1. Record Nr. UNINA9910254230303321

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| Autore | Sánchez-Silva Mauricio |
| Titolo | Reliability and Life-Cycle Analysis of Deteriorating Systems / / by Mauricio Sánchez-Silva, Georgia-Ann Klutke |
| Pubbl/distr/stampa | Cham : , : Springer International Publishing : , : Imprint : Springer, , 2016 |
| ISBN | 3-319-20946-9 |
| Edizione | [1st ed. 2016.] |
| Descrizione fisica | 1 online resource (371 p.) |
| Collana | Springer Series in Reliability Engineering, , 2196-999X |
| Disciplina | 620 |
| Soggetti | Security systems<br>Probabilities<br>Civil engineering<br>Security Science and Technology<br>Probability Theory<br>Civil Engineering |
| 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 at the end of each chapters and index. |
| Nota di contenuto | Engineering decisions for long term performance of systems -- Reliability of engineered systems -- Basics of stochastic processes, point and marked point processes -- Degradation: data analysis and analytical modeling -- Continuous state degradation models -- Discrete state degradation models -- A generalized approach to degradation -- Systematically reconstructed systems. |
| Sommario/riassunto | This book compiles and critically discusses modern engineering system degradation models and their impact on engineering decisions. In particular, the authors focus on modeling the uncertain nature of degradation considering both conceptual discussions and formal mathematical formulations. It also describes the basics concepts and the various modeling aspects of life-cycle analysis (LCA). It highlights the role of degradation in LCA and defines optimum design and operation parameters. Given the relationship between operational decisions and the performance of the system’s condition over time, maintenance models are also discussed. The concepts and models |

presented have applications in a large variety of engineering fields such as Civil, Environmental, Industrial, Electrical and Mechanical engineering. However, special emphasis is given to problems related to large infrastructure systems. The book is intended to be used both as a reference resource for researchers and practitioners and as an academic text for courses related to risk and reliability, infrastructure performance modeling and life-cycle assessment.