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1.8.1.1. Determination of the coefficient ; 1.8.1.2. Kinetic energy of electrons in the metal
 1.8.1.3. Electrochemical potential of the electrons in the metal and the Fermi energy
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 1.8.2. The metallic bond and band theory; 1.8.2.1. Origin of energy bands; 1.8.2.2. Conductors, insulators and semiconductors; 1.8.2.3. Determination of the number N of free electrons; 1.8.2.4. Distribution of energy states and of free electrons at absolute zero; 1.9. Molar specific heat capacities of crystalline solids
 1.9.1. Contribution of the vibrational energy to the specific heat capacity at constant volume
 1.9.1.1. Case of a unique vibration in Einstein's model; 1.9.1.2. Case of Debye's acoustic vibration distribution; 1.9.2. Specific heat capacity of an atomic solid at constant volume; 1.9.2.1. Case of conductors; 1.9.2.2. Case of insulating materials; 1.9.3. Specific heat capacity of a molecular or ionic solid at constant volume; 1.9.4. Conclusion as to the specific heat capacity of a crystalline solid; 1.10. Thermal expansion of solids; 1.10.1. Expansion coefficients
 1.10.1.1. Linear expansion coefficient
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 2.1.2.2. Tetrahedral sites of the cubic centered faces lattice

Sommario/riassunto

The book offers advanced students, in 7 volumes, successively characterization tools phases, the study of all types of phase, liquid, gas and solid, pure or multi-component, process engineering, chemical and electrochemical equilibria, the properties of surfaces and phases of small sizes. Macroscopic and microscopic models are in turn covered with a constant correlation between the two scales. Particular attention was given to the rigor of mathematical developments. Besides some very specialized books, the vast majority of existing works are intended for beginners and therefore limited in s