Goodness-Of-Fit Tests For Semiparametric And Parametric Hypotheses Based On The Probability Weighted Empirical Characteristic Function

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Abstract

We investigate the finite-sample properties of certain procedures which employ the novel notion of the probability weighted empirical characteristic function. We consider testing for multivariate normality with independent observations, and testing for multivariate normality of random effects in mixed models. Along with the new tests alternative methods based on the ordinary empirical characteristic function as well as other more well known procedures are implemented for the purpose of comparison.

Keywords

Characteristic function, Empirical characteristic function, Goodness-of-fit test, Mixed model, Multivariate normal distribution.