

DATA DRIVEN TESTS FOR UNIVARIATE SYMMETRY

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Abstract: We propose new data driven score rank tests for univariate symmetry around a known center. We apply both Schwarz-type and recently introduced data driven penalty selection rules. Some key asymptotic results regarding the test statistics are given and some asymptotic optimality properties proved. In an extensive simulation study, we compare the empirical behaviour of these tests to tests found in the recent literature to be powerful. We show that, for a broad range of asymmetric distributions, data driven tests have stable power, which is comparable to their competitors for typical alternatives and much greater for some atypical alternatives.

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Keywords and phrases: Testing symmetry, data driven score test, selection rule, rank test, vanishing shortcoming, Kallenberg efficiency, Hungarian construction, modified sign test, hybrid test, optimal Bayes test, Monte Carlo study.

THE FULL TEXT IS AVAILABLE [HERE](#)