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Miniaturized Tables of Bessel Functions. II*

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Abstract. In a previous study, we discussed the expansion of two-parameter functions in a double series of Chebyshev polynomials, and, in particular, we presented coefficients for the evaluation of the modified Bessel function $(2z/\pi)^{1/2}e^zK_\nu(z)$ to 20 decimals for all $z \geqq 5$ and all ν, $0 \leqq \nu \leqq 1$. In the present study, we give similar coefficients for the evaluation of $ge^{-z}z^{-\mu}I_\nu(z)$ to at least 20 decimals where $I_\nu(z)$ is the modified Bessel function of the first kind and g and μ are certain constants which depend on the range of the parameter and variable for four different situations. The ranges are (1) $0 < z \leqq 8$, $0 \leqq \nu \leqq 4$; (2) $0 < z \leqq 8$, $4 \leqq \nu \leqq 8$; (3) $z \geqq 8$, $-1 \leqq \nu \leqq 0$; (4) $z \geqq 8$, $0 \leqq \nu \leqq 1$.

1. Introduction. In a previous study [1], we discussed the expansion of two-parameter functions in a double series of Chebyshev polynomials, and, in particular, we presented coefficients for the evaluation of the modified Bessel function $(2z/\pi)^{1/2} \times e^zK_\nu(z)$ to 20 decimals for all $z \geqq 5$ and all ν, $0 \leqq \nu \leqq 1$. Since $K_\nu(z) = K_{-\nu}(z)$ and $K_\nu(z)$ satisfies a three-term recurrence formula which is stable in the forward direction, we have in essence coefficients for the evaluation of $K_\nu(z)$ for all $z \geqq 5$ and all $\nu \geqq 0$.

In the present study, we give similar coefficients for the evaluation of $ge^{-z}z^{-\mu}I_\nu(z)$ to at least 20 decimals where $I_\nu(z)$ is the modified Bessel function of the first kind and g and μ are certain constants which depend on the range of the parameter and variable for four different situations as follows.

	z range	*ν range*	μ	g
(1)	$0 < z \leqq 8$	$0 \leqq \nu \leqq 4$	ν	1
(2)	$0 < z \leqq 8$	$4 \leqq \nu \leqq 8$	ν	1
(3)	$z \geqq 8$	$-1 \leqq \nu \leqq 0$	$-\frac{1}{2}$	$(2\pi)^{-1/2}$
(4)	$z \geqq 8$	$0 \leqq \nu \leqq 1$	$-\frac{1}{2}$	$(2\pi)^{-1/2}$

The recursion formula for $I_\nu(z)$ is always stable in the backward direction but only conditionally stable in the forward direction. Thus, even with the coefficients given here, we still lack coefficients to compute $e^{-z}I_\nu(z)$ for all real z and for ν sufficiently large. A study to correct this deficiency is under way and will be reported at a later date.

2. Chebyshev Expansions for $I_\nu(z)$. In [2, Vol. 2, pp. 338–340, 359–367], we gave coefficients for the expansion of $z^{-\nu}I_\nu(z)$ in series of Chebyshev polynomials for

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$0 < z \leqq 8$, $\nu = 0, \pm\frac{1}{4}, \pm\frac{1}{3}, \pm\frac{1}{2}, \pm\frac{2}{3}, \pm\frac{3}{4}, 1$, and, similarly, for the expansion of $(2\pi z)^{-1/2}e^{-z}I_\nu(z)$ for $z \geqq 8$, $\nu = 0, \frac{1}{4}, \frac{1}{3}, \frac{2}{3}, \frac{3}{4}, 1$. The coefficients for the range $0 < z \leqq 8$ are based on the ${}_0F_1$ representation for $I_\nu(z)$ which does not directly reflect the fact that for fixed ν, $I_\nu(z)$ grows exponentially with z as z increases in the sector $|\arg z| < \pi/2$. Now, $I_\nu(z)$ has a representation in terms of a ${}_1F_1$ which does reflect this exponential behavior and, in this present paper, development of the desired coefficients is based on this representation for $0 < z \leqq 8$. The representation used in the cited reference for $z \geqq 8$ is also used in our present study to derive the desired coefficients already noted.

From [2, Vol. 1, p. 213], we have

$$z^{-\nu}e^{-z}I_\nu(z) = [2^\nu\Gamma(\nu + 1)]^{-1}\, {}_1F_1(a; c; -2z), \qquad a = c/2 = \tfrac{1}{2} + \nu. \tag{1}$$

In general, from [2, Vol. 2, p. 35],

$$ {}_1F_1(a; c; z) = \sum_{k=0}^{\infty} G_k(a, c, \lambda)T_k^*(z/\lambda), \tag{2}$$

$$G_k(a, c, \lambda) = \frac{\epsilon_k (a)_k \lambda^k}{2^{2k}(c)_k k!}\, {}_2F_2\left(\begin{matrix} a + k, & \frac{1}{2} + k \\ c + k, & 1 + 2k \end{matrix}\,\middle|\, \lambda\right), \tag{3}$$

$$\begin{aligned}\frac{2G_k(a, c, \lambda)}{\epsilon_k} = {} & \frac{(k + 1)}{(k + a)}\left\{-\frac{(k + 3 - a)}{(k + 2)} + \frac{4(k + c)}{\lambda}\right\}G_{k+1}(a, c, \lambda) \\ & + \frac{2}{(k + a)}\left\{\frac{1}{2}(k + a) + \frac{2(k + 1)(k + 3 - c)}{\lambda}\right\}G_{k+2}(a, c, \lambda) \\ & + \frac{(k + 1)(k + 3 - a)}{(k + 2)(k + a)}G_{k+3}(a, c, \lambda).\end{aligned} \tag{4}$$

In the above,

$$\epsilon_k = 1 \quad \text{if } k = 0, \qquad \epsilon_k = 2 \quad \text{if } k > 0. \tag{5}$$

Using [2, Vol. 1, p. 244], we find that for a, c and λ fixed,

$$\begin{aligned}G_k(a, c, \lambda) = {} & \frac{\Gamma(c)(\lambda/4)^k k^{a-c}}{\Gamma(a)k!} \\ & \cdot\left[1 + \frac{\lambda^2 - 8\lambda(c - a) - 8(c - a)(c + a - 1)}{16k} + O(k^{-2})\right].\end{aligned} \tag{6}$$

Thus, the expansion formula (2) converges and since the ${}_1F_1$ in (2) is one when $z = 0$, it follows that

$$\sum_{k=0}^{\infty} (-)^k G_k(a, c, \lambda) = 1. \tag{7}$$

Further, after the manner of the discussion given in [2, Vol. 2, pp. 159–166], we can show that use of the recursion formula (4) in the backward direction is convergent. Thus, for a fixed λ, we can generate the coefficients $G_k(a, c, \lambda)$ for given values of a and c. Suppose for example that c is fixed and we permit a to vary. Then, we can find coefficients $D_{r,k}(c, \lambda)$ such that

$$G_k(a, c, \lambda) = \sum_{r=0}^{\infty} D_{r,k}(c, \lambda) T_r^*(a/\omega), \qquad 0 \leqq a \leqq \omega, \tag{8}$$

and so achieve a double series of Chebyshev polynomials for the evaluation of ${}_1F_1(a; c; z)$ for c fixed, valid for $0 \leqq z \leqq \lambda$ and $0 \leqq a \leqq \omega$. The manner of getting $D_{r,k}(c, \lambda)$ has been given in [1] and we omit further details.

Next, we seek a descending-type expansion in series of Chebyshev polynomials for the evaluation of $I_\nu(z)$ in the neighborhood of $z = +\infty$. To this end, we can write [2, Vol. 1, p. 226, Eq. (9)], [2, Vol. 2, p. 22, Eq. (10)],

$$I_\nu(z) = (2\pi z)^{-1/2} e^z F_\nu(z), \tag{9}$$

$$F_\nu(z) = G_{1,2}^{1,1}\left(2z \,\middle|\, \begin{matrix} 1 \\ \tfrac{1}{2} + \nu, \quad \tfrac{1}{2} - \nu \end{matrix}\right), \tag{10}$$

$$F_\nu(z) = \sum_{k=0}^{\infty} M_k(\nu, \lambda) T_k^*(\lambda/z), \qquad \lambda \text{ fixed}, \lambda/z \leqq 1, z > 0, \tag{11}$$

$$\begin{aligned} M_k(\nu, \lambda) &= \pi^{-1/2} \epsilon_k (-)^k G_{2,3}^{2,1}\left(2\lambda \,\middle|\, \begin{matrix} 1 - k, \quad k + 1 \\ \tfrac{1}{2}, \quad \tfrac{1}{2} + \nu, \quad \tfrac{1}{2} - \nu \end{matrix}\right), \\ M_k(\nu, \lambda) &= \pi^{-1/2} \epsilon_k (-)^k G_{3,2}^{1,2}\left(\frac{1}{2\lambda} \,\middle|\, \begin{matrix} \tfrac{1}{2}, \quad \tfrac{1}{2} - \nu, \quad \tfrac{1}{2} + \nu \\ k, \quad -k \end{matrix}\right), \end{aligned} \tag{12}$$

and from [2, Vol. 2, pp. 153, 154 and Remark 1, p. 155], we have the recursion formula

$$\begin{aligned} \frac{2M_k(\nu, \lambda)}{\epsilon_k} = {} & 2(k + 1)\left\{1 - \frac{(2k + 3)(k + 3/2 + \nu)(k + 3/2 - \nu)}{2(k + 2)(k + \frac{1}{2} + \nu)(k + \frac{1}{2} - \nu)} \right. \\ & \left. + \frac{8\lambda}{(k + \frac{1}{2} + \nu)(k + \frac{1}{2} - \nu)}\right\} M_{k+1}(\nu, \lambda) \\ & + \left\{1 - \frac{2(k + 1)(2k + 3 + 4\lambda)}{(k + \frac{1}{2} + \nu)(k + \frac{1}{2} - \nu)}\right\} M_{k+2}(\nu, \lambda) \\ & - \frac{(k + 1)(k + 5/2 + \nu)(k + 5/2 - \nu)}{(k + 2)(k + \frac{1}{2} + \nu)(k + \frac{1}{2} - \nu)} M_{k+3}(\nu, \lambda), \qquad k \geqq 0. \end{aligned} \tag{13}$$

Actually, (13) is not valid if ν is half an odd integer unless $k + \frac{1}{2} - \nu > 0$. If, for example, $\nu = \frac{1}{2} + n$, (13) is only valid for $k > n$. However, we can get a further relation if first we multiply through by $k + \frac{1}{2} - \nu$ and then set $k + \frac{1}{2} - \nu = 0$ for $k = n$. In particular, if $\nu = \frac{1}{2}$, we have

$$\begin{aligned} \frac{2M_k(\frac{1}{2}, \lambda)}{\epsilon_k} = {} & \left[\frac{8\lambda - 3(k + 1)}{k}\right] M_{k+1}(\tfrac{1}{2}, \lambda) - \left[\frac{8\lambda + 3(k + 2)}{k}\right] M_{k+2}(\tfrac{1}{2}, \lambda) \\ & - \frac{(k + 3)}{k} M_{k+3}(\tfrac{1}{2}, \lambda), \qquad k > 0, \end{aligned} \tag{14}$$

$$(8\lambda - 3) M_1(\tfrac{1}{2}, \lambda) = (8\lambda + 6) M_2(\tfrac{1}{2}, \lambda) + 3M_3(\tfrac{1}{2}, \lambda). \tag{15}$$

It can be shown that

$$M_0(\tfrac{1}{2}, \lambda) = 2\pi^{-1/2} \operatorname{Erf}(x), \qquad x^2 = 2\lambda, \qquad \operatorname{Erf}(x) = \int_0^x e^{-t^2}\, dt, \tag{16}$$

$$(17)\qquad M_1(\tfrac{1}{2}, \lambda) = 8\lambda[1 - M_0(\tfrac{1}{2}, \lambda)] - 4(2\lambda/\pi)^{1/2}e^{-2\lambda}.$$

With $z \to +\infty$, (11) yields the useful normalization equation

$$(18)\qquad \sum_{k=0}^{\infty} (-)^k M_k(\nu, \lambda) = 1.$$

From [2, Vol. 2, pp. 23, 24],

$$(19)\qquad M_k(\nu, \lambda) \sim k^{-1}[u \exp\{-3(2\lambda k^2 e^{i\pi})^{1/3}\} + v \exp\{-3(2\lambda k^2 e^{-i\pi})^{1/3}\}]$$

where u and v are constants. The two other linearly independent solutions of (14) can be taken in a form such that they are

$$(20)\qquad O(k^{-1} \exp\{3(2\lambda k^2)^{1/3}\}) \quad\text{and}\quad O(k^{-1} \exp\{-3(2\lambda k^2 e^{i\pi})^{1/3}\}).$$

It follows that the desired solution of (14) is not minimal in the sense of Gautschi [3] or not antidominant in the sense of Wimp [4], and consequently the backward recursion process for the evaluation of $M_k(\nu, \lambda)$ will fail unless modified. The necessary modification is discussed in [2, Vol. 2, pp. 163–164] and studied further in Wimp [4, Theorem 3]. We now describe this procedure.

Let N be a large positive integer. Put

$$(21)\qquad g_{N+k}^{(N)} = 0, \qquad k = 2, 3, \cdots, \qquad g_{N+1}^{(N)} = 1$$

and compute $g_n^{(N)}$, $n = N, N-1, \cdots, 0$ from (13) with $M_k(\nu, \lambda)$ replaced by $g_k^{(N)}$. (Here we assume that ν is not half an odd integer. The case when $\nu = \frac{1}{2}$ is treated later.) Put

$$(22)\qquad M_n^{(N)}(\nu, \lambda) = \rho^{(N)} g_n^{(N)}, \qquad n = 0, 1, \cdots, N+1, \quad \rho^{(N)} = \left(\sum_{n=0}^{N+1} (-)^n g_n^{(N)}\right)^{-1}.$$

Let N_1, N_2 be two different N values. We can find a number μ depending on N_1 and N_2 such that

$$(23)\qquad \mu \sum_{k=0}^{N_1+1} M_k^{(N_1)}(\nu, \lambda) + (1 - \mu) \sum_{k=0}^{N_2+1} M_k^{(N_2)}(\nu, \lambda) = (2\pi\lambda)^{1/2} e^{-\lambda} I_\nu(\lambda).$$

Then

$$(24)\qquad \lim_{N_1\to\infty;\, N_2\to\infty;\, N_1\neq N_2} [\mu M_k^{(N_1)}(\nu, \lambda) + (1 - \mu) M_k^{(N_2)}(\nu, \lambda)] = M_k(\nu, \lambda),$$
$$k = 0, 1, \cdots.$$

If ν is half an odd integer, another technique must be used as the process just described breaks down due to the presence of the product $(k + \frac{1}{2} + \nu)(k + \frac{1}{2} - \nu)$. To illustrate, consider the case $\nu = \frac{1}{2}$. In this event,

$$(25)\qquad F_{1/2}(z) = 1 - e^{-2z}.$$

We have need for the three normalization relations

$$(26)\qquad 1 - e^{-2\lambda} = \sum_{k=0}^{\infty} M_k(\tfrac{1}{2}, \lambda),$$

$$(27)\qquad 1 = \sum_{k=0}^{\infty} (-)^k M_k(\tfrac{1}{2}, \lambda),$$

$$1 - e^{-4\lambda} = \sum_{k=0}^{\infty} (-)^k M_{2k}(\tfrac{1}{2}, \lambda), \tag{28}$$

which come from (9)–(11) when $\nu = \frac{1}{2}$ and $z = 2\lambda, +\infty$ and 4λ, respectively.

Again, let N be a large positive integer, set

$$g_{N+k}^{(N)} = 0, \qquad k = 2, 3, \cdots, \qquad g_{N+1}^{(N)} = 1, \tag{29}$$

and compute

$$g_n^{(N)}, \qquad n = N, N-1, \cdots, 1,$$

from (13) with $M_k(\frac{1}{2}, \nu)$ replaced by $g_k^{(N)}$. Let

$$M_k^{(N)} = \rho^{(N)} g_k^{(N)}, \qquad k = 1, 2, \cdots, \qquad M_0^{(N)} = g_0^{(N)}. \tag{30}$$

Then from (26) and (27), respectively, we have

$$g_0^{(N)} + \rho^{(N)} \sum_{k=1}^{\infty} g_k^{(N)} = 1 - e^{-2\lambda}, \tag{31}$$

$$g_0^{(N)} + \rho^{(N)} \sum_{k=1}^{\infty} (-)^k g_k^{(N)} = 1. \tag{32}$$

Thus

$$\rho^{(N)} = \frac{-e^{-2\lambda}}{2 \sum_{k=0}^{\infty} g_{2k+1}^{(N)}} \tag{33}$$

and $g_0^{(N)}$ can be recovered from either (31) or (32). Let N_1, N_2 be two different N numbers. We can find a number μ depending on N_1 and N_2 such that

$$\mu \sum_{k=0}^{N_1+1} (-)^k M_{2k}^{(N_1)}(\tfrac{1}{2}, \lambda) + (1 - \mu) \sum_{k=0}^{N_2+1} (-)^k M_{2k}^{(N_2)}(\tfrac{1}{2}\, \lambda) = 1 - e^{-4\lambda}. \tag{34}$$

Then

$$\lim_{N_1\to\infty; N_2\to\infty; N_1\neq N_2} [\mu M_k^{(N_1)}(\tfrac{1}{2}, \nu) + (1 - \mu) M_k^{(N_2)}(\tfrac{1}{2}, \nu)] = M_k(\tfrac{1}{2}, \lambda), \qquad k = 0, 1, \cdots. \tag{35}$$

The coefficients can be checked using (16) and (17). Alternatively, we can make use of (17) to find a number μ^* such that

$$\begin{aligned} 8\lambda[\mu^* M_0^{(N_1)}(\tfrac{1}{2}, \lambda) &+ (1 - \mu^*) M_0^{(N_2)}(\tfrac{1}{2}, \lambda)] \\ &+ \mu^* M_1^{(N_1)}(\tfrac{1}{2}, \lambda) + (1 - \mu^*) M_1^{(N_2)}(\tfrac{1}{2}, \lambda) = 8\lambda - 4(2\lambda/\pi)^{1/2} e^{-2\lambda}. \end{aligned} \tag{36}$$

Then $M_k(\frac{1}{2}, \lambda)$ follows as in (35) with μ replaced by μ^* and (28) can be used as a check.

Another scheme to compute $M_k(\nu, \lambda)$ for ν half an odd integer is to use the procedure described by (21)–(24) to get $M_k(\nu, \lambda)$ for ν in the neighborhood of half an odd integer and then employ the Lagrangian interpolation formula.

3. Numerical Results. From (1), (2) and (8), with a slight change of notation, we have

$$I_\nu(z) = z^\nu e^z \sum_{k=0}^{\infty} H_k(\nu) T_k^*(z/8), \qquad 0 < z \leqq 8,$$

(37)

$$H_k(\nu) = \sum_{r=0}^{\infty} D_{r,k} T_r^*\left(\frac{\nu - s}{t}\right), \qquad s \leqq \nu \leqq s + t.$$

In Tables 1 and 2 of the microfiche section we present values of $D_{r,k}$ which were evaluated by the technique described in [1] for $s = 0, t = 4$ and $s = t = 4$, respectively. To develop the numerics, values of $\Gamma(\nu + 1)$ were required. These were obtained by use of the schema of my previous paper [5]. Numerous checks were made on the coefficients. In addition to those of the kind discussed in [1], checks were also made using the recurrence formula for $I_\nu(z)$, namely

$$I_{\nu+1}(z) + \frac{2\nu}{z} I_\nu(z) - I_{\nu-1}(z) = 0. \tag{38}$$

Further checks were accomplished by comparing values deduced from (37) with those computed from power series, especially when ν is half an odd integer, for in this instance

$$e^{-z} I_{n+1/2}(z) = (2\pi z)^{-1/2}[A_n(z) + (-)^{n+1} e^{-2z} A_n(-z)],$$

(39)

$$A_n(z) = {}_2F_0\left(-n, n + 1; \frac{1}{2z}\right),$$

and $A_n(z)$ is a polynomial in z^{-1} of degree n. Wronskian relations were also used to get checks. The computations were designed so that the coefficients for $0 \leqq \nu \leqq 4$ are accurate to about 25D while those for $4 \leqq \nu \leqq 8$ are accurate to about 27D. To evaluate $e^{-z}I_\nu(z)$, we must incorporate the value of z^ν. As $0 < z \leqq 8$, we see that the coefficients are sufficiently accurate to produce $e^{-z}I_\nu(z)$ to about 20 decimals at least.

From (9)–(11) with a slight change of notation we write

$$I_\nu(z) = (2\pi z)^{-1/2} e^z \sum_{k=0}^{\infty} M_k(\nu) T_k^*(8/z), \qquad z \geqq 8, \tag{40}$$

$$M_k(\nu) = \sum_{r=0}^{\infty} E_{r,k} T_r^*(\nu), \qquad 0 \leqq \nu \leqq 1, \tag{41}$$

$$M_k(\nu) = \sum_{r=0}^{\infty} F_{r,k} T_r^*(-\nu), \qquad -1 \leqq \nu \leqq 0. \tag{42}$$

In Tables 3 and 4 of the microfiche section we give values of $E_{r,k}$ and $F_{r,k}$, respectively. In the development of these coefficients, the appropriate values of $(2\pi\lambda)^{1/2}e^{-\lambda}I_\nu(\lambda)$, as required by (23), were obtained from (37) for $\nu > 0$ and (38) was used to get the values needed for $\nu < 0$. Again, the coefficients were subjected to numerous checks. For example, for $z = 8$, we compared values of $I_\nu(z)$, as obtained from (40)–(42), with those obtained from (37) and (38) when appropriate. We also used the defining relation for $K_\nu(z)$ in terms of $I_\nu(z)$ and $I_{-\nu}(z)$ to compare values obtained using the coefficients in [1] and the coefficients in the present tables. Further checks were gotten by use of a Wronskian relation. The coefficients are sufficiently accurate to enable the computation of $e^{-z}(2\pi z)^{1/2}I_\nu(z)$ to about 22 decimals.

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TABLE 1

Coefficients in the Expansion of

$$I_\nu(z) = z^\nu e^z \sum_{k=0}^{\infty} H_k(\nu) T_k^*(z/8) \quad , \; 0 < z \le 8 \;,$$

$$H_k(\nu) = \sum_{r=0}^{\infty} D_{r,k} T_r^*(\nu/4) \quad , \; 0 \le \nu \le 4 \;.$$

r	$D_{r,k}$, k = 0
0	0.10082 05877 75547 39039 05780
1	-0.15549 88347 78458 40994 38657
2	0.07049 06204 38707 11563 32015
3	-0.01573 37961 76831 18884 39831
4	-0.00163 69708 58590 81878 33452
5	0.00234 98793 76779 40520 09903
6	-0.00067 24194 46417 98853 38608
7	-0.00000 19917 21147 77963 54507
8	0.00004 94509 51055 63432 16169
9	-0.00002 79001 69554 83397 10802
10	0.00000 56374 86619 23015 41455
11	-0.00000 03510 81994 42251 74909
12	-0.00000 01658 72673 99108 94777
13	0.00000 00647 86355 70913 71274
14	-0.00000 00115 94672 75346 84961
15	0.00000 00008 07813 60005 82307
16	0.00000 00001 79506 63511 03552
17	-0.00000 00000 70346 07515 74899
18	0.00000 00000 12100 88029 96849
19	-0.00000 00000 01008 14736 00934
20	-0.00000 00000 09065 38368 74170
21	0.00000 00000 00037 51300 31068
22	-0.00000 00000 00006 69006 77676
23	0.00000 00000 00000 65218 16367
24	-0.00000 00000 00000 00739 10934
25	-0.00000 00000 00000 01004 63490
26	0.00000 00000 00000 00706 53257
27	-0.00000 00000 00000 00023 13518
28	0.00000 00000 00000 00001 18068
29	0.00000 00000 00000 00000 11676
30	-0.00000 00000 00000 00000 03604
31	0.00000 00000 00000 00000 00473
32	-0.00000 00000 00000 00000 00036

r	$D_{r,k}$, k = 1
0	-0.11440 51619 17406 17923 75449
1	0.14577 56489 68898 85457 00304
2	-0.05608 41091 38802 85267 64311
3	-0.00571 85914 00893 24868 37820
4	0.01561 41174 03957 07090 63466
5	-0.00807 71087 85742 66290 67158
6	0.00215 67442 78610 95473 44693
7	-0.00024 12658 47618 77034 99442
8	-0.00008 43911 79354 97999 70119
9	0.00004 23806 10658 51096 79256
10	-0.00000 08125 73259 33425 92475
11	0.00000 04385 70409 60072 79360
12	0.00000 03147 05262 30084 35241
13	-0.00000 01150 77442 85761 37790
14	0.00000 00207 80448 93498 47481
15	-0.00000 00013 34311 69752 13917
16	-0.00000 00003 29455 62374 36517
17	0.00000 00001 24770 28608 93760
18	-0.00000 00000 21161 10348 72507
19	0.00000 00000 01721 16013 46866
20	0.00000 00000 00123 31964 86991
21	-0.00000 00000 00066 60335 77152
22	0.00000 00000 00011 72853 34937
23	-0.00000 00000 00001 12757 94124
24	0.00000 00000 00000 00995 60635
25	0.00000 00000 00000 01791 40180
26	-0.00000 00000 00000 00362 90034
27	0.00000 00000 00000 00040 25930
28	-0.00000 00000 00000 00002 00401
29	-0.00000 00000 00000 00000 20804
30	0.00000 00000 00000 00000 06351
31	-0.00000 00000 00000 00000 00826
32	0.00000 00000 00000 00000 00042

r	$D_{r,k}$, k = 2
0	0.06537 70244 55081 64757 62780
1	-0.09346 45313 84889 86539 94495
2	0.03043 72361 86965 56039 08839
3	0.09420 27710 97149 64707 57062
4	-0.00489 07201 99036 36073 40894
5	0.00418 70519 33157 26990 30806
6	-0.00092 08218 64305 69546 09106
7	-0.00002 62014 80445 50541 40060
8	0.00009 38164 80181 42305 34538
9	-0.00003 64375 47713 43871 74143
10	0.00000 06625 11516 44866 58838
11	-0.00000 02754 15922 25062 96505
12	-0.00000 02761 76286 51441 40483
13	0.00000 00789 94567 50967 81006
14	-0.00000 00133 86097 46014 68144
15	0.00000 00007 66616 39910 33323
16	0.00000 00002 47166 24672 60912
17	-0.00000 00000 86413 37924 20100
18	0.00000 00000 14160 30169 55195
19	-0.00000 00000 01082 77514 45748
20	-0.00000 00000 00097 44939 51358
21	0.00000 00000 00064 28579 37377
22	-0.00000 00000 00007 91088 47349
23	0.00000 00000 00000 73577 68492
24	-0.00000 00000 00000 00196 67673
25	-0.00000 00000 00000 01257 81258
26	0.00000 00000 00000 00246 39032
27	-0.00000 00000 00000 00026 73440
28	0.00000 00000 00000 00001 25744
29	0.00000 00000 00000 00000 15113
30	-0.00000 00000 00000 00000 04344
31	0.00000 00000 00000 00000 00554
32	-0.00000 00000 00000 00000 00040

r	$D_{r,k}$, k = 3
0	-0.03473 87570 75486 28759 79951
1	0.05036 40711 49158 81906 23656
2	-0.01732 40316 19273 49082 86328
3	-0.00111 15623 60876 67523 38149
4	0.00407 26423 75368 08772 78969
5	-0.00198 19529 41095 44748 40724
6	0.00043 72609 01529 78886 45667
7	0.00001 44165 62500 69895 45744
8	-0.00004 45881 41781 21690 83151
9	0.00001 59025 56539 46951 87666
10	-0.00000 27667 38282 71436 17976
11	0.00000 00175 17303 52315 10762
12	0.00000 01367 56705 26364 79852
13	-0.00000 00425 16286 06974 51805
14	0.00000 00069 18263 92601 36774
15	-0.00000 00003 24981 22963 39265
16	-0.00000 00001 41686 22060 79759
17	0.00000 00000 46175 00003 84162
18	-0.00000 00000 07327 03188 45338
19	0.00000 00000 00526 14856 54154
20	0.00000 00000 00058 01815 32614
21	-0.00000 00000 00024 89205 66012
22	0.00000 00000 00006 14680 40874
23	-0.00000 00000 00000 37609 47738
24	-0.00000 00000 00000 00118 99275
25	0.00000 00000 00000 00682 59787
26	-0.00000 00000 00000 00139 19741
27	0.00000 00000 00000 00013 88706
28	-0.00000 00000 00000 00000 61841
29	-0.00000 00000 00000 00000 08624
30	0.00000 00000 00000 00000 02311
31	-0.00000 00000 00000 00000 00741
32	0.00000 00000 00000 00000 00821

TABLE

Coefficients in the Expansion of

$$I_\nu(z) = z^\nu e^z \sum_{k=0}^{\infty} H_k(\nu) T_k^*(z/8) \quad , \; 0 < z \le 8 \; ,$$

$$H_k(\nu) = \sum_{r=0}^{\infty} D_{r,k} T_r^*(\nu/4) \quad , \; 0 \le \nu \le 4 \; .$$

r	$D_{r,k}$, k = 0
0	0.10882 05477 75547 39039 85786
1	-0.15549 88347 78458 40904 38657
2	0.07049 04204 38782 11563 32015
3	-0.01573 37941 76831 18884 39831
4	-0.00163 48708 58598 81878 33452
5	0.00234 98793 76779 40520 09903
6	-0.00067 24194 44417 98853 38668
7	-0.00008 19917 21147 77963 54587
8	0.00006 94509 51455 63432 10169
9	-0.00002 78001 69554 83397 10082
10	0.00000 58374 88619 23815 41455
11	-0.00000 83510 81994 42251 74998
12	-0.00000 01650 72473 99108 94777
13	0.00000 00642 80355 78013 71274
14	-0.00000 00115 90672 75346 84561
15	0.00000 00008 02013 60085 82307
16	0.00000 00001 79506 63511 03552
17	-0.00000 00000 70346 07515 74899
18	0.00000 00000 12100 80029 96849
19	-0.00000 00000 01088 14736 08934
20	-0.00000 00000 00065 38348 74170
21	0.00000 00000 00037 51300 31868
22	-0.00000 00000 00006 69006 77676
23	0.00000 00000 00000 65218 10367
24	-0.00000 00000 00000 00739 10934
25	-0.00000 00000 00000 01004 03490
26	0.00000 00000 00000 00706 53257
27	-0.00000 00000 00000 00023 13518
28	0.00000 00000 00000 00001 18068
29	0.00000 00000 00000 00000 11476
30	-0.00000 00000 00000 00000 03604
31	0.00000 00000 00000 00000 00473
32	-0.00000 00000 00000 00000 00036

r	$D_{r,k}$, k = 1
0	-0.11440 51619 17406 17923 75444
1	0.16577 56489 48890 85452 80304
2	-0.05648 41891 30802 85267 44311
3	-0.00571 85914 00893 24868 37828
4	0.01561 41174 03957 07090 63488
5	-0.00802 71087 85762 66298 47158
6	0.00215 67442 78610 95473 44693
7	-0.00024 12658 47618 77834 99842
8	-0.00008 43911 29354 97999 70119
9	0.00004 23886 10658 51096 79256
10	-0.00000 88125 73259 33425 92475
11	0.00000 04385 70409 60072 79360
12	0.00000 03147 05262 30084 35243
13	-0.00000 01150 77442 85761 37790
14	0.00000 00202 80448 93498 47681
15	-0.00000 00013 34311 49752 13817
16	-0.00000 00003 29455 62374 36512
17	0.00000 00001 24770 28408 93260
18	-0.00000 00000 21101 10348 72507
19	0.00000 00000 01721 16013 46846
20	0.00000 00000 00123 31984 86991
21	-0.00000 00000 00046 60335 77152
22	0.00000 00000 00011 72853 34937
23	-0.00000 00000 00001 12757 94124
24	0.00000 00000 00000 00995 60635
25	0.00000 00000 00000 01791 40180
26	-0.00000 00000 00000 00362 90034
27	0.00000 00000 00000 00040 25930
28	-0.00000 00000 00000 00002 00801
29	-0.00000 00000 00000 00000 20804
30	0.00000 00000 00000 00000 06351
31	-0.00000 00000 00000 00000 00826
32	0.00000 00000 00000 00000 00062

r	$D_{r,k}$, k = 2
0	0.06537 70244 55081 64757 62700
1	-0.09386 44313 84889 06539 94495
2	0.03043 72361 84985 56039 08839
3	0.09420 27710 97149 64207 57062
4	-0.00889 07201 99036 36873 40894
5	0.00418 70519 33157 26990 30886
6	-0.00092 08214 64305 69546 09106
7	-0.00002 82014 80445 56541 40060
8	0.00009 38164 80181 42305 34534
9	-0.00003 44379 47713 43871 74143
10	0.00000 64625 11514 44886 58838
11	-0.00000 02754 15922 25062 96585
12	-0.00000 02761 76286 51441 48483
13	0.00000 00789 94547 50967 81006
14	-0.00000 00133 84097 46014 68144
15	0.00000 00007 88616 39918 33323
16	0.00000 00002 47146 26672 64912
17	-0.00000 00000 86413 37924 20100
18	0.00000 00000 14140 30169 55195
19	-0.00000 00000 01082 77514 49744
20	-0.00000 00000 00097 44939 51358
21	0.00000 00000 00044 28579 37377
22	-0.00000 00000 00007 91088 47349
23	0.00000 00000 00000 73577 68492
24	-0.00000 00000 00000 00196 67673
25	-0.00000 00000 00000 01257 81258
26	0.00000 00000 00000 00246 39032
27	-0.00000 00000 00000 00026 73440
28	0.00000 00000 00000 00001 25744
29	0.00000 00000 00000 00000 15113
30	-0.00000 00000 00000 00000 04344
31	0.00000 00000 00000 00000 00554
32	-0.00000 00000 00000 00000 00040

r	$D_{r,k}$, k = 3
0	-0.03473 87570 75486 29759 79951
1	0.05036 40711 49158 81906 23456
2	-0.01732 40316 19273 49082 84328
3	-0.00111 15623 88876 67523 38144
4	0.00407 26423 75368 88772 78969
5	-0.00198 19529 81095 44748 40724
6	0.00043 72609 01528 78886 45462
7	0.00001 44165 62500 49885 45244
8	-0.00004 45881 81781 21690 83151
9	0.00001 59025 54539 46981 87844
10	-0.00000 27667 38242 71636 17976
11	0.00000 00175 17303 52315 10742
12	0.00000 01362 56705 26364 79852
13	-0.00000 00425 14786 06974 51805
14	0.00000 00068 18263 92681 36774
15	-0.00000 00003 24981 22963 39265
16	-0.00000 00001 41686 27060 79259
17	0.00000 00000 68175 08003 84162
18	-0.00000 00000 07327 03188 35338
19	0.00000 00000 00526 14856 54154
20	0.00000 00000 00058 01815 32614
21	-0.00000 00000 00026 89205 66012
22	0.00000 00000 00006 16680 40874
23	-0.00000 00000 00000 37409 97238
24	-0.00000 00000 00000 00118 99275
25	0.00000 00000 00000 00682 59787
26	-0.00000 00000 00000 00139 19741
27	0.00000 00000 00000 00013 88204
28	-0.00000 00000 00000 00000 61861
29	-0.00000 00000 00000 00000 08429
30	0.00000 00000 00000 00000 02311
31	-0.00000 00000 00000 00000 00241
32	0.00000 00000 00000 00000 00021

TABLE 1 (Continued)

