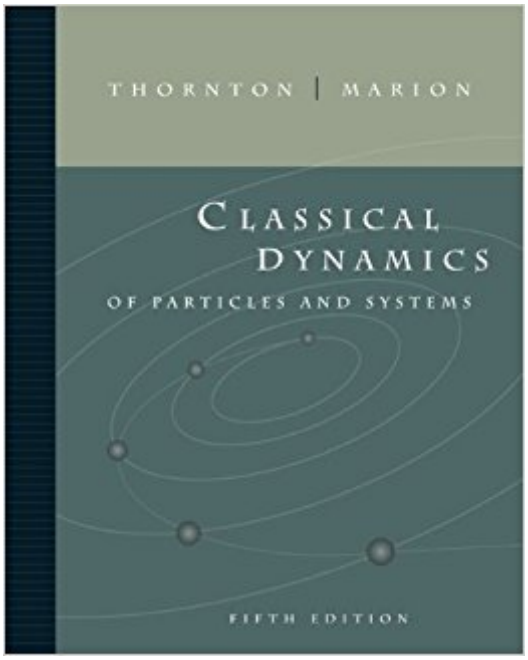
Classical Dynamics Of Particles And Systems



Synopsis

This best-selling classical mechanics text, written for the advanced undergraduate one- or two-semester course, provides a complete account of the classical mechanics of particles, systems of particles, and rigid bodies. Vector calculus is used extensively to explore topics.The Lagrangian formulation of mechanics is introduced early to show its powerful problem solving ability.. Modern notation and terminology are used throughout in support of the text's objective: to facilitate students' transition to advanced physics and the mathematical formalism needed for the quantum theory of physics. CLASSICAL DYNAMICS OF PARTICLES AND SYSTEMS can easily be used for a one- or two-semester course, depending on the instructor's choice of topics.

Book Information

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Customer Reviews

"An excellent balance of basic and advanced level classical mechanics, ideal for a junior level Physics courses.""I like the order of topics: the early discussion of linear and non-linear oscillations and the early presentation of Lagrangian/Hamiltonian dynamics. I also like the problems at the end of the chapters.""Good discussion of classical subjects."

Stephen Thornton is Professor of Physics at the University of Virginia. He has over 130 research publications in experimental nuclear physics and has done research at several accelerator facilities in the United States and Europe. He has directed the research for 25 graduate students. He has held two U.S. Senior Fulbright-Hays Fellowships and a Max-Planck Fellowship to do research at the Max Planck Institute for Nuclear Physics in Heidelberg, Germany on two occasions. He was the

founding Director of the University of Virginia Institute of Nuclear and Particle Physics. He has published three college textbooks for physics: "Classical Dynamics" and "Modern Physics" (both published with Brooks Cole, a part of Cengage Learning), and "Physics for Scientists and Engineers." He is currently Director of the Master of Arts in Physics Education program at the University of Virginia, which has graduated more than 70 high school physics teachers. He is a Fellow of the American Physical Society and a member of several organizations including American Association of Physics Teachers, American Association for the Advancement of Science, National Science Teachers Association, Virginia Association of Science Teachers (past President), and the Virginia Math and Science Coalition. He has developed multiple courses for undergraduate students and high school physics teachers.

love this textbook!

This is by far the best written text I have used. It is pedantic in a good way that does the history of the topic justice and inspires the reader.

It was fine :)

I’m currently studying for a final exam in an introductory classical mechanics course. Throughout the course, I knew this book was hard to understand, but a truly excellent professor helped clarify the text and explain the ambiguities in the problems.Presently as I go through the text in preparation for the final with an increased maturity in the subject, I can see its flaws more clearly. The notation used throughout the book is inconsistent (such as the use of T or K almost randomly for Kinetic Energy), examples are not thorough, and the explanation of basic physics is convoluted. In short, using this book as an introduction to classical mechanics without the assistance of an experienced professor is almost impossible.Being an introductory course, the Lagrangian and Hamiltonian methods were only touched upon as a primer for later classes. I purchased my copy of the book in used condition and have not had any problems with the binding, although the price does seem extravagant.

+ : Mathematically rigorous; a "classical" treatment. A lot of example problems in Chapters. Solution manual available. Lagrange and Hamiltonian Formalism.- : Very few physical concepts. Often complicates concepts. End of chapter problems can be unnecessarily tedious. Special relativity is presented poorly.I would say this book is a good way of training yourself to "read" physics texts. The

long computations may benefit some, while frustrate others. I don’t think this text does a good job of providing physical concepts or stressing what is important; it’s up to the reader to figure that out which makes the text a difficult read if one is unaccustomed to such a style. It certainly has a colder "classical" feel to it, which may be appealing to some, and unappealing to others. I often found myself researching the physical "insights" the authors would mention and felt dissatisfied with their explanations. This text may prove to have helped me more in the long run, but I feel unsatisfied with the amount of "physics" information I extracted from this book.

Perfect

I have to say this is the most comprehensive classical mechanics book I had. Students and professor with affinities with theoretical physics may find this book superficial. That’s why you see so many bad reviews here.

good book