

1. Record Nr.	UNINA9910830369903321
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Titolo	Cluster processes in gases and plasmas [[electronic resource] /] / Boris M. Smimov
Pubbl/distr/stampa	Weinheim, : Wiley-VCH Verlag GmbH, c2010
ISBN	1-282-47227-5 9786612472275 3-527-62866-5
Descrizione fisica	1 online resource (445 p.)
Classificazione	530 UM 3181
Disciplina	530.43 530.43 22
Soggetti	Gases Plasma (Ionized gases)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
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 Hot Clusters as Light Sources

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

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.
