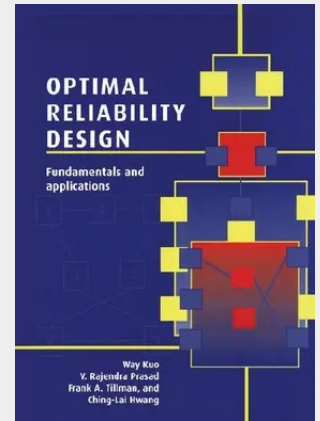


Optimal Reliability Design

Fundamentals and Applications

Optimal Reliability Design provides a detailed introduction to systems reliability and reliability optimization. State-of-the-art techniques for maximizing system reliability are described, focusing on component reliability enhancement and redundancy arrangement. The authors present several case studies and show how optimization techniques are applied in practice. They also pay particular attention to finding methods that give the optimal trade-off between reliability and cost. The book begins with a review of key background material, and a discussion of a range of optimization models. The authors go on to cover optimization tools, such as heuristics, discrete optimization, nonlinear programming, mixed integer programming, optimal arrangement, and metaheuristic algorithms. They also describe the computational implementation of these tools. Many numerical examples are included, and the book contains over 180 homework exercises. It is suitable as a textbook for graduate-level courses in reliability engineering and operations research. It will also be a valuable reference for practising engineers.

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