

27 errors (ranging up to 25 units) in the tabulated values of the remaining functions for  $x \leq 20$ .

Thus we have still another example of the result of insufficient planning to insure complete tabular accuracy, especially in the vicinity of zeros of oscillatory functions such as  $J_n(x)$  and  $Y_n(x)$ , where single-precision computations cannot always be relied upon to yield the desired number of significant figures.

Despite these flaws, the present table performs a valuable service in listing approximations to the values of  $Y_n(x)$ ,  $I_n(x)$ , and  $K_n(x)$  over a range not hitherto tabulated.

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1. HARVARD UNIVERSITY, COMPUTATION LABORATORY, *Annals*, v. 3, *Tables of the Bessel Function of the First Kind of Orders Zero and One*, Harvard University Press, Cambridge, Massachusetts, 1947.

2. BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, Committee on Mathematical Tables, *Mathematical Tables*, v. 10, *Bessel Functions, Part II: Functions of Positive Integer Order*, Cambridge University Press, Cambridge, England, 1952.

18 [I, M].—RUEL V. CHURCHILL, *Fourier Series and Boundary Value Problems*, McGraw-Hill Book Company, Inc., New York, 1963, viii + 248 p., 23 cm. Price \$6.75.

Professor Churchill has written several very successful text books at the intermediate level. Each of these books has been marked by careful attention to mathematical detail. They are extremely easy to teach from and contain plenty of exercises for the student.

This second edition of *Fourier Series and Boundary Value Problems* continues this tradition. The chapter topics are: 1. Partial Differential Equations of Physics; 2. Superposition of Solutions; 3. Orthogonal Sets of Functions; 4. Fourier Series; 5. Further Properties of Fourier Series; 6. Fourier Integrals; 7. Boundary Value Problems; 8. Bessel Functions and Applications; 9. Legendre Polynomials and Applications; and 10. Uniqueness of Solutions.

These chapter headings are, in many ways, similar to those in the first edition. A separate chapter on the Fourier integral has been added, and various chapters have been rearranged. The lists of problems have been either added to or, in many cases, completely replaced with new ones. References have now been placed in a bibliography at the end of the book.

These changes appear to the reviewer to be definite improvements over the first edition. The book should supply the needs for an intermediate text for students in mathematics, physics, or engineering. The only criticism that the reviewer can make concerns the lists of problems. There are plenty of problems, but no really difficult ones. For the most part, they are simple applications of material presented in the text. It would seem that the book would appeal to mathematics students more if it contained some additional, difficult problems dealing with applications and with further mathematical theory.

Teachers will welcome Professor Churchill's book as a clear, well written text which makes their job easier for them.

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