

- 41 [I, M].—M. V. CERRILLO & W. H. KAUTZ, *Properties and Tables of the Extended Airy-Hardy Integrals*, MIT Technical Report 144, Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, November 15, 1951.

In a previous review (*Math. Comp.*, v. 15, 1961, p. 215) I stated that tables of the Airy function $Ai(z)$ were not available for z complex in polar form. This is not correct, and I am indebted to Dr. Nelson A. Logan of Lockheed Aircraft Corporation, Sunnyvale, California, for calling my attention to the tables of Cerrillo and Kautz, here described.

Let

$$Ah_{1,3}(B) = 3^{-1/3}Ai(-3^{-1/3}B),$$

$$Ah_{2,3}(B) = \frac{1}{2}3^{-1/3}[Ai(-3^{-1/3}B) - iBi(-3^{-1/3}B)],$$

$$Ah_{3,3}(B) = \frac{1}{2}3^{-1/3}[Ai(-3^{-1/3}B) + iBi(-3^{-1/3}B)],$$

where $Ai(z)$ and $Bi(z)$ are the usual notations for the Airy integrals. Let $B = |B|e^{i\beta}$. This report gives the real and imaginary parts of $Ah_{1,3}(B)$, $Ah_{2,3}(B)$, and $Ah_{3,3}(B)$ to 7D for $|B| = 0(0.2)4$, $\beta = 0(7.5^\circ)180^\circ$. The functions $|Ah_{1,3}(B)|$ and $\arg Ah_{1,3}(B)$ (in radians) are also tabulated to 7D for the same range, and graphs of these functions are also provided. The headings in each table should read $|B|$ for B and $|Ah_{1,3}(B)|$ for $Ah_{1,3}(B)$. Also tabulated to 7D are the values of the first 31 coefficients in the power series of $Ah_{1,3}(B)$ and the first 20 zeros of the latter for B real.

Y. L. L.

- 42 [L, M].—HERBERT BRISTOL DWIGHT, *Tables of Integrals and Other Mathematical Data*, 4/e., The Macmillan Company, New York, 22 cm. x + 336 p. Price \$3.50.

Reviews of the first two editions of these tables, published in 1943 and 1947 respectively, have appeared in *MTAC* (v. 1, p. 190–191; v. 2, p. 346).

A third edition, published in 1957, was enlarged through the addition of formulas relating to determinants, a more extensive list of derivatives of inverse trigonometric functions, a supplementary table of values of the exponential functions, and tables of natural values of the trigonometric functions (to 5D or 5S) corresponding to angles expressed degrees and hundredths.

The fourth and latest edition represents a further significant enlargement, the principal amplification being in the tabulation of definite integrals. This section now occupies 42 pages as contrasted with 11 pages in the third edition and eight pages in the first edition. The principal source of this information is cited as *Nouvelles Tables d'Intégrales Définies* by Bierens de Haan, Leyden, 1867, now readily available through republication in 1957 by Hafner Publishing Company in New York. The section devoted to elliptic functions has been extended by the inclusion of additional formulas concerning indefinite integrals expressible in terms of elliptic integrals.

Eleven references have been added to the list of 65 appearing in the third edition. A few minor changes have been made in the numerical tables; the most conspicuous