



sensors



Special Issue Reprint

Challenges and Future Trends of Magnetic Sensors

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The increasingly complex demand for a wide range of magnetic sensors and microsystems has driven growing interest in functional materials with magnetic components. They are being developed for use in automation, navigation, environmental monitoring, biomedical applications, etc. The need for magnetic devices with enhanced performance has encouraged the materials science community to develop novel magnetic materials and composites. The main expectations for a new generation of magnetic sensors are high sensitivity, compact size, thermal and temporal stability, fast response, resistance to harsh environments, low power consumption, and ease of use by non-specialists. The increasing the number of nanocomposites requires further development of related characterization techniques. This Reprint will summarize the development of existing and new concepts related to materials, modeling, and technological achievements in the field of magnetic sensors. This Reprint has thirteen contributions: one communication, eleven regular articles, and one editorial article. They represent an international multidisciplinary community from Brazil, China, Greece, Japan, Portugal, Russia, Spain, Turkey, and the United Kingdom. This Reprint can be useful for PhD students and researchers studying in the fields of magnetic nanomaterials, sensor devices, biomedical applications, and environmental applications. I wish to thank all authors, reviewers, and editorial assistants—an international team who produced/evaluated/processed submissions and, therefore, supported sensor materials research and this particular Special Issue Reprint.



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