

## **Nanocarnation-like nickel oxide thin film: Structural and optical properties**

### **ABSTRACT**

Herein, the structural and optical properties of highly porous nanocarnation-like nickel oxide (NiO) thin film in possibility of sensing applications were reported. The highly porous nanocarnation-like NiO was grown on indium tin oxide (ITO) glass substrates by using sonicated solgel immersion process. The grown film was characterized in details to examine the structural and optical properties using field emission scanning electron microscopy (FESEM), X-ray diffraction (XRD), Raman spectroscopy, and ultraviolet-visible-near in-frared (UV-vis-NIR) spectroscopy, respectively. The XRD pattern reveals that the grown nanocarnation-like NiO film has crystalline NiO with a cubic structure. The UV-vis-NIR spectrum demonstrates that the average transmittance value of the sample in the visible region is approximately 48 % transmission. The results showed that, in view of highly porous nanocarnation-like NiO structure exhibited a great influence on its possibility for sensing applications.