PROBABILITY AND MATHEMATICAL STATISTICS Vol. 37, Fasc. 2 (2017), pp. 355–372

## DISTANCE COVARIANCE FOR STOCHASTIC PROCESSES

## Muneya Matsui Thomas Mikosch Gennady Samorodnitsky

*Abstract:* The distance covariance of two random vectors is a measure of their dependence. The empirical distance covariance and correlation can be used as statistical tools for testing whether two random vectors are independent. We propose an analog of the distance covariance for two stochastic processes defined on some interval. Their empirical analogs can be used to test the independence of two processes.

**2010 AMS Mathematics Subject Classification:** Primary: 62E20; Secondary: 62G20, 62M99, 60F05, 60F25.

**Keywords and phrases:** Empirical characteristic function, distance covariance, stochastic process, test of independence.

THE FULL TEXT IS AVAILABLE HERE