Coefficients in the Expansion of

$$I_\nu(z) = z^\nu e^z \sum_{k=0}^{\infty} H_k(\nu) T_k^*(z/8) \quad , \; 0 < z \le 8 \; ,$$

$$H_k(\nu) = \sum_{r=0}^{\infty} D_{r,k} T_r^*(\nu/4) \quad , \; 0 \le \nu \le 4 \; .$$

r	$D_{r,k}$, k = 8
0	0.00045 39490 68392 50953 87218
1	-0.00072 21128 89652 59362 37235
2	0.00036 42027 37462 74016 92910
3	-0.00010 70561 46261 74386 73015
4	0.00000 72030 79544 33949 86470
5	0.00000 91110 10108 44032 87115
6	-0.00000 47792 86354 77454 37905
7	0.00000 11905 85021 10262 45513
8	-0.00000 01063 55473 95302 42485
9	-0.00000 00368 88991 27820 26314
10	0.00000 00179 68255 66726 46279
11	-0.00000 00037 71543 71602 55528
12	0.00000 00003 20421 80093 54486
13	0.00000 00000 64366 69197 01501
14	-0.00000 00000 27894 09395 64049
15	0.00000 00000 05196 55301 25936
16	-0.00000 00000 00437 17834 03588
17	-0.00000 00000 00442 40649 70856
18	0.00000 00000 00021 34183 17856
19	-0.00000 00000 00003 75684 04307
20	0.00000 00000 00000 33044 91625
21	0.00000 00000 00000 01058 59788
22	-0.00000 00000 00000 00083 78399
23	0.00000 00000 00000 00157 25152
24	-0.00000 00000 00000 00014 94527
25	0.00000 00000 00000 00000 19252
26	0.00000 00000 00000 00000 20358
27	-0.00000 00000 00000 00000 04003
28	0.00000 00000 00000 00000 00419
29	-0.00000 00000 00000 00000 00018
30	-0.00000 00000 00000 00000 00002

r	$D_{r,k}$, k = 9
0	-0.00015 27876 71415 16786 53414
1	0.00026 65959 47864 37370 27854
2	-0.00013 05455 25175 88672 08277
3	0.00004 34437 18751 87791 67694
4	-0.00000 64889 32251 36770 78525
5	-0.00000 16679 99675 11259 40333
6	0.00000 13495 64083 28062 82985
7	-0.00000 04146 74371 77974 87651
8	0.00000 00626 60644 56239 16703
9	0.00000 00029 76244 37574 48971
10	-0.00000 00042 74512 36696 62386
11	0.00000 00011 73840 43200 26170
12	-0.00000 00001 61154 88033 96179
13	-0.00000 00000 00323 24404 02172
14	0.00000 00000 05735 40514 38944
15	-0.00000 00000 01452 53067 51912
16	0.00000 00000 00186 49993 07151
17	-0.00000 00000 00004 30552 14202
18	-0.00000 00000 00003 76701 07628
19	0.00000 00000 00000 93466 51540
20	-0.00000 00000 00000 11755 37298
21	0.00000 00000 00000 00501 98908
22	0.00000 00000 00000 00128 33713
23	-0.00000 00000 00000 00034 63263
24	0.00000 00000 00000 00004 43657
25	-0.00000 00000 00000 00000 26294
26	-0.00000 00000 00000 00000 02108
27	0.00000 00000 00000 00000 00764
28	-0.00000 00000 00000 00000 00105
29	0.00000 00000 00000 00000 00009

r	$D_{r,k}$, k = 10
0	0.00004 80825 28168 41913 71776
1	-0.00007 85633 14825 96871 79229
2	0.00004 33201 59655 34634 21200
3	-0.00001 58257 64384 85546 80384
4	0.00000 32738 32688 65230 12068
5	0.00000 00690 86614 72419 10790
6	-0.00000 03227 66884 40032 94947
7	0.00000 01250 90709 62208 60542
8	-0.00000 00253 66477 04720 43969
9	0.00000 00015 98438 10662 69218
10	0.00000 00007 68306 52699 56299
11	-0.00000 00003 04670 35274 56440
12	0.00000 00000 57285 79803 93238
13	-0.00000 00000 04407 89675 39648
14	-0.00000 00000 00777 96425 68793
15	0.00000 00000 00333 10133 80856
16	-0.00000 00000 00058 52316 86706
17	0.00000 00000 00004 84864 80728
18	0.00000 00000 00000 34821 66926
19	-0.00000 00000 00000 18773 05535
20	0.00000 00000 00000 03230 60705
21	-0.00000 00000 00000 00285 66740
22	-0.00000 00000 00000 00084 25320
23	0.00000 00000 00000 00005 95428
24	-0.00000 00000 00000 00001 05942
25	0.00000 00000 00000 00000 10083
26	-0.00000 00000 00000 00000 00212
27	-0.00000 00000 00000 00000 00109
28	0.00000 00000 00000 00000 00022
29	-0.00000 00000 00000 00000 00002

r	$D_{r,k}$, k = 11
0	-0.00001 41702 42881 58575 19163
1	0.00002 34212 90074 61778 43837
2	-0.00001 33699 37437 85539 62393
3	0.00000 52530 87061 24399 47655
4	-0.00000 13131 34673 11631 98713
5	0.00000 01164 31834 12632 43166
6	0.00000 00602 14427 35571 10416
7	-0.00000 00327 04036 71775 97272
8	0.00000 00083 33824 85019 46648
9	-0.00000 00010 66513 64272 10422
10	-0.00000 00000 62967 47031 79604
11	0.00000 00080 65573 03327 71386
12	-0.00000 00000 16338 91800 20053
13	0.00000 00000 87118 80341 09648
14	-0.00000 00000 00018 83168 44173
15	-0.00000 00000 00058 82971 89892
16	0.00000 00000 00014 65069 07890
17	-0.00000 00000 00001 68812 90227
18	0.00000 00000 00000 07018 66784
19	0.00000 00000 00000 02675 55163
20	-0.00000 00000 00000 00707 32087
21	0.00000 00000 00000 00091 42119
22	-0.00000 00000 00000 00005 01792
23	-0.00000 00000 00000 00000 62752
24	0.00000 00000 00000 00000 20048
25	-0.00000 00000 00000 00000 02690
26	0.00000 00000 00000 00000 00183
27	0.00000 00000 00000 00000 00006
29	-0.00000 00000 00000 00000 00003

TABLE 1 (Continued)

Coefficients in the Expansion of

$$I_\nu(z) = z^\nu e^z \sum_{k=0}^{\infty} H_k(\nu) T_k^*(z/8) \quad , \; 0 < z \le 8 \; ,$$

$$H_k(\nu) = \sum_{r=0}^{\infty} D_{r,k} T_r^*(\nu/4) \quad , \; 0 \le \nu \le 4 \; .$$

r	$D_{r,k}$, k = 12				
0	0.00000	39263	93741	10285	21061
1	-0.00000	65530	78366	72169	50206
2	0.00000	38535	48858	50216	81113
3	-0.00000	16053	09883	75122	33292
4	0.00000	04556	86053	02976	40963
5	-0.00000	08703	71514	51426	32759
6	-0.00000	00059	08441	80796	61190
7	0.00000	00072	69370	11061	96693
8	-0.00000	00023	79468	16868	71018
9	0.00000	00004	13995	68644	90587
10	-0.00000	00000	23322	50044	77301
11	-0.00000	00000	10362	31632	90529
12	0.00000	00000	03860	20515	01948
13	-0.00000	00000	00686	02739	03158
14	0.00000	00000	00055	91619	23956
15	0.00000	00000	00005	47752	00120
16	-0.00000	00000	00002	92151	35648
17	0.00000	00000	00000	52139	31018
18	-0.00000	00000	00000	06779	02059
19	-0.00000	00000	00000	00104	01564
20	0.00000	00000	00000	00118	41708
21	-0.00000	00000	00000	00021	05637
22	0.00000	00000	00000	00002	15188
23	-0.00000	00000	00000	00000	03946
24	-0.00000	00000	00000	00000	02717
25	0.00000	00000	00000	00000	00552
26	-0.00000	00000	00000	00000	00058
27	0.00000	00000	00000	00000	00002

r	$D_{r,k}$, k = 13				
0	-0.00000	10252	06639	27875	92761
1	0.00000	17254	97231	11263	06565
2	-0.00000	10411	63270	68306	03358
3	0.00000	04551	30320	18292	40610
4	-0.00000	01417	53925	08364	73376
5	0.00000	00282	90707	74777	72365
6	-0.00000	00016	93035	63012	61615
7	-0.00000	00012	86119	11997	83007
8	0.00000	00005	60932	99136	22394
9	-0.00000	00001	26303	02645	16963
10	0.00000	00000	16971	23593	92665
11	0.00000	00000	00623	84620	13908
12	-0.00000	00000	00725	33947	67217
13	0.00000	00000	00174	01794	57178
14	-0.00000	00000	00022	84615	86247
15	0.00000	00000	00000	71902	99320
16	0.00000	00000	00000	42270	76355
17	-0.00000	00000	00000	11369	97553
18	0.00000	00000	00000	01542	92369
19	-0.00000	00000	00000	00059	63638
20	-0.00000	00000	00000	00011	95586
21	0.00000	00000	00000	00004	03737
22	-0.00000	00000	00000	00000	57362
23	0.00000	00000	00000	00000	06169
24	0.00000	00000	00000	00000	00129
25	-0.00000	00000	00000	00000	00085
26	0.00000	00000	00000	00000	00013
27	-0.00000	00000	00000	00000	00001

r	$D_{r,k}$, k = 14				
0	0.00000	02528	92604	40064	60037
1	-0.00000	04208	95382	38596	72613
2	0.00000	02646	07946	00966	27726
3	-0.00000	01204	39382	69028	82630
4	0.00000	00402	91489	78519	30990
5	-0.00000	00093	90766	60568	35263
6	0.00000	00011	58667	20259	99626
7	0.00000	00001	35873	49298	87059
8	-0.00000	00001	16632	66642	00616
9	0.00000	00000	32463	00247	95805
10	-0.00000	00000	05342	00040	22272
11	0.00000	00000	00328	47972	92563
12	0.00000	00000	00096	17073	90970
13	-0.00000	00000	00036	40230	06607
14	0.00000	00000	00006	47678	80772
15	-0.00000	00000	00000	59621	03557
16	-0.00000	00000	00000	02276	49377
17	0.00000	00000	00000	01906	36096
18	-0.00000	00000	00000	00705	98678
19	0.00000	00000	00000	00038	25594
20	-0.00000	00000	00000	00000	01358
21	-0.00000	00000	00000	00000	52626
22	0.00000	00000	00000	00000	11606
23	-0.00000	00000	00000	00000	01303
24	0.00000	00000	00000	00000	00061
25	0.00000	00000	00000	00000	00000
26	-0.00000	00000	00000	00000	00002

r	$D_{r,k}$, k = 15				
0	-0.00000	00590	77099	69678	63626
1	0.00000	01000	60737	80545	66067
2	-0.00000	00634	56865	68689	93769
3	0.00000	00290	95083	28917	60832
4	-0.00000	00105	90163	61992	61158
5	0.00000	00027	60006	82399	73864
6	-0.00000	00006	67239	96932	81834
7	0.00000	00000	16662	50199	06692
8	0.00000	00000	19665	30321	55182
9	-0.00000	00000	07153	63622	26918
10	0.00000	00000	01408	65334	00169
11	-0.00000	00000	00176	00311	25615
12	-0.00000	00000	00091	91360	19369
13	0.00000	00000	00005	93968	35625
14	-0.00000	00000	00001	65869	38856
15	0.00000	00000	00000	19090	85682
16	-0.00000	00000	00000	01091	22516
17	-0.00000	00000	00000	00205	61719
18	0.00000	00000	00000	00067	53706
19	-0.00000	00000	00000	00010	06713
20	0.00000	00000	00000	00000	78509
21	0.00000	00000	00000	00000	02169
22	-0.00000	00000	00000	00000	01706
23	0.00000	00000	00000	00000	00292
24	-0.00000	00000	00000	00000	00026

TABLE 1 (Continued)

Coefficients in the Expansion of

$$I_\nu(z) = z^\nu e^z \sum_{k=0}^{\infty} H_k(\nu) T_k^*(z/8) \quad , \; 0 < z \le 8 \quad ,$$

$$H_k(\nu) = \sum_{r=0}^{\infty} D_{r,k} T_r^*(\nu/4) \quad , \; 0 \le \nu \le 4 \quad .$$

r	$D_{r,k}$, k = 16
0	0.00000 00130 99679 98372 28572
1	-0.00000 00224 97059 91500 61144
2	0.00000 00144 01044 30525 55839
3	-0.00000 00069 89247 42221 37769
4	0.00000 00025 95465 48615 17867
5	-0.00000 00007 29593 82077 58840
6	0.00000 00001 64669 16420 65871
7	-0.00000 00000 19553 39422 86234
8	-0.00000 00000 01823 90929 84667
9	0.00000 00000 81332 02258 97336
10	-0.00000 00000 00348 93429 88485
11	0.00000 00000 00055 26880 67426
12	-0.00000 00000 00003 97962 34311
13	-0.00000 00000 00000 60961 76239
14	0.00000 00000 00000 26493 28285
15	-0.00000 00000 00000 04871 72833
16	0.00000 00000 00000 00506 19248
17	-0.00000 00000 00000 00005 99695
18	-0.00000 00000 00000 00009 09766
19	0.00000 00000 00000 00002 00713
20	-0.00000 00000 00000 00000 23970
21	0.00000 00000 00000 00000 01265
22	0.00000 00000 00000 00000 00145
23	-0.00000 00000 00000 00000 00045
24	0.00000 00000 00000 00000 00006

r	$D_{r,k}$, k = 17
0	-0.00000 00027 62971 74713 69753
1	0.00000 00047 70284 43167 61901
2	-0.00000 00031 00921 18907 10404
3	0.00000 00015 44567 50457 58194
4	-0.00000 00005 96823 82916 72829
5	0.00000 00001 78633 45477 93837
6	-0.00000 00000 48147 71429 54990
7	0.00000 00000 05900 30958 65645
8	-0.00000 00000 00201 38249 12394
9	-0.00000 00000 00195 27418 05781
10	0.00000 00000 00069 93299 47967
11	-0.00000 00000 00013 90236 07722
12	0.00000 00000 00001 65718 97554
13	-0.00000 00000 00000 03350 08438
14	-0.00000 00000 00000 03608 24065
15	0.00000 00000 00000 00955 53963
16	-0.00000 00000 00000 00138 44922
17	0.00000 00000 00000 00010 39107
18	0.00000 00000 00000 00000 53498
19	-0.00000 00000 00000 00001 30445
20	0.00000 00000 00000 00000 05161
21	-0.00000 00000 00000 00000 00496
22	0.00000 00000 00000 00000 00013
23	0.00000 00000 00000 00000 00005
24	-0.00000 00000 00000 00000 00001

r	$D_{r,k}$, k = 18
0	0.00000 00005 55676 07575 99092
1	-0.00000 00009 63597 10954 29575
2	0.00000 00006 35061 07170 65449
3	-0.00000 00003 23652 71909 86675
4	0.00000 00001 29392 88468 02560
5	-0.00000 00000 40755 44474 66195
6	0.00000 00000 09965 42598 93750
7	-0.00000 00000 01778 17266 01521
8	0.00000 00000 00175 93379 56439
9	0.00000 00000 00015 90403 84500
10	-0.00000 00000 00011 75716 30313
11	0.00000 00000 00002 95192 56204
12	-0.00000 00000 00000 46153 13129
13	0.00000 00000 00000 03862 33060
14	0.00000 00000 00000 00229 55003
15	-0.00000 00000 00000 00148 41246
16	0.00000 00000 00000 00029 14206
17	-0.00000 00000 00000 00003 37750
18	0.00000 00000 00000 00000 15537
19	0.00000 00000 00000 00000 02942
20	-0.00000 00000 00000 00000 00851
21	0.00000 00000 00000 00000 00117
22	-0.00000 00000 00000 00000 00009

r	$D_{r,k}$, k = 19
0	-0.00000 00001 06666 22219 93031
1	0.00000 00001 95796 06321 67969
2	-0.00000 00001 23973 83933 11572
3	0.00000 00000 56682 39479 90534
4	-0.00000 00000 20556 45800 73146
5	0.00000 00000 00728 15369 53605
6	-0.00000 00000 02770 07255 80599
7	0.00000 00000 00457 10758 28062
8	-0.00000 00000 00062 79857 52175
9	0.00000 00000 00002 56808 73283
10	0.00000 00000 00001 51375 10844
11	-0.00000 00000 00000 53683 65937
12	0.00000 00000 00000 10609 56624
13	-0.00000 00000 00000 01203 39722
14	0.00000 00000 00000 00059 47720
15	0.00000 00000 00000 00015 75668
16	-0.00000 00000 00000 00004 92060
17	0.00000 00000 00000 00000 76897
18	-0.00000 00000 00000 00000 07060
19	0.00000 00000 00000 00000 00087
20	0.00000 00000 00000 00000 00100
21	-0.00000 00000 00000 00000 00021
22	0.00000 00000 00000 00000 00002

TABLE 1 (Continued)

