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# **Peculiarities of Ultrathin Amorphous and Nanostructured Te Thin Films by Gas Sensing**

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## **Abstract**

The extinction of sensitivity to nitrogen dioxide induced by high gas concentration have been observed in ultrathin tellurium films. The phenomenon becomes apparent in both continuous and nanostructured films shown by AFM, SEM and XRD analyses to be in amorphous state. Sensitivity of 30 nm thick Te film decreases near linearly with concentration increase between 150 and 500 ppb of the nitrogen dioxide. The results are explained in terms of formation of a nitrogen dioxide catalytic gate in which a molecule adsorbs (and desorbs) without reacting.