

The thesis deals with goodness-of-fit tests for the exponential distribution. In the first part, basic concepts are introduced, including their properties. Afterwards, goodness-of-fit tests based on the empirical distribution function are presented. These tests are divided depending on whether the parameter of the distribution $\lambda > 0$ is known or unknown. If the parameter is unknown, the method of parametric bootstrap is used, where the unknown parameter λ is estimated using the maximum likelihood method. The next section presents tests utilizing some properties of the exponential distribution, such as the Gini index and Mean Residual Life. In this part, the forms of their test statistics and distributions under the assumption of the null hypothesis are derived. Finally, a simulation study is presented that compares individual tests in terms of their level and power for different settings.