



Fig. 1 (Cont.) Pole-zero patterns and gain-phase characteristics of generalized second-order structural filter.

Book Announcements

CHUI, C. K. and CHEN, G., *Linear Systems and Optimal Control*, Springer-Verlag, New York, 1989, 170 pages.

Purpose: This book offers a self-contained treatment of continuous- and discrete-time systems. It should be useful for all interested in the area of systems engineering, control theory, and signal processing.

Contents: State-space descriptions; state transition equations and matrices; controllability, observability, and dual systems; time-invariant linear systems; stability; optimal control and variational methods; dynamic programming; time-optimal control problem.

DELCHAMPS, D. F., *State Space and Input-Output Linear Systems*, Springer-Verlag, New York, 1989, 425 pages.

Purpose: This book introduces the central results from the theory of state space and input-output linear systems. It is intended for first-year graduate students as well as researchers.

Contents: Mathematical preliminaries; state space linear systems; input-output linear systems; stability and feedback.

VUKOBRATOVIĆ, M., (ed.), *Introduction to Robotics*, Springer-Verlag, New York, 1989, 300 pages.

Purpose: This is a textbook suitable for a course in robotics involving classical mechanics, systems theory, and computer engineering.

Contents: General introduction to robots; manipulator kinematic model; dynamics and dynamic analysis of manipulation robots; control of robots; microprocessor implementation of control algorithms; industrial robot programming systems; sensors in robotics; elements, structures, and application of industrial robots; robotics and flexible automation systems.

DAVENPORT, J. H., SIRET, Y., and TOURNIER, E., *Computer Algebra: Systems and Algorithms for Algebraic Computation*, Academic, San Diego, 1988, 267 pages.

Purpose: This book has been written to introduce computer algebra and programming systems.

Contents: How to use a computer algebra system; data representation; polynomial simplification; advanced algorithms; formal integration and differential equations; Annex. REDUCE: a computer algebra system.

DORF, R. C., *Modern Control Systems*, Fifth ed., Addison Wesley, Reading, MA, 1989, 603 pages.

Purpose: The purpose of this book is to present the structure of feedback control theory.

Contents: Introduction to control systems; mathematical models of systems; feedback control system characteristics; performance; stability; the root locus; frequency response, stability in frequency domain; time-domain analysis; design and compensation; digital control; design case studies.

CLAXTON, M. and HALLMAN, L., *Information Pack on Fly-By-Wire*, Information and Library Service, Institution of Mechanical Engineers, London, England, UK, 1987, 69 pages.

Purpose: This information pack contains fly-by-wire (FBW) information and references.

Contents: Abbreviations, abstracts and indexes, aircraft types incorporating FBW; journals publishing FBW work; manufacturers of FBW components and systems; on-line databases; organizations; patents; abstracts of FBW related publications.