$$z(\rho) = 2ie^{-\rho^2} \int_{-i\rho}^{\infty} e^{-t^2}\, dt = 2ie^{-\rho^2} \operatorname{Erfc}(-i\rho), \tag{2}$$

with no restrictions on ρ. We also have

$$z(\rho) = i\pi^{1/2}\omega(\rho) \tag{3}$$

where $\omega(\rho)$ is the function considered by Fried and Conte [1], and Faddeeva and Terent'ev [2]. Let $\mu = t - x$ in (1). Then

$$z(\rho) = z(x, y) = \pi^{-1/2} \int_0^{\infty} \frac{ue^{-u^2} \sinh 2ux\, du}{u^2 + y^2} + iy\pi^{-1/2} \int_0^{\infty} \frac{e^{-u^2} \cosh 2ux\, du}{u^2 + y^2}, \tag{4}$$

and these integrals are essentially the so-called Voigt functions. Both of the latter integrals are easily evaluated using the trapezoidal rule. For details on this technique, see Hunter and Regan [3], and the references given therein. Using this procedure, the present authors tabulate in Part I, $z(\rho)$ and $z'(\rho) = -2 - 2\rho\, z(\rho)$ for $x = 0(0.1)20$, $y = 0(0.1)10$, 11S. The Part II tables are as above, except that $-y = 0(0.1)10$. Part II also contains the first 200 zeros of $z(\rho)$ and $z'(\rho)$, 11S, and the first 200 zeros of Erf (ρ), 11S. Each part has an errata insert which pertains only to the introduction and has no bearing on the numerical data. In the tables, the first and second columns listed, for example, under $z(x, y) \equiv z(\rho)$ are the real and imaginary parts of $z(\rho)$, respectively. The authors remark that the Fried and Conte [1] tables were found to contain inaccuracies, particularly when $y < 0$, and that the present work was done to fill the need for a more accurate tabulation. Certainly, this is the most extensive tabulation of the error function available.

Y. L. L.

1. B. D. Fried & S. D. Conte, *The Plasma Dispersion Function: The Hilbert Transform of the Gaussian,* Academic Press, New York, 1961. (See *Math. Comp.,* v. 17, 1963, pp. 94–95.)
2. V. N. Faddeeva & N. M. Terent'ev, *Tables of Values of the Function* $\omega(z) = e^{-z^2}(1 + 2i\pi^{-1/2}\int_0^z e^{t^2}\,dt)$, *for Complex Argument,* Pergamon Press, New York, 1961. (See *Math. Comp.,* v. 16, 1962, p. 384.)
3. D. B. Hunter & T. Regan, "A note on the evaluation of the complementary error function," *Math. Comp.,* v. 26, 1972, pp. 539–542.

50 [7].—Henry E. Fettis & James C. Caslin, *A Table of the Inverse Sine-Amplitude Function in the Complex Domain,* Report ARL 72-0050, Aerospace Research Laboratories, Office of Aerospace Research, United States Air Force, Wright-Patterson Air Force Base, Ohio, April 1972, iv + 174 pp., 28 cm. Copies available from the Defense Documentation Center, Cameron Station, Alexandria, Virginia 22151.

The Jacobian elliptic functions with complex argument arise in numerous applications, e.g., conformal mapping and tabular values are available in [1] and [2]. Often, one desires the inverse function. This could be accomplished by inverse interpolation in the above tables. However, such a procedure is inconvenient and of doubtful accuracy, especially in some regions where a small change in the variable produces a large change in the function. Charts are available in [1] from which qualitatively correct values of the inverse could be deduced, but no prior explicit tabulation is known.

Consider

$$z = \operatorname{sn}(\omega, k), \qquad z = a + ib, \qquad \omega = u + iv,$$
$$u + iv = \sin^{-1}(a + ib) = F(\psi, k),$$
$$a + ib = \sin \psi = \sin(\theta + i\varphi),$$

where $F(\psi, k)$ is the incomplete elliptic integral of the first kind, and k is the usual notation for the modulus. Let C, D, E, and F stand for certain ranges on the parameters. Thus:

$$C\colon 0(0.1)1; \qquad D\colon 0.9(0.01)1;$$
$$E\colon 0.01(0.01)0.1; \qquad F\colon 0.1(0.1)1.$$

Let K and K' be the complete elliptic integrals of the first kind of modulus k and $k' = (1 - k^2)^{1/2}$, respectively. Then the tables give 5D values of $u/k + iv/k'$ for

$$k = \sin \theta, \qquad \theta = 5°(5°)85°(1°)89°,$$

and the ranges

$$a = C, b = C; \quad a = D, b = C; \quad a = C, b^{-1} = E; \quad a = C, b^{-1} = F;$$
$$a^{-1} = E, b = C; \quad a^{-1} = F, b = C; \quad a^{-1} = E, b^{-1} = E;$$
$$a^{-1} = F, b^{-1} = F.$$

The headings for each page were machine printed and here no confusion should arise provided one understands that $K = \sin 5$, for example, should read $k = \sin 5°$.

The method of computation and other pertinent formulas are given in the introduction.

Y. L. L.

1. H. E. Fettis & J. C. Caslin, *Elliptic Functions for Complex Arguments,* Report ARL 67-0001, Aerospace Research Laboratories, Office of Aerospace Research, United States Air Force, Wright-Patterson Air Force Base, Ohio, January, 1967. (See *Math. Comp.,* v. 22, 1968, pp. 230–231.)

2. F. M. Henderson, *Elliptic Functions with Complex Arguments,* Univ. of Michigan Press, Ann Arbor, Mich., 1960. (See *Math. Comp.,* v. 15, 1961, pp. 95, 96.)

51 [9].—Bryant Tuckerman, *Odd Perfect Numbers: A Search Procedure, and a New Lower Bound of* 10^{36}, IBM Research Paper RC-1925, October 20, 1967, original report (marked "scarce") and one Xerox copy deposited in the UMT file, 59 pages.

This is the original (1967) much more detailed version of Tuckerman's paper printed elsewhere in this issue. It established the lower bound of 10^{36}. See the following review for a description of the UMT supplement to his present paper.

D. S.

52 [9].—Bryant Tuckerman, *Odd-Perfect-Number Tree to* 10^{36}, IBM, Thomas J. Watson Research Center, Yorktown Heights, New York, 1972, ms. of 9 computer sheets, deposited in the UMT file.