Analytical Dynamics

This book takes a traditional approach to the development of the methods of analytical dynamics. After a review of Newtonian dynamics, the basic concepts of analytical dynamics - classification of constraints, classification of forces, virtual displacements, virtual work and variational principles - are introduced and developed. Next, Langrange's equations are derived and their integration is discussed. The Hamiltonian portion of the book covers Hamilton's canonical equations, contact transformations, and Hamilton-Jacobi theory. Also included are chapters on stability of motion, impulsive forces, and the Gibbs-Appell equation. Two types of examples are used throughout the book. The first type is intended to illustrate key results of the theoretical development, and these are deliberately kept as simple as possible. The other type is included to show the application of the theoretical results to complex, real-life problems. These examples are often quite lengthy, comprising an entire chapter in some cases. EAN/ISBN : 9780306486821 Publisher(s): Springer Netherlands Discussed keywords: Systemdynamik Format: ePub/PDF Author(s): Ardema, Mark

DOWNLOAD HERE