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## Temperature dependence of phonons and related crystal properties in InAs, InP and InSb zinc-blende binary compounds

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**Abstract:** The optical, thermal and lattice vibrations of InAs, InP, InSb zinc-blende binary compounds have been studied. This study is achieved by using the empirical pseudo-potential method (EPM). The effect of temperature on all studied quantities has been examined. Our results are compared with the available experimental and theoretical data and showed generally good agreement. The results in this work seem likely to be useful as a reference, especially at high temperature.

**Keywords:** Thermal properties; Phonons; Dielectric Constant; InAs, InSb and InP semiconductors.

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