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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Towards Lagrangian Mechanics -- Smooth Manifolds -- Lagrangian Mechanics on Manifolds -- Variational Methods: the Action Principle -- Important Special Systems -- Hamilton Equations -- Symplectic Geometry -- Canonical Transformations -- The Hamilton-Jacobi Theory -- Integrable Systems and All That -- Introduction to Perturbative Methods.
Sommario/riassunto	This textbook is based on the author's lecture notes held at Qiuzhen College, Tsinghua University, Beijing, renowned for its rapid scientific growth of its excellent students. The book offers a remarkable combination of characteristics that are both exceptional and seemingly contradictory. It is designed to be entirely self-contained, starting from the basics and building a strong foundation in geometric and algebraic tools. Simultaneously, topics are infused with mathematical elegance and profundity, employing contemporary language and techniques. From a physicist's perspective, the content delves deeply into the physical aspects, emphasizing the underlying principles. This book bridges the gap between students and cutting-edge research, with a special focus on symplectic geometry, integrability, and recent developments in the field. It is designed to engage and captivate the reader. A conscious selection of topics ensures a more relevant and contemporary approach compared to traditional textbooks. The book

addresses common misconceptions, offering clarity and precision. In its quest for brevity, this book is tailored for a one-semester course, offering a comprehensive and concise resource. The author's dedication is evident throughout this volume, encapsulating these goals within roughly 300 pages.
