JOURNAL OF GUIDANCE, CONTROL, AND DYNAMICS
Vol. 16, No. 4, July–August 1993

Book Announcements

HAN, Z., and YIN, Y., ***Shock Dynamics,*** Kluwer Academic, Norwell, MA, 1993, 400 pages, price to be announced.

Purpose: This text presents a systematic description of the theoretical aspects of shock dynamics and introduces applications of the theory. This text is intended to complement existing monographs that emphasize experimental and computational methods.

Contents: Part I: Shock dynamics for a quiescent gas ahead of a shock wave; Part II: Shock dynamics of a moving wave ahead of a shock wave; Part III: Dynamic phenomena of shock waves.

BANKS, H. T., FABIANO, R. H., and ITO, K., ***Identification and Control in Systems Governed by Partial Differential Equations,*** Society for Industrial and Applied Mathematics, SIAM, Philadelphia, PA, 1992, 272 pages, $48.50.

Purpose: This text is written on a graduate level and discusses current theory in the identification and control of partial differential equations governing flow control, airfoil design, robotic control, and control of smart material structures.

Contents: Control of smart structures; parameter estimation in two-point boundary value problems; the optimal control for infinite dimensional systems; point observation in linear quadratic elliptic distributed control systems; feedback control of singular integro-differential systems.

MEYER, Y., ***Wavelets: Algorithms and Applications,*** Society for Industrial and Applied Mathematics, SIAM, Philadelphia, PA, 1993, 130 pages, $19.50.

Purpose: This book surveys current theory and practice in the rapidly emerging field of signal processing. The manuscript contains a unifying presentation of algorithms for analyzing nonstationary signals that is accessible to scientists and engineers.

Contents: Signals and wavelets; quadrature mirror filters; pyramid algorithms and numerical image processing; time-frequency analysis and wavelet packets; applications in computer vision; fractals; turbulence and celestial mechanics.

SCHESHLEN, W. (ed.), ***Advanced Multibody System Dynamics,*** Kluwer Academic, Norwell, MA, 1993, 488 pages, $115.00.

Purpose: This volume surveys the latest formulations and solution methodologies in multibody system dynamics. It is written to provide a comprehensive discussion for researchers and engineers in the field.

Contents: Individual contributions to this manuscript include research from the fields of mathematics, computer science, mechanics, and control theory. In addition, efficient numerical algorithms and software analysis tools in multibody dynamics are discussed.