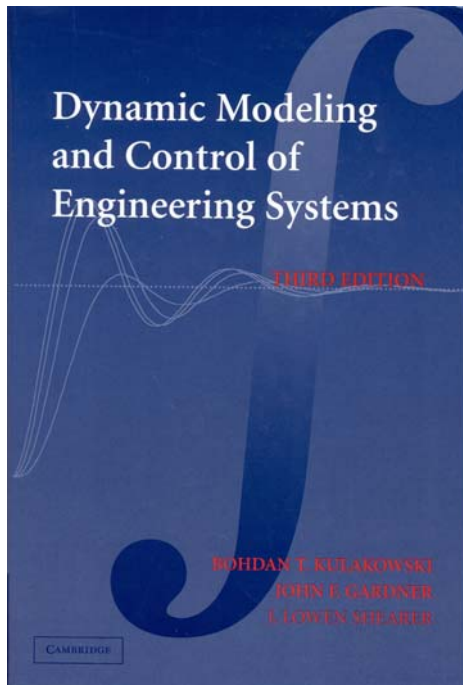# BOHDAN T. KULAKOWSKI, JOHN F. GARDNER AND J. LOWEN SHEARER

DYNAMIC MODELING AND CONTROL OF ENGINEERING SYSTEMS

Presented book appears as an ideal basis for a course in Engineering System Dynamics and Controls. The textbook proposes a comprehensive presentation of lumped parameter physical systems analysis.

The book starts with a discussion of mathematical models in general and further covers input/output and state space models, computer simulation and modeling methods and techniques applied in mechanical, electrical, thermal and fluid domains. A detailed explanation of frequency domain methods, transfer functions and frequency response is supplied. The book concludes with a treatment of stability, feedback control (PID, lead-lag, root locus) and an introduction to discrete time systems.

Presented new edition comprises many new and expanded sections, among that Solving Stiff Systems, Operational Amplifiers, Electrohydraulic Servovalves, Using Matlab with Transfer Functions, Using Matlab with Frequency Response, Matlab Tutorial and an expanded Simulink Tutorial. This new edition is improved with more end-of-chapter exercises and examples.

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