

# **Influence of deposition temperature on the properties of ZnO thin films**

**Amina Hazazi and Kawthar Safhi**

**Physics department- Science College**

**Jazan University**

## **Abstract:**

In this work, we studied transparent conducting thin films of ZnO:Al (AZO) have been deposited onto glass substrates and were prepared by RF-magnetron sputtering from nanoparticles synthesized by the sol–gel method. The substrate temperature ranges from RT to 300°C. The influence of deposition temperature on electrical properties was investigated by the sheet resistance measurement.

Thin films of ZnO:Al have a low resistivity, with a minimum value of  $3 \cdot 10^{-3} \Omega \cdot \text{cm}$  deposited at a substrate temperature of 300°C, with a thickness of 400 nm, indicated the suitability of the ZnO micro-ring structured thin films for optoelectronic applications.

*Keywords: Zinc oxide, nanostructure, RF-magnetron sputtering, electrical properties*