimization problem, which is implementable forward in time. For each of various transaction cost rates, we find the optimal trading frequency, i.e. the one that attains the maximum of the expected utility at time zero. We study the relation between transaction cost rate and optimal trading frequency. The numerical method used is based on a stochastic volatility particle filtering algorithm, combined with a Monte-Carlo method. (Received January 21, 2010)