

Peierls transition

A metal-insulator transition in quasi one-dimensional solids that occurs as a result of a band gap opening up at the Fermi energy due to a displacive distortion of the regular array increasing the unit cell length, usually a dimerization; the decrease in electronic energy outweighs the increase in lattice energy. Example: The transition in methylethylmorpholinium tetracyanoquinodimethanide at 335 K.

Source:

PAC, 1994, 66, 577 (*Definitions of terms relating to phase transitions of the solid state (IUPAC Recommendations 1994)*) on page 588