obscure the value of a reference book which no practical mathematician can afford to overlook.

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11 [7].—KENNETH L. MILLER, PAUL MOLMUD & WILLIAM C. MEECHAM, *Tables of the Functions*

$$G(x + iy) = \int_0^\infty \frac{e^{-t^2}}{t - (x + iy)}\, dt \quad \text{and} \quad F(x + iy) = \int_0^\infty \frac{t^4 e^{-t^2}}{t - (x + iy)}\, dt,$$

Report 6121-6249-RU-000, Space Technology Laboratories, Redondo Beach, California, 8 February 1963, 17 pp. + tables (consisting of 102 unnumbered pp.), deposited in the UMT file.

The tables in this report, only recently submitted for deposit in the UMT file, consist of 6S decimal values in floating-point form of the infinite integrals identified in the title, for the ranges $x = -10(0.2)10$ and $y = 0(0.2)10$. As the authors note, values of these integrals in the lower half-plane are immediately obtainable by taking the complex conjugates of the corresponding values in the upper half-plane.

In the introduction to these tables it is shown that $F(\zeta)$ is expressible in terms of $G(\zeta)$, where $\zeta = x + iy$; consequently, only the properties of $G(\zeta)$ are discussed in detail. In particular, the relation of this function to the complex error function and the complex exponential integral is set forth.

Computation of the tables was performed on an IBM 7090 system, using single-precision floating-point arithmetic. Except for the range $x \geqq 0$, $0 \leqq y < 0.8$, the function $G(\zeta)$ was evaluated from its continued-fraction representation, derived by the quotient-difference algorithm; in the remaining range of the tabular arguments the function was evaluated by numerical integration of the first-order linear differential equation that it satisfies. The corresponding values of $F(\zeta)$ were then deduced by means of the stated identity relating the two functions.

Asymptotic series are presented for the calculation of these integrals outside the range of the tables. Also, calculation of intermediate values by bilinear interpolation and by Taylor's series is briefly discussed.

The bibliography, consisting of nine references, omits a pertinent paper of Goodwin & Staton [1], which contains a 4D table of $G(\zeta)$ for $-x = 0(0.02)3(0.1)10$, $y = 0$.

In addition to their immediate use in the theoretical determination of the alternating current electrical conductivity of weakly ionized gases, these tables can also be applied, as the authors note, in the theory of plasma oscillations and also in the theory of the thermoelectric properties of metals and semiconductors.

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1. E. T. GOODWIN & J. STATON, "Table of $\int_0^\infty e^{-u^2}/(u + x)\, du$," *Quart. J. Mech. Appl. Math.*, v. 1, 1948, pp. 319–326.