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Titolo	Modeling, Analysis, and Visualization of Anisotropy // edited by Thomas Schultz, Evren Özarslan, Ingrid Hotz
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Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (X, 407 p. 150 illus. in color.)
Collana	Mathematics and Visualization, , 2197-666X
Disciplina	530
Soggetti	Algebras, Linear Mathematics - Data processing Information visualization Computer vision Linear Algebra Computational Science and Engineering Data and Information Visualization Computer Vision
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Part I: Features and Visualization -- Part II: Image Processing and Analysis -- Part III: Diffusion Modeling and Microstructure -- Part IV: Tractography -- Part V: Machine Learning Approaches.
Sommario/riassunto	This book focuses on the modeling, processing and visualization of anisotropy, irrespective of the context in which it emerges, using state-of-the-art mathematical tools. As such, it differs substantially from conventional reference works, which are centered on a particular application. It covers the following topics: (i) the geometric structure of tensors, (ii) statistical methods for tensor field processing, (iii) challenges in mapping neural connectivity and structural mechanics, (iv) processing of uncertainty, and (v) visualizing higher-order representations. In addition to original research contributions, it provides insightful reviews. This multidisciplinary book is the sixth in a series that aims to foster scientific exchange between communities

employing tensors and other higher-order representations of directionally dependent data. A significant number of the chapters were co-authored by the participants of the workshop titled Multidisciplinary Approaches to MultivaluedData: Modeling, Visualization, Analysis, which was held in Dagstuhl, Germany in April 2016. It offers a valuable resource for those working in the field of multi-directional data, vital inspirations for the development of new models, and essential analysis and visualization techniques, thus furthering the state-of-the-art in studies involving anisotropy.
