

## H<sub>2</sub>S sensing properties of SnO<sub>2</sub>-based sensor promoted with MoO<sub>3</sub>

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H<sub>2</sub>S is a colorless toxic gas that is considered immediately dangerous to human's life and health even at low concentration. Also, H<sub>2</sub>S generates SO<sub>2</sub>, causing fine dust through a photocatalytic reaction in atmosphere. Due to these hazards, a sensor capable of detecting low concentrations of H<sub>2</sub>S is required. So, in this study, we fabricated SnO<sub>2</sub>-based thin film semiconductor gas sensors for H<sub>2</sub>S detection using ion sputter. The SnO<sub>2</sub>-based thin film gas sensor shows high values of 93% response and 94% recovery for H<sub>2</sub>S 1ppm at 350°C, but did not show complete recovery. For complete recovery, we added Mo on SnO<sub>2</sub> thin film. As a result, the SnO<sub>2</sub> based thin film sensor promoted with MoO<sub>3</sub> shows response of 90% and recovery of 100% for 1ppm H<sub>2</sub>S at 350°C.