



Journal Menu

- Abstracting and Indexing
- Aims and Scope
- Article Processing Charges
- Articles in Press
- Author Guidelines
- Bibliographic Information
- Contact Information
- Editorial Board
- Editorial Workflow
- Reviewers Acknowledgment
- Subscription Information

- Open Special Issues
- Published Special Issues
- Special Issue Guidelines

Call for Proposals for
Special Issues

Journal of Sensors
Volume 2009 (2009), Article ID 980965, 7 pages
doi:10.1155/2009/980965

Research Article

Sb-SnO₂-Nanosized-Based Resistive Sensors for NO₂ Detection

T. Krishnakumar,¹ R. Jayaprakash,¹ N. Pinna,^{2,3} A. Donato,⁴ N. Donato,⁵ G. Micali,⁶ and G. Neri⁶

¹Nanotechnology Laboratory, Department of Physics, Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore, Tamilnadu-641 020, India

²Department of Chemistry, CICECO, University of Aveiro, 3810-193 Aveiro, Portugal

³World Class University (WCU) program of Chemical Convergence for Energy & Environment (C2E2), School of Chemical and Biological Engineering, College of Engineering, Seoul National University (SNU), Seoul 151-744, South Korea

⁴Department of Mechanics and Materials, University Mediterranea, 89100 Reggio Calabria, Italy

⁵Department of Matter Physics and Electronic Engineering, University of Messina, 98166 Messina, Italy

⁶Department of Industrial Chemistry and Materials Engineering, University of Messina, 98166 Messina, Italy

Received 17 December 2008; Accepted 30 April 2009

Academic Editor: Giorgio Sberveglieri

Abstract

A study over Sb-promoted tin oxide nanopowders for sensing applications is reported. SnO₂ nanopowders pure and promoted with 5 wt% of antimony were prepared by wet chemical methods and widely characterized by TEM, XRD, and XPS techniques. Thick film resistive sensors were fabricated by depositing the synthesized nanopowders by drop-coating on interdigitated alumina substrates. The sensing characteristics of the pure SnO₂ and Sb-promoted sensors for the monitoring of trace level of NO₂ were studied. The response of the sensors to water vapor was also investigated, revealing that Sb acts favorably eliminating the interference of humidity.

[Abstract](#)[Full-Text PDF](#)[Full-Text HTML](#)[Linked References](#)[How to Cite this Article](#)[Complete Special Issue](#)