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Structural properties of Sb- and Te-based binary compounds: Spin-orbit effect

Abstract

The band structure of AlSb, GaSb, ZnTe and CdTe is calculated using the empirical pseudopotential method (EPM) coupled with spin-orbit (SO) splitting. We applied our empirical model of bulk modulus with SO effect. It has been noticed that SO has a crucial effect on the band structure of these compounds but does not influence the structural phase transition. The calculated results are in good agreement with the experimental data.

Keywords

Binary compounds; Spin-orbit; Structural properties