

also noted that the bibliography had 43 items. The number in the present edition is 44. We should like to add that the bibliography is quite extensive though not complete. In the applications one often needs integrals involving $P_{-1/2+ir}^m(z)$ where the integration may be with respect to τ or z . In this connection and for additional references to applications, one should consult F. Oberhettinger and T. P. Higgins, *Tables of Lebedev, Mehler and Generalised Mehler Transforms*, Math. Note No. 246, October, 1961, Boeing Scientific Research Laboratories, Seattle, Washington, (*Math. Comp.*, v. 17, 1963, p. 95) the references given there, and J. Wimp, "A class of integral transforms," *Proc. Edinburgh Math. Soc.*, (2), v. 14, 1964, pp. 33-40.

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67[L].—C. W. CLENSHAW & SUSAN M. PICKEN, *Chebyshev Series for Bessel Functions of Fractional Order*, Mathematical Tables, Vol. 8, National Physical Laboratory, London. Her Majesty's Stationary Office, 1966, iii + 54 pp., 28 cm. Price 17s. 6d.

These short tables are a noteworthy addition to the NPL Mathematical Tables Series started in 1957.

The main body of this volume (Tables 1-28) lists the Chebyshev coefficients for the Bessel functions of real and imaginary argument for the following arguments and orders:

For $J_\nu(x)$, $Y_\nu(x)$, $I_\nu(x)$:

$$x \leq 8, \nu = 0, \frac{1}{4}, \pm \frac{1}{3}, \pm \frac{1}{2}, \pm \frac{2}{3}, \pm \frac{3}{4}, 1,$$

$$x \geq 8, \nu = 0, \frac{1}{4}, \frac{1}{3}, \frac{1}{2}, \frac{2}{3}, \frac{3}{4}, 1.$$

For $K_\nu(x)$:

$$x \leq 8, \nu = 0, 1,$$

$$x \geq 8, \nu = 0, \frac{1}{2}, \frac{2}{3}, \frac{3}{4}, 1.$$

The next 14 tables give for the same range of ν , in the range $x \leq 8$, Chebyshev coefficients such that $J_\nu(x)$ and $I_\nu(x)$ can be computed from a single auxiliary function and in the range $x \geq 8$, the Chebyshev series expansion for two auxiliary functions which permit the computation of $J_\nu(x)$, $Y_\nu(x)$, $I_\nu(x)$, and $K_\nu(x)$.

The last table is a double-series expansion to permit the calculation of $J_\nu(x)$ and $I_\nu(x)$ for any value of ν in the range $-1 \leq \nu \leq 1$ when $x \leq 8$. For all tables the coefficients are given to a high degree of accuracy, usually 20 decimal places.

In order to use the coefficients tabulated in this report one should be familiar with the discussion of the properties of Chebyshev series and with the methods for their computation and manipulation found in Volume 5 of this series, *Chebyshev Series for Mathematical Functions* (1962) by Clenshaw. It would have been extremely useful if the pertinent formulas on summation by recurrence and on the transformation of argument necessary for even series, from Section 5 of Volume 5, were included in the present volume.

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