

last decimal place, except where the function changes sign, in which case only the five tabulated decimal places are reliable. They also state that linear interpolation ensures 2 or 3 reliable decimal places, and fourth-order interpolation, 4 or 5 places: However, the accuracy of interpolation is considerably less in the region of ρ close to one, where it decreases with increasing l . In addition, 2 or 3 reliable decimal places can be obtained by linear interpolation in η , except for the region of values where $\eta > 1.5849$.

The tables for each of the functions $F_l(\eta, \rho)$, $G_l(\eta, \rho)$, and $G_l'(\eta, \rho)$ are divided into three groups corresponding to three intervals of changes in η . Part 1 (pages 2–33) gives five-place tables of values of the function $F_l(\eta, \rho)$ with $\rho = 1.0(0.2)20.0$, $\eta = 0$ (variable) 0.39811, $\log \eta = -\infty, -0.8(0.1) - 0.4$, and $l = 0(1)15$. Part 2 (pages 36–37) gives five-place tables of $F_l(\eta, \rho)$ for the same ranges of ρ and l , $\eta = 0.50119$ (variable) 1.5849, and $\log \eta = -0.3(0.1)0.2$. Part 3 (pages 70–101) gives five-place tables of $F_l(\eta, \rho)$ for the same ranges of ρ and l , $\eta = 1.9953$ (variable) 6.3096, and $\log \eta = 0.3(0.1)0.8$.

Values of the function $G_l(\eta, \rho)$ for the same ranges of ρ and l are given as follows: on pages 104–135 for $\eta = 0$ (variable) 0.39811, $\log \eta = -\infty, -0.8(0.1) - 0.4$; on pages 138–169 for $\eta = 0.5119$ (variable) 1.5849, $\log \eta = -0.3(0.1)0.2$; and on pages 172–203 for $\eta = 1.9953$ (variable) 6.306, $\log \eta = 0.3(0.1)0.8$. Values of the first derivative $G_l'(\eta, \rho)$ with respect to ρ , with $\rho = 1.0(0.2)20$, and $l = 0$ or 1, are given on pages 206–209, when $\eta = 0$ (variable) 0.39811, $\log \eta = -\infty, -0.8(0.1) - 0.4$; on pages 212–215, for $\eta = 0.50119$ (variable) 1.5849, $\log \eta = -0.3(0.1)0.2$; and on pages 218–221 for $\eta = 1.9953$ (variable) 6.3096, and $\log \eta = 0.3(0.1)0.8$.

References cited in the Introduction include only one Soviet source and 15 English-language sources. Among the latter are the National Bureau of Standards tables (Reports 17 and 3033), Japanese tables of Whittaker functions, and three articles by C. E. Fröberg.

The tables given in this book are arranged in a convenient manner, and the clear print adds to their attractiveness. This book should be useful to persons who who are now using the National Bureau of Standards tables.

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40 [L].—M. E. SHERRY, *The Zeros and Maxima of the Airy Function and Its First Derivative to 25 Significant Figures*, Electronics Research Directorate, Air Force Cambridge Research Center, Bedford, Mass., April 1959.

Table 1 gives to 25S the first 50 values of a_s and $Ai'(a_s)$ for which $Ai(a_s) = 0$. Similarly, Table 2 gives a_s' and $Ai(a_s')$ for which $Ai'(a_s') = 0$. These extend the precision of tables recorded in a rather recent volume edited by F. W. J. Olver (see *Math. Comp.*, v. 15, 1961, p. 214–215). Tables 3 and 4, respectively, give to 25S the first 18 coefficients in the asymptotic series of arc tan $\{Ai(x)/Bi(x)\}$ and arc tan $\{Ai'(x)/Bi'(x)\}$.

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