Book Reviews

Mathematica Slovaca, Vol. 42 (1992), No. 3, 379--380

Persistent URL: http://dml.cz/dmlcz/136559

Mathematica Slovaca
©1992
Mathematical Institute
Slovak Academy of Sciences

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Schipp, F.–Wade, W. R.–Simon, P. (with assistance from J. Pál): WALSH SERIES - AN INTRODUCTION TO DYADIC HARMONIC ANALYSIS. Akadémiai Kiadó, Budapest 1990, 560 pp. ISBN 963 05 5880 7

Walsh functions have found applications in a number of diverse fields, they are, e.g., the basic functions for the Walsh-Hadamard transform that has found applications in signal, image and speech processing, word recognition, pattern recognition, signature verification, filtering, coding, communication, detection and many others. The Walsh system has played an important role in the development of many fields of mathematics (harmonic analysis, functional analysis - basis problem, probability theory and others). Hence the material contained in this book is interesting and important from both the mathematical point of view and the point of view of applications. From the contents

The book is suitable for use as an introduction to harmonic analysis. The book is nearly self-contained (there are some appendices). It contains recent results and thus is also suitable as a reference for specialists.

Miloslav Duchoň, Bratislava

Székely, G. J.: PARADOXA. KLASSISCHE UND NEUE ÜBERRASCHUNG AUS WAHRSCHEINLICHKEITSRECHNUNG UND MATHEMATISCHER STATISTIK. Akademiai Kiadó, Budapest 1990, 240 pp.

The English version of this book was reviewed in Mathematica Slovaca 40, 1990, No 4, 436 – 437. Since the book in German version is of the same content, it is of no use to repeat the review. Nevertheless it is to be once more stated that the book is useful not only for everybody who is interested in a deeper insight into foundations of probability theory and

mathematical statistics but also for those who like to amuse themselves by such a serious science as mathematics is.

Lubomír Kubáček, Bratislava

Štulajter, F.: ODHADY V NÁHODNÝCH PROCESOCH. (Slovak) [ESTIMATES IN RANDOM PROCESSES.] Alfa, Bratislava 1989, 284 pp.

The author emphasizes the theory of mixed regression models as the basic tool in statistical analysis of random processes. He concentrates on the estimation of the regression coefficients in the mean value and on the estimation of the covariance function. The presentation of the two topics is original, and includes several research contributions of the author.

Only one third of the book is devoted to the estimation in random processes properly speaking. The introductory part begins with the axioms of a vector space, covers matrix algebra and elementary theory of Hilbert spaces. Then follow the measure-theoretical foundations of probability theory and the general definition of a random process. The chapter entitled Basic Mathematical Statistics centres on the mixed linear model, and is a good introduction to the subject.

The defect of the book is its title promising the coverage of a wider range of estimation problems. The correlation theory does not cover a number of the properties of random processes. The Markov processes, as well as the models encountered in the queueing and the reliability theories or in automatic control require parameter estimation methods from the entire sphere of statistical techniques. The estimation of the spectrum, an important part of the correlation theory, is only briefly mentioned.

The presentation of the material is clear and rigorous. The students of statistics will find in the book a variety of results, which are supposed to belong to their general knowledge.

Petr Mandl, Praha