Methodology for Determining Quantitative Parameters of Product Reliability

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key words

randomness of processes, confidence probability, Kolmogorov's criterion of agreement, measure of discrepancy

The reliability indicator is a quantitative characteristic of reliability in certain conditions and the main indicator is called, which is an integral part of the overall assessment of the completeness of the specified functions. The quantitative parameters of reliability are determined by a set of indicators. Each type of product has its own recommendations for the selection of indicators. The study provides examples of determining the distribution law of a random variable and further shows that Kolmogorov's goodness-of-fit criterion in a number of cases gives an overestimated value of the agreement between the experimental and theoretical distributions. As a conclusion, it is said that checking by the χ^2 criterion is more laborious, it is advisable to start checking the consistency of the empirical and theoretical distributions by the Kolmogorov's criterion, and only if there are positive results, proceed to checking by the χ^2 criterion.

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