

Verwey transition

An electron-ordering transition occurring in a mixed-valent system that results in an ordering of formal valence states in the low-temperature phase. Example: The prototype system, first identified by Verwey, is the ferros spinel magnetite, $\text{Fe}^{3+}[\text{Fe}^{3+}\text{Fe}^{2+}]\text{O}_4$ in which an ordering of Fe^{3+} and Fe^{2+} ions within octahedral sites is thought to occur below $T_v \approx 120$ K.

Source:

PAC, 1994, 66, 577 (*Definitions of terms relating to phase transitions of the solid state (IUPAC Recommendations 1994)*) on page 593