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Nota di contenuto	1. Adeli, E. et al., Effect of Load Path on Parameter Identification for Plasticity Models using Bayesian Methods -- 2. Brugiapaglia S., A compressive spectral collocation method for the diffusion equation under the restricted isometry property -- 3. D'Elia, M. et al., Surrogate-based Ensemble Grouping Strategies for Embedded Sampling-based Uncertainty Quantification -- 4. Afkham, B.M. et al., Conservative Model Order Reduction for Fluid Flow -- 5. Clark C.L. and Winter C.L., A Semi-Markov Model of Mass Transport through Highly Heterogeneous Conductivity Fields -- 6. Matthies, H.G., Analysis of Probabilistic and Parametric Reduced Order Models -- 7. Carraturo, M. et al., Reduced Order Isogeometric Analysis Approach for PDEs in Parametrized Domains -- 8. Boccadifuoco, A. et al., Uncertainty quantification applied to hemodynamic simulations of thoracic aorta aneurysms: sensitivity to inlet conditions -- 9. Anderlini, A.et al., Cavitation model

	parameter calibration for simulations of three-phase injector flows -- 10. Hijazi, S. et al., Non-Intrusive Polynomial Chaos Method Applied to Full-Order and Reduced Problems in Computational Fluid Dynamics: a Comparison and Perspectives -- 11. Bulté, M. et al., A practical example for the non-linear Bayesian filtering of model parameters.
Sommario/riassunto	This book explores four guiding themes – reduced order modelling, high dimensional problems, efficient algorithms, and applications – by reviewing recent algorithmic and mathematical advances and the development of new research directions for uncertainty quantification in the context of partial differential equations with random inputs. Highlighting the most promising approaches for (near-) future improvements in the way uncertainty quantification problems in the partial differential equation setting are solved, and gathering contributions by leading international experts, the book’s content will impact the scientific, engineering, financial, economic, environmental, social, and commercial sectors.