



## Polar vibrational modes in $\text{Ag}_3\text{AsS}_3$ crystals

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### Abstract

Reflectivity spectra of  $\text{Ag}_3\text{AsS}_3$  crystals have been investigated in the range from 50 to 4000  $\text{cm}^{-1}$  for  $E_{\parallel c}$  and  $E_{\perp c}$  polarizations, and practically all expected vibrational modes of  $A_1$  and E symmetry have been found. Phonon parameters, i.e. frequencies of LO and TO modes, longitudinal-transverse splitting and dielectric constants  $\epsilon_{\chi}$  and  $\epsilon_0$  are determined. Effective ionic charges of Ag, As and S ions and their anisotropy are estimated.