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Descrizione fisica	1 online resource (276 pages)
Collana	International Series of Numerical Mathematics, , 0373-3149 ; ; 169
Disciplina	515.355
Soggetti	Mathematical optimization Partial differential equations Differential equations Optimization Partial Differential Equations Ordinary Differential Equations
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Homogenization in magnetic-shape-memory polymer composites -- Homogenization of stochastic parabolic equations in varying domains -- Two-Scale Convergence: Obviousness of the Choice of Test Functions? Not Always -- Corrector problem and homogenization of nonlinear elliptic monotone PDE -- Instantaneous optimal control of friction dominated flow in a gas-network -- Multilevel Iterations for the Combined Moving Horizon Estimation and Nonlinear Model Predictive Control for PDE Mod -- Some recent developments in optimal control of multiphase flows -- Localized Model Reduction in PDE Constrained Optimization -- Numerical simulation for the coupled SWE with Long term dynamic of sand dunes -- Coupling the Navier-Stokes equations with a short term dynamic of sand dunes -- Branching Structures in Elastic Shape Optimization -- Shape and Topological Derivatives via One Sided Differentiation of the Minimax of Lagrangian Functionals -- On optimization transfer operators in shape spaces.
Sommario/riassunto	The contributions in this volume give an insight into current research

activities in Shape Optimization, Homogenization and Optimal Control performed in Africa, Germany and internationally. Seeds for collaboration can be found in the first four papers in the field of homogenization. Modelling and optimal control in partial differential equations is the topic of the next six papers, again mixed from Africa and Germany. Finally, new results in the field of shape optimization are discussed in the final international three papers. This workshop, held at the AIMS Center Senegal, March 13-16, 2017, has been supported by the Deutsche Forschungsgemeinschaft (DFG) and by the African Institute for Mathematical Sciences (AIMS) in Senegal, which is one of six centres of a pan-African network of centres of excellence for postgraduate education, research and outreach in mathematical sciences.
