Abstract:

In this talk we investigate the parametric inference for the linear fractional stable motion in high and low frequency setting. The symmetric linear fractional stable motion is a three-parameter family, which constitutes a natural non-Gaussian analogue of the scaled fractional Brownian motion. It is fully characterized by the scaling parameter $\sigma > 0$, the self-similarity parameter $H \in (0, 1)$ and the stability index $\alpha \in (0, 2)$ of the driving stable motion. The parametric estimation of the model is based upon the limit theory for stationary increments Lévy moving average processes that has been recently studied in Basse-O’Connor, Lachieze-Rey and M. Podolskij (2016). More specifically, we combine power variation statistics and empirical characteristic functions to obtain consistent estimates of $(\sigma, \alpha, H)$. We present the law of large numbers and fully feasible central limit theorems.

References: