

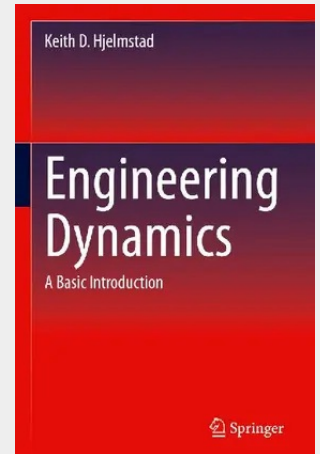
Engineering Dynamics

A Basic Introduction

This book provides an innovative approach to learning dynamics of particles and rigid bodies, emphasizing a consistent problem-solving framework designed to help students understand the subject while building and reinforcing the mathematical tools needed to bridge the gap between physical intuition and quantitative results. The theoretical developments are supported by an extensive set of MATLAB codes that give the reader powerful tools for exploring and visualizing basic concepts. The book is aimed at engineering students at the sophomore level who have a background in calculus, linear algebra, and differential equations.

- Uses clear and consistent derivations of the basic concepts of dynamics and provides an extensive set of MATLAB codes
- Embraces direct vector notation from the start and presents a consistent numerical framework for solving nonlinear differential equations
- Simplifies one of the most difficult aspects of dynamics—relative motion—using a novel approach to kinematics

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