Parameter estimation for Gaussian sequences: sharp asymptotic normality and non-normality

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Place **Campus Kirchberg, room B04**

By using recent progress on how to measure total variation distance to normality on Wiener chaos, we develop a framework for estimating scale parameters for stationary and non-stationary Gaussian sequences via power-type variations, concentrating on the sharpness of total-variation convergence speeds for their asymoptotic normality or non-normality. Applications are given to Ornstein-Uhlenbeck processes driven by fractional Gaussian noise, observed in discrete time, under long-horizon asymptotics, and to partially observed systems of such processes. The resulting estimators can be interpreted as least-squares estimators, and as generalized method of moments estimators. This represents joint work completed and in progress with Khalifa Es-Sebaiy and Brahim El Onsy (Marrakech).