A central limit theorem for the sample autocorrelations of a Lévy driven moving average process

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(joint work with Alexander Lindner, TU Braunschweig)

Moving average fractional Lévy processes are continuous second order processes that share their covariance structures with fractional Brownian motions, but are non-Gaussian. Actually they have the same kernel in their moving average integral representations than the fractional Brownian motion, but the increments of the Brownian motion have to be replaced by the increments of a general Lévy process with finite variance. In this talk we use the sample autocovariance to estimate the Hurst index of moving average fractional Lévy processes. Actually consistence of sample means, sample autocovariances and the asymptotic normality of these estimators are proved under suitable assumptions in a general setting for moving averages of Lévy processes. A comparison with the classical results for discrete time moving average processes is also performed.