

hyperbolic equations the existence of real and distinct characteristics leads to the most satisfactory known method of numerical solution" (p. 105).

The listing of tables of functions of several variables is not adequately described. In particular, the alluring paper by Kolmogoroff [1] is not mentioned. In general, scant attention is paid to important Russian work; the book by Kantorovich and Krylov [2] is not listed in the bibliography, even though it is available in an understandable English translation.

Despite these criticisms, which might be likened to the disappointment of a lover (of the first edition) as his love ages, this is a handy booklet to have available. It is a cook book of procedures which are recommended on the experience of a perceptive, scholarly, and active computing group. It is less necessary now than it was when it was published in its first edition, for SHARE and the other users' groups have made experiences with computers more easily available to other users, but this booklet is more precise, less coding-conscious, and more scholarly than the reports of the users' groups. The booklet has been brought up to date on the topics it covers; Givens and Householder on latent roots are quoted carefully, including a British interpretation of their impressive work in both avoidance of long calculation and analysis of error. On the other hand, many reports of computational experience now exist in the literature, which was not the case when the first edition was published, so the booklet is no longer a must.

I would feel unhappy if I knew of this volume and did not have it in my library. I suggest that firms which have spent millions of dollars on computers buy a few copies even though some isomorph of SHARE is available.

If a third edition is contemplated, I suggest that the chapter on Finite Difference Methods be omitted as non-modern. By implication above, I have suggested chapters which should be included. Also a chapter on coding and coding languages might reasonably be added.

I note that there is considerable modernization of outlook (including a chapter on Chebyshev series), and this is good.

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1. A. N. KOLMOGOROV, "O predstavlenii nepreryvnykh funktsii neskopkikh peremennykh v vide superpozitsii nepreryvnykh funktsii odnogo peremennogo i slozheniia" ("On the representation of a continuous function of several variables in the form of a superposition of continuous functions of one variable and their sums"), Akad. Nauk SSSR, *Doklady*, 1957, v. 114, p. 953-6.

2. L. V. KANTOROVICH & V. I. KRYLOV, *Approximate Methods of Higher Analysis*, translated by Curtis Benster, Noordhoff, Groningen, 1958.

5[K]. G. W. ROSENTHAL & J. J. RODDEN, *Tables of the Integral of the Elliptical Bivariate Normal Distribution over Offset Circles*, LMSD-800619, Lockheed Missiles and Space Division, Sunnyvale, California, May 1961, iii + 92 p., 28 cm.

These tables give the probabilities of being inside various circles not about the mean from a bivariate normal distribution having unequal variances. The range of the tables includes values of the mean up to three times the standard deviation.

AUTHOR'S SUMMARY