

Tests of goodness of fit based on some consistent estimators of entropy of probabilistic distributions

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ABSTRACT

The estimator of entropy is built using so-called “spacing method”. Using this estimator, entropy-based tests of goodness of fit is built for some distributions, in particular for GED distribution. The main idea for the construction of tests of goodness of fit is based on the maximum entropy principle. Consider a class of densities satisfying certain restrictions. Find a consistent estimator of entropy for the members of the class. Next using so called maximum entropy principle, determine a member of the class maximizing entropy and find its parametric consistent estimator. Finally take a function of the above estimators as a test statistic of goodness fit for the member maximizing the entropy.

Keywords: *GED distribution, estimator, maximum entropy principle, spacing method*

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