Coefficients in the Expansion of

$$I_\nu(z) = z^\nu e^z \sum_{k=0}^{\infty} A_k(\nu) T_k^*(z/8) \quad , \; 0 < z \le 8 \quad ,$$

$$A_k(\nu) = \sum_{r=0}^{\infty} D_{r,k} T_r^*(\nu/4) \quad , \; 0 \le \nu \le 4 \quad .$$

r	$D_{r,k}$, k = 20
0	0.00000 00000 19587 99318 30362
1	-0.00000 00000 34258 44372 62800
2	0.00000 00000 73116 40828 19643
3	-0.00000 00000 12245 00522 38098
4	0.00000 00000 05175 80462 41770
5	-0.00000 00000 01784 21141 26443
6	0.00000 00000 00485 34637 34406
7	-0.00000 00000 00106 02539 10166
8	0.00000 00000 00017 35732 09910
9	-0.00000 00000 00001 68503 60756
10	-0.00000 00000 00000 08663 59510
11	0.00000 00000 00000 00026 10952
12	-0.00000 00000 00000 01992 80727
13	0.00000 00000 00000 00312 64641
14	-0.00000 00000 00000 00029 54640
15	-0.00000 00000 00000 00000 03085
16	0.00000 00000 00000 00000 63183
17	-0.00000 00000 00000 00000 13869
18	0.00000 00000 90000 00000 01770
19	-0.00000 00000 00000 00000 00124
20	-0.00000 00000 00000 00000 00004
21	0.00000 00000 00000 00000 00003

r	$D_{r,k}$, k = 21
0	-0.00000 00000 03447 65254 71285
1	0.00000 00000 06051 12853 14762
2	-0.00000 00000 04124 01537 98146
3	0.00000 00000 02221 22982 43677
4	-0.00000 00000 00960 89051 90647
5	0.00000 00000 00338 01099 59272
6	-0.00000 00000 00097 15045 13631
7	0.00000 00000 00022 05418 83932
8	-0.00000 00000 00004 15600 94860
9	0.00000 00000 00000 54245 11239
10	-0.00000 00000 00000 02790 47377
11	-0.00000 00000 00000 00873 10687
12	0.00000 00000 00000 00324 14779
13	-0.00000 00000 00000 00063 04087
14	0.00000 00000 00000 00009 07469
15	-0.00000 00000 00000 00000 53720
16	-0.00000 00000 00000 00000 04310
17	0.00000 00000 00000 00000 01979
18	-0.00000 00000 00000 00000 00341
19	0.00000 00000 00000 00000 00036
20	-0.00000 00000 00000 00000 00002

r	$D_{r,k}$, k = 22
0	0.00000 00000 00582 40570 00491
1	-0.00000 00000 01025 51367 38630
2	0.00000 00000 00705 56950 68476
3	-0.00000 00000 00385 67029 74772
4	0.00000 00000 00170 34299 33105
5	-0.00000 00000 00061 60567 53690
6	0.00000 00000 00018 37765 03470
7	-0.00000 00000 00004 51640 80345
8	0.00000 00000 00000 89991 49693
9	-0.00000 00000 00000 13810 64597
10	0.00000 00000 00000 01356 02969
11	0.00000 00000 00000 00017 84037
12	-0.00000 00000 00000 00042 65235
13	0.00000 00000 00000 00010 83898
14	-0.00000 00000 00000 00001 72716
15	0.00000 00000 00000 00000 17939
16	-0.00000 00000 00000 00000 00841
17	-0.00000 00000 00000 00000 00195
18	0.00000 00000 00000 00000 00852
19	-0.00000 00000 00000 00000 00007

r	$D_{r,k}$, k = 23
0	-0.00000 00000 00094 56577 47209
1	0.00000 00000 00167 00771 72788
2	-0.00000 00000 00115 88542 70894
3	0.00000 00000 00064 21289 79427
4	-0.00000 00000 00028 99887 41999
5	0.00000 00000 00010 71201 35927
6	-0.00000 00000 00003 30021 52477
7	0.00000 00000 00000 84718 43125
8	-0.00000 00000 00000 17983 77189
9	0.00000 00000 00000 03071 39834
10	-0.00000 00000 00000 00388 28808
11	0.00000 00000 00000 00024 49619
12	0.00000 00000 00000 00003 63103
13	-0.00000 00000 00000 00001 56768
14	0.00000 00000 00000 00000 31115
15	-0.00000 00000 00000 00000 04144
16	0.00000 00000 00000 00000 00339
17	0.00000 00000 00000 00000 00001
18	-0.00000 00000 00000 00000 00008
19	0.00000 00000 00000 00000 00001

TABLE 1 (Continued)

Coefficients in the Expansion of

$$I_\nu(z) = z^\nu e^z \sum_{k=0}^{\infty} H_k(\nu) T_k^*(z/8) \quad , \; 0 < z \le 8 \quad ,$$

$$H_k(\nu) = \sum_{r=0}^{\infty} D_{r,k} T_r^*(\nu/4) \quad , \; 0 \le \nu \le 4 \quad .$$

r	$D_{r,k}$, k = 24
0	0.00000 00000 00014 77904 31791
1	-0.00000 00000 00026 17101 50594
2	0.00000 00000 00010 30311 15391
3	-0.00000 00000 00010 26930 29147
4	0.00000 00000 00084 70120 09097
5	-0.00000 00000 00001 78152 40437
6	0.00000 00000 00000 56463 20040
7	-0.00000 00000 00000 15041 99761
8	0.00000 00000 00000 03360 45167
9	-0.00000 00000 00000 00620 32045
10	0.00000 00000 00000 00090 63629
11	-0.00000 00000 00000 00009 18496
12	0.00000 00000 00000 00000 16666
13	0.00000 00000 00000 00000 17546
14	-0.00000 00000 00000 00000 04770
15	0.00000 00000 00000 00000 00782
16	-0.00000 00000 00000 00000 00088
17	0.00000 00000 00000 00000 00005

r	$D_{r,k}$, k = 25
0	-0.00000 00000 00002 22600 22022
1	0.00000 00000 00003 95191 33926
2	-0.00000 00000 00002 78379 30847
3	0.00000 00000 00001 57995 21440
4	-0.00000 00000 00000 73465 01873
5	0.00000 00000 00000 28401 53366
6	-0.00000 00000 00000 09231 13636
7	0.00000 00000 00000 02539 51022
8	-0.00000 00000 00000 00591 97409
9	0.00000 00000 00000 00116 06792
10	-0.00000 00000 00000 00018 69570
11	0.00000 00000 00000 00002 31554
12	-0.00000 00000 00000 00000 17006
13	-0.00000 00000 00000 00000 00940
14	0.00000 00000 00000 00000 00605
15	-0.00000 00000 00000 00000 00126
16	0.00000 00000 00000 00000 00017
17	-0.00000 00000 00000 00000 00002

r	$D_{r,k}$, k = 26
0	0.00000 00000 00000 32351 94786
1	-0.00000 00000 00000 57569 99010
2	0.00000 00000 00000 40825 68210
3	-0.00000 00000 00000 23410 12771
4	0.00000 00000 00000 11046 30992
5	-0.00000 00000 00000 04340 00051
6	0.00000 00000 00000 01445 78989
7	-0.00000 00000 00000 00409 14246
8	0.00000 00000 00000 00090 89199
9	-0.00000 00000 00000 00020 35909
10	0.00000 00000 00000 00003 52438
11	-0.00000 00000 00000 00000 49527
12	0.00000 00000 00000 00000 05093
13	-0.00000 00000 00000 00000 00214
14	-0.00000 00000 00000 00000 00054
15	0.00000 00000 00000 00000 00017
16	-0.00000 00000 00000 00000 00003

r	$D_{r,k}$, k = 27
0	-0.00000 00000 00000 04542 22679
1	0.00000 00000 00000 00100 40767
2	-0.00000 00000 00000 05780 24684
3	0.00000 00000 00000 03348 43435
4	-0.00000 00000 00000 01600 40289
5	0.00000 00000 00000 00640 67188
6	-0.00000 00000 00000 00217 40155
7	0.00000 00000 00000 00063 08984
8	-0.00000 00000 00000 00015 73653
9	0.00000 00000 00000 00003 37475
10	-0.00000 00000 00000 00000 61809
11	0.00000 00000 00000 00000 09480
12	-0.00000 00000 00000 00000 01157
13	0.00000 00000 00000 00000 00095
14	0.00000 00000 00000 00000 00000
15	-0.00000 00000 00000 00000 00002

r	$D_{r,k}$, k = 28
0	0.00000 00000 00000 00616 73717
1	-0.00000 00000 00000 01102 08804
2	0.00000 00000 00000 00790 99624
3	-0.00000 00000 00000 00462 43308
4	0.00000 00000 00000 00223 75940
5	-0.00000 00000 00000 00090 95440
6	0.00000 00000 00000 00031 44546
7	-0.00000 00000 00000 00009 33427
8	0.00000 00000 00000 00002 39372
9	-0.00000 00000 00000 00000 53157
10	0.00000 00000 00000 00000 10195
11	-0.00000 00000 00000 00000 01670
12	0.00000 00000 00000 00000 00227
13	-0.00000 00000 00000 00000 00024
14	0.00000 00000 00000 00000 00001

r	$D_{r,k}$, k = 29
0	-0.00000 00000 00000 00001 06573
1	0.00000 00000 00000 00145 13559
2	-0.00000 00000 00000 00104 73356
3	0.00000 00000 00000 00061 75523
4	-0.00000 00000 00000 00030 22436
5	0.00000 00000 00000 00012 46113
6	-0.00000 00000 00000 00004 38257
7	0.00000 00000 00000 00001 32789
8	-0.00000 00000 00000 00000 34906
9	0.00000 00000 00000 00000 07991
10	-0.00000 00000 00000 00000 01593
11	0.00000 00000 00000 00000 00275
12	-0.00000 00000 00000 00000 00040
13	0.00000 00000 00000 00000 00005

TABLE 1 (Concluded)

Coefficients in the Expansion of

$$I_\nu(z) = z^\nu e^{-z} \sum_{k=0}^{\infty} A_k(\nu) T_k^*(z/8) \quad , \; 0 < z \le 8 \; ,$$

$$A_k(\nu) = \sum_{r=0}^{\infty} D_{r,k} T_r^*(\nu/4) \quad , \; 0 \le \nu \le 4 \; .$$

r	$D_{r,k}$, k = 30
0	0.00000 00000 00000 00010 32521
1	-0.00000 00000 00000 00010 51042
2	0.00000 00000 00000 00013 43140
3	-0.00000 00000 00000 00007 98333
4	0.00000 00000 00000 00003 94901
5	-0.00000 00000 00000 00001 64971
6	0.00000 00000 00000 00000 58944
7	-0.00000 00000 00000 00000 18197
8	0.00000 00000 00000 00000 04091
9	-0.00000 00000 00000 00000 01150
10	0.00000 00000 00000 00000 00237
11	-0.00000 00000 00000 00000 00043
12	0.00000 00000 00000 00000 00007

r	$D_{r,k}$, k = 31
0	-0.00000 00000 00000 00001 27950
1	0.00000 00000 00000 00002 29143
2	-0.00000 00000 00000 00001 66992
3	0.00000 00000 00000 00001 00004
4	-0.00000 00000 00000 00000 49963
5	0.00000 00000 00000 00000 21130
6	-0.00000 00000 00000 00000 07661
7	0.00000 00000 00000 00000 02406
8	-0.00000 00000 00000 00000 00660
9	0.00000 00000 00000 00000 00159
10	-0.00000 00000 00000 00000 00034
11	0.00000 00000 00000 00000 00006
12	-0.00000 00000 00000 00000 00001

r	$D_{r,k}$, k = [illegible]
0	0.00000 00000 00000 00000 15295
1	-0.00000 00000 00000 00000 27521
2	0.00000 00000 00000 00000 20147
3	-0.00000 00000 00000 00000 12150
4	0.00000 00000 00000 00000 06127
5	-0.00000 00000 00000 00000 02621
6	0.00000 00000 00000 00000 00963
7	-0.00000 00000 00000 00000 00307
8	0.00000 00000 00000 00000 00086
9	-0.00000 00000 00000 00000 00021
10	0.00000 00000 00000 00000 00005

r	$D_{r,k}$, k = [illegible]
0	-0.00000 00000 00000 00000 01702
1	0.00000 00000 00000 00000 03211
2	-0.00000 00000 00000 00000 02361
3	0.00000 00000 00000 00000 01433
4	-0.00000 00000 00000 00000 00729
5	0.00000 00000 00000 00000 00315
6	-0.00000 00000 00000 00000 00117
7	0.00000 00000 00000 00000 00038
8	-0.00000 00000 00000 00000 00011
9	0.00000 00000 00000 00000 00003

r	$D_{r,k}$, k = [illegible]4
0	0.00000 00000 00000 00000 00202
1	-0.00000 00000 00000 00000 00364
2	0.00000 00000 00000 00000 00269
3	-0.00000 00000 00000 00000 00164
4	0.00000 00000 00000 00000 00084
5	-0.00000 00000 00000 00000 00037
6	0.00000 00000 00000 00000 00014
7	-0.00000 00000 00000 00000 00005
8	0.00000 00000 00000 00000 00001

r	$D_{r,k}$, k = [illegible]
0	-0.00000 00000 00000 00000 00022
1	0.00000 00000 00000 00000 00040
2	-0.00000 00000 00000 00000 00030
3	0.00000 00000 00000 00000 00019
4	-0.00000 00000 00000 00000 00009
5	0.00000 00000 00000 00000 00004
6	-0.00000 00000 00000 00000 00002

r	$D_{r,k}$, k = [illegible]
0	0.00000 00000 00000 00000 00002
1	-0.00000 00000 00000 00000 00004
2	0.00000 00000 00000 00000 00003
3	-0.00000 00000 00000 00000 00002
4	0.00000 00000 00000 00000 00001

TABLE 2

Coefficients in the Expansion of

$$I_\nu(z) = z^\nu e^z \sum_{k=0}^{m} H_k(\nu) T_k^*(z/8) , \quad 0 < z \le 8 ,$$

$$H_k(\nu) = \sum_{r=0}^{m} D_{r,k} T_r^*\left(\frac{\nu-4}{4}\right) , \quad 0 \le \nu \le 8 .$$

r	$D_{r,k}$, k = 0
0	0.00011 02066 66036 21261 20596 36
1	-0.00019 52239 30628 96655 52611 48
2	0.00013 65402 70672 70971 01776 67
3	-0.00007 65604 16577 77266 67618 94
4	0.00003 49104 59905 10192 30526 73
5	-0.00001 31076 53209 41266 43512 19
6	0.00000 40481 32936 97806 45643 13
7	-0.00000 10520 80969 51967 09200 89
8	0.00000 02215 58352 66305 11101 00
9	-0.00000 00366 42707 19938 00200 43
10	0.00000 00040 17755 51656 04763 29
11	-0.00000 00000 62400 16267 20916 57
12	-0.00000 00001 09076 36037 65600 38
13	0.00000 00000 31496 66369 15398 17
14	-0.00000 00000 05411 66655 26545 94
15	0.00000 00000 00635 35616 73305 69
16	-0.00000 00000 00029 40036 15763 50
17	-0.00000 00000 00006 59604 08327 47
18	0.00000 00000 00002 11097 21563 43
19	-0.00000 00000 00000 36366 39025 17
20	0.00000 00000 00000 03627 97810 38
21	-0.00000 00000 00000 00190 54433 29
22	-0.00000 00000 00000 00020 63982 21
23	0.00000 00000 00000 00006 70562 86
24	-0.00000 00000 00000 00000 98152 47
25	0.00000 00000 00000 00000 09162 46
26	-0.00000 00000 00000 00000 00699 48
27	-0.00000 00000 00000 00000 00960 82
28	0.00000 00000 00000 00000 00011 65
29	-0.00000 00000 00000 00000 00001 58
30	0.00000 00000 00000 00000 00000 12

r	$D_{r,k}$, k = 1
0	-0.00018 16009 96186 15785 00566 49
1	0.00032 15109 27002 35305 28665 82
2	-0.00022 45159 26060 63012 82662 55
3	0.00012 56597 28781 93712 39165 51
4	-0.00005 69632 56300 72254 89060 01
5	0.00002 12378 39215 70931 58784 71
6	-0.00000 65472 85287 88162 12650 71
7	0.00000 16633 82523 36611 32625 30
8	-0.00000 03615 96669 66009 21612 54
9	0.00000 00533 76628 87252 38663 25
10	-0.00000 00049 96095 70351 18700 19
11	-0.00000 00002 69697 56997 09926 50
12	0.00000 00002 40703 26986 39360 36
13	-0.00000 00000 61083 78138 69288 86
14	0.00000 00000 10197 12275 81525 35
15	-0.00000 00000 01162 77777 79671 20
16	0.00000 00000 00051 36676 31017 13
17	0.00000 00000 00011 46619 80597 65
18	-0.00000 00000 00003 73577 91918 65
19	0.00000 00000 00000 59995 26607 72
20	-0.00000 00000 00000 06230 20732 86
21	0.00000 00000 00000 00293 23964 02
22	0.00000 00000 00000 00038 42825 25
23	-0.00000 00000 00000 00011 92998 66
24	0.00000 00000 00000 00001 71765 62
25	-0.00000 00000 00000 00000 15769 54
26	0.00000 00000 00000 00000 00658 63
27	0.00000 00000 00000 00000 00075 82
28	-0.00000 00000 00000 00000 00020 65
29	0.00000 00000 00000 00000 00002 63
30	-0.00000 00000 00000 00000 00000 31
31	0.00000 00000 00000 00000 00000 01

r	$D_{r,k}$, k = 2
0	0.00011 30881 23694 59506 32540 60
1	-0.00020 06719 68366 58701 22814 20
2	0.00013 99224 85498 32212 62959 71
3	-0.00007 79951 65120 66316 05401 11
4	0.00003 52738 96798 67925 38331 68
5	-0.00001 30908 32610 79378 03961 69
6	0.00000 40077 39089 88267 58188 27
7	-0.00000 10074 22396 76917 55806 73
8	0.00000 02035 17666 69074 65862 32
9	-0.00000 00307 69733 96033 06993 27
10	0.00000 00025 51915 62836 25907 67
11	0.00000 00002 69620 59968 67502 05
12	-0.00000 00001 63976 87659 29672 78
13	0.00000 00000 39153 00622 36962 32
14	-0.00000 00000 06256 33612 70600 66
15	0.00000 00000 00452 58639 75122 92
16	-0.00000 00000 00017 89090 52376 35
17	-0.00000 00000 00009 79991 76887 16
18	0.00000 00000 00002 62633 51361 70
19	-0.00000 00000 00000 39968 75962 23
20	0.00000 00000 00000 03956 35560 98
21	-0.00000 00000 00000 00157 61069 90
22	-0.00000 00000 00000 00030 30275 23
23	0.00000 00000 00000 00000 27010 41
24	-0.00000 00000 00000 00001 16665 66
25	0.00000 00000 00000 00000 10165 37
26	-0.00000 00000 00000 00000 00374 01
27	-0.00000 00000 00000 00000 00057 40
28	0.00000 00000 00000 00000 00014 22
29	-0.00000 00000 00000 00000 00001 75
30	0.00000 00000 00000 00000 00000 16

r	$D_{r,k}$, k = 3
0	-0.00005 79393 95099 66595 02865 91
1	0.00010 25160 10663 72209 766[illegible] 37
2	-0.00007 16668 20366 99375 007[illegible] 97
3	0.00003 98225 00022 17806 67988 5[illegible]
4	-0.00001 00022 95678 87095 91073 88
5	0.00000 66778 34609 04618 35165 51
6	-0.00000 20632 07509 70608 95605 62
	0.00000 05135 16966 57617 26186 68
8	-0.00000 01036 86206 50368 71824 86
9	0.00000 00156 65377 50733 59062 06
10	-0.00000 00011 06917 02273 93671 [illegible]
11	-0.00000 00001 33393 57236 90774 [illegible]
12	0.00000 00000 82121 80058 32081 95
13	-0.00000 00000 19566 52731 29501 77
14	0.00000 00000 03106 03787 01669 16
15	-0.00000 00000 00318 66699 70370 65
16	0.00000 00000 00007 22561 77566 16
17	0.00000 00000 00005 16688 63625 1[illegible]
18	-0.00000 00000 00001 33861 99016 07
19	0.00000 00000 00000 20036 09757 36
20	-0.00000 00000 00000 01929 83787 66
21	0.00000 00000 00000 00066 52763 16
22	0.00000 00000 00000 00017 09661 36
23	-0.00000 00000 00000 00006 35506 96
24	0.00000 00000 00000 00000 56936 66
25	-0.00000 00000 00000 00000 05665 56
26	0.00000 00000 00000 00000 00166 76
27	0.00000 00000 00000 00000 00032 27
28	-0.00000 00000 00000 00000 00007 52
29	0.00000 00000 00000 00000 00[illegible] 91
30	-0.00000 00000 00000 00000 00000 07

