

This bachelor thesis focuses on detailed review of a selection of tests for exponentiality and their comparison. This text presents classical methods for goodness-of-fit testing for exponentiality, as well as the most recent tests for exponentiality published in the last decades. Based on the characterisation of exponential distribution that is being used, the review includes χ^2 goodness-of-fit tests, tests based on empirical distribution function using Kolmogorov-Smirnov and Cramér-von Mises test statistics, as well as tests based on integral transforms, entropy, mean residual life function, Gini index and others. In particular, this bachelor thesis focuses on tests for exponentiality based on entropy characterisation, e.g. using Shannon, Rényi or cumulative residual entropy. Finally, this thesis includes simulation study comparing power of several more recent tests for exponentiality that have been theoretically described.