



METADATA

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Abstract

This book is an introduction to statistical signal processing. This broad and modern field of engineering science is presented through the following basic sub-fields: (a) detection theory, (b) parameter estimation theory, (c) signal estimation, and (d) machine learning theory. Particular effort has been made to present these sub-fields in a unified manner. Throughout the book, an effort is made to link theory with examples in which the techniques described are applied. Each section of the book has been selected not only for its importance, but also for the wide range of applications it covers. Some

indicative examples are the processing of communication signals, but also those that appear in very different fields, such as biomedicine, geophysics, econometrics, genetics, ecology, etc. Modern applications of statistical signal processing can also be found in smart energy networks and in the creation of smart cities. In general, the subject is related to a wide range of interdisciplinary applications and problems and, therefore, it is estimated that the textbook could serve as a manual for academic teaching on the one hand and a useful reference guide for practical problems on the other.

