

Thin films of cerium oxide were deposited by electron-beam (e-beam) evaporation on unheated substrates. The films were annealed in air at 500 °C for 2 h, and were characterized using X-ray diffraction, X-ray photoelectron spectroscopy, atomic force microscopy imaging and optical spectrophotometry. The films were investigated for the detection of carbon monoxide, and were found to be highly sensitive. The effect of bias voltage, operating temperature and gas concentration on the performance of the sensor is reported. The sensor response and recovery times were also measured, and were found to be highly efficient.