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Descrizione fisica	1 online resource (X, 402 p.)
Collana	Lecture Notes in Physics
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Direct N-Body Codes -- Regular Algorithms for the Few-Body Problem -- Resonance, Chaos and Stability: The Three-Body Problem in Astrophysics -- Fokker–planck Treatment of Collisional Stellar Dynamics -- Monte-Carlo Models of Collisional Stellar Systems -- Particle-Mesh Technique and Superbox -- Dynamical Friction -- Initial Conditions for Star Clusters -- Stellar Evolution -- N-Body Stellar Evolution -- Binary Stars -- N - Body Binary Evolution -- The Workings of a Stellar Evolution Code -- Realistic N - Body Simulations of Globular Clusters -- Parallelization, Special Hardware and Post-Newtonian Dynamics in Direct N - Body Simulations -- Educational N - Body Websites.
Sommario/riassunto	Published under the auspices of the Royal Astronomical Society, this volume contains a set of extensive school tested lectures, with the aim to give a coherent and thorough background knowledge of the subject and to introduce the latest developments in N-body computational astrophysics. The topics cover a wide range from the classical few-body problem with discussions of resonance, chaos and stability to realistic modelling of star clusters as well as descriptions of codes, algorithms and special hardware for N-body simulations. This collection of topics, related to the gravitational N-body problem, will prove useful to both students and researchers in years to come.