



Contribution ID: 58

Type: **Poster Presentation**

## Hydrogen sulphide gas sensing behaviour of ZnO nanoparticles doped with cobalt and indium.

*Thursday, 11 July 2019 15:00 (2 hours)*

The undoped, 5 % (In or Co) single and (In and Co) double doped ZnO nanoparticles have been successfully synthesised using the ball milling technique. The kenosistec station equipment was used to probe the sensing properties of the doped and undoped ZnO nanoparticles to H<sub>2</sub>S gas. The current versus time curves plotted for H<sub>2</sub>S gas, show that the undoped dominates sensitivity followed by the double doped ZnO nanoparticles. Single doped nanoparticles show poor sensitivity to H<sub>2</sub>S gas. The undoped ZnO nanoparticles acquire optimum sensitivity at a concentration of 20 ppm in the temperature 300 oC. For the double doped ZnO nanoparticles, the optimum sensitivity is observed at 5 -10 ppm concentration at a temperature range of 200-350 oC. The double doped ZnO nanoparticles show fast response, while Co doped ZnO nanoparticles show fast recovery time to H<sub>2</sub>S gas.

**Apply to be considered for a student award (Yes / No)?**

Yes

**Level for award (Hons, MSc, PhD, N/A)?**

MSc

**Primary author:** Ms MANAMELA, Mahlatse (University of Limpopo)

**Co-authors:** Dr MWAKIKUNGA, Bonex (CSIR National Laser Centre); Dr MOSUANG, Thuto (University of Limpopo)

**Presenter:** Ms MANAMELA, Mahlatse (University of Limpopo)

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