

Goodness-of-fit tests for the exponential distribution based on U-empirical kernel density estimators

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Characterizations based on the equidistribution of two statistics have become very popular for the construction of goodness-of-fit tests. Various approaches that use different U and V-empirical functions have been proposed. In this paper, we suggest a new method based on U-empirical kernel density estimators. We propose a class of exponentiality tests based on recent characterizations from [1] and [2]. We examine their properties using simulated powers. Their isotones will also be presented for some choice of alternative distributions.

References

- [1] M. Obradović, Three characterizations of exponential distribution involving median of sample of size three, *J. Stat. Theory Appl.* **14**(3) (2015), 257–264.
- [2] B. Milošević and M. Obradović, Some characterizations of the exponential distribution based on order statistics, *Appl. Anal. Discrete Math.* **10**(2) (2016), 394–407.