

Comparing Two Contaminated Samples

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We consider the problem of testing whether two samples of contaminated data, possibly paired, are from the same distribution. It is assumed that the contaminations are additive noises with known moments of all orders. The test statistic is based on the polynomial moments of the difference between observations and noises. A data driven selection is proposed to choose automatically the number of involved polynomials. We present a simulation study in order to investigate the power of the proposed test within discrete and continuous cases. A real-data example is presented to demonstrate the method.

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