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Nota di contenuto	<p>Preface -- Section 1 Perovskite Materials and Characterization -- Chapter 1 Perovskite Structured Materials: Synthesis, Structure, Physical Properties and Applications by Pankaj P. Khirade and Anil V. Raut -- Chapter 2 Study of the Critical Behavior in La<sub>0.67</sub>Ca<sub>0.18</sub>Sr<sub>0.15</sub>Mn<sub>0.98</sub>Ni<sub>0.02</sub>O<sub>3</sub> Manganite Oxide by Kawther Laajimi, Mohamed Hichem Gazzah and Jemai Dhahri -- Chapter 3 Low-Doped Regime Experiments in LaMnO<sub>3</sub> Perovskites by Simultaneous Substitution on Both La and Mn Sites by Aminta Mendoza and Octavio Guzman -- Chapter 4 Optimal Conditions for Preparation of Perovskite Materials for Optoelectronic Devices by Akin Olaleru, Joseph Kirui, Olasoji Adekoya and Eric Maluta -- Chapter 5 Role of Surface Defects and Optical Band-gap Energy on Photocatalytic Activities of Titanate-based Perovskite Nanomaterial by Izunna Stanislaus Okeke, Priscilla Yahemba Aondona, Amoge Chidinma Ogu, Eugene Echeweozo and Fabian Ifeanyichukwu Ezema -- Chapter 6 Thermoelectric Nanostructured Perovskite Materials by Megha Unikoth, George Varghese, Karakat Shijina and Hind Neelamkodan -- Section 2 Perovskites in Solar Cells -- Chapter 7 Recent Development of Lead-Free Perovskite Solar Cells by Anshebo Getachew Alemu and Teketel Alemu -- Chapter 8 Thin Film Solution Processable Perovskite Solar Cell by Mayur Jagdishbhai Patel, Himangshu Baishya, Ritesh Kant Gupta, Rabindranath Garai and Parameswar Krishnan Iyer -- Chapter 9 Solar Solutions for the Future by David M. Mulati and Timonah Soita --</p>

Chapter 10 Organic/Inorganic Halide Perovskites for Mechanical Energy Harvesting Applications by Venkatraju Jella, Swathi Ippili, Hyun You Kim, Hyun-Suk Kim, Chunjoong Kim, Tae-Youl Yang and Soon-Gil Yoon -- Chapter 11 Encapsulation against Extrinsic Degradation Factors and Stability Testing of Perovskite Solar Cells by Edwin Ramirez, Rafael Betancur, Juan F. Montoya, Esteban Velilla, Daniel Ramirez and Franklin Jaramillo -- Chapter 12 Lead-Free Perovskite and Improved Processes and Techniques for Creating Future Photovoltaic Cell to Aid Green Mobility by Rira Kang, Tae-ho Jeong and Byunghong Lee Section 3 Multifunctional Materials -- Chapter 13 Tunable Multifunctionality in Heusler Alloys by Extreme Conditions by Devarajan Uthiran and Arumugam Sonachalam -- Chapter 14 Metal Halide Hybrid Perovskites by Fency Sunny, Linda Maria Varghese, Nandakumar Kalarikkal and Kurukkal Balakrishnan Subila -- Chapter 15 The Mystery of Dimensional Effects in Ferroelectricity by Rolly Verma and Sanjeeb Kumar Rout -- Chapter 16 Perovskites in Next Generation Memory Devices by Gregory Thien Soon How, Mohd Arif Mohd Sarjidan, Boon Tong Goh, Boon Kar Yap and Eyas Mahmoud.

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#### Sommario/riassunto

This book summarizes current advances in the field of multifunctional perovskite materials, including information on their synthesis, characterization, and properties as well as their use in the fabrication of devices and applications. Chapters address such topics as the physiochemical properties of various perovskite materials, advances in perovskites for solar cells, and multifunctional materials and their numerous applications.

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