

Testing the Equality of Two Single-Index Models

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Abstract: Comparison of two nonparametric regression models with one dimensional covariates has been extensively discussed in the literature. Comparison problem largely remains open for completely nonparametric models for multi-dimensional covariates. We address this issue under the assumption that both models are single-index models (SIMs). We propose a test for checking the equality of the mean functions. The asymptotic normality of the test statistics is established under heteroscedastic errors and an empirical study is conducted to assess the finite-sample performance of the proposed procedure.