

Sub-ppm NO₂ sensing in temperature cycled mode with Ga doped ZnO thin films deposited by RF sputtering

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In this work Ga doped ZnO thin films have been deposited by RF magnetron sputtering onto a silicon micro-hotplate and their structural, microstructural and gas sensing properties have been studied. ZnO:Ga thin film with a thickness of 90 nm has been deposited onto a silicon based micro-hotplates without any photolithography process thanks to a low cost and reliable stencil mask process. Sub-ppm sensing (500 ppb) of NO₂ gas at low temperature (50 °C) has been obtained with promising responses R/R₀ up to 18.

Summary

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