

Highly Ordered NiO (111) Films on Sapphire Substrates via Low-Temperature Hollow Cathode Plasma-ALD and Their Post-Deposition Annealing Characteristics

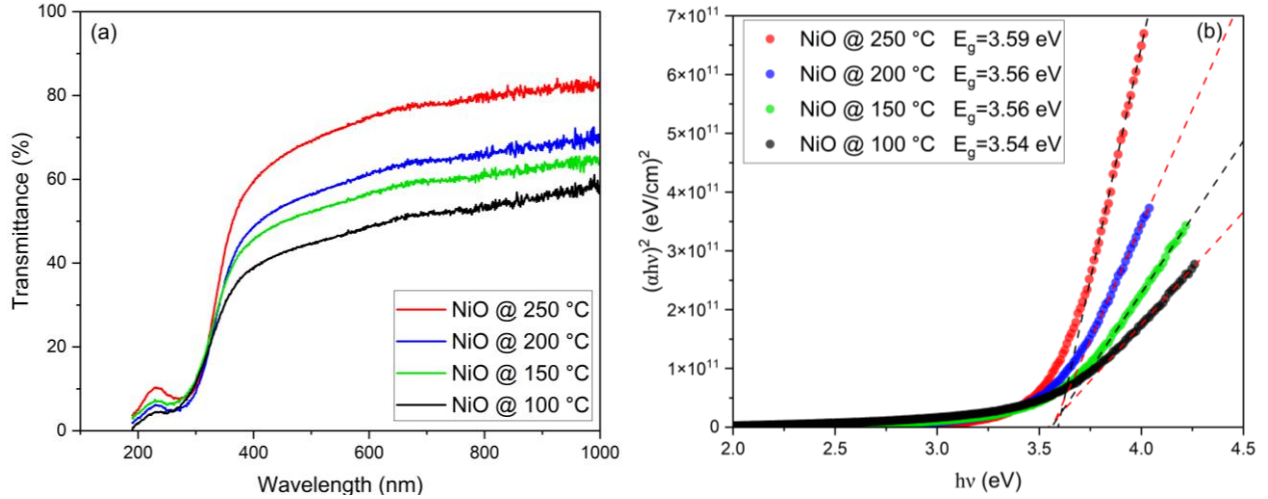


Figure 1. UV/Vis transmission spectroscopy measurements of the as-deposited NiO films on sapphire substrates: (a) Transmittance spectra showing strong absorption in the UV region and (b) corresponding Tauc plots showing the bandgap energy values of ~3.6 eV of the NiO films deposited at different temperatures.

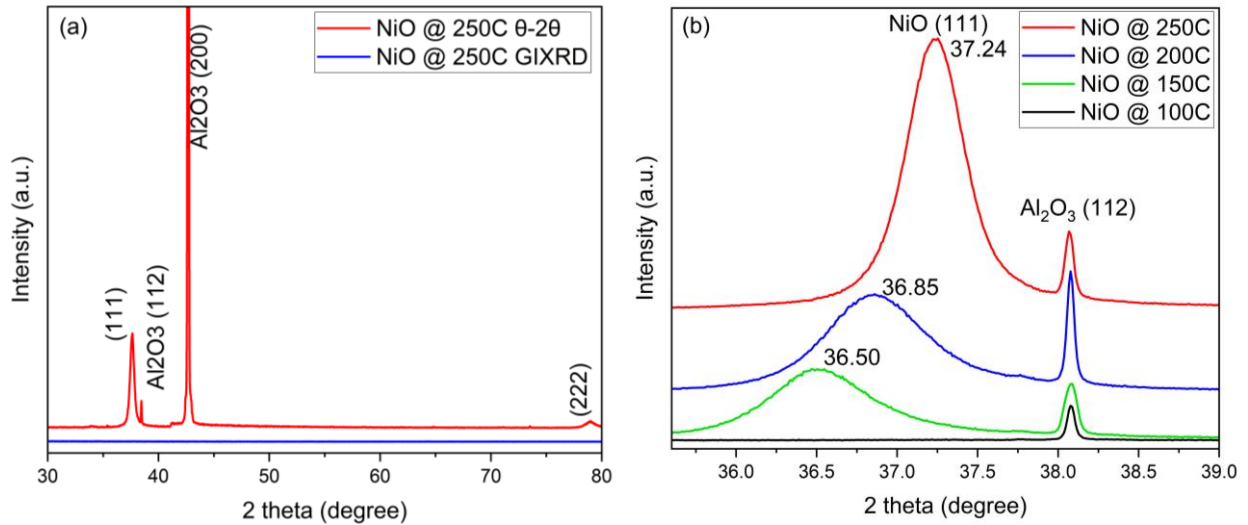


Figure 2. (a) XRD and GIXRD patterns of the NiO films deposited at 250°C, and (b) zoomed-in XRD patterns of the NiO(111) peak of the films deposited between 100 and 250°C on sapphire substrates.