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V Phase Diagrams of Binary Hard-Sphere Mixtures VI Phase Diagrams of Anisotropic Hard Particles; A. Dumbbells; B. Snowman-shaped Particles; C. Asymmetric Dumbbell Particles; D. Spherocylinders; E. Ellipsoids; F. Cut-spheres; G. Oblate Spherocylinders; H. Cubes; I. Superballs; J. Bowl-shaped Particles; VII Entropy Strikes Back Once More; Acknowledgments; References; 3 Sub-Nano Clusters: The Last Frontier of Inorganic Chemistry; I Introduction; II Chemical Bonding Phenomena in Clusters; A. Multiple Aromaticity and Antiaromaticity (-, -, d-) in 2D and 3D B. Covalency in Clusters and its Conflict with Aromaticity C. Ionic Bonding and its Support for Stabilizing Bonding Effects; D. Super-Atom Model; III Cluster-Based Technologies and Opportunities; A. New Inorganic Ligands and Building Blocks for Materials; B. Superconductivity in Metal Clusters; C. Cluster Motors; D. Clusters in Catalysis; IV Conclusions; Acknowledgments; References; 4 Supercooled Liquids and Glasses by Dielectric Relaxation Spectroscopy; I Introduction; II Permittivity Fundamentals; A. Steady State Equations; B. Time-Domain Relations; C. Frequency-Domain Relations D. Fluctuations and Noise III Response Functions; A. The Debye Response; B. Dispersive Response Functions; C. Conductivity; IV Linear Experimental Techniques; A. Time-Domain Methods; B. Thermally Stimulated Depolarization; C. Frequency-Domain Methods; D. Noise Measurements; E. Capacitors for Permittivity Measurements; F. Limitations from Blocking Electrodes; V Nonlinear Experimental Techniques; A. Large DC Fields; B. Large AC Fields; C. Pump-Probe Techniques; VI Applications; A. Static Properties; B. Dynamic Properties: Equilibrium; C. Dynamic Properties: Nonequilibrium; D. Conductivity E. Local Detection

Sommario/riassunto

Advances in Chemical Physics is the only series of volumes available that explores the cutting edge of research in chemical physics. This is the only series of volumes available that presents the cutting edge of research in chemical physics. Includes contributions from experts in this field of research. Contains a representative cross-section of research that questions established thinking on chemical solutions. Structured with an editorial framework that makes the book an excellent supplement to an advanced graduate class in physical chemistry or chemical physics.