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Thermal Energy kT for Gauging the Strength of an Interaction; 2.7 Classification of Forces and Pair Potentials; 2.8 Theoretical Analyses of Multimolecular Systems: Continuum and Molecular Approaches; 2.9 Molecular Approaches via Computer Simulations: Monte Carlo (MC) and Molecular Dynamics (MD); 2.10 Newton's Laws Applied to Two-Body Collisions; 2.11 Kinetic and Statistical Aspects of Multiple Collisions: the Boltzmann Distribution; Problems and Discussion Topics
Chapter 3 Strong Intermolecular Forces: Covalent and Coulomb Interactions3.1 Covalent or Chemical Bonding Forces; 3.2 Physical and Chemical Bonds; 3.3 Coulomb Forces or Charge-Charge Interactions, Gauss's Law; 3.4 Ionic Crystals; 3.5 Reference States; 3.6 Range of Electrostatic Forces; 3.7 The Born Energy of an Ion; 3.8 Solubility of Ions in Different Solvents; 3.9 Specific Ion-Solvent Effects: Continuum Approach; 3.10 Molecular Approach: Computer Simulations and Integral Equations of Many-Body Systems; Problems and Discussion Topics; Chapter 4 Interactions Involving Polar Molecules
4.1 What Are Polar Molecules?4.2 Dipole Self-Energy; 4.3 Ion-Dipole Interactions; 4.4 Ions in Polar Solvents; 4.5 Strong Ion-Dipole Interactions in Water: Hydrated Ions; 4.6 Solvation Forces, Structural Forces, and Hydration Forces; 4.7 Dipole-Dipole Interactions; 4.8 Magnetic Dipoles; 4.9 Hydrogen Bonds; 4.10 Rotating Dipoles and Angle-Averaged Potentials; 4.11 Entropic Effects; Problems and Discussion Topics; Chapter 5 Interactions Involving the Polarization of Molecules; 5.1 The Polarizability of Atoms and Molecules; 5.2 The Polarizability of Polar Molecules
5.3 Other Polarization Mechanisms and the Effects of Polarization on Electrostatic Interactions

Sommario/riassunto

This reference describes the role of various intermolecular and interparticle forces in determining the properties of simple systems such as gases, liquids and solids, with a special focus on more complex colloidal, polymeric and biological systems. The book provides a thorough foundation in theories and concepts of intermolecular forces, allowing researchers and students to recognize which forces are important in any particular system, as well as how to control these forces. This third edition is expanded into three sections and contains five new chapters over the previous edition.· s