Special Issue

Development of Metal Oxide Gas Sensors: From Design and Synthesis to Real-World Applications

Message from the Guest Editors

Metal oxide-based gas sensors have gained significant attention due to their high sensitivity, stability, and versatility in detecting a wide range of gases. These sensors play a crucial role in environmental monitoring, industrial safety, healthcare, and smart cities by enabling real-time gas detection with improved accuracy and efficiency. Recent advancements in nanostructured metal oxides, doping strategies, and hybrid materials have further enhanced their selectivity and response time, opening new opportunities for next-generation sensing technologies. This Special Issue invites original research and review articles on the synthesis, characterization, and application of metal oxide-based gas sensors. Topics of interest include novel material designs, sensor fabrication techniques, performance optimization, and emerging applications. Contributions addressing challenges such as selectivity, long-term stability, and low-power operation are particularly welcome.

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Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

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