Theory and practice of recursive identification.

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Theory and Practice of Recursive Identification

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1983 (English)Book (Other academic)

Abstract [en]

Methods of recursive identification deal with the problem of building mathematical models of signals and systems on-line, at the same time as data is being collected. Such methods, which are also known as adaptive algorithms or sequential parameter estimation methods, may be applied to a wide spectrum of online adaptive systems, such as devices for signal processing, prediction, or control and are useful for modeling systems in general. For example, they can be used to analyze the demand for power on an electric generating grid and help the grid adjust to continually changing power needs, or applied to the changing conditions of a papermaking plant, or to monitoring pollution in a river.

This book provides a comprehensive and systematic framework for developing, describing, and analyzing such recursive algorithms. It has been carefully designed and organized to meet the needs of readers with different objectives. With a myriad of algorithms now in use, it provides a simple and coherent frame of reference for understanding the subject and will serve as a guide to the large number of choices made available by the advent of inexpensive, powerful digital processors.

Readers primarily interested in theory will find a detailed development of convergence analysis and asymptotic distribution results. For graduate students it is a basic introduction to the subject. And for engineers interested in practical applications, the book's earlier theory-oriented chapters are equipped with "user's summaries" that provide direct access to the discussion of practical aspects developed in the final three chapters on implementation and applications.

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Modern Digital and Analog Communication Systems 3e Osece, castels in the work "Information age".
Digital signal processing, quartz, as follows from the above, is a product range.

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