1. Record Nr. UNINA9910483006603321

Titolo	Smart Modeling for Engineering Systems : Proceedings of the Conference 50 Years of the Development of Grid-Characteristic Method
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2019
ISBN	3-030-06228-7
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (348 pages)
Collana	Smart Innovation, Systems and Technologies, , 2190-3026 ; ; 133
Disciplina	006.3
Soggetti	Computational intelligence Artificial intelligence Computational Intelligence Artificial Intelligence
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Development and Applications of Computational Methods -- The Scientific Way of the Academician Kholodov A.S. Development of a Grid-characteristic Method -- Positive Solutions of Real Homogeneous Algebraic Inequalities -- Numerical Simulation of Tungsten Melting Under Fusion Reactor-relevant High-power Pulsed Heating -- Solution of a Parabolic Optimal Control Problem Using Fictitious Domain Method -- On the Class of Compact Grid-characteristic Schemes -- High-gradient Method for the Solution of First Order Hyperbolic Type Systems with Partial Differential Equations -- 2D Seismic Prospecting of Gas Pockets -- Some Features of Nonequilibrium Flow of the Carbon Dioxide around Blunt Bodies -- Robustness Analysis of Coronary Arteries Segmentation.
Sommario/riassunto	This book highlights the work of several world-class researchers on smart modeling of complex systems. The contributions are grouped into the four main categories listed below. · Numerical schemes construction for the solution of partial differential equations. · Numerical methods in continuum media mechanics problems. · Mathematical modeling in aerodynamics, plasma physics, deformable body mechanics, and geological hydrocarbon exploration. · Mathematical modeling in medical applications. The book offers a

valuable resource for theoreticians and application scientists and engineers, as well as postgraduate students, in the fields of computational methods, numerical experiments, parallel algorithms, deformable solid bodies, seismic stability, seismic prospecting, migration, elastic and acoustic wave investigation, gas dynamics, astrophysics, aerodynamics, fluid dynamics, turbulent flows, hypersonic flows, detonation waves, composite materials, fracture mechanics, melting of metals, mathematical economics, medicine, and biology. .