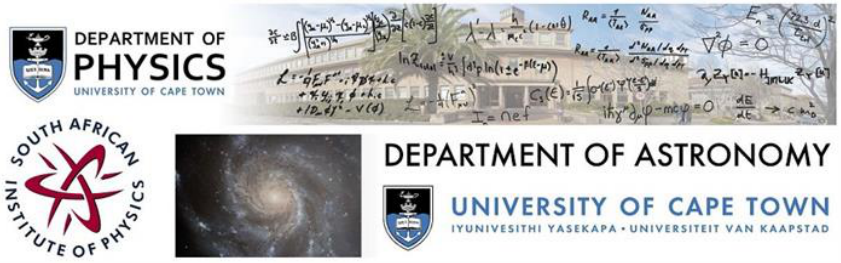

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Gas sensing applications of Cobalt and Indium double-doped ZnO nanoparticles prepared by sol-gel method

Tuesday, 5 July 2016 11:10 (20 minutes)

Abstract content
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The undoped and doped ZnO nanoparticles were synthesised using sol-gel method. XRD and PL were used to study the structural and optical properties of the synthesised samples. The gas sensing applications of the undoped and doped ZnO nanoparticles were performed on the Carbon monoxide (CO) gas. The structural studies showed that the synthesised samples were of ZnO wurtzite structure and indium and cobalt were successfully doped into the ZnO structure. In the optical studies the energy band gap of the doped ZnO nanoparticles were found to be smaller as compared to the undoped ZnO nanoparticles. In the gas sensing applications, the response of the doped ZnO nanoparticles were found to be higher than the response of the undoped ZnO nanoparticles. Doping with indium and cobalt was found to reduce the response\ recovery time of the ZnO nanoparticles.

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