



2000, Volume 39, Number S1, pag. 143

Phase Transitions Induced by Hydrostatic Pressure in II-III₂-VI₄ Compounds

Veacheslav V. Ursaki, Igor I. Burlakov, Ivan M. Tiginyanu, Yannis S. Raptis, Evangelos Anastassakis, Alberto Anedda, Riccardo Corpino

<https://doi.org/10.7567/jjaps.39s1.143>

Abstract

II-III₂-VI₄ compounds with different crystal structures have been studied by Raman spectroscopy (RS) under hydrostatic pressure up to 30 GPa. The phase transition characteristics induced by hydrostatic pressure i.e. the path of the phase transformation, the pressure value of phase transition and the structure of the high pressure phase, were found to depend on the initial crystal lattice parameters such as parameters of cations, tetragonal distortion, bond length and bond ionicity. At high pressures a general property for most of these compounds is the phase transition to the Raman inactive rocksalt-type structure. Another common feature is related to the order-disorder phase transition in the cation sublattice occurring at low and intermediate pressures.