

polytypic transition

A transition of a crystalline structure into one or more forms which differ in the way identical layers of atoms are stacked. Example: ZnS consists of two identical close packings, one of Zn atoms, the other S atoms, with the one displaced to the other along the *c*-axis through one-quarter of the layer spacing. In sphalerite-type ZnS the layers have the face-centred-cubic (ABC ABC) sequence, in wurtzite-type ZnS they have the hexagonal-close-packed (AB AB) sequence. The transition of sphalerite-type ZnS to wurtzite-type ZnS occurs at 1297 K.

Source:

PAC, 1994, 66, 577 (*Definitions of terms relating to phase transitions of the solid state (IUPAC Recommendations 1994)*) on page 589