Topics in Model Validation
and Uncertainty Quantification,
Volume 4

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Dynamics, 2012
Preface

Topics in Model Validation and Uncertainty Quantification represents one of six volumes of technical papers presented at the 30th IMAC, A Conference and Exposition on Structural Dynamics, 2012 organized by the Society for Experimental Mechanics, and held in Jacksonville, Florida, January 30–February 2, 2012. The full proceedings also include volumes on Dynamics of Civil Structures; Substructuring and Wind Turbine Dynamics; Nonlinear Dynamics; and Modal Analysis, I & II.

Each collection presents early findings from experimental and computational investigations on an important area within Structural Dynamics. This volume focuses on the importance of Model Validation and Uncertainty Quantification. In keeping with the goals of encouraging advancement and application of model Verification and Validation (V&V) and uncertainty quantification methods in Structural Dynamics, this volume includes tutorials on the use of the Bayesian and Markov Chain Monte Carlo Methods. The Bayesian paradigm is of great interest to the engineering community as it provides a principled framework for handling uncertainties in complex systems. The Markov Chain Monte Carlo method is, in turn, a useful tool for practical implementation of the Bayesian paradigm.

The organizers would like to thank the authors, presenters, session organizers, and session chairs for their participation in this track.

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