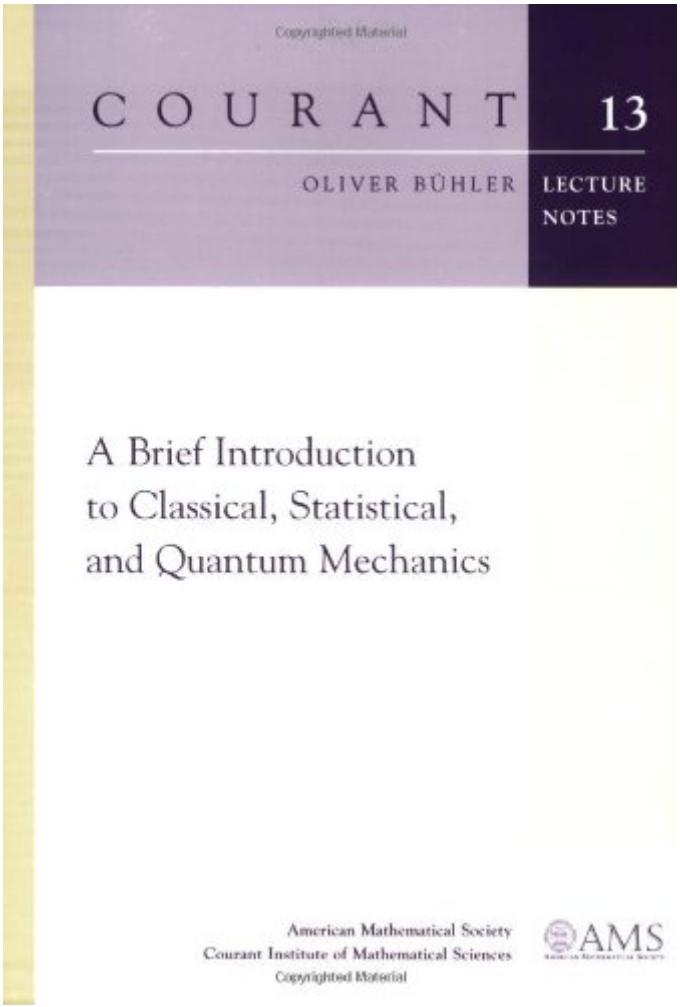
A Brief Introduction to Classical, Statistical, and Quantum Mechanics (Courant Lecture Notes) PDF



A Brief Introduction to Classical, Statistical, and Quantum Mechanics (Courant Lecture Notes) by Oliver Buhler ISBN 0821842323

This book provides a rapid overview of the basic methods and concepts in mechanics for beginning Ph.D. students and advanced undergraduates in applied mathematics or related fields. It is based on a graduate course given in 2006-07 at the Courant Institute of Mathematical Sciences. Among other topics, the book introduces Newton's law, action principles, Hamilton-Jacobi theory, geometric wave theory, analytical and numerical statistical mechanics, discrete and continuous quantum mechanics, and quantum path-integral methods. The focus is on fundamental mathematical methods that provide connections between seemingly unrelated subjects. An

example is Hamilton-Jacobi theory, which appears in the calculus of variations, in Fermat's principle of classical mechanics, and in the geometric theory of dispersive wavetrains. The material is developed in a sequence of simple examples and the book can be used in a one-semester class on classical, statistical, and quantum mechanics. Some familiarity with differential equations is required but otherwise the book is self-contained. In particular, no previous knowledge of physics is assumed. Titles in this series are copublished with the Courant Institute of Mathematical Sciences at New York University.

A Brief Introduction to Classical, Statistical, and Quantum Mechanics (Courant Lecture Notes) Review

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