



Contribution ID: 11

Type: not specified

Robust Discrimination of Statistical Models I (Theory)

Sunday, 23 June 2024 15:20 (20 minutes)

This paper investigates the consistency and efficiency of generalized Cramér–von Mises (GCM) minimum distance estimators in the context of statistical estimation, focusing particularly on the L_1 norm and the expected L_1 norm. It presents new inequality between Kolmogorov and generalized Cramér–von Mises distances, leading to the proof of consistency of Cramér–von Mises estimator with the convergence rate of $n^{-1/3}$, and consistency of GCM of the order of $n^{-p/2(p+q)}$ in the (expected) L_1 norm. Through theoretical analysis and computer simulations, the study explores practical application of these estimators across various distribution types, contributing to the understanding of minimum distance estimation in statistical analysis. The computer simulation also suggests further possible improvements of proven L_1 convergence rate of GCM up to $n^{-1/2}$.

Primary author: HRABÁKOVÁ, Jitka (FIT CTU)

Co-author: KŮS, Václav (KM FJFI CVUT)

Presenter: KŮS, Václav (KM FJFI CVUT)

Session Classification: Stochastic Monitoring Systems