



## PREPARATION OF $\text{MoO}_3$ THIN FILMS BY SPRAY PYROLYSIS AND ITS GAS SENSING PERFORMANCE

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*Submitted: July 3, 2012*

*Accepted: Aug. 1, 2012*

*Published: Sep. 1, 2012*

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*Abstract-  $\text{MoO}_3$  thin films have been prepared by a simple spray pyrolysis technique at substrate temperature  $250^\circ\text{C}$ . The structure and morphology of thin films are characterized by X-ray powder diffraction (XRD), scanning electron microscopy and UV-vis spectroscopy. The gas sensing properties of  $\text{MoO}_3$  thin film is studied at gas concentration 400 ppm and working temperature of  $100\text{--}400^\circ\text{C}$ . It was found that the sensitivity depended on the working temperatures and also  $\text{H}_2\text{S}$  gas concentration. The results show that the  $\text{MoO}_3$  thin film can be used to fabricate high performance  $\text{H}_2\text{S}$  gas sensors.*

**Index terms:**  $\text{MoO}_3$  thin film, spray pyrolysis, sensor.