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Descrizione fisica	1 online resource (VIII, 262 p. 244 illus.)
Disciplina	534.2
Soggetti	Acoustics
	Physics
	Numerical analysis
	Computer mathematics
	Astrophysics
	Elementary particles (Physics)
	Quantum field theory
	Numerical and Computational Physics, Simulation
	Numerical Analysis
	Computational Science and Engineering
	Astrophysics and Astroparticles
	Elementary Particles, Quantum Field Theory
Lingua di pubblicazione	Inglese
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Nota di contenuto	Mathematical Basics of Plane Wave Scattering Scattering on Single- and Two-Layered Spheres Scattering on Janus Spheres Scattering on Homogeneous Bispheres Literature.
Sommario/riassunto	This book introduces readers to scattering from a practical/numerical point of view. The focus is on basic aspects like single scattering, multiple scattering, and whether inhomogeneous boundary conditions or inhomogeneous scatterers have to be taken into account. The powerful T-matrix approach is explained in detail and used throughout the book, and iterative solution methods are discussed. In addition, the book addresses appropriate criteria for estimating the accuracy of

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numerical results, as well as their importance for practical applications. Python code is provided with each chapter, and can be freely used and modified by readers. Moreover, numerous scattering results for different configurations are provided for benchmarking purposes. The book will be particularly valuable for those readers who plan to develop their own scattering code, and wish to test the correct numerical implementation of the underlying mathematics.