TABLE 2 (Continued)

Coefficients in the Expansion of

$$I_\nu(x) = x^\nu e^x \sum_{k=0}^{\infty} A_k(\nu) T_k^*(x/8) , \quad 0 < x \le 8 ,$$

$$A_k(\nu) = \sum_{r=0}^{\infty} D_{r,k} T_r^*\left(\frac{\nu-4}{4}\right) , \quad 4 \le \nu \le 8 .$$

r	$D_{r,k}$, k = 4
0	0.00002 53634 80155 04194 68305 68
1	-0.00004 48921 79042 46458 87772 86
2	0.00003 13281 49001 84583 80891 04
3	-0.00001 74877 09355 04531 70594 68
4	0.00000 79258 70974 58419 94669 47
5	-0.00000 29505 66139 03169 43969 53
6	0.00000 09074 69461 40822 38956 61
7	-0.00000 07209 48595 59329 13301 04
8	0.00000 00470 07209 61917 44579 40
9	-0.00000 00072 97921 25702 66446 07
10	0.00000 00006 77353 36186 07963 85
11	0.00000 00009 39394 08722 70176 48
12	-0.00000 00000 33057 07766 33014 66
13	0.00000 00000 08750 79779 71192 54
14	-0.00000 00000 01348 53873 45589 56
15	0.00000 00000 00144 41019 32597 55
16	-0.00000 00000 00004 75822 54172 66
17	-0.00000 00000 00001 96635 53565 10
18	0.00000 00000 00000 54693 20008 76
19	-0.00000 00000 00000 08416 07574 72
20	0.00000 00000 00000 00834 82675 29
21	-0.00000 00000 00000 00032 77471 80
22	-0.00000 00000 00000 00006 57261 04
23	0.00000 00000 00000 00001 77678 94
24	-0.00000 00000 00000 00000 24534 46
25	0.00000 00000 00000 00000 02160 38
26	-0.00000 00000 00000 00000 00076 57
27	-0.00000 00000 00000 00000 00012 84
28	0.00000 00000 00000 00000 00003 10
29	-0.00000 00000 00000 00000 00000 38
30	0.00000 00000 00000 00000 00000 03

r	$D_{r,k}$, k = 5
0	-0.00000 97954 74669 52896 81995 85
1	0.00001 73502 81985 53295 00961 94
2	-0.00001 21330 27618 36009 69852 92
3	0.00000 67964 32821 73200 34409 65
4	-0.00000 30952 73789 98209 08904 78
5	0.00000 11000 95556 53240 24916 98
6	-0.00000 03801 54082 81707 58168 03
7	0.00000 00924 70470 04915 52979 29
8	-0.00000 00193 76394 94169 10083 50
9	0.00000 00031 28731 02414 20233 24
10	-0.00000 00003 28257 65817 09262 48
11	-0.00000 00000 07764 87579 58174 49
12	0.00000 00000 11010 52617 93703 55
13	-0.00000 00000 03029 33762 15027 19
14	0.00000 00000 00524 70113 39463 20
15	-0.00000 00000 00060 96003 04553 28
16	0.00000 00000 00003 11303 68434 68
17	0.00000 00000 00000 55267 51068 88
18	-0.00000 00000 00000 10753 47197 88
19	0.00000 00000 00000 03000 07866 01
20	-0.00000 00000 00000 00331 40621 64
21	0.00000 00000 00000 00017 17530 97
22	0.00000 00000 00000 00001 73884 23
23	-0.00000 00000 00000 00000 59192 93
24	0.00000 00000 00000 00000 08765 43
25	-0.00000 00000 00000 00000 00826 13
26	0.00000 00000 00000 00000 00037 14
27	0.00000 00000 00000 00000 00003 49
28	-0.00000 00000 00000 00000 00001 03
29	0.00000 00000 00000 00000 00000 13
30	-0.00000 00000 00000 00000 00000 01

r	$L_{r,k}$, k = 6
0	0.00000 34037 55297 63578 75759 38
1	-0.00000 60366 34317 91828 07569 71
2	0.00000 42320 44768 86980 30977 90
3	-0.00000 23815 67626 42840 94863 78
4	0.00000 10918 87626 77648 98290 10
5	-0.00000 04129 19303 23553 37691 63
6	0.00000 01297 63089 54196 05353 70
7	-0.00000 00338 95366 42868 79961 48
8	0.00000 00072 73519 05458 77727 84
9	-0.00000 00012 36762 42001 79164 00
10	0.00000 00001 46668 82767 41446 48
11	-0.00000 00000 04954 10984 23972 26
12	-0.00000 00000 02991 00592 30107 49
13	0.00000 00000 00977 50586 35018 27
14	-0.00000 00000 00183 95507 47715 97
15	0.00000 00000 00023 57000 42678 41
16	-0.00000 00000 00001 67147 87206 87
17	-0.00000 00000 00000 09677 62543 85
18	0.00000 00000 00000 05439 51480 51
19	-0.00000 00000 00000 01010 96434 13
20	0.00000 00000 00000 00119 90570 53
21	-0.00000 00000 00000 00008 11204 92
22	-0.00000 00000 00000 00000 23232 78
23	0.00000 00000 00000 00000 16307 05
24	-0.00000 00000 00000 00000 02741 03
25	0.00000 00000 00000 00000 00206 77
26	-0.00000 00000 00000 00000 00016 78
27	-0.00000 00000 00000 00000 00000 51
28	0.00000 00000 00000 00000 00000 28
29	-0.00000 00000 00000 00000 00000 04

r	$D_{r,k}$, k = 7
0	-0.00000 10789 22619 86137 44556 01
1	0.00000 19150 06737 64329 70258 66
2	-0.00000 13675 99009 41391 37793 59
3	0.00000 07625 63041 52032 96435 09
4	-0.00000 03523 44054 37592 47416 82
5	0.00000 01344 39063 16420 85023 19
6	-0.00000 00429 00811 01808 28778 59
7	0.00000 00114 23724 83138 36532 85
8	-0.00000 00025 21691 82069 43189 47
9	0.00000 00004 69973 02495 61269 51
10	-0.00000 00000 59341 99268 90696 97
11	0.00000 00000 83939 56911 95740 86
12	0.00000 00000 00003 76130 13004 83
13	-0.00000 00000 00275 93991 76206 42
14	0.00000 00000 00058 04901 70038 07
15	-0.00000 00000 00008 26762 00367 98
16	0.00000 00000 00000 76257 41997 52
17	-0.00000 00000 00000 00515 17468 78
18	-0.00000 00000 00000 01299 71866 79
19	0.00000 00000 00000 00290 96797 91
20	-0.00000 00000 00000 00039 85096 72
21	0.00000 00000 00000 00003 29819 76
22	-0.00000 00000 00000 00000 05881 44
23	-0.00000 00000 00000 00000 03586 88
24	0.00000 00000 00000 00000 00747 88
25	-0.00000 00000 00000 00000 00009 38
26	0.00000 00000 00000 00000 00006 57
27	-0.00000 00000 00000 00000 00000 88
28	-0.00000 00000 00000 00000 00000 06
29	0.00000 00000 00000 00000 00000 01

TABLE . (Continued)

Coefficients in the Expansion of

$$I_\nu(x) = x^\nu e^x \sum_{k=0}^{\infty} H_k(\nu) T_k^*(x/8), \quad 0 \le x \le 8,$$

$$H_k(\nu) = \sum_{r=0}^{\infty} D_{r,k} T_r^*\left(\frac{\nu-4}{4}\right), \quad 4 \le \nu \le 8.$$

r	$D_{r,k}$, k = 8
0	0.00000 03151 97421 31286 80956 29
1	-0.00000 05601 90660 17353 64670 55
2	0.00000 03956 78032 58831 51525 36
3	-0.00000 02252 73443 54717 76100 79
4	0.00000 01049 78899 51137 68815 67
5	-0.00000 00405 69576 88797 23172 27
6	0.00000 00131 20877 56456 32954 76
7	-0.00000 00035 64056 96514 66060 52
8	0.00000 00008 09445 81286 17677 05
9	-0.00000 00001 50772 85285 30409 39
10	0.00000 00000 21783 54302 90939 61
11	-0.00000 00000 01990 80944 40691 65
12	-0.00000 00000 00968 67700 67610 22
13	0.00000 00000 00066 66702 55709 99
14	-0.00000 00000 00016 41030 43461 65
15	0.00000 00000 00002 61281 40087 39
16	-0.00000 00000 00000 28117 75827 81
17	0.00000 00000 00000 01317 58082 13
18	0.00000 00000 00000 00230 68218 36
19	-0.00000 00000 00000 00072 70511 08
20	0.00000 00000 00000 00011 33520 27
21	-0.00000 00000 00000 00001 14769 36
22	0.00000 00000 00000 00000 05470 27
23	0.00000 00000 00000 00000 00534 31
24	-0.00000 00000 00000 00000 00174 46
25	0.00000 00000 00000 00000 00024 67
26	-0.00000 00000 00000 00000 00002 21
27	0.00000 00000 00000 00000 00000 09
28	0.00000 00000 00000 00000 00000 01

r	$D_{r,k}$, k = 9
0	-0.00000 00855 32442 67270 05036 13
1	0.00000 01522 25933 11485 58547 22
2	-0.00000 01079 51740 53424 43495 54
3	0.00000 00619 58958 94966 85827 50
4	-0.00000 00290 85326 91645 85857 56
5	0.00000 00113 72741 61406 39252 26
6	-0.00000 00037 34433 30328 14970 81
7	0.00000 00010 34926 60982 57675 66
8	-0.00000 00002 41440 11445 40369 54
9	0.00000 00000 46923 43807 52214 32
10	-0.00000 00000 07299 42194 12701 46
11	0.00000 00000 00809 71947 93257 48
12	-0.00000 00000 00079 60174 39977 82
13	-0.00000 00000 00012 42958 82717 24
14	0.00000 00000 00004 11391 76766 32
15	-0.00000 00000 00000 74318 20482 82
16	0.00000 00000 00000 09280 70998 96
17	-0.00000 00000 00000 00692 62672 78
18	-0.00000 00000 00000 00015 78137 16
19	0.00000 00000 00000 00015 27018 81
20	-0.00000 00000 00000 00002 90765 63
21	0.00000 00000 00000 00000 34758 10
22	-0.00000 00000 00000 00000 02542 82
23	0.00000 00000 00000 00000 00081 43
24	0.00000 00000 00000 00000 00033 01
25	-0.00000 00000 00000 00000 00005 92
26	0.00000 00000 00000 00000 00000 64
27	-0.00000 00000 00000 00000 00000 06

r	$D_{r,k}$, k = 10
0	0.00000 00216 95285 06645 19010 83
1	-0.00000 00386 47840 88855 92627 98
2	0.00000 00275 34721 37374 85196 63
3	-0.00000 00158 82923 06211 97474 33
4	0.00000 00075 36513 68612 51977 07
5	-0.00000 00029 82054 33636 08571 85
6	0.00000 00009 94189 87993 10546 10
7	-0.00000 00002 80990 48367 48384 52
8	0.00000 00000 67361 57079 51935 49
9	-0.00000 00000 13586 71012 90551 85
10	0.00000 00000 02248 81083 60485 18
11	-0.00000 00000 00284 65488 77249 08
12	0.00000 00000 00020 66342 13445 22
13	0.00000 00000 00001 55479 94084 05
14	-0.00000 00000 00000 89397 43550 64
15	0.00000 00000 00000 18941 92145 62
16	-0.00000 00000 00000 02708 57975 72
17	0.00000 00000 00000 00260 77948 51
18	-0.00000 00000 00000 00009 18557 69
19	-0.00000 00000 00000 00002 42607 98
20	0.00000 00000 00000 00000 64439 01
21	-0.00000 00000 00000 00000 09191 52
22	0.00000 00000 00000 00000 00859 23
23	-0.00000 00000 00000 00000 00037 16
24	-0.00000 00000 00000 00000 00004 24
25	0.00000 00000 00000 00000 00001 21
26	-0.00000 00000 00000 00000 00000 16
27	0.00000 00000 00000 00000 00000 01

r	$D_{r,k}$, k = 11
0	-0.00000 00051 69961 80995 98230 96
1	0.00000 00092 27607 83614 07865 24
2	-0.00000 00065 99332 13455 26523 74
3	0.00000 00038 31001 60567 60896 14
4	-0.00000 00018 34957 64393 42056 90
5	0.00000 00007 34684 15759 78516 36
6	-0.00000 00002 48422 60423 28284 41
7	0.00000 00000 71617 69747 52610 17
8	-0.00000 00000 17601 72714 93790 33
9	0.00000 00000 03674 65240 29968 66
10	-0.00000 00000 00641 02888 64674 53
11	0.00000 00000 00089 40170 95614 11
12	-0.00000 00000 00008 65174 39154 11
13	0.00000 00000 00000 15398 42915 15
14	0.00000 00000 00000 15885 12672 26
15	-0.00000 00000 00000 06204 51474 73
16	0.00000 00000 00000 00704 20093 59
17	-0.00000 00000 00000 00091 10947 81
18	0.00000 00000 00000 00005 51944 36
19	0.00000 00000 00000 00000 16600 13
20	-0.00000 00000 00000 00000 11912 33
21	0.00000 00000 00000 00000 02117 52
22	-0.00000 00000 00000 00000 00260 79
23	0.00000 00000 00000 00000 00016 91
24	-0.00000 00000 00000 00000 00000 04
25	-0.00000 00000 00000 00000 00000 23
26	0.00000 00000 00000 00000 00000 [illegible]

TABLE 2 (Continued)

Coefficients in the Expansion of

$$I_\nu(z) = z^\nu e^z \sum_{k=0}^{\infty} H_k(\nu) T_k^*(z/8) \;, \quad 0 < z \le 8 \;,$$

$$H_k(\nu) = \sum_{r=0}^{\infty} D_{r,k} T_r^*\left(\frac{\nu-4}{4}\right) \;, \quad 4 \le \nu \le 8 \;.$$

r	$D_{r,k}$, k = 12
0	0.00000 00011 62350 42951 71351 30
1	-0.00000 00020 77414 00896 27248 68
2	0.00000 00014 91834 99319 63225 72
3	-0.00000 00008 72145 49300 23265 44
4	0.00000 00004 21462 48666 37839 71
5	-0.00000 00001 70717 82820 25976 77
6	0.00000 00000 58618 01560 64823 85
7	-0.00000 00000 17196 00903 13203 87
8	0.00000 00000 04326 22214 18196 88
9	-0.00000 00000 00931 95646 63689 86
10	0.00000 00000 00170 06796 67565 85
11	-0.00000 00000 00025 56463 39762 10
12	0.00000 00000 00002 92544 70799 69
13	-0.00000 00000 00000 18100 51276 86
14	-0.00000 00000 00000 01062 70029 58
15	0.00000 00000 00000 00840 37826 88
16	-0.00000 00000 00000 00163 22236 36
17	0.00000 00000 00000 00021 85027 27
18	-0.00000 00000 00000 00001 99260 86
19	0.00000 00000 00000 00000 06084 04
20	0.00000 00000 00000 00000 01621 19
21	-0.00000 00000 00000 00000 00418 09
22	0.00000 00000 00000 00000 00057 75
23	-0.00000 00000 00000 00000 00005 30
24	0.00000 00000 00000 00000 00000 24
25	0.00000 00000 00000 00000 00000 07
26	-0.00000 00000 00000 00000 00000 01

r	$D_{r,k}$, k = 13
0	-0.00000 00002 47444 41801 87550 88
1	0.00000 00004 42919 64964 39839 63
2	-0.00000 00003 19353 51988 41626 33
3	0.00000 00001 87931 60487 46549 50
4	-0.00000 00000 91631 82895 53833 59
5	0.00000 00000 37539 47876 21036 65
6	-0.00000 00000 13071 94448 07402 34
7	0.00000 00000 03901 90975 49298 34
8	-0.00000 00000 01003 37148 61841 35
9	0.00000 00000 00222 36065 07758 80
10	-0.00000 00000 00042 20032 50702 49
11	0.00000 00000 00006 73065 69951 83
12	-0.00000 00000 00000 86333 44500 37
13	0.00000 00000 00000 07632 28628 58
14	-0.00000 00000 00000 00006 50954 05
15	-0.00000 00000 00000 00134 37894 35
16	0.00000 00000 00000 00033 45143 34
17	-0.00000 00000 00000 00005 19634 99
18	0.00000 00000 00000 00000 57393 50
19	-0.00000 00000 00000 00000 03800 37
20	-0.00000 00000 00000 00000 00065 29
21	0.00000 00000 00000 00000 00067 38
22	-0.00000 00000 00000 00000 00011 92
23	0.00000 00000 00000 00000 00001 35
24	-0.00000 00000 00000 00000 00000 10

