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Titolo	Progress in inorganic chemistry . Volume 23 // edited by Stephen J. Lippard
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Descrizione fisica	1 online resource (402 p.)
Collana	An Interscience Publication
Disciplina	546 546.082
Soggetti	Chemistry, Inorganic Electronic books.
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 at the end of each chapters and index.
Nota di contenuto	PROGRESS IN INORGANIC CHEMISTRY; Contents; Aspects of the Stereochemistry of Six-coordination; Seven-coordination Chemistry; The Stereochemistry of Metal Complexes of Nucleic Acid Constituents; Metal-ion Interactions with Nucleic Acids and Nucleic Acid Derivatives; Subject Index; Cumulative Index, Volumes 1-23
Sommario/riassunto	Progress in Inorganic Chemistry is a cornerstone of Wiley's inorganic chemistry program, providing a regular forum for carefully researched reports that review major developments in inorganic chemistry. With contributions from internationally renowned scientists, the series enables you to keep track and understand the significance of key discoveries in inorganic chemistry. Cutting-edge reviews are offered in such areas as chemical biology, bioinorganic chemistry, materials science, nanotechnology, and organometallic chemistry. Progress in Inorganic Chemistry mirrors the great diversity of mod

2. Record Nr.	UNINA9910144714103321
Autore	Bohren Craig F. <1940->
Titolo	Absorption and scattering of light by small particles // Craig F. Bohren, Donald R. Huffman
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Descrizione fisica	1 online resource (546 p.)
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Soggetti	Aerosols - Optical properties Light - Scattering Light absorption
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Absorption and Scattering of Light by Small Particles; Contents; PART 1- BASIC THEORY; Chapter 1. Introduction; 1.1 Physical Basis for Scattering and Absorption; 1.2 Scattering by Fluctuations and by Particles; 1.3 Physics of Scattering by a Single Particle; 1.4 Collections of Particles; 1.5 The Direct and Inverse Problem; Notes and Comments; Chapter 2. Electromagnetic Theory; 2.1 Field Vectors and the Maxwell Equations; 2.2 Time-Harmonic Fields; 2.3 Frequency-Dependent Phenomenological Coefficients; 2.4 Spatial Dispersion; 2.5 Poynting Vector; 2.6 Plane-Wave Propagation in Unbounded Media 2.7 Reflection and Transmission at a Plane Boundary 2.8 Reflection and Transmission by a Slab; 2.9 Experimental Determination of Optical Constants; 2.10 The Analogy Between a Slab and a Particle; 2.11 Polarization; Notes and Comments; Chapter 3. Absorption and Scattering by an Arbitrary Particle; 3.1 General Formulation of the Problem; 3.2 The Amplitude Scattering Matrix; 3.3 Scattering Matrix;

3.4 Extinction, Scattering, and Absorption; Notes and Comments; Chapter 4. Absorption and Scattering by a Sphere; 4.1 Solutions to the Vector Wave Equations
4.2 Expansion of a Plane Wave in Vector Spherical Harmonics
4.3 The Internal and Scattered Fields; 4.4 Cross Sections and Matrix Elements; 4.5 Asymmetry Parameter and Radiation Pressure; 4.6 Radar Backscattering Cross Section; 4.7 Thermal Emission; 4.8 Computation of Scattering Coefficients and Cross Sections; Notes and Comments; Chapter 5. Particles Small Compared with the Wavelength; 5.1 Sphere Small Compared with the Wavelength; 5.2 The Electrostatics Approximation; 5.3 Ellipsoid in the Electrostatics Approximation; 5.4 Coated Ellipsoid; 5.5 The Polarizability Tensor; 5.6 Anisotropic Sphere
5.7 Scattering Matrix
Chapter 6. Rayleigh-Cans Theory; 6.1 Amplitude Scattering Matrix Elements; 6.2 Homogeneous Sphere; 6.3 Finite Cylinder; Notes and Comments; Chapter 7. Geometrical Optics; 7.1 Absorption and Scattering Cross Sections; 7.2 Angular Distribution of the Scattered Light: Rainbow Angles; 7.3 Scattering by Prisms: Ice Crystal Haloes; Notes and Comments; Chapter 8. A Potpourri of Particles; 8.1 Coated Sphere; 8.2 Anisotropic Sphere; 8.3 Optically Active Particles; 8.4 Infinite Right Circular Cylinder; 8.5 Inhomogeneous Particles: Average Dielectric Function
8.6 A Survey of Nonspherical Particles, Regular and Irregular
Notes and Comments; PART 2-OPTICAL PROPERTIES OF BULK MATTER; Chapter 9. Classical Theories of Optical Constants; 9.1 The Lorentz Model; 9.2 The Multiple-Oscillator Model; 9.3 The Anisotropic Oscillator Model; 9.4 The Drude Model; 9.5 The Debye Relaxation Model; 9.6 General Relationship Between ϵ' and ϵ'' ; Notes and Comments; Chapter 10. Measured Optical Properties; 10.1 Optical Properties of an Insulating Solid: MgO; 10.2 Optical Properties of a Metal: Aluminum; 10.3 Optical Properties of a Liquid: Water
10.4 A Comment on the Magnitude of k

Sommario/riassunto

Absorption and Scattering of Light by Small Particles
Treating absorption and scattering in equal measure, this self-contained, interdisciplinary study examines and illustrates how small particles absorb and scatter light. The authors emphasize that any discussion of the optical behavior of small particles is inseparable from a full understanding of the optical behavior of the parent material-bulk matter. To divorce one concept from the other is to render any study on scattering theory seriously incomplete. Special features and important topics covered in this book include:
* Classica
