# Article information:

Characterisation of Nanostructured SnO2 Thin Films Synthesised by Magnetron Sputtering and Application in a Carbon Monoxide Gas Sensor - Fahimeh Abrinaei, Mohammad Taghi Hosseinnejad, Marzieh Shirazi, Farhad Shahgoli, 2016  
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# Article summary:

1. Tin oxide (SnO2) thin films were deposited onto glass substrates using DC magnetron sputtering system as a CO gas sensor.

2. Structural, morphological and CO gas sensing properties of SnO2 thin films were investigated and characterised by X-ray diffraction (XRD), scanning electron microscopy (SEM), atomic force microscopy (AFM), and surface profiler.

3. Gas sensors based on these SnO2 nanolayers showed an acceptable response to CO at various concentrations, and are highly suitable for sensing CO gas at comparatively lower operating temperatures.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article “Characterisation of Nanostructured SnO2 Thin Films Synthesised by Magnetron Sputtering and Application in a Carbon Monoxide Gas Sensor” is generally reliable and trustworthy, as it provides detailed information about the synthesis of SnO2 thin films for use as a carbon monoxide gas sensor, along with comprehensive analysis of the structural, morphological and CO gas sensing properties of the synthesised thin films. The authors have provided evidence for their claims through the use of X-ray diffraction (XRD), scanning electron microscopy (SEM), atomic force microscopy (AFM), and surface profiler to characterise the synthesised SnO2 thin films. Furthermore, they have also demonstrated that these sensors are highly suitable for sensing CO gas at comparatively lower operating temperatures.

However, there are some potential biases in the article which should be noted. Firstly, the authors do not provide any information about possible risks associated with using these sensors or any other potential safety concerns that may arise from their use. Secondly, while they provide evidence for their claims regarding the structural, morphological and CO gas sensing properties of the synthesised SnO2 thin films, they do not explore any counterarguments or present both sides equally when discussing their findings. Finally, there is no mention of any promotional content in the article which could potentially influence readers’ opinions on the topic discussed.

In conclusion, while this article is generally reliable and trustworthy due to its comprehensive analysis of the structural, morphological and CO gas sensing properties of SnO2 thin films synthesised by magnetron sputtering system as a carbon monoxide gas sensor, there are some potential biases which should be noted such as lack of discussion on possible risks associated with using these sensors or any other potential safety concerns that may arise from their use; lack

# Topics for further research:

* Carbon Monoxide Gas Sensor Safety
* Magnetron Sputtering System Risks
* Counterarguments for SnO2 Thin Films
* Promotional Content in Gas Sensors
* X-Ray Diffraction Analysis of SnO2 Thin Films
* Atomic Force Microscopy of SnO2 Thin Films

# Report location:

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