Book Announcements

ISERMANN, R., ***Digital Control Systems, Volume 1: Fundamentals, Deterministic Control,*** 2nd ed., Springer-Verlag, Berlin, 1989, 334 pages.

Purpose: The basic theory of linear sampled-data control using a deterministic setting are presented in this book.

Contents: Control with digital computers; fundamentals; deterministic control systems; parameter-optimized controllers; general linear controllers and cancellation controllers; controllers for finite settling time; state controllers and observers; controllers for processes with large deadtime; sensitivity and robustness with constant controllers; comparison of different controllers for deterministic disturbances; appendices.

HEIJ, C., ***Deterministic Identification of Dynamical Systems,*** Lecture Notes in Control and Information Sciences, Vol. 127, Springer-Verlag, Berlin, 1989, 292 pages.

Purpose: This monograph presents a deterministic approach to identification of linear dynamical systems. Parallels are drawn with examples from systems theory, statistics, time series analysis, econometrics, and signal processing.

Contents: Deterministic modeling; exact modeling; model approximation; approximate modeling; conclusions; appendices.

JOSHI, S. M., ***Control of Large Flexible Space Structures,*** Lecture Notes in Control and Information Sciences, Vol. 131, Springer-Verlag, Berlin, 1989, 196 pages.

Purpose: This research monograph covers the control of flexible space structures. Applications of control synthesis techniques to realistic models are presented.

Contents: A class of robust dissipative controllers; linear quadratic Gaussian based controllers; related topics on identification, maneuvering, and future research.

KOIVO, A. J., ***Fundamentals for Control of Robotic Manipulators,*** Wiley, New York, 1989, 468 pages.

Purpose: The fundamentals of robotics aimed toward design and implementation of controllers are covered. The material in this text is suitable for a sequence of two courses.

Contents: Robotic systems; kinematics for manipulator joints, links, and gripper; inverse solution to kinematic equations; generalized velocity and torque relations in joint and base coordinates; determination of dynamical models for manipulators; state variable representation and linearization of nonlinear models; trajectory planning for manipulator motion; primary and secondary controller design for gross motion of manipulators; adaptive control of manipulator gross motion; control of generalized contact forces exerted by robot manipulator; appendices.

ISIDORI, A., ***Nonlinear Control Systems,*** 2nd ed., Springer-Verlag, Berlin, 1989, 479 pages.

Purpose: This book presents a self-contained description of the fundamentals of control of nonlinear systems. The treatment draws heavily on differential geometric concepts and is intended for a graduate level course.

Contents: Local decomposition of control systems; global decomposition of control systems; input-output maps and realization theory; elementary theory of nonlinear feedback for single-input/single-output systems; elementary theory of nonlinear feedback for multi-input/multi-output systems; geometric theory of state feedback: tools and applications; apendices.

PIERONI, G. G. (ed.), ***Issues on Machine Vision,*** Courses and Lectures—No. 307, International Centre for Mechanical Sciences, Springer-Verlag, Vienna, 339 pages.

Purpose: This volume is a collection of papers presented at the CSIM Conference on Machine Vision in 1988.

Contents: Topics include data processing, pattern recognition, neural networks, and parameter estimation.

Errata

New Form for the Optimal Rendezvous Equations Near a Keplerian Orbit

Thomas E. Carter
Eastern Connecticut State University, Willimantic, Connecticut

[JGCD 13, pp. 183–186 (1990)]

TWO errors in printing can be found in the Introduction, on page 183.

The second paragraph should end as follows:

The approach of Tschauner and Hempel, as used by Weiss[11] in 1981, was found to be effective in constructing two-impulse solutions to rendezvous problems involving objects in elliptical orbits of high eccentricity.[12] In all of these studies, the solution of Lawden's equations was not investigated through the use of the integral $I(\theta)$ of Eq. (1).

The fourth paragraph should end the following way:

These problems are avoided in the work of Tschauner and Hempel[4–7] and others[8–12] who use a form of solution that does not involve $I(\theta)$, but their work is confined to elliptical orbits.