COLLOQUIUM

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An Empirical Likelihood Approach to Goodness of Fit Testing

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Refreshments: 10:00 a.m.

Abstract

Motivated by applications to goodness of fit testing, the empirical likelihood approach is generalized to allow for the number of constraints to grow with the sample size and for the constraints to use estimated criteria functions. The latter is needed to handle naturally occurring nuisance parameters. A central limit theorem is proved to deal with quadratic forms based on random vectors of increasing dimensions. This result is needed to prove the appropriate Wilks theorems. The proposed empirical likelihood based goodness of fit tests are asymptotically distribution free. For univariate observations, tests for a specified distribution, for a distribution of parametric form, and for a symmetric distribution are presented. For bivariate observations tests for independence, for spherical symmetry, and for equal marginals are developed.

To request an interpretor or other accompdations for people with disabilities, please call the Department of Statistics and Probability at 517-355-9589.