

1108-62-290

Jose E. Figueroa-Lopez* (figueroa@purdue.edu), 250 N. University Street, West Lafayette, IN 47907. *Optimally Thresholded Realized Power Variations for Stochastic Volatility Models with Jumps*. Preliminary report.

Thresholded Realized Power Variations are popular nonparametric estimators for continuous-time processes with jumps. An important issue in their application lies in the necessity of choosing a suitable threshold for the estimator. In Figueroa-Lopez and Nisen [Optimally thresholded realized power variations for Levy jump diffusion models, *Stochastic Processes and their Applications* 123(7), 2648-2677, 2013], a selection method for the threshold is proposed, in which the expected total number of jump misclassifications is minimized. For a jump-diffusion Levy model, existence and uniqueness of the optimal threshold sequence are established together with an explicit short-time asymptotic characterization. In this work, an optimal threshold selection methods is developed in the presence of a stochastic volatility risk component. To this end, we further develop current kernel based estimators for the spot volatility, which in turn yield new optimal bandwidth selection procedures for stochastic volatility models. (Received January 16, 2015)