1.	Record Nr.	UNINA9910457279603321
	Titolo	Multiscale modeling and analysis for materials simulation [[electronic resource] /] / editors, Weizhu Bao, Qiang Du
	Pubbl/distr/stampa	Singapore ; ; Hackensack, N.J., : World Scientific, c2012
	ISBN	1-280-37645-7
		9786613555427
		981-4360-90-2
	Descrizione fisica	1 online resource (285 p.)
	Collana	Lecture notes series / Institute for Mathematical Sciences, National University of Singapore, , 1793-0758 ; ; v. 22
	Altri autori (Persone)	BaoWeizhu
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	Disciplina	620.11015118
		620.1127
	Soggetti	Multiscale modeling - Computer simulation
		Materials - Analysis - Mathematical models
		Materials - Analysis - Computer simulation
		Electronic books.
	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.
	Nota di contenuto	CONTENTS; Foreword; Preface; Dislocation Dynamics in 2 + Dimensions: Slip Planes, Thin Films, and Grain Boundaries Yang Xiang, Siu Sin Quek, Yong-Wei Zhang, Adele T. Lim and David J. Srolovitz; Contents; 1. Introduction; 2. Peierls-Nabarro models for dislocations; 2.1. Classical Peierls-Nabarro model for straight dislocations; 2.2. Generalizations of Peierls-Nabarro model for straight dislocations; 2.3. Generalizations to curved dislocations; 2.4. From the Peierls-Nabarro model to a continuum dislocation dynamics model in a slip plane 2.5. Conclusions of Peierls-Nabarro models of dislocations3. Dislocation dynamics in thin films; 3.1. Dislocation dynamics simulation in thin film: A brief review; 3.1.1. Front-tracking methods; Two dimensions; Three dimensions; 3.1.2. Phase field method; 3.1.3. Level set method; 3.2. Level set simulation of dislocation dynamics in thin films; 3.2.1. Dislocation half-loop in a stationary film; 3.2.2. Pair of coplanar identical half-loops in a stationary film; 3.2.3. Non-

identical coplanar half-loops in a stationary film

Sommario/riassunto	The Institute for Mathematical Sciences at the National University of Singapore hosted a two-month research program on "Mathematical Theory and Numerical Methods for Computational Materials Simulation and Design" from 1 July to 31 August 2009. As an important part of the program, tutorials and special lectures were given by leading experts in the fields for participating graduate students and junior researchers. This invaluable volume collects four expanded lecture notes with self-contained tutorials. They cover a number of aspects on multiscale modeling, analysis and simulations for problems