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Titolo	From Multiscale Modeling to Meso-Science : A Chemical Engineering Perspective // by Jinghai Li, Wei Ge, Wei Wang, Ning Yang, Xinhua Liu, Limin Wang, Xianfeng He, Xiaowei Wang, Junwu Wang, Mooson Kwauk
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Descrizione fisica	1 online resource (484 p.)
Disciplina	620 620.0011 620.00420285 620.1064
Soggetti	Fluid mechanics Chemical engineering Computational complexity Computer-aided engineering Energy systems Engineering Fluid Dynamics Industrial Chemistry/Chemical Engineering Complexity Computer-Aided Engineering (CAD, CAE) and Design Energy Systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Footprint and Profile -- Meso-scale Modeling—the EMMS Model for Gas-Solid Systems -- Verification of the EMMS model with pseudo-particle modeling -- Extension of the EMMS Model to Gas-Liquid Systems -- From EMMS Model to EMMS Paradigm -- Partial Realization of the EMMS Paradigm -- Complete Realization of the EMMS Paradigm -- Applications in Industry -- Academic Applications of EMMS-based Models -- Many-core Programming -- Software -- Experimental Characterization of Meso-scale Behaviors -- Perspectives: Meso-

science and Virtual Process Engineering.

Sommario/riassunto

Multiscale modeling is becoming essential for accurate, rapid simulation in science and engineering. This book presents the results of three decades of research on multiscale modeling in process engineering from principles to application, and its generalization for different fields. This book considers the universality of meso-scale phenomena for the first time, and provides insight into the emerging discipline that unifies them, meso-science, as well as new perspectives for virtual process engineering. Multiscale modeling is applied in areas including: multiphase flow and fluid dynamics chemical, biochemical and process engineering mineral processing and metallurgical engineering energy and resources materials science and engineering

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