OPTIMUM ACCELERATED LIFE TESTING MODELS WITH TIME-VARYING STRESSES

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Description:

Today's manufacturers are under tremendous pressure to develop new technological and high reliability products in record time. This has motivated reliability engineers to evaluate the reliabilities of such products. Reliability testing under accelerated environment — accelerated life testing helps to meet this challenge.

This comprehensive and must-have edition provides a broad coverage of the optimal design of Accelerated Life Test Plans under time-varying stress loadings. It also focuses on the formulation of Accelerated Life Test Sampling Plans (ALTSPs) which integrate accelerated life tests with quality control technique of acceptance sampling plans. These plans help to determine optimal experimental variables such as appropriate stress levels, optimal allocation at each stress levels, stress change points, etc, depending on the stress loading scheme. ALTSPs determine optimal plans such that the producers' and consumers' risks are safeguarded.

Pub Date: Feb 2017

Binding: Hardcover

ISBN: 978-981-3141-25-4

Price: £123

Page Extent: 450pp

Type: Monograph

Main Subject: Industrial Engineering; Mechanical Engineering; Electrical & Electronic Engineering; Probability & Statistics; Operations Management/ Operations Research/Supply Chain Management

BIC: TGB

BISAC: TEC009060; TEC009070; TEC007000

Keywords: Accelerated Life Testing; Partially Accelerated Life Testing; Accelerated Life Test Sampling Plans; Step-Stress ALT; Ramp-Stress ALT; Modified Stress Loading

Imprint: World Scientific Publishing Company

Readership: Researchers, academics, professionals and graduate students in industrial engineering, mechanical engineering, electrical engineering, probability & statistics & operations research.

Contents:

- Different Aspects of Time-Varying Stresses in ALT
- Optimum Step-Stress Accelerated Life Test Models
- Optimum Step-Stress Partially Accelerated Life Test Plans for the Truncated Logistic Distribution with Type-I and Type-II Censoring
- Optimum Multi-Objective Ramp-Stress Fully Accelerated Life Test Plans for the Burr Type-XII Distribution Under Type-I Censoring
- Optimum Multi-Objective Fully Accelerated Life Test Plans for the Burr Type-XII Life Distribution with Modified Stress Loading Methods Under Type-I Censoring
- Optimum Simple Step-Stress Test with Competing Risks for Failure Under Type-I Censoring
- Product Control and Accelerated Life Testing
- Optimum Ramp-Stress ALTSPs for the Log-Logistic Distribution Type-I Censoring
- Optimum Time-Censored Step-Stress PALTSP for the Burr Type XII Distribution with Warranty Using Tampered Failure Rate Model
- Optimum Time-Censored Step-Stress PALTSP with Competing Causes of Failure Using Tampered Failure Rate Model

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