Statistics Seminar Series

Shapiro-Wilk Type Goodness-of-Fit Tests with Nuisance Regression and Scale Parameters.

Pranab Kumar Sen
Department of Statistics
University of North Carolina at Chapel Hill

Friday, October 4, 2002, 4:00-5:00pm
Mathematics and Computer Science (MCS) Building, Room 149
111 Cummington Street, Boston

Tea and Cookies at 3:30pm in MCS 153

Abstract: For testing goodness-of-fit of normality with nuisance location and scale parameters, Shapiro and Wilk (1965) considered a highly intuitive test that has received considerable attention in the literature. We consider a more general case of nuisance regression and scale parameters, and study Shapiro-Wilk type of tests based on pseudo-L-estimators and the maximum likelihood estimator of the scale parameter. Using the second-order asymptotics for L-estimators (Jureckova and Sen 1996) and extending them to pseudo-L-estimators, we show that the asymptotic distribution of the test criterion under the hypothesis of normality is very similar to the location-scale model. Other nonnormal distributions are also considered in the same vein. Robustness aspects are highlighted.

For directions and maps, please see *http://math.bu.edu/research/statistics/statseminar.html*. For other information, please contact Eric Kolaczyk (*kolaczyk@math.bu.edu*) or the main department office at (617)353-2560.