

Tau type estimator for principal fitted components model

In presence of a large number of predictors, dimension reduction for regression remains as an issue of concern. Several methods and formulations have been developed to deal with such regressions. We focus on sufficient dimension reduction. In this context, model-based inverse reductions have been proposed (Cook, 2007). Using normal models for the conditional distribution of $\mathbf{X}|y$, the MLE were obtained (Szretter Noste & Yohai, 2009 and Forzani & Cook, 2009). They showed that, under certain conditions on the variance, the problem to obtain MLE leads to principal components (PC, PFC models). We reformulated the maximum likelihood problem for the PCF_{Δ} model, where $\Delta = V(\mathbf{X}|y)$, and from that setting, we define robust estimates of τ -type. We prove the existence of such estimates, and Fisher consistency of the estimating functional under the condition of elliptical distribution of errors. Simulation studies show its good behavior in presence of contaminated data. This is a joint work in progress with María Eugenia Szretter Noste and Víctor Yohai. The talk will be in spanish.