

Glossary

Debye model | The Debye model is a method developed by Peter Debye in 1912 for estimating the phonon contribution to the specific heat (heat capacity) in a solid. This model correctly explains the low temperature dependence of the heat capacity, which is proportional to T^3 and also recovers the Dulong-Petit law at high temperatures. However, due to simplifying assumptions, its accuracy suffers at intermediate temperatures.

Debye temperature | The Debye temperature - within the Debye model - is the temperature of a crystal's highest normal mode of vibration, i.e., the highest temperature that can be achieved due to a single normal vibration. The Debye temperatures for most crystals are around 200–400 K.