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Summary

A goodness-of-fit test to examine exponentiality is introduced which can be used with small and large samples. The properties of the test statistic are studied. Critical values for different sample sizes are presented. The investigation of power of the proposed test under various alternatives demonstrates that the proposed test statistic performs well uniformly for all studied alternatives.

Some key words: Cox-Snell residuals; extreme value distribution; exponentiality test; goodness-of-fit; order statistics; power analysis.