

but we have probably said enough for our readers to decide whether or not to look at the book itself.

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Transactions of the fourth Prague conference on information theory, statistical decision functions, random processes. Academic Press, New York and London, 1967, 725 pages.

This is the proceedings of a conference held in Prague from August 31, to September 11 in 1965. It includes 6 invited expository papers and 41 contributed research papers. The invited papers are "Some recent developments in the theory of denumerable Markov processes" by D.G. Kendall, "Some results in the theory of Wiener integrals" by E. Lukacs, "Analytical methods in the theory of controlled Markov processes" by P. Mandl, "Information theory methods in reducing complex decision problems" by A. Perez, "Statistical model building in quality control" by N.S. Raibman (in Russian) and "Recent results in the theory of controlled random processes" by A.N. Shiryaev (in Russian). Of the contributed papers 28 are in English, 2 are in German, 1 is in French and 10 are in Russian. In terms of subject matter they include 3 on the control of random systems, 2 on random systems, 7 on decision theory and statistics, 7 on Markov processes, 5 on limit theorems, 3 on stochastic approximation, 5 on information theory, 3 on random series and the remaining 6 are on miscellaneous topics.

D.A. Dawson, McGill University

S.S. Wilks; Collected Papers; Contributions to mathematical statistics, edited by T. W. Anderson. John Wiley and Sons, 1967. 693 pages.

This volume contains 48 statistical papers of S.S. Wilks. They include his works on multivariate analysis, likelihood ratio tests and maximum likelihood estimates, order statistics and nonparametric methods, as well as his contributions to the applications of statistics to science and to the problems of teaching statistics and training statisticians.

C. Kraft, Université de Montreal

Darstellungen von Gruppen. Mit Berücksichtigung der Bedürfnisse der modernen Physik. Zweite, überarbeitete Auflage. Die Grundlehren der mathematischen Wissenschaften in Einzeldarstellungen, by H. Boerner. Band 74, Springer-Verlag, Berlin, Heidelberg, New York, 1967. xiv + 317 pages. DM 58, \$14.50 U.S.

This second edition differs from the first one only in some passages, which shall be discussed below. The book has been written by a mathematician, with the physical applications in mind, however, without

neglecting the mathematical exactness. Thus the author develops the theory of representations of finite and infinite groups using the elementary concept of matrix representations, so that there are no prerequisites beyond the undergraduate level. Only representations over an algebraically closed field of characteristic zero are considered, as is most suitable for the applications.

After two introductory chapters on matrices and groups, the author exhibits in Kap. III first the representation theory of finite groups over an algebraically closed field, using partly matrix theory, partly the theory of semi-simple algebras. Next in this chapter comes a section on the representations of continuous groups and their characters, via Lie groups. The rest of this chapter has been altered considerably in this new edition: projective representations are introduced, and a section on the induced representations has been added. In Kap. IV the theory of representations of the symmetric groups is treated in detail, using Young's theory of tableaux. However, deviating from the first edition, the author uses now, instead of Young's "natural representation", the semi-normal and orthogonal representation to find the representing matrices explicitly. In Kap. V the representations of the general linear group, the unimodular group and the unitary group are dealt with, using tensor spaces. The results of Kap. IV are applied to obtain a very explicit description of the representations of the above groups. In Kap. VI the characters of the symmetric group and of the alternating group are computed. The connection between the representations of the symmetric group and the general linear group are exploited farther to find the characters of this group. To obtain the characters and the one-valued representations of the rotation group, the Stiefel-diagrams play the dominating role in Kap. VII. In Kap. VIII the spin-representations of the rotation group are derived via the Clifford-algebra. In addition to a treatment of the spin-representation following Brauer and Weil, a section has been added on Freudenthal's method of obtaining explicitly the spin-representations. The last chapter contains a thorough treatment of the Lorentz-group.

Though this book does not contain any applications of representation theory to physics, it seems that it is excellently suited to a reader, who is interested in the applications, but who also wants to acquire a precise knowledge on the mathematical theory of group-representations.

K. W. Roggenkamp, University of Illinois

Solution of equations and systems of equations, by A.M. Ostrowski. (Academic-Press, New York, London, 1966). xiv + 338 pages. \$11.95.

The present book is a considerably revised and enlarged edition of the first edition which appeared in 1960 and which had ix + 202 pages. The number of chapters in the new edition is 29 (14 more than in the first edition) and the number of appendices has also gone up by 5 and the number of pages is xiv + 338. The new chapters which have been added are the following: Chapter 15. The square root iteration Chapter 16. Further discussion of square root iteration. Chapter 17. A general