1. Record Nr. UNINA9910254240203321

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Titolo	Reliability and Safety Engineering [[electronic resource] /] / by Ajit Kumar Verma, Srividya Ajit, Durga Rao Karanki
Pubbl/distr/stampa	London : , : Springer London : , : Imprint : Springer, , 2016
ISBN	1-4471-6269-2
Edizione	[2nd ed. 2016.]
Descrizione fisica	1 online resource (583 p.)
Collana	Springer Series in Reliability Engineering, , 1614-7839
Disciplina	620
Soggetti	Quality control Reliability Industrial safety Automotive engineering Energy systems Nuclear energy Energy policy Energy and state Quality Control, Reliability, Safety and Risk Automotive Engineering Energy Systems Nuclear Energy Energy Policy, Economics and Management
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction -- Basic Reliability Mathematics -- System Reliability Modeling -- Reliability of Complex Systems -- Electronic System Reliability -- Software Reliability -- Mechanical Reliability -- Structural Reliability.- Maintenance of Large Engineering Systems -- Probabilistic Safety Assessment -- Dynamic Probabilistic Safety Assessment -- Applications of PSA.- Uncertainty Analysis in Reliability/Safety Assessment -- Advanced Methods in Uncertainty Management.
Sommario/riassunto	Reliability and safety are core issues that must be addressed throughout the life cycle of engineering systems. Reliability and Safety Engineering presents an overview of the basic concepts, together with

simple and practical illustrations. The authors present reliability terminology in various engineering fields, viz.,electronics engineering, software engineering, mechanical engineering, structural engineering and power systems engineering. The book describes the latest applications in the area of probabilistic safety assessment, such as technical specification optimization, risk monitoring and risk informed in-service inspection. Reliability and safety studies must, inevitably, deal with uncertainty, so the book includes uncertainty propagation methods: Monte Carlo simulation, fuzzy arithmetic, Dempster-Shafer theory and probability bounds. Reliability and Safety Engineering also highlights advances in system reliability and safety assessment including dynamic system modeling and uncertainty management. Case studies from typical nuclear power plants, as well as from structural, software, and electronic systems are also discussed. Reliability and Safety Engineering combines discussions of the existing literature on basic concepts and applications with state-of-the-art methods used in reliability and risk assessment of engineering systems. It is designed to assist practicing engineers, students and researchers in the areas of reliability engineering and risk analysis.