

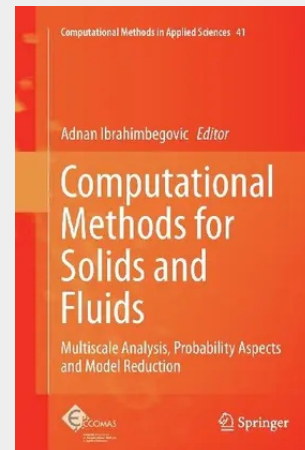
Computational Methods for Solids and Fluids

Multiscale Analysis, Probability Aspects and Model Reduction

This volume contains the best papers presented at the 2nd ECCOMAS International Conference on Multiscale Computations for Solids and Fluids, held June 10-12, 2015. Topics dealt with include multiscale strategy for efficient development of scientific software for large-scale computations, coupled probability-nonlinear-mechanics problems and solution methods, and modern mathematical and computational setting for multi-phase flows and fluid-structure interaction.

The papers consist of contributions by six experts who taught short courses prior to the conference, along with several selected articles from other participants dealing with complementary issues, covering both solid mechanics and applied mathematics.

Preface.- Multiscale analysis as a central component of urbanphysics modeling, by Benoit Beckers.- A path-following method based on plastic dissipationcontrol, by Bostjan Brank et al..- Improved implicit immersed boundary method via operatorsplitting, by Cai Shang-Gui et al..- Modelling wave energy conversion of asemi-submerged heavy cylinder, by Cai Shang-Gui et al..- Multi-scale modelingof imperfect interfaces and applications, by Serge Dumont et al..- A stochasticmulti-scale approach for numerical modeling of complex materials - applicationto uniaxial cyclic response of concrete, by Jehel Pierre and George Deodatis.- Relatingstructure and model, by Ivica Kozar.- Fat Latin hypercube sampling andefficient sparse polynomial chaos expansion for uncertainty propagation onfinite precision models - application to 2D deep drawing process, by Jeremy Lebonet et al..- Multiscale atomistic-to-continuum reduced models for micromechanicalsystems, by Eduard Marenic and AdnanIbrahimbegovic.- Inverse Problems in a Bayesian Setting, by Hermann Matthies et al..- Heterogeneous materials models, coupled mechanics-probability problemsand energetically optimal model reduction, by Rainer Niekamp et al..- Modellingof fluid-structure interaction for internal fluid flow in cracks by using embeddedstrong discontinuities, by Mijo Nikolic et al..- Reliability calculus on crackpropagation problem with a Markov renewal process, by Chrysanthi Papamichail et al..- Multi-scale simulation of Newtonian and non-Newtonian multi-phase flows,by Juan Luis Prieto.- Numerical modeling of flow-driven piezoelectricenergyharvesting devices, by Ravi Srivathsan and Andreas Zilian.- Comparison ofnumerical approaches to Bayesian updating, by Rosic Bojana et al..- Two modelsfor hydraulic cylinders in flexible multibody simulations, by Antti Ylinen et al.



106,99 €

99,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9783319802541

Medium: Buch

ISBN: 978-3-319-80254-1

Verlag: Springer

Erscheinungstermin: 14.03.2019

Sprache(n): Englisch

Auflage: Softcover Nachdruck of the original 1. Auflage 2016

Serie: Computational Methods in Applied Sciences

Produktform: Kartoniert

Gewicht: 762 g

Seiten: 493

Format (B x H): 155 x 235 mm

