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Note generali	Description based upon print version of record.
Nota di contenuto	Preface -- Multiscale analysis as a central component of urban physics modeling, by Benoit Beckers -- A path-following method based on plastic dissipation control, by Bostjan Brank et al. -- Improved implicit immersed boundary method via operator splitting, by Cai Shang-Gui et al. -- Modelling wave energy conversion of a semi-submerged heavy cylinder, by Cai Shang-Gui et al. -- Multi-scale modeling of imperfect interfaces and applications, by Serge Dumont et al. -- A stochastic multi-scale approach for numerical modeling of complex materials – application to uniaxial cyclic response of concrete, by Jehel Pierre and George Deodatis -- Relating structure and model, by Ivica Kozar -- Fat Latin hypercube sampling and efficient sparse polynomial chaos expansion for uncertainty propagation on finite precision models - application to 2D deep drawing process, by Jeremy Lebon et al. -- Multiscale atomistic-to-continuum reduced models for micromechanical systems, by Eduard Marenic and Adnan

Ibrahimbegovic -- Inverse Problems in a Bayesian Setting, by Hermann Matthies et al. -- Heterogeneous materials models, coupled mechanics-probability problems and energetically optimal model reduction, by Rainer Niekamp et al. -- Modelling of fluid-structure interaction for internal fluid flow in cracks by using embedded strong discontinuities, by Mijo Nikolic et al. -- Reliability calculus on crack propagation 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 piezoelectric energy harvesting devices, by Ravi Srivathsan and Andreas Zilian -- Comparison of numerical approaches to Bayesian updating, by Rosic Bojana et al. -- Two models for hydraulic cylinders in flexible multibody simulations, by Antti Ylinen et al. .

Sommario/riassunto

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. .
