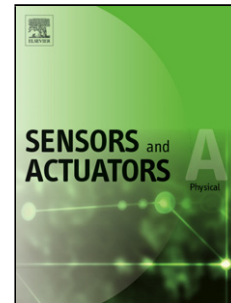


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## Sprayed tungsten-doped and undoped bismuth ferrite nanostructured films for reducing and oxidizing gas sensor applications

Shivaji D. Waghmare,<sup>a,b</sup> Vijaykumar V. Jadhav,<sup>b,c,d</sup> Shoyebmohamad F. Shaikh,<sup>b</sup> Rajaram S. Mane,<sup>\*,b</sup> Jae Hui Rhee,<sup>e</sup> Colm O'Dwyer<sup>d,f</sup>

<sup>a</sup>*Department of Physics, Shri. Shivaji Mahavidyalaya, Barshi, Solapur, India*

<sup>b</sup>*Center for Nanomaterials and Energy Devices, School of Physical Sciences Swami Ramanand Teerth Marathwada University, Nanded-431606, M.S., India*

<sup>c</sup>*Department of Physics, Shivaji Mahavidyalaya, Udgir, Latur, India*

<sup>d</sup>*Department of Chemistry, University College Cork, Cork T12 YN60, Ireland*

<sup>e</sup>*Global Frontier Hybrid Interface Materials, Busan, Korea*

<sup>f</sup>*Micro-nano Systems Centre, Tyndall National Institute, Lee Maltings, T12 R5CP Cork, Ireland*

\*Corresponding author: E-mail: rsmene\_2000@yahoo.com (Rajaram S. Mane, Prof.), Ph.: 919850331971.

### Highlights

- Sprayed bismuth ferrite and tungsten-doped bismuth ferrite nanostructured films are prepared on air annealing at 500 °C for 4h.
- The influence of tungsten-doping on the structure, morphology, surface area, and the sensor properties of bismuth ferrite is investigated.
- Nitrogen dioxide (NO<sub>2</sub>) and hydrogen (H<sub>2</sub>) gas sensors studied are used.
- A model explaining the relative improvement in gas sensing performance has also been attempted.

### Abstract

This work reports the chemical spray synthesis of bismuth ferrite (BiFeO<sub>3</sub>, abbreviated as BFO) and tungsten-doped bismuth ferrite (W-BiFeO<sub>3</sub>, abbreviated as BWFO) nanostructured films and

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