

Department of Electrical and Computer Engineering

Title: «*Consistent testing for pairwise dependence in time series*»

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Room XOD 02 – 013, New Campus - University of Cyprus

Abstract:

We consider the problem of testing pairwise dependence for stationary time series. We suggest the use of a Box-Ljung type test statistic which is formed after calculating the distance covariance function among pairs of observations. The distance covariance function is a suitable measure for detecting dependencies among data as it is based on the distance between the characteristic function of the joint distribution of the random variables to the product of the marginals. We show that, under the null hypothesis of independence and under mild regularity conditions, the test statistic converges to a normal random variable. The results are complemented by several examples.

Biography:

Undergraduate studies at the University of Ioannina, Greece (B. Sc. in Mathematics, 1991), graduate studies at the University of Maryland, College Park, USA (M. A., 1993 and Ph.D. in Statistics, 1996). He is with the Department of Mathematics & Statistics since 1999 (Lecturer 1999-2001, Assistant Professor 2001-2006, Associate Professor 2006-2011 and Professor since 2012). He also held visiting appointments at the Ohio State University, Ludwig Maximillians University, National Institutes of Health, EPFL, University Cergy-Pontoise and University of Bergen. He is an elected member of ISI since 2005 and Associate Editor for Statistics and Probability Letters, Computational Statistics and Data Analysis and Statistics (2010--2013), Statistics and Journal of Time Series Analysis.