r	$D_{r,k}$, k = 14
0	0.00000 00000 50033 17270 22377 30
1	-0.00000 00000 89683 77772 85554 02
2	0.00000 00000 64926 03060 33702 87
3	-0.00000 00000 38454 68930 26735 83
4	0.00000 00000 18913 78015 24849 27
5	-0.00000 00000 07834 19587 29453 19
6	0.00000 00000 02765 11485 51859 20
7	-0.00000 00000 00839 14142 68107 21
8	0.00000 00000 00220 23623 60473 42
9	-0.00000 00000 00050 09180 44407 21
10	0.00000 00000 00009 84306 08266 24
11	-0.00000 00000 00001 65180 04906 10
12	0.00000 00000 00000 22991 86551 41
13	-0.00000 00000 00000 02451 04066 77
14	0.00000 00000 00000 00142 12551 79
15	0.00000 00000 00000 00013 81965 42
16	-0.00000 00000 00000 00005 90062 15
17	0.00000 00000 00000 00001 09604 09
18	-0.00000 00000 00000 00000 14161 61
19	0.00000 00000 00000 00000 01276 99
20	-0.00000 00000 00000 00000 00052 17
21	-0.00000 00000 00000 00000 00007 37
22	0.00000 00000 00000 00000 00002 07
23	-0.00000 00000 00000 00000 00000 29
24	0.00000 00000 00000 00000 00000 03

r	$D_{r,k}$, k = 15
0	-0.00000 00000 09635 14420 12368 84
1	0.00000 00000 17294 52415 05150 63
2	-0.00000 00000 12569 86718 41151 15
3	0.00000 00000 07491 90873 30510 55
4	-0.00000 00000 03716 17108 60517 62
5	0.00000 00000 01555 69488 06815 22
6	-0.00000 00000 00554 24703 04660 04
7	0.00000 00000 00171 47470 84318 71
8	-0.00000 00000 00045 87317 11932 58
9	0.00000 00000 00010 68508 13222 55
10	-0.00000 00000 00002 16522 18160 15
11	0.00000 00000 00000 37903 76457 25
12	-0.00000 00000 00000 05827 04957 07
13	0.00000 00000 00000 00676 60677 38
14	-0.00000 00000 00000 00057 07782 95
15	0.00000 00000 00000 00000 86826 03
16	0.00000 00000 00000 00000 83499 75
17	-0.00000 00000 00000 00000 20326 47
18	0.00000 00000 00000 00000 03069 97
19	-0.00000 00000 00000 00000 00334 38
20	0.00000 00000 00000 00000 00021 65
21	-0.00000 00000 00000 00000 00000 10
22	-0.00000 00000 00000 00000 00000 28
23	0.00000 00000 00000 00000 00000 05
24	-0.00000 00000 00000 00000 00000 01

TABLE [illegible] (Continued)

Coefficients in the Expansion of

$$I_\nu(z) = z^\nu e^z \sum_{k=0}^{\infty} H_k(\nu) T_k^*(z/8) \ , \quad 0 < z \le 8 \ ,$$

$$H_k(\nu) = \sum_{r=0}^{\infty} D_{r,k} T_r^*\left(\frac{\nu-4}{4}\right) \ , \quad 4 \le \nu \le 8 \ .$$

r	$D_{r,k}$, k = 16					
0	0.00000	00000	01771	42278	67228	30
1	-0.00000	00000	03183	83909	27507	19
2	0.00000	00000	02322	96879	90426	91
3	-0.00000	00000	01393	02133	18132	62
4	0.00000	00000	00696	65586	58190	21
5	-0.00000	00000	00294	63959	94774	77
6	0.00000	00000	00106	66417	27482	68
7	-0.00000	00000	00033	37398	50566	02
8	0.00000	00000	00009	00958	10936	53
9	-0.00000	00000	00002	16411	40087	50
10	0.00000	00000	00000	45881	23184	13
11	-0.00000	00000	00000	08185	05128	28
12	0.00000	00000	00000	01288	17577	96
13	-0.00000	00000	00000	00167	70658	07
14	0.00000	00000	00000	00017	09325	19
15	-0.00000	00000	00000	00001	00646	66
16	-0.00000	00000	00000	00000	06795	03
17	0.00000	00000	00000	00000	03210	01
18	-0.00000	00000	00000	00000	00587	79
19	0.00000	00000	00000	00000	00074	99
20	-0.00000	00000	00000	00000	00006	86
21	0.00000	00000	00000	00000	00000	34
22	0.00000	00000	00000	00000	00000	02
23	-0.00000	00000	00000	00000	00000	01

r	$D_{r,k}$, k = 17					
0	-0.00000	00000	00311	58951	38395	06
1	0.00000	00000	00560	75462	70119	70
2	-0.00000	00000	00410	66242	94770	86
3	0.00000	00000	00247	72422	61067	23
4	-0.00000	00000	00124	87191	67962	27
5	0.00000	00000	00053	33693	53182	92
6	-0.00000	00000	00019	53825	38688	83
7	0.00000	00000	00006	20089	65888	59
8	-0.00000	00000	00001	71723	02374	86
9	0.00000	00000	00000	41721	36426	71
10	-0.00000	00000	00000	08910	90501	28
11	0.00000	00000	00000	01670	68033	47
12	-0.00000	00000	00000	00272	08912	40
13	0.00000	00000	00000	00038	16764	25
14	-0.00000	00000	00000	00004	38208	96
15	0.00000	00000	00000	00000	36451	80
16	-0.00000	00000	00000	00000	00915	11
17	-0.00000	00000	00000	00000	00389	79
18	0.00000	00000	00000	00000	00098	18
19	-0.00000	00000	00000	00000	00014	76
20	0.00000	00000	00000	00000	00001	62
21	-0.00000	00000	00000	00000	00000	17

r	$D_{r,k}$, k = 18					
0	0.00000	00000	00052	53882	27450	27
1	-0.00000	00000	00094	67023	99279	93
2	0.00000	00000	00069	58140	58131	13
3	-0.00000	00000	00042	21434	97273	36
4	0.00000	00000	00021	44220	67972	88
5	-0.00000	00000	00009	24532	75406	12
6	0.00000	00000	00003	42541	85967	54
7	-0.00000	00000	00001	10162	76581	56
8	0.00000	00000	00000	30996	80496	55
9	-0.00000	00000	00000	07673	67408	95
10	0.00000	00000	00000	01676	67855	71
11	-0.00000	00000	00000	00323	37542	92
12	0.00000	00000	00000	00054	82633	67
13	-0.00000	00000	00000	00008	08874	26
14	0.00000	00000	00000	00001	00924	59
15	-0.00000	00000	00000	00000	10017	60
16	0.00000	00000	00000	00000	00625	66
17	0.00000	00000	00000	00000	00019	82
18	-0.00000	00000	00000	00000	00013	68
19	0.00000	00000	00000	00000	00002	55
20	-0.00000	00000	00000	00000	00000	33
21	0.00000	00000	00000	00000	00000	03

r	$D_{r,k}$, k = 19					
0	-0.00000	00000	00000	50701	41137	71
1	0.00000	00000	00015	34740	95225	70
2	-0.00000	00000	00011	31955	88968	53
3	0.00000	00000	00006	90547	60895	57
4	-0.00000	00000	00003	53341	10088	17
5	0.00000	00000	00001	53760	57696	86
6	-0.00000	00000	00000	57580	81203	41
7	0.00000	00000	00000	18754	81332	22
8	-0.00000	00000	00000	05354	07406	61
9	0.00000	00000	00000	01349	34343	16
10	-0.00000	00000	00000	00301	04326	96
11	0.00000	00000	00000	00059	56043	54
12	-0.00000	00000	00000	00010	47482	42
13	0.00000	00000	00000	00001	60539	12
14	-0.00000	00000	00000	00000	21375	20
15	0.00000	00000	00000	00000	02373	22
16	-0.00000	00000	00000	00000	00198	44
17	0.00000	00000	00000	00000	00007	31
18	0.00000	00000	00000	00000	00001	36
19	-0.00000	00000	00000	00000	00000	32
20	0.00000	00000	00000	00000	00000	06
21	-0.00000	00000	00000	00000	00000	01

TABLE 2 (Continued)

Coefficients in the Expansion of

$$I_\nu(z) = z^\nu e^z \sum_{k=0}^{\infty} H_k(\nu) T_k^*(z/8) , \quad 0 < z \le 8 ,$$

$$H_k(\nu) = \sum_{r=0}^{\infty} D_{r,k} T_r^*\left(\frac{\nu-4}{4}\right) , \quad 4 \le \nu \le 8 .$$

r	$D_{r,k}$, k = 20
0	0.00000 00000 00001 32485 79325 39
1	-0.00000 00000 00002 39295 05973 63
2	0.00000 00000 00001 77088 39857 65
3	-0.00000 00000 00001 00609 06096 58
4	0.00000 00000 00000 55967 83362 88
5	-0.00000 00000 00000 24564 90062 63
6	0.00000 00000 00000 09295 94566 68
7	-0.00000 00000 00000 03064 55381 72
8	0.00000 00000 00000 00887 53249 13
9	-0.00000 00000 00000 00227 27360 50
10	0.00000 00000 00000 00051 60997 33
11	-0.00000 00000 00000 00010 46552 96
12	0.00000 00000 00000 00001 80569 51
13	-0.00000 00000 00000 00000 30115 10
14	0.00000 00000 00000 00000 04219 79
15	-0.00000 00000 00000 00000 00507 35
16	0.00000 00000 00000 00000 00049 63
17	-0.00000 00000 00000 00000 00003 32
18	-0.00000 00000 00000 00000 00000 00
19	0.00000 00000 00000 00000 00000 05
20	-0.00000 00000 00000 00000 00000 01

r	$D_{r,k}$, k = 21
0	-0.00000 00000 00000 19874 47406 64
1	0.00000 00000 00000 35937 55396 42
2	-0.00000 00000 00000 26681 78542 24
3	0.00000 00000 00000 16448 22253 45
4	-0.00000 00000 00000 08533 89144 07
5	0.00000 00000 00000 03777 05574 58
6	-0.00000 00000 00000 01443 52119 04
7	0.00000 00000 00000 00481 37033 56
8	-0.00000 00000 00000 00141 26799 51
9	0.00000 00000 00000 00036 73235 19
10	-0.00000 00000 00000 00008 58435 29
11	0.00000 00000 00000 00001 75858 47
12	-0.00000 00000 00000 00000 32503 18
13	0.00000 00000 00000 00000 05359 39
14	-0.00000 00000 00000 00000 00783 36
15	0.00000 00000 00000 00000 00100 09
16	-0.00000 00000 00000 00000 00010 94
17	0.00000 00000 00000 00000 00000 92
18	-0.00000 00000 00000 00000 00000 04

r	$D_{r,k}$, k = 22
0	0.00000 00000 00000 02075 71112 23
1	-0.00000 00000 00000 05205 57765 45
2	0.00000 00000 00000 03076 90082 29
3	-0.00000 00000 00000 02401 84710 28
4	0.00000 00000 00000 01254 34530 61
5	-0.00000 00000 00000 00559 63767 30
6	0.00000 00000 00000 00215 91423 49
7	-0.00000 00000 00000 00072 79162 13
8	0.00000 00000 00000 00021 63147 28
9	-0.00000 00000 00000 00005 70596 40
10	0.00000 00000 00000 00001 34312 07
11	-0.00000 00000 00000 00000 20315 29
12	0.00000 00000 00000 00000 05355 46
13	-0.00000 00000 00000 00000 00908 25
14	0.00000 00000 00000 00000 00137 68
15	-0.00000 00000 00000 00000 00018 46
16	0.00000 00000 00000 00000 00002 15
17	-0.00000 00000 00000 00000 00000 21
18	0.00000 00000 00000 00000 00000 01

r	$D_{r,k}$, k = 23
0	-0.00000 00000 00000 00401 84968 53
1	0.00000 00000 00000 00728 10373 29
2	-0.00000 00000 00000 00543 97206 04
3	0.00000 00000 00000 00338 60661 80
4	-0.00000 00000 00000 00177 95206 87
5	0.00000 00000 00000 00080 00870 75
6	-0.00000 00000 00000 00031 14871 16
7	0.00000 00000 00000 00010 61114 37
8	-0.00000 00000 00000 00003 19099 01
9	0.00000 00000 00000 00000 85318 68
10	-0.00000 00000 00000 00000 20396 39
11	0.00000 00000 00000 00000 04377 48
12	-0.00000 00000 00000 00000 00845 45
13	0.00000 00000 00000 00000 00147 03
14	-0.00000 00000 00000 00000 00022 98
15	0.00000 00000 00000 00000 00003 21
16	-0.00000 00000 00000 00000 00000 48
17	0.00000 00000 00000 00000 00000 04

r	$D_{r,k}$, k = 24
0	0.00000 00000 00000 00054 29473 57
1	-0.00000 00000 00000 00098 48547 30
2	0.00000 00000 00000 00073 78536 75
3	-0.00000 00000 00000 00046 14039 08
4	0.00000 00000 00000 00024 39616 08
5	-0.00000 00000 00000 00011 05014 44
6	0.00000 00000 00000 00004 33943 84
7	-0.00000 00000 00000 00001 49303 05
8	0.00000 00000 00000 00000 45408 19
9	-0.00000 00000 00000 00000 12297 05
10	0.00000 00000 00000 00000 02982 70
11	-0.00000 00000 00000 00000 00650 04
12	0.00000 00000 00000 00000 00120 14
13	-0.00000 00000 00000 00000 00022 79
14	0.00000 00000 00000 00000 00003 66
15	-0.00000 00000 00000 00000 00000 53
16	0.00000 00000 00000 00000 00000 07
17	-0.00000 00000 00000 00000 00000 01

r	$D_{r,k}$, k = 25
0	-0.00000 00000 00000 00007 10868 44
1	0.00000 00000 00000 00012 89266 14
2	-0.00000 00000 00000 00009 68613 78
3	0.00000 00000 00000 00006 08388 81
4	-0.00000 00000 00000 00003 23560 63
5	0.00000 00000 00000 00001 47600 76
6	-0.00000 00000 00000 00000 58466 83
7	0.00000 00000 00000 00000 20301 19
8	-0.00000 00000 00000 00000 06240 89
9	0.00000 00000 00000 00000 01710 66
10	-0.00000 00000 00000 00000 00420 67
11	0.00000 00000 00000 00000 00093 21
12	-0.00000 00000 00000 00000 00018 68
13	0.00000 00000 00000 00000 00003 39
14	-0.00000 00000 00000 00000 00000 56
15	0.00000 00000 00000 00000 00000 08
16	-0.00000 00000 00000 00000 00000 01

TABLE . (Concluded)

Coefficients in the Expansion of

$$I_\nu(z) = z^\nu e^z \sum_{k=0}^{\infty} H_k(\nu) T_k^*(z/8) \ , \quad 0 < z \le 8 \ ,$$

$$H_k(\nu) = \sum_{r=0}^{\infty} D_{r,k} T_r^*\left(\frac{\nu-4}{4}\right) \ , \quad 4 \le \nu \le 8 \ .$$

r	$D_{r,k}$, k = 26
0	0.00000 00000 00000 00000 89977 33
1	-0.00000 00000 00000 00001 63521 41
2	0.00000 00000 00000 00001 23186 24
3	-0.00000 00000 00000 00000 77703 08
4	0.00000 00000 00000 00000 41558 26
5	-0.00000 00000 00000 00000 19087 89
6	0.00000 00000 00000 00000 07618 87
7	-0.00000 00000 00000 00000 02678 51
8	0.00000 00000 00000 00000 00829 48
9	-0.00000 00000 00000 00000 00229 96
10	0.00000 00000 00000 00000 00057 28
11	-0.00000 00000 00000 00000 00012 88
12	0.00000 00000 00000 00000 00002 67
13	-0.00000 00000 00000 00000 00000 49
14	0.00000 00000 00000 00000 00000 08
15	-0.00000 00000 00000 00000 00000 01

r	$D_{r,k}$, k = 27
0	-0.00000 00000 00000 00000 11057 64
1	0.00000 00000 00000 00000 20114 26
2	-0.00000 00000 00000 00000 15192 24
3	0.00000 00000 00000 00000 09622 44
4	-0.00000 00000 00000 00000 05174 30
5	0.00000 00000 00000 00000 02392 25
6	-0.00000 00000 00000 00000 00962 19
7	0.00000 00000 00000 00000 00340 21
8	-0.00000 00000 00000 00000 00106 78
9	0.00000 00000 00000 00000 00029 91
10	-0.00000 00000 00000 00000 00007 56
11	0.00000 00000 00000 00000 00001 72
12	-0.00000 00000 00000 00000 00000 36
13	0.00000 00000 00000 00000 00000 07
14	-0.00000 00000 00000 00000 00000 01

r	$D_{r,k}$, k = 28
0	0.00000 00000 00000 00000 01319 18
1	-0.00000 00000 00000 00000 02401 67
2	0.00000 00000 00000 00000 01818 54
3	-0.00000 00000 00000 00000 01156 39
4	0.00000 00000 00000 00000 00625 08
5	-0.00000 00000 00000 00000 00290 83
6	0.00000 00000 00000 00000 00117 04
7	-0.00000 00000 00000 00000 00042 01
8	0.00000 00000 00000 00000 00013 38
9	-0.00000 00000 00000 00000 00003 77
10	0.00000 00000 00000 00000 00000 96
11	-0.00000 00000 00000 00000 00000 22
12	0.00000 00000 00000 00000 00000 05
13	-0.00000 00000 00000 00000 00000 01

r	$D_{r,k}$, k = 29
0	-0.00000 00000 00000 00000 00152 90
1	0.00000 00000 00000 00000 00278 59
2	-0.00000 00000 00000 00000 00211 46
3	0.00000 00000 00000 00000 00134 44
4	-0.00000 00000 00000 00000 00073 33
5	0.00000 00000 00000 00000 00034 33
6	-0.00000 00000 00000 00000 00014 01
7	0.00000 00000 00000 00000 00005 03
8	-0.00000 00000 00000 00000 00001 61
9	0.00000 00000 00000 00000 00000 46
10	-0.00000 00000 00000 00000 00000 12
11	0.00000 00000 00000 00000 00000 03
12	-0.00000 00000 00000 00000 00000 01

r	$D_{r,k}$, k = 30
0	0.00000 00000 00000 00000 00017 23
1	-0.00000 00000 00000 00000 00031 47
2	0.00000 00000 00000 00000 00023 91
3	-0.00000 00000 00000 00000 00015 32
4	0.00000 00000 00000 00000 00008 36
5	-0.00000 00000 00000 00000 00003 94
6	0.00000 00000 00000 00000 00001 62
7	-0.00000 00000 00000 00000 00000 59
8	0.00000 00000 00000 00000 00000 19
9	-0.00000 00000 00000 00000 00000 05
10	0.00000 00000 00000 00000 00000 01

r	$D_{r,k}$, k = 31
0	-0.00000 00000 00000 00000 00001 49
1	0.00000 00000 00000 00000 00003 45
2	-0.00000 00000 00000 00000 00002 63
3	0.00000 00000 00000 00000 00001 69
4	-0.00000 00000 00000 00000 00000 91
5	0.00000 00000 00000 00000 00000 44
6	-0.00000 00000 00000 00000 00000 18
7	0.00000 00000 00000 00000 00000 07
8	-0.00000 00000 00000 00000 00000 02
9	0.00000 00000 00000 00000 00000 01

r	$D_{r,k}$, k = [illegible]
0	0.00000 00000 00000 00000 00000 20
1	-0.00000 00000 00000 00000 00000 37
2	0.00000 00000 00000 00000 00000 28
3	-0.00000 00000 00000 00000 00000 18
4	0.00000 00000 00000 00000 00000 10
5	-0.00000 00000 00000 00000 00000 05
6	0.00000 00000 00000 00000 00000 02
7	-0.00000 00000 00000 00000 00000 01

r	$D_{r,k}$, k = [illegible]
0	-0.00000 00000 00000 00000 00000 02
1	0.00000 00000 00000 00000 00000 04
2	-0.00000 00000 00000 00000 00000 03
3	0.00000 00000 00000 00000 00000 02
4	-0.00000 00000 00000 00000 00000 01
5	0.00000 00000 00000 00000 00000 01

