

Reliability Estimation using Degradation Tests

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Abstract

The paper presents the degradation tests used to evaluate the reliability of systems subjected to soft failures (performance drift). The failure is observed when the performance, which lowers during time, reaches an unacceptable level. This evolution is measured during the degradation tests.

For the analysis of the results of degradation tests, we present the method by regression, the method of the invertible path and the method of the Wiener process. An application on the process of batteries discharge is used to illustrate the implementation of these three methods.

Keywords: *Reliability, Failure, Degradation process, Degradation testing.*