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Descrizione fisica	1 online resource (148 pages)
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Altri autori (Persone)	CoolenFrank P. A De BockJasper
Disciplina	519.5
Soggetti	Statistics Industrial engineering Production engineering Statistical Theory and Methods Statistics in Engineering, Physics, Computer Science, Chemistry and Earth Sciences Industrial and Production Engineering Bayesian Inference
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction to Bayesian statistical inference -- Sampling from complex probability distributions: a Monte Carlo primer for engineers -- Introduction to the theory of imprecise probability -- Imprecise discrete-time Markov chains -- Statistics with imprecise probabilities -- a short survey -- Reliability -- Simulation methods for the analysis of complex systems -- Overview of stochastic model updating in aerospace application under uncertainty treatment -- Aerospace flight modeling and experimental testing.
Sommario/riassunto	This open access book provides an introduction to uncertainty quantification in engineering. Starting with preliminaries on Bayesian statistics and Monte Carlo methods, followed by material on imprecise probabilities, it then focuses on reliability theory and simulation methods for complex systems. The nal two chapters discuss various

aspects of aerospace engineering, considering stochastic model updating from an imprecise Bayesian perspective, and uncertainty quantification for aerospace flight modelling. Written by experts in the subject, and based on lectures given at the Second Training School of the European Research and Training Network UTOPIAE (Uncertainty Treatment and Optimization in Aerospace Engineering), which took place at Durham University (United Kingdom) from 2 to 6 July 2018, the book offers an essential resource for students as well as scientists and practitioners.

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