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Nota di contenuto	Cluster Processes in Gases and Plasmas; Contents; Preface; 1 Introduction; Part I Cluster Properties and Cluster Processes; 2 Fundamentals of Large Clusters; 2.1 Models for Large Clusters and Processes with Their Participation; 2.2 Stability of Charged Metal Clusters; 2.3 Macroscopic Solid Particles with a Pairwise Interaction of Atoms; 2.4 Macroscopic Solid Surfaces; 2.5 Thermodynamics of Large Liquid Clusters in Parent Vapor; 3 Structures of Solid Clusters with Pairwise Atomic Interaction; 3.1 Clusters of Close-Packed Structures; 3.2 Icosahedral Cluster Structures 3.3 Competition between Cluster Structures 4 Elementary Processes and Processes in Gases Involving Clusters; 4.1 Cluster Collision Processes; 4.2 Attachment of Atoms to Clusters and Cluster Evaporation; 4.3 Cluster Heat Processes in Gases; 4.4 Combustion and Catalytic Processes in Gases Involving Clusters; 5 Clusters in External Fields; 5.1 Electric Properties of Large Clusters; 5.2 Radiative Processes Involving Small Particles; 5.3 Resonance Absorption of Metal Clusters; 5.4 Radiative Processes in the Heat Balance and Relaxation of Clusters; 5.5

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Appendix A Mechanical and Electrical Parameters of Particles with Ellipsoidal and Similar Shapes

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### Sommario/riassunto

This reference on cluster physics in materials science draws upon the author's unrivalled experience in plasma science. He covers in detail electromagnetic effects, cluster motion and growth, as well as aerosols, providing the knowledge instrumental for an understanding of nanostructure formation. Around 400 case studies enable readers to directly relate the methods to their own individual tasks or projects.

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