GOODNESS OF FIT TESTS AND CONFIDENCE BANDS FOR DISTRIBUTION FUNCTIONS: SOME NEW APPROACHES

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Resumen

Goodness-of-fit testing has enjoyed a resurgence of interest due to applications involving repeated significance testing (or combination of tests) in a variety of applied fields including genomics and astronomy. In this talk I will describe new and old families of goodness-of-fit tests based on phi-divergences and modifications thereof. I will describe the asymptotic null distribution theory of the test statistics and their modifications: the modifications result in new procedures which refine those of Berk and Jones (1979) and Owen (1995). Roughly speaking, the high power and accuracy of the procedures of Berk and Jones / Owen in the tail regions of distributions are essentially preserved while gaining considerably in the central region.

This talk is based on joint work with Lutz Duembgen and Leah Jager.