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**Frederi Viens\*** (viens@msu.edu), East Lansing, MI 48824. *Generalized methods of moments for parameter estimation in long-memory and other Gaussian processes.*

We consider the class of all stationary Gaussian processes. When the spectral density is parametrically explicit, we defined a GMM estimator that satisfies consistency and asymptotic normality, using the Breuer-Major theorem which applies to long-memory processes. This result is applied to the joint estimation of the three parameters of a stationary Ornstein-Uhlenbeck (fOU) process driven by a fractional Brownian motion. The asymptotic normality of its GMM estimator applies for any  $H \in (0, 1)$ . For general processes observed at fixed discrete times, no matter what the memory length, we use state-of-the-art Malliavin calculus tools to prove Berry-Esseen-type and other speeds of convergence in total variation, for estimators based on power variations. This is joint work with Luis Barboza (U. Costa Rica), Khalifa es-Sebaiy (U. Kuwait), and Soukaina Douissi (U. Cadi Ayyad, Morocco). (Received August 20, 2018)