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Testing the tail index in autoregressive models

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Abstract We propose a class of nonparametric tests on the Pareto tail index of the innovation distribution in the linear autoregressive model. The simulation study illustrates a good performance of the tests. Such tests have various applications in a study of flood flows, rainflow data, behavior of solids, atmospheric ozone layer and reliability analysis, in communication engineering, in stock markets and insurance.

Keywords Empirical process · Heavy tailed distribution · Feigin-Resnick estimator · Pareto tail index