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| 1. Record Nr.           | UNINA9910842282803321                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Titolo                  | Advances in Fabrication and Investigation of Nanomaterials for Industrial Applications // edited by Sivashankar Krishnamoorthy, Krzysztof (Kris) Iniewski                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| Descrizione fisica      | 1 online resource (391 pages)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Disciplina              | 620.115                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Soggetti                | Nanophotonics<br>Plasmonics<br>Optoelectronic devices<br>Nanoparticles<br>Electronics<br>Nanophotonics and Plasmonics<br>Optoelectronic Devices<br>Electronics and Microelectronics, Instrumentation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| Livello bibliografico   | Monografia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Nota di bibliografia    | Includes bibliographical references and index.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Nota di contenuto       | Chapter 1 Supersonic Cluster Beam Deposition for the integration of functional nanostructured films in devices -- Chapter 2 Advances in colloidal synthesis of "giant" core/thick-shell quantum dots -- Chapter 3 Emerging trends in nanotechnology for Forensic Science -- Chapter 4 Nanoparticles induced alignment of nematic liquid crystals for tunable electro-optical devices -- Chapter 5 Photoelectrochemical immunosensor for carcinoembryonic antigen detection- an attempt for early cancer screening -- Chapter 6 Scanning Photodielectric Spectroscopy Of CdZnTe Crystals -- Chapter 7 Exploring the Potential of Transition Metal Complexes with MPA-CdTe Quantum Dots for Photoinduced Electron Transfer -- Chapter 8 Interparticle Charge-Transport-Enhanced Electrochemiluminescence of Quantum-Dot Aerogels -- Chapter 9 Optical structural and phonon characteristics of epitaxially grown II-VI/III-V films and superlattices -- Chapter 10 |

Defects engineering in epitaxially grown Cd(Zn)Te thin films on lattice-mismatch substrates -- Chapter 11 Defect-influenced modeling of photophysics in lead-based hybrid and all-inorganic perovskites -- Chapter 12 Charge carrier dynamics of halide perovskite nanocrystals: application towards X-ray/gamma-ray radiation detection -- Chapter 13 Thallium Based Materials for Radiation Detection -- Chapter 14 Printable Organic and Hybrid Semiconductors: A New Frontier for Detecting Ionizing Radiation -- Chapter 15 Halide Perovskite Thin Films for Neutron and X-ray Detection -- Chapter 16 Metal Halide Perovskite Solar Modules –Manufacturing and Performance -- Chapter 17 Naturally Inspired Heme-like Chemistries for the Oxygen Reduction Reaction - Going Beyond Platinum Group Metals in Proton Exchange Membrane Fuel Cell Catalysis -- Chapter 18 Integration of electrical energy storage devices with photovoltaic solar cells in one hybrid system -- Chapter 19 Design and optimization of CdTe QDs luminescent solar concentrators based on analytic and simulation models.

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Sommario/riassunto

This book provides readers with a collection of selected articles contributed by leading experts around the world, covering recent advances in fabrication and investigation of nanoengineered materials, thin films and colloids in application to key emerging industrial sectors. The readers are exposed to a variety of concepts ranging from fundamental to applied, addressing different application sectors including sensing, imaging, energy generation, energy storage and forensics. In addition to key enabling concepts and technologies of interest to broad range of nanomaterials, the contributions emphasize semiconductor nanostructures and devices, reflecting their continuing interest to academia and industry. Covers topics including synthesis, applications of nanomaterials, nanostructured thin films and nanoengineered colloids; Written by practicing experts around the world, with topics of emerging industrial interest; Emphasizes semiconductor nanostructures and devices in application to energy, environment, health and security sectors. .

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