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## Optical Properties and Determination of Thermal Transformation Parameters for $\text{Se}_{0.65}\text{Te}_{0.35}$ High Reflectance Thin Films

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**Abstract:** Chalcogenide glasses Se-Te have been prepared from the high purity constituent elements. Thin films of these materials have been deposited by vacuum evaporation. The thickness effects on the optical properties have been performed for the as-deposited films. The impact of varying thickness on the value of the optical gap is also reported and discussed. The resultant films were in amorphous nature. The reflectance and transmittance spectra were measured for the mentioned films and analyzed in the incident photon energy range from 1.16 to 2.47 eV. The refractive indices were determined as a function of wavelength via the transmittance analysis in the incident photon energy range from 1.16 to 1.38 eV. Also, the dispersion energy, oscillator energy, static refractive index and static dielectric constant were calculated for the thicknesses under investigation. The results of differential scanning calorimetry (DSC) at different heating rates are reported and analyzed. The activation energies for the glass transition and crystallization were calculated.

**Key Words:** Optical Properties and Parameters; High Reflectance Chalcogenide Semiconductors; Thermal Transformation Parameters

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