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Titolo	Smart Nanostructure Materials and Sensor Technology [[electronic resource] /] / edited by Rakesh Kumar Sonker, Kedar Singh, Rajendra Sonkawade
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ISBN	981-19-2685-9
Edizione	[1st ed. 2022.]
Descrizione fisica	1 online resource (304 pages)
Disciplina	621.38152
Soggetti	Nanoscience Nanoelectromechanical systems Nanochemistry Nanotechnology Materials Nanophysics Nanoscale Devices Nanoengineering Metal-organic Frameworks
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Chapter 1 - Smart Nanomaterials and sensing devices: An Introduction -- Chapter 2 - Fundamental's nanomaterials and design concepts for sensing devices -- Chapter 3 - General methods for fabrication of sensing devices -- Chapter 4 - Functional nanomaterials for sensing devices -- Chapter 5 - Micro-and nano-fibers -based sensing devices -- Chapter 6 - Environmental impact of sensing devices -- Chapter 7 - Advanced carbon-based gas sensors -- Chapter 8 - 2D/3D materials for gas sensors -- Chapter 9 - Gas sensors based on metal oxides -- Chapter 10 - Gas sensors based on chalcogenides -- Chapter 11 - Metal-organic frameworks for gas sensors -- Chapter 12 - Perovskite based gas sensors -- Chapter 13 - Gas sensors based on hybrid nanomaterial -- Chapter 14 - Gas sensor based on Ferrite materials.
Sommario/riassunto	This book highlights the significance and usefulness of nanomaterials

for the development of sensing devices and their real-life applications. The book also addresses various means of synthesizing 2D/3D nanomaterials, e.g., hydrothermal deposition process, electrospinning, Ostwald ripening, sputtering heterogeneous deposition, liquid-phase preparation, the vapor deposition approach, and aerosol flame synthesis. It presents an informative overview of the role of nanoscale materials in the development of advanced sensor devices at nanoscale and discusses the applications of nanomaterials in different forms prepared by diverse techniques in the field of optoelectronics and biomedical devices. Major features, such as type of nanomaterials, fabrication methods, applications, tasks, benefits and restrictions, and saleable features, are also covered.

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