

Theoretical and experimental approaches for the determination of functional properties of a new semiconductor: MgSnN_2

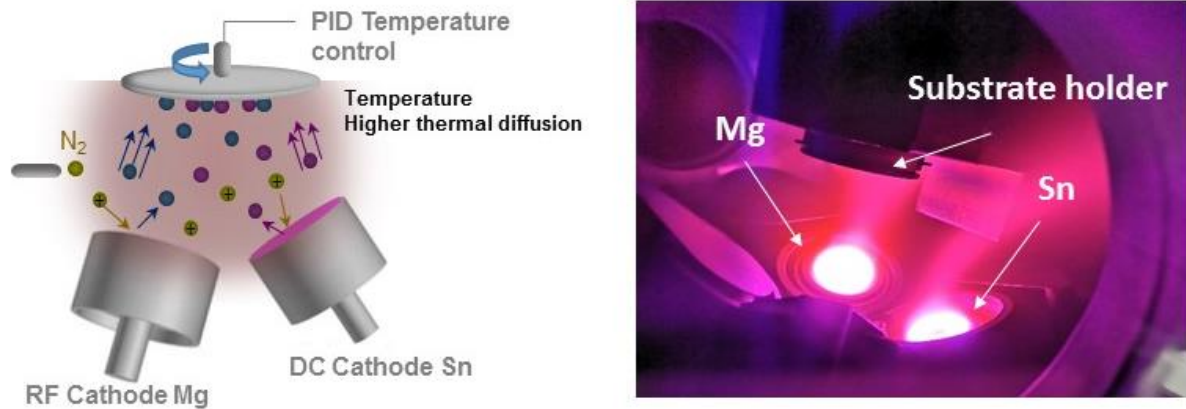


Figure 1: Schematic representation of the reactive bias magnetron co-sputtering apparatus and an image of the actual deposition chamber during a growth of MgSnN_2 .

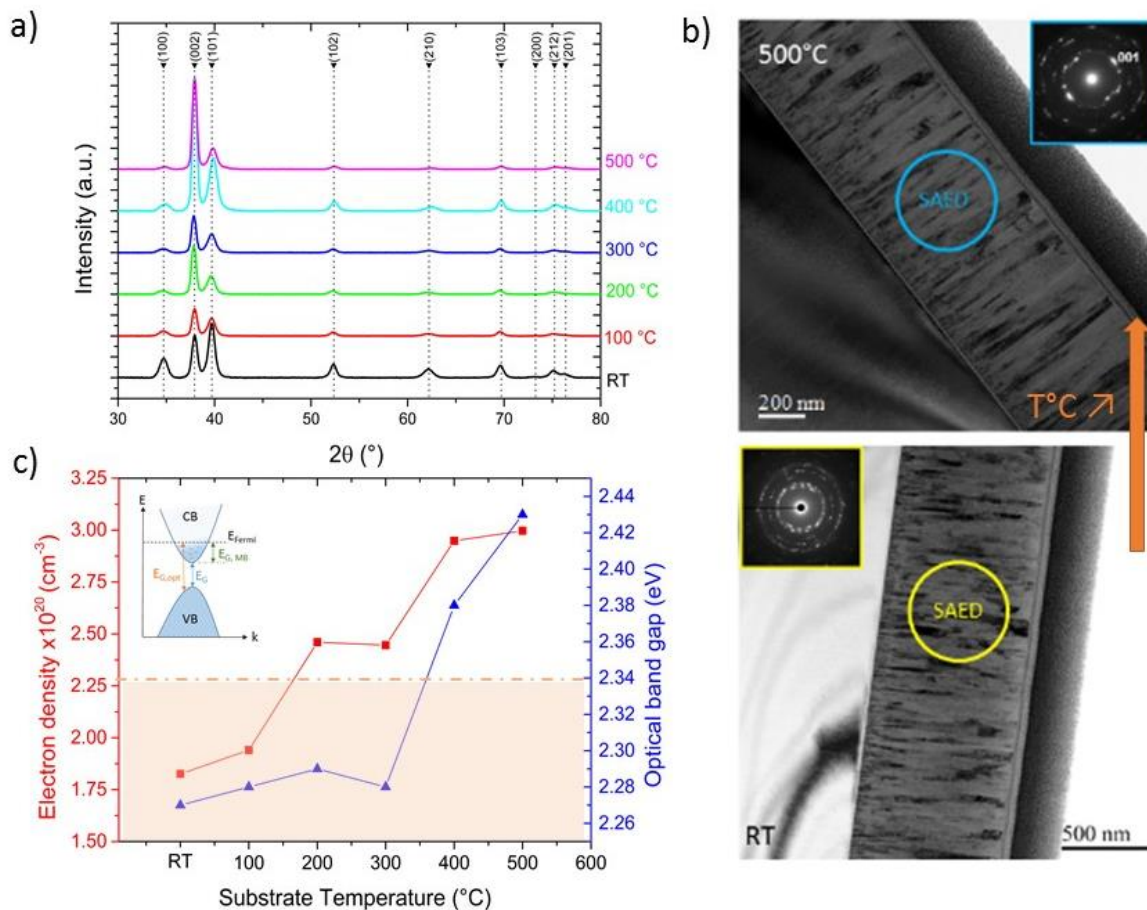


Figure 2: a) X-ray diffractograms obtained at various χ angles for MgSnN_2 films, b) Bright field image and the inset shows selected area electron diffraction pattern (SAED) of MgSnN_2 films deposited at $T_{\text{sub}} = 500^\circ\text{C}$ and room temperature. c) Influence of the deposition temperature on the electron density (in red) and the optical band gap of MgSnN_2 thin films.