A complete Profile Analysis for the high-dimensional case

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Abstract:

Likelihood Ratio Tests (LRTs) for profile parallelism, profile coincidence and profile horizontality, which may be used in the high-dimensional case, are presented. The distributions for the associated statistics are obtained, and finite closed forms are derived for most cases, while for the other cases sharp asymptotic approximations are established. Applications with real soil moisture data are presented to illustrate the several steps in profile analysis. Although being the less used test, special attention is dedicated to the horizontality test, given the problems that arise in the derivation of the distribution of the test statistic.