TABLE 5

Coefficients in the Expansion of

$$I_\nu(z) = (2\pi z)^{-\frac{1}{2}} e^z \sum_{k=0}^{\infty} M_k(\nu) T_k^*(8/z) \;, \; z \geq 8 \;,$$

$$M_k(\nu) = \sum_{r=0}^{\infty} E_{r,k} T_r^*(\nu) \;, \; 0 \leq \nu \leq 1 \;.$$

r	$E_{r,k}$, k = 0
0	0.99601 36885 05338 32062 28
1	-0.01629 18723 83299 78423 34
2	-0.00398 00326 49983 99358 09
3	0.00005 26713 08143 15887 04
4	0.00000 62557 24366 64173 90
5	-0.00000 01006 36595 12881 05
6	-0.00000 00076 95123 50578 52
7	0.00000 00001 45705 44979 69
8	0.00000 00000 07922 57176 97
9	-0.00000 00000 00180 95644 18
10	-0.00000 00000 00007 06098 39
11	0.00000 00000 00000 20817 71
12	0.00000 00000 00000 00523 57
13	-0.00000 00000 00000 00022 42
14	-0.00000 00000 00000 00000 25
15	0.00000 00000 00000 00000 02

r	$E_{r,k}$, k = 1
0	-0.00401 40331 65105 02968 37
1	-0.01652 76673 31909 09023 13
2	-0.00400 55537 88259 83470 52
3	0.00007 15385 84267 23656 84
4	0.00000 84384 90481 04821 30
5	-0.00000 01542 85341 01459 00
6	-0.00000 00117 19182 98832 59
7	0.00000 00002 39194 71285 79
8	0.00000 00080 12901 04629 29
9	-0.00000 00000 00310 87748 11
10	-0.00000 00000 00011 97168 51
11	0.00000 00000 00000 36923 95
12	0.00000 00000 00000 00905 40
13	-0.00000 00000 00000 00040 58
14	-0.00000 00000 00000 00000 43
15	0.00000 00000 00000 00000 04

r	$E_{r,k}$, k = 2
0	-0.00002 83835 61655 55270 96
1	-0.00024 46146 55718 44712 36
2	-0.00002 61088 96649 38277 62
3	0.00001 97288 39252 72587 42
4	0.00000 22450 65467 74325 00
5	-0.00000 00673 10178 71437 91
6	-0.00000 00049 79011 31089 05
7	0.00000 00001 31070 19933 23
8	0.00000 00000 06862 59728 70
9	-0.00000 00000 00196 71869 04
10	-0.00000 00000 00007 23110 98
11	0.00000 00000 00000 25759 45
12	0.00000 00000 00000 00578 63
13	-0.00000 00000 00000 00030 06
14	-0.00000 00000 00000 00000 25
15	0.00000 00000 00000 00000 03

r	$E_{r,k}$, k = 3
0	-0.00000 06955 69590 22719 23
1	-0.00000 93976 31721 38630 48
2	-0.00000 06108 79764 78893 94
3	0.00000 09226 90028 28737 34
4	0.00000 00651 86021 31753 10
5	-0.00000 00149 81940 84090 02
6	-0.00000 00010 16748 15913 45
7	0.00000 00000 46811 33701 05
8	0.00000 00000 02270 84124 62
9	-0.00000 00000 08091 52809 65
10	-0.00000 00080 00003 01669 80
11	0.00000 00000 00000 14155 50
12	0.00000 00000 00000 00260 67
13	-0.00000 00000 00000 00018 17
14	-0.00000 00000 00000 00000 08
15	0.00000 00000 00000 00000 02

r	$E_{r,k}$, k = 4
0	-0.00000 00381 75275 85093 63
1	-0.00000 06379 69369 39048 23
2	-0.00000 00228 37493 95620 65
3	0.00000 00677 89040 26021 41
4	0.00000 00030 09633 14738 60
5	-0.00000 00014 86421 86403 41
6	-0.00000 00000 65538 08421 60
7	0.00000 00000 10799 78762 11
8	0.00000 00000 00419 65913 59
9	-0.00000 00000 00031 61364 69
10	-0.00000 00000 00000 79674 76
11	0.00000 00000 00000 06150 19
12	0.00000 00000 00000 00069 23
13	-0.00000 00000 00000 00008 09
14	0.00000 00000 00000 00000 02
15	0.00000 00000 00000 00000 01

r	$E_{r,k}$, k = 5
0	-0.00000 00059 25360 97692 36
1	-0.00000 00688 62950 04823 26
2	0.00000 00012 68210 16741 60
3	0.00000 00076 65226 96602 42
4	0.00000 00000 88362 19310 74
5	-0.00000 00001 93188 29938 77
6	-0.00000 00000 03329 64005 74
7	0.00000 00000 01865 05438 56
8	0.00000 00000 00030 16772 40
9	-0.00000 00000 00008 47512 47
10	-0.00000 00000 00000 08430 46
11	0.00000 00000 00000 02118 99
12	-0.00000 00000 00000 00002 16
13	-0.00000 00000 00000 00003 44
14	0.00000 00000 00000 00000 05

TABLE 3 (Continued)

Coefficients in the Expansion of

$$I_\nu(z) = (2\pi z)^{-\frac{1}{2}} e^{z} \sum_{k=0}^{\infty} M_k(\nu) T_k^*(8/z) \; , \; z \ge 8 \; ,$$

$$M_k(\nu) = \sum_{r=0}^{\infty} E_{r,k} T_r^*(\nu) \; . \; 0 \le \nu \le 1 \; .$$

r	$E_{r,k}$, k = 6
0	-0.00000 00019 78212 12066 64
1	-0.00000 00102 08031 71716 72
2	0.00000 00014 85119 69317 49
3	0.00000 00011 76123 57379 91
4	-0.00000 00000 58099 59802 29
5	-0.00000 00000 31921 89916 04
6	0.00000 00000 00807 24683 92
7	0.00000 00000 00349 86250 02
8	-0.00000 00000 00006 10226 41
9	-0.00000 00000 00001 89674 45
10	0.00000 00000 00000 03278 06
11	0.00000 00000 00000 00564 71
12	-0.00000 00000 00000 00012 91
13	-0.00000 00040 00000 00000 97
14	0.00000 00000 00000 00000 03

r	$E_{r,k}$, k = 7
0	-0.00000 00007 30866 32786 40
1	-0.00000 00014 93852 77992 09
2	0.00000 00006 81464 43819 15
3	0.00000 00001 79069 10742 40
4	-0.00000 00000 32505 70263 18
5	-0.00000 00000 05057 01336 39
6	0.00000 00000 00554 50949 13
7	0.00000 00000 00057 87771 33
8	-0.00000 00000 00004 70904 90
9	-0.00000 00000 00000 72532 31
10	0.00000 00000 00000 02342 44
11	0.00000 00000 00000 00095 65
12	-0.00000 00000 00000 00007 45
13	-0.00000 00000 00000 00000 13
14	0.00000 00000 00000 00000 02

r	$E_{r,k}$, k = 8
0	-0.00000 00002 21680 60720 02
1	-0.00000 00000 46346 89513 21
2	0.00000 00002 23822 07317 47
3	0.00000 00000 07897 35545 06
4	-0.00000 00000 11219 28950 25
5	-0.00000 00004 00235 05707 69
6	0.00000 00000 00198 78308 17
7	0.00000 00000 00002 18048 18
8	-0.00000 00000 00001 71492 48
9	-0.00080 00000 00000 00308 26
10	0.00000 00000 00000 00035 55
11	-0.00000 00009 00000 00006 31
12	-0.00000 00000 00000 00002 48
13	0.00000 00000 00000 00000 04

r	$E_{r,k}$, k = 9
0	-0.00000 00000 41980 55790 89
1	0.00000 00000 89743 74528 40
2	0.00000 00000 45566 98357 54
3	-0.00000 00000 09775 82430 10
4	-0.00000 00000 02340 53868 72
5	0.00000 00000 00279 36821 34
6	0.00000 00000 00041 44833 81
7	-0.00000 00000 00003 62585 15
8	-0.00000 00000 00000 34547 15
9	0.00000 00000 00000 02647 09
10	0.00000 00000 00000 00153 59
11	-0.00000 00000 00000 00012 07
12	-0.00000 00000 00000 00000 37
13	0.00000 00000 00000 00000 04

r	$E_{r,k}$, k = 10
0	0.00000 00000 01769 02144 88
1	0.00000 00000 38545 06838 43
2	-0.00000 00000 00653 29497 76
3	-0.00000 00000 04402 50830 16
4	0.00000 00000 00025 69456 29
5	0.00000 00000 00126 65203 78
6	-0.00000 00000 00000 92934 20
7	-0.00000 00000 00001 58474 08
8	0.00000 00000 00000 01884 50
9	0.00000 00000 00000 01063 97
10	-0.00000 00000 00000 00019 24
11	-0.00000 00000 00000 00004 25
12	0.00000 00000 00000 00000 11
13	0.00000 00000 00000 00000 01

r	$E_{r,k}$, k = 11
0	0.00000 00000 04375 77462 10
1	0.00000 00000 05431 20942 97
2	-0.00000 00000 04288 74095 01
3	-0.00000 00000 00649 41783 33
4	0.00000 00000 00219 68452 22
5	0.00000 00000 00018 36896 61
6	-0.00000 00000 00004 14500 08
7	-0.00000 00000 00000 21035 45
8	0.00000 00000 00000 03974 60
9	0.00000 00000 00000 00114 58
10	-0.00000 00000 00000 00022 48
11	-0.00000 00000 00000 00000 27
12	0.00000 00000 00000 00000 08

TABLE 3 (Continued)

Coefficients in the Expansion of

$$I_\nu(z) = (2\pi z)^{-\frac{1}{2}} e^z \sum_{k=0}^{\infty} M_k(\nu) T_k^*(8/z) \ , \ z \geq 8 \ ,$$

$$M_k(\nu) = \sum_{r=0}^{\infty} E_{r,k} T_r^*(\nu) \ , \ 0 \leq \nu \leq 1 \ .$$

r	$E_{r,k}$, k = 12
0	0.00000 00000 01202 47474 53
1	-0.00000 00000 02020 10084 98
2	-0.00000 00000 01269 13315 16
3	0.00000 00000 00224 65057 78
4	0.00000 00000 00065 53275 44
5	-0.00000 00000 00006 74293 67
6	-0.00000 00000 00001 19434 53
7	0.00000 00000 00000 09413 78
8	0.00000 00000 00000 01052 55
9	-0.00000 00000 00000 00075 22
10	-0.00000 00000 00000 00005 13
11	0.00000 00000 00000 00000 38
12	0.00000 00000 00000 00000 01

r	$E_{r,k}$, k = 13
0	-0.00000 00000 00116 71293 14
1	-0.00000 00000 01120 18598 69
2	0.00000 00000 00092 51424 40
3	0.00000 00000 00129 25357 13
4	-0.00000 00000 00004 83236 87
5	-0.00000 00000 00003 78732 17
6	0.00000 00000 00000 10936 36
7	0.00000 00000 00000 04867 92
8	-0.00000 00000 00000 00139 06
9	-0.00000 00000 00000 00033 85
10	0.00000 00000 00000 00001 08
11	0.00000 00000 00000 00000 14
12	-0.00000 00000 00000 00000 01

r	$E_{r,k}$, k = 14
0	-0.00000 00000 00160 76526 03
1	-0.00000 00000 00052 16605 52
2	0.00000 00000 00161 99991 75
3	0.00000 00000 00006 69416 97
4	-0.00000 00000 00000 43079 67
5	-0.00000 00000 00000 17039 12
6	0.00000 00000 00000 16088 04
7	0.00000 00000 00000 00123 39
8	-0.00000 00000 00000 00155 23
9	0.00000 00000 00000 00000 36
10	0.00000 00000 00000 00000 88
11	-0.00000 00000 00000 00000 01

r	$E_{r,k}$, k = 15
0	-0.00000 00000 00021 02319 23
1	0.00000 00000 00118 79215 58
2	0.00000 00000 00023 75611 36
3	-0.00000 00000 00013 62902 86
4	-0.00000 00000 00001 22668 07
5	0.00000 00000 00000 40915 14
6	0.00000 00000 00000 02134 75
7	-0.00000 00000 00000 00555 34
8	-0.00000 00000 00000 00016 64
9	0.00000 00000 00000 00004 22
10	0.00000 00000 00000 00000 06
11	-0.00000 00000 00000 00000 02

r	$E_{r,k}$, k = 16
0	0.00000 00000 00015 71000 80
1	0.00000 00000 00028 26021 77
2	-0.00000 00000 00015 42055 63
3	-0.00000 00000 00003 32009 33
4	0.00000 00000 00000 81110 74
5	0.00000 00000 00000 09615 41
6	-0.00000 00000 00000 01606 73
7	-0.00000 00000 00000 00118 09
8	0.00000 00000 00000 00016 53
9	0.00000 00000 00000 00000 74
10	-0.00000 00000 00000 00000 10

r	$E_{r,k}$, k = 17
0	0.00000 00000 00005 16156 99
1	-0.00000 00000 00010 75033 89
2	-0.00000 00000 00005 44377 21
3	0.00000 00000 00001 22978 90
4	0.00000 00000 00000 28402 63
5	-0.00000 00000 00000 03786 52
6	-0.00000 00000 00000 00528 39
7	0.00000 00000 00000 00054 09
8	0.00000 00000 00000 00004 81
9	-0.00000 00000 00000 00000 44
10	-0.00000 00000 00000 00000 02

TABLE 3 (Concluded)

Coefficients in the Expansion of

$$I_\nu(z) = (2\pi z)^{-\frac{1}{2}} e^{z} \sum_{k=0}^{\infty} M_k(\nu) T_k^*(8/z) \;, \; z \geq 0 \;,$$

$$M_k(\nu) = \sum_{r=0}^{\infty} E_{r,k} T_r^*(\nu) \;, \; 0 \leq \nu \leq 1 \;.$$

r	$E_{r,k}$, k = 18
0	-0.00000 00000 00001 41637 33
1	-0.00000 00000 00005 16350 90
2	0.00000 00000 00001 35183 84
3	0.00000 00000 00000 60287 46
4	-0.00000 00000 00000 07283 72
5	-0.00000 00000 00000 01784 52
6	0.00000 00000 00000 00148 78
7	0.00000 00000 00000 00023 13
8	-0.00000 00000 00000 00001 63
9	-0.00000 00000 00000 00000 16
10	0.00000 00000 00000 00000 01

r	$E_{r,k}$, k = 19
0	-0.00000 00000 00000 86469 63
1	0.00000 00000 00000 94870 21
2	0.00000 00000 00000 89618 69
3	-0.00000 00000 00000 10814 39
4	-0.00000 00000 00000 04707 93
5	0.00000 00000 00000 00343 60
6	0.00000 00000 00000 00089 79
7	-0.00000 00000 00000 00005 21
8	-0.00000 00000 00000 00000 86
9	0.00000 00000 00000 00000 05

r	$E_{r,k}$, k = 20
0	0.00000 00000 00000 13296 15
1	0.00000 00000 00000 81839 70
2	-0.00000 00000 00000 12253 81
3	-0.00000 00000 00000 09552 00
4	0.00000 00000 00000 00663 96
5	0.00000 00000 00000 00286 14
6	-0.00000 00000 00000 00014 42
7	-0.00000 00000 00000 00003 80
8	0.00000 00000 00000 00000 17
9	0.00000 00000 00000 00000 03

r	$E_{r,k}$, k = 21
0	0.00000 00000 00000 13621 70
1	-0.00000 00000 00000 09393 28
2	-0.00000 00000 00000 14033 00
3	0.00000 00000 00000 01067 32
4	0.00000 00000 00000 00740 94
5	-0.00000 00000 00000 00035 14

