



System Dynamics and Response - SI Version

By Kelly, S. Graham

Cengage Learning, 2008. Book Condition: New. Brand New, Unread Copy in Perfect Condition. A+ Customer Service! Summary: Chapter 1 - Introduction 1.1 Dynamic Systems 1.1.2 Control Systems 1.2 Dimensions and Units 1.3 Mathematical Modeling of Dynamic Systems 1.4 System Response 1.5 Linearization of Differential Equations 1.6 Unit Impulse Function and Unit Step Function 1.6.1 Unit Impulse Function 1.6.2 Unit Step Function 1.7 Stability 1.8 MATLAB 1.9 Scope of Study 1.10 Summary 1.10.1 Chapter Highlights 1.10.2 Important Equations Problems Chapter 2 - Mechanical Systems 2.1 Inertia Elements 2.1.1 Particles 2.1.2 Rigid Bodies 2.1.3 Deformable Bodies 2.1.4 Degrees of Freedom 2.2 Springs 2.2.1 Force-Displacement Relations 2.2.2 Combinations of Springs 2.2.3 Static Deflections 2.3 Friction Elements 2.3.1 Viscous Damping 2.3.2 Coulomb Damping 2.3.3 Hysteretic Damping 2.4 Mechanical System Input 2.4.1 External Forces and Torques 2.4.2 Impulsive Forces 2.4.3 Step Forces 2.4.4 Periodic Forces 2.4.5 Motion Input 2.5 Free-Body Diagrams 2.6 Newton's Laws 2.6.1 Particles 2.6.2 Rigid Body Motion 2.6.3 Pure Rotational Motion About a Fixed Axis of Rotation 2.6.4 Planar Motion of a Rigid Body 2.6.5 Three-Dimensional Motion of Rigid Bodies 2.6.6 D'Alembert's Principle 2.6.6.1 Particles 2.6.6.2 Rigid Bodies Undergoing Planar Motion 2.7 Single-Degree-of Freedom Systems 2.8 Multi-Degree-of-Freedom Systems 2.9 Energy Methods 2.9.1...



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