Book Reviews

JACKSON, L. B., *Signals, Systems, and Transforms*, Addison-Wesley, Reading, MA, 1991, 482 pages.

Purpose: This is an introductory book dealing with continuous-time and discrete-time signals and systems.

Contents: Overview of signals and systems; continuous-time and discrete-time signals; linear time-invariant systems; Fourier analysis for continuous-time signals; Laplace transform; Z transform; Fourier analysis for discrete-time signals; state variables.

DEVANEY, R. L. and **YORKE, L. K.,** *Chaos and Fractals: The Mathematics Behind the Computer Graphics*, American Mathematical Society, Providence, RI, 1989, 148 pages.

Purpose: This is set of lecture notes prepared for a short course held in Providence, RI.

Contents: Overview: Dynamics of simple maps; nonlinear oscillations and the Smale horseshoe map; fractal basin boundaries and chaotic attractors; Julia sets; Mandelbrot set; introduction to fractals; iterated function systems.

BARNSLEY, M., *Fractals Everywhere*, Academic Press, New York, 1988, 394 pages.

Purpose: This book presents the tools, methods, and theory of fractal geometry. It is written for students who have had two years of calculus.

Contents: Spaces, subsets, and the space of fractals; transformations on metric spaces, contraction mappings, and the contruction of fractals; chaotic dynamics on fractals; fractal

dimension; fractal interpolation; Julia sets; parameter spaces and Mandelbrot sets; measures on fractals.

BUXBAUM, A., SCHIERAU, K., and **STRAUGHEN, A.,** *Design of Control Systems for DC Drives*, Springer-Verlag, Berlin, 1990, 237 pages, $79.50.

Purpose: This book is intended to introduce the reader to the practical calculation of feedback control circuits for DC drives without too much theory.

Contents: Normalization; feedback control concepts and analysis; sinusoidal transfer function; system diagram; conversion of system diagrams and transfer functions; stability; use of Bode diagrams; stabilization of control systems with and without an I-element in the controlled system; closed control loops; normalized Bode diagrams and step responses; internal loops; programming on analog and digital computers; line-commutated rectifiers; current and voltage control; Ward-Leonard drives; adaptive and digital controllers.

NAKAMURA, Y., *Advanced Robotics: Redundancy and Optimization*, Addison-Wesley, Reading, MA, 1991, 337 pages.

Purpose: This book is intended as a second-level graduate text in robotics and as a research monograph.

Contents: Mathematical toolbox; differential kinematics and redundancy; local and global optimization of kinematic redundancy; redundancy in multirobot coordination; actuation redundancy of closed-link mechanisms; a manipulator with kinematic and actuation redundancy; singularity-robust inverse of jacobian matrix; redundancy in multiaxis force sensing; geometric optimization for sensor fusion.

Erratum

Robust Control Design with Real-Parameter Uncertainty and Unmodeled Dynamics

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BECAUSE of a computer conversion problem on the part of the authors, a manuscript with several math errors was submitted to *JGCD* and was subsequently published. The following are the authors' math corrections:

1) The last line on p. 1118 should read "$\Delta E_{1\infty} = \Delta C$, this formulation then deals with the class of ..."

2) P. 1119, the middle term in Eq. (22) should read "$R_{1\infty} = E_{1\infty}^T E_{1\infty}$."

3) P. 1120, Eq. (44) should read "$Q \geq Q_2$."

4) The following equations should all contain "$\geq$" rather than "$\leq$": Eqs. (30), (33), (37), (52), and (53).