1. Record Nr. UNINA9910462559703321 Autore Soize Christian Titolo Stochastic models of uncertainties in computational mechanics [[electronic resource] /] / Christian Soize Reston, Va., : American Society of Civil Engineers, : Engineering Pubbl/distr/stampa Mechanics Institute, 2012 **ISBN** 0-7844-7686-1 Descrizione fisica 1 online resource (134 p.) Collana Lecture notes in mechanics;; 2 003/.76 Disciplina Soggetti Stochastic models Uncertainty (Information theory) Mechanics, Applied - Mathematical models Electronic books. 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 ""Cover""; ""Contents""; ""1 Introduction""; ""2 Short overview of probabilistic modeling of uncertainties and related topics""; ""2.1 Uncertainty and variability"; ""2.2 Types of approach for probabilistic modeling of uncertainties""; ""2.3 Types of representation for the probabilistic modeling of uncertainties""; ""2.4 Construction of prior probability models using the maximum entropy principle under the constraints defined by the available information""; ""2.5 Random Matrix Theory""; ""2.6 Propagation of uncertainties and methods to solve the stochastic dynamical equations"" ""2.7 Identification of the prior and posterior probability models of uncertainties"""2.8 Robust updating of computational models and robust design with uncertain computational models""; ""3 Parametric probabilistic approach to uncertainties in computational structural dynamics""; ""3.1 Introduction of the mean computational model in computational structural dynamics""; ""3.2 Introduction of the reduced mean computational model""; ""3.3 Methodology for the parametric probabilistic approach of modelparameter uncertainties"" ""3.4 Construction of the prior probability model of model-parameter

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""6.5 Estimation of the parameters of the prior probability model of uncertainties""