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Titolo	Shapes and Dynamics of Granular Minor Planets : The Dynamics of Deformable Bodies Applied to Granular Objects in the Solar System // by Ishan Sharma
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Descrizione fisica	1 online resource (XX, 354 p. 116 illus., 25 illus. in color.)
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Disciplina	523.2
Soggetti	Planetology Geophysics Space sciences Observations, Astronomical Astronomy—Observations Cosmology Astrophysics Geophysics and Environmental Physics Space Sciences (including Extraterrestrial Physics, Space Exploration and Astronautics) Astronomy, Observations and Techniques Astrophysics and Astroparticles
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Preface -- Mathematical preliminaries -- Continuum mechanics -- Afne dynamics -- Asteroids -- Satellites -- Binaries -- Granular materials.
Sommario/riassunto	This book develops a general approach that can be systematically refined to investigate the statics and dynamics of deformable solid bodies. These methods are then employed to small bodies in the Solar System. With several space missions underway and more being planned, interest in our immediate neighbourhood is growing. In this

spirit, this book investigates various phenomena encountered in planetary science, including disruptions during planetary fly-bys, equilibrium shapes and stability of small rubble bodies, and spin-driven shape changes. The flexible procedure proposed here will help readers gain valuable insights into the mechanics of solar system bodies, while at the same time complementing numerical investigations. The technique itself is built upon the virial method successfully employed by Chandrasekhar (1969) to study the equilibrium shapes of spinning fluid objects. However, here Chandrasekhar's approach is modified in order to study more complex dynamical situations and include objects of different rheologies, e.g., granular aggregates, or "rubble piles". The book is largely self-contained, though some basic familiarity with continuum mechanics will be beneficial.
