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Yong Zeng* (zeng@mendota.umkc.edu), Department of Mathematics and Statistics, University of Missouri at Kansas City, Kansas City, MO. *Statistical Analysis of the Filtering Model with Marked Point Process Observations: Application to Ultra-High Frequency Data.*

Ultra-high frequency (UHF) data is naturally described by a marked point process (MPP). In this talk, we propose a general filtering model for UHF data. The statistical foundations of the proposed model - likelihoods, posterior, likelihood ratios and Bayes factors - are studied. They are characterized by stochastic differential equations such as filtering equations. Convergence theorems for consistent, efficient algorithms are established. If time permits, simulation and real data examples with statistical inference will be provided. (Received August 19, 2006)