

OPTICS

Investigation of the optical properties of the *Bi₂Se₃* crystal

The optical properties of the *Bi₂Se₃* crystal were investigated by measuring the refractive index, absorption coefficient, and optical band gap. The refractive index was measured by the minimum deviation method, and the absorption coefficient was measured by the Beer-Lambert law. The optical band gap was determined from the Tauc plot. The results show that the refractive index of *Bi₂Se₃* is in the range of 2.5-3.0, the absorption coefficient is in the range of 10⁴-10⁵ cm⁻¹, and the optical band gap is approximately 1.5 eV. These results indicate that *Bi₂Se₃* is a promising material for optoelectronic applications.

