

The limit distribution of weighted L^2 -goodness-of-fit statistics under fixed alternatives, with applications

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Abstract We present a general result on the limit distribution of weighted one- and two-sample L^2 -goodness-of-fit test statistics of some hypothesis H_0 under fixed alternatives. Applications include an approximation of the power function of such tests, asymptotic confidence intervals of the distance of an underlying distribution with respect to the distributions under H_0 , and an asymptotic equivalence test that is able to validate certain neighborhoods of H_0 .

Keywords Goodness-of-fit test · Weighted L^2 -statistic · Fixed alternative · Empirical transform · Asymptotic equivalence test

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