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## **Testing Exponentiality Based on Rényi Entropy With Progressively Type-II Censored Data**

Akram Kohansal, Saeid Rezakhah

(Submitted on 22 Mar 2013)

We express the joint R\'enyi entropy of progressively censored order statistics in terms of an incomplete integral of the hazard function, and provide a simple estimate of the joint R\'enyi entropy of progressively Type-II censored data. Then we establish a goodness of fit test statistic based on the R\'enyi Kullback-Leibler information with the progressively Type-II censored data, and compare its performance with the leading test statistic. A Monte Carlo simulation study shows that the proposed test statistic shows better powers than the leading test statistic against the alternatives with monotone increasing, monotone decreasing and nonmonotone hazard functions.

Comments: 16 pages

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