TABLE 4

Coefficients in the Expansion of

$$I_\nu(z) \quad (2\pi z)^{-\frac{1}{2}} e^{z} \sum_{k=0}^{\infty} M_k(\nu) T_k^*(8/z) \ , \ z \ge 8 \ ,$$

$$M_k(\nu) = \sum_{r=0}^{\infty} F_{r,k} T_r^*(-\nu) \ , \ -1 \le \nu \le 0 \ .$$

r	$F_{r,k}$, k = 0
0	0.99601 37031 10062 92849 90
1	-0.01629 10721 84954 64881 36
2	-0.00398 00480 51814 44059 19
3	0.00005 26710 90531 02006 32
4	0.00000 62565 36754 49192 46
5	-0.00000 01006 25108 61567 94
6	-0.00000 00077 10550 16688 93
7	0.00000 00001 45403 83309 60
8	0.00000 00000 00068 01127 46
9	-0.00000 00000 00178 83779 20
10	-0.00000 00000 00007 05314 28
11	0.00000 00000 00000 19644 35
12	0.00000 00000 00000 00794 93
13	-0.00000 00000 00000 00018 30
14	-0.00000 00000 00000 00000 87
15	0.00000 00000 00000 00000 01

r	$F_{r,k}$, k = 1
0	-0.00401 40055 47087 09157 09
1	-0.01652 76669 55831 29084 46
2	-0.00400 55829 13369 37099 53
3	0.00007 15381 86829 45908 26
4	0.00000 84400 26456 50079 56
5	-0.00000 01542 63565 00820 78
6	-0.00000 00117 48340 08027 44
7	0.00000 00002 38774 69314 73
8	0.00000 00000 13175 78188 52
9	-0.00000 00000 00306 86391 79
10	-0.00000 00000 00013 46683 83
11	0.00000 00000 00000 34702 63
12	0.00000 00000 00000 01416 96
13	-0.00000 00000 00000 00032 79
14	-0.00000 00000 00000 00001 59
15	0.00000 00000 00000 00000 02

r	$F_{r,k}$, k = 2
0	-0.00002 83602 44301 73586 45
1	-0.00024 46143 35595 14034 16
2	-0.00002 61334 85720 32833 32
3	0.00001 97285 00955 68784 30
4	0.00000 22463 61540 01929 21
5	-0.00000 00672 91651 32285 60
6	-0.00000 00050 03588 39201 15
7	0.00000 00001 30713 15072 78
8	0.00000 00000 07093 70172 95
9	-0.00000 00000 00193 31160 75
10	-0.00000 00000 00008 48602 94
11	0.00000 00000 00000 23877 67
12	0.00000 00000 00000 01006 38
13	-0.00000 00000 09000 00023 48
14	-0.00000 00000 00000 00001 22
15	0.00000 00000 00000 00000 02

r	$F_{r,k}$, k = 3
0	-0.00000 06780 57418 27298 08
1	-0.00000 93973 87831 89049 08
2	-0.00000 06293 46140 41325 32
3	0.00000 09224 40303 93086 01
4	0.00000 00661 58458 85473 96
5	-0.00000 00149 67037 16843 57
6	-0.00000 00010 35153 70318 13
7	0.00000 00000 46539 95615 60
8	0.00000 00000 02443 44770 40
9	-0.00000 00000 00088 94484 07
10	-0.00000 00000 00003 94936 62
11	0.00000 00000 00000 12733 93
12	0.00000 00000 00000 00576 44
13	-0.00000 00000 00000 00013 23
14	-0.00000 00000 00000 00000 79
15	0.00000 00000 00000 00000 01

r	$F_{r,k}$, k = 4
0	-0.00000 00265 57352 58802 07
1	-0.00000 06378 04026 84799 49
2	-0.00000 00350 87526 82587 90
3	0.00000 00676 14329 85938 00
4	0.00000 00036 53786 62145 91
5	-0.00000 00014 76872 41543 17
6	-0.00000 00000 77694 01234 17
7	0.00000 00000 10616 46839 97
8	0.00000 00000 00533 12746 75
9	-0.00000 00000 00029 87520 08
10	-0.00000 00000 00001 40569 72
11	0.00000 00000 00000 05198 88
12	0.00000 00000 00000 00273 15
13	-0.00000 00000 00000 00005 62
14	-0.00000 00000 00000 00000 43

r	$F_{r,k}$, k = 5
0	0.00000 00008 04148 50337 71
1	-0.00000 00687 64141 68307 30
2	-0.00000 00058 26643 12163 46
3	0.00000 00075 60030 24413 79
4	0.00000 00004 60636 93762 90
5	-0.00000 00001 87491 98689 65
6	-0.00000 00000 10325 06609 39
7	0.00000 00000 01756 87641 42
8	0.00000 00000 00095 00093 61
9	-0.00000 00000 00007 44735 92
10	-0.00000 00000 00000 42838 34
11	0.00000 00000 00000 01561 22
12	0.00000 00000 00000 00111 22
13	-0.00000 00000 00000 00001 54
14	-0.00000 00000 00000 00000 20

TABLE 4 (Continued)

Coefficients in the Expansion of

$$I_\nu(z) = (2\pi z)^{-\frac{1}{2}} e^z \sum_{k=0}^{\infty} M_k(\nu) T_k^*(8/z) \ , \ z \geq 8 \ ,$$

$$M_k(\nu) = \sum_{r=0}^{\infty} F_{r,k} T_r^*(-\nu) \ , \ -1 \leq \nu \leq 0 \ .$$

r	$F_{r,k}$, k = 6
0	0.00000 00013 59960 11622 06
1	-0.00000 00101 56762 43650 01
2	-0.00000 00020 33689 14806 15
3	0.00000 00011 21962 06038 42
4	0.00000 00001 25941 45836 72
5	-0.00000 00000 28974 07413 86
6	-0.00000 00000 02628 54141 32
7	0.00000 00000 00293 74811 61
8	0.00000 00000 00025 39700 84
9	-0.00000 00000 00001 37102 21
10	-0.00000 00000 00000 13160 71
11	0.00000 00000 00000 00283 33
12	0.00000 00000 00000 00039 87
13	-0.00000 00000 00000 00000 03
14	-0.00000 00000 00000 00000 07

r	$F_{r,k}$, k = 7
0	0.00000 00006 39381 99412 38
1	-0.00000 00014 71331 92232 90
2	-0.00000 00007 62543 32163 88
3	0.00000 00001 55282 72913 79
4	0.00000 00000 42629 10632 04
5	-0.00000 00000 03767 35385 82
6	-0.00000 00000 00833 37800 66
7	0.00000 00000 00033 51503 26
8	0.00000 00000 00007 79054 32
9	-0.00000 00000 00000 10027 47
10	-0.00000 00000 00000 03997 38
11	-0.00000 00000 00000 00022 66
12	0.00000 00000 00000 00011 99
13	0.00000 00000 00000 00000 25
14	-0.00000 00000 00000 00000 02

r	$F_{r,k}$, k = 8
0	0.00000 00002 11714 43771 52
1	-0.00000 00000 38359 03887 00
2	-0.00000 00002 32674 54544 51
3	-0.00000 00000 00536 43795 88
4	0.00000 00000 12304 43927 06
5	0.00000 00000 00219 27562 54
6	-0.00000 00000 00227 05695 14
7	-0.00000 00000 00006 29124 77
8	0.00000 00000 00001 98760 23
9	0.00000 00000 00000 07348 00
10	-0.00000 00000 00000 00933 58
11	-0.00000 00000 00000 00045 17
12	0.00000 00000 00000 00002 39
13	0.00000 00000 00000 00000 16

r	$F_{r,k}$, k = 9
0	0.00000 00000 43443 81217 12
1	0.00000 00000 91790 59079 11
2	-0.00000 00000 44286 12399 43
3	-0.00000 00000 11935 36855 00
4	0.00000 00000 02164 37310 08
5	0.00000 00000 00394 12088 59
6	-0.00000 00000 00035 31739 54
7	-0.00000 00000 00005 70557 37
8	0.00000 00000 00000 24809 02
9	0.00000 00000 00000 04434 53
10	-0.00000 00000 00000 00068 15
11	-0.00000 00000 00000 00020 39
12	-0.00000 00000 00000 00000 08
13	0.00000 00000 00000 00000 06

r	$F_{r,k}$, k = 10
0	-0.00000 00000 00480 69909 40
1	0.00000 00000 38779 22085 68
2	0.00000 00000 01789 27353 85
3	-0.00000 00000 04648 71626 60
4	-0.00000 00000 00173 44611 40
5	0.00000 00000 00138 89705 20
6	0.00000 00000 00005 46069 16
7	-0.00000 00000 00001 77459 21
8	-0.00000 00000 00000 07930 11
9	0.00000 00000 00000 01176 97
10	0.00000 00000 00000 00062 77
11	-0.00000 00000 00000 00004 34
12	-0.00000 00000 00000 00000 30
13	0.00000 00000 00000 00000 01

r	$F_{r,k}$, k = 11
0	-0.00000 00000 04034 60168 90
1	0.00000 00000 05352 09581 43
2	0.00000 00000 04590 23127 67
3	-0.00000 00000 00565 54033 91
4	-0.00000 00000 00258 15103 69
5	0.00000 00000 00013 50242 17
6	0.00000 00000 00005 26730 32
7	-0.00000 00000 00000 10656 29
8	-0.00000 00000 00000 05344 87
9	0.00000 00000 00000 00001 25
10	0.00000 00000 00000 00031 02
11	0.00000 00000 00000 00000 46
12	-0.00000 00000 00000 00000 11

TABLE 4 (Continued)

Coefficients in the Expansion of

$$I_\nu(z) = (2\pi z)^{-\frac{1}{2}} e^z \sum_{k=0}^{\infty} M_k(\nu) T_k^*(8/z) \ , \ z \geq 8 \ ,$$

$$M_k(\nu) = \sum_{r=0}^{\infty} F_{r,k} T_r^*(-\nu) \ , \ -1 \leq \nu \leq 0 \ .$$

r	$F_{r,k}$, k = 12
0	-0.00000 00000 01205 37348 52
1	-0.00000 00000 02065 54339 77
2	0.00000 00000 01266 86429 37
3	0.00000 00000 00272 67155 31
4	-0.00000 00000 00064 94458 64
5	-0.00000 00000 00009 37139 50
6	0.00000 00000 00001 15369 35
7	0.00000 00000 00000 14464 29
8	-0.00000 00000 00000 00947 64
9	-0.00000 00000 00000 00122 89
10	0.00000 00000 00000 00003 83
11	0.00000 00000 00000 00000 64
12	-0.00000 00000 00000 00000 01

r	$F_{r,k}$, k = 13
0	0.00000 00000 00084 00847 99
1	-0.00000 00000 01125 68726 55
2	-0.00000 00000 00121 31080 94
3	0.00000 00000 00135 04014 57
4	0.00000 00000 00008 61210 07
5	-0.00000 00000 00004 07714 02
6	-0.00000 00000 00000 22705 81
7	0.00000 00000 00000 05322 91
8	0.00000 00000 00000 00302 97
9	-0.00000 00000 00000 00036 58
10	-0.00000 00000 00000 00002 33
11	0.00000 00000 00000 00000 14
12	0.00000 00000 00000 00000 01

r	$F_{r,k}$, k = 14
0	0.00000 00000 00152 83527 72
1	-0.00000 00000 00048 99666 40
2	-0.00000 00000 00169 01001 04
3	0.00000 00000 00003 33641 66
4	0.00000 00000 00009 32366 51
5	0.00000 00000 00000 02194 84
6	-0.00000 00000 00000 18678 83
7	-0.00000 00000 00000 00270 66
8	0.00000 00000 00000 00186 43
9	0.00000 00000 00000 00004 66
10	-0.00000 00000 00000 00001 07
11	-0.00000 00000 00000 00000 04

r	$F_{r,k}$, k = 15
0	0.00000 00000 00022 75729 95
1	0.00000 00000 00120 07774 39
2	-0.00000 00000 00022 23571 40
3	-0.00000 00000 00014 90697 95
4	0.00000 00000 00001 02010 53
5	0.00000 00000 00000 48209 57
6	-0.00000 00000 00000 01432 57
7	-0.00000 00000 00000 00694 77
8	0.00000 00000 00000 00005 69
9	0.00000 00000 00000 00005 50
10	0.00000 00000 00000 00000 04
11	-0.00000 00000 00000 00000 03

r	$F_{r,k}$, k = 16
0	-0.00000 00000 00014 48479 02
1	0.00000 00000 00028 14931 16
2	0.00000 00000 00016 50090 38
3	-0.00000 00000 00003 20176 11
4	-0.00000 00000 00000 95161 17
5	0.00000 00000 00000 08854 05
6	0.00000 00000 00000 02037 54
7	-0.00000 00000 00000 00099 11
8	-0.00000 00000 00000 00022 27
9	0.00000 00000 00000 00000 50
10	0.00000 00000 00000 00000 14

r	$F_{r,k}$, k = 17
0	-0.00000 00000 00005 16646 94
1	-0.00000 00000 00010 92090 25
2	0.00000 00000 00005 44048 82
3	0.00000 00000 00001 41019 76
4	-0.00000 00000 00000 28254 25
5	-0.00000 00000 00000 04790 75
6	0.00000 00000 00000 00515 59
7	0.00000 00000 00000 00074 02
8	-0.00000 00000 00000 00004 44
9	-0.00000 00000 00000 00000 64
10	0.00000 00000 00000 00000 02

Coefficients in the Expansion of

$$I_\nu(z) = (2\pi z)^{-\frac{1}{2}} e^z \sum_{k=0}^{\infty} M_k(\nu) T_k^*(8/z) \ , \ z \geq 8 \ ,$$

$$M_k(\nu) = \sum_{r=0}^{\infty} F_{r,k} T_r^*(-\nu) \ , \ -1 \leq \nu \leq 0 \ .$$

r	$F_{r,k}$, k = 18
0	0.00000 00000 00001 26357 60
1	-0.00000 00000 00005 17316 42
2	-0.00000 00000 00001 40638 16
3	0.00000 00000 00000 61296 30
4	0.00000 00000 00000 08972 61
5	-0.00000 00000 00000 01028 24
6	-0.00000 00000 00000 00204 51
7	0.00000 00000 00000 00023 53
8	0.00000 00000 00000 00002 41
9	-0.00000 00000 00000 00000 16
10	-0.00000 00000 00000 00000 02

r	$F_{r,k}$, k = 19
0	0.00000 00000 00000 84820 02
1	0.00000 00000 00000 96972 95
2	-0.00000 00000 00000 91083 96
3	-0.00000 00000 00000 13040 38
4	0.00000 00000 00000 04887 57
5	0.00000 00000 00000 00469 39
6	-0.00000 00000 00000 00094 44
7	-0.00000 00000 00000 00007 78
8	0.00000 00000 00000 00000 90
9	0.00000 00000 00000 00000 07

r	$F_{r,k}$, k = 20
0	-0.00000 00000 00000 11300 91
1	0.00000 00000 00000 02155 07
2	0.00000 00000 00000 13938 70
3	-0.00000 00000 00000 09004 17
4	-0.00000 00000 00000 00887 05
5	0.00000 00000 00000 00303 22
6	0.00000 00000 00000 00021 58
7	-0.00000 00000 00000 00004 89
8	-0.00000 00000 00000 00000 27
9	0.00000 00000 00000 00000 03

r	$F_{r,k}$, k = 21
0	-0.00000 00000 00000 13266 50
1	-0.00000 00000 00000 09667 03
2	0.00000 00000 00000 14347 32
3	0.00000 00000 00000 01357 28
4	-0.00000 00000 00000 00780 67
5	-0.00000 00000 00000 00051 69
6	0.00000 00000 00000 00015 45
7	0.00000 00000 00000 00000 91
8	-0.00000 00000 00000 00000 15
9	-0.00000 00000 00000 00000 01

r	$F_{r,k}$, k = 22
0	0.00000 00000 00000 01284 32
1	-0.00000 00000 00000 12943 73
2	-0.00000 00000 00000 01620 24
3	0.00000 00000 00000 01566 59
4	0.00000 00000 00000 00107 15
5	-0.00000 00000 00000 00048 64
6	-0.00000 00000 00000 00002 72
7	0.00000 00000 00000 00000 67
8	0.00000 00000 00000 00000 04
9	-0.00000 00000 00000 00000 01

r	$F_{r,k}$, k = 23
0	0.00000 00000 00000 02115 61
1	0.00000 00000 00000 01341 97
2	-0.00000 00000 00000 02290 52
3	-0.00000 00000 00000 00190 55
4	0.00000 00000 00000 00125 24
5	0.00000 00000 00000 00007 38
6	-0.00000 00000 00000 00002 50
7	-0.00000 00000 00000 00000 13
8	0.00000 00000 00000 00000 03

r	$F_{r,k}$, k = 24
0	-0.00000 00000 00000 00223 04
1	0.00000 00000 00000 02094 53
2	0.00000 00000 00000 00276 20
3	-0.00000 00000 00000 00253 62
4	-0.00000 00000 00000 00018 00
5	0.00000 00000 00000 00007 90
6	0.00000 00000 00000 00000 45
7	-0.00000 00000 00000 00000 11
8	-0.00000 00000 00000 00000 01

r	$F_{r,k}$, k = 25
0	-0.00000 00000 00000 00347 31
1	-0.00000 00000 00000 00277 79
2	0.00000 00000 00000 00374 99
3	0.00000 00000 00000 00038 10
4	-0.00000 00000 00000 00020 47
5	-0.00000 00000 00000 00001 42
6	0.00000 00000 00000 00000 41
7	0.00000 00000 00000 00000 02

TABLE 4 (Continued)

Coefficients in the Expansion of

$$I_\nu(z) = (2\pi z)^{-\frac{1}{2}} e^z \sum_{k=0}^{\infty} M_k(\nu) T_k^*(8/z) \ , \quad z \ge 8 \ ,$$

$$M_k(\nu) = \sum_{r=0}^{\infty} F_{r,k} T_r^*(-\nu) \ , \quad -1 \le \nu \le 0 \ .$$

r	$F_{r,k}$, k = 26
0	0.00000 00000 00000 00053 88
1	-0.00000 00000 00000 00345 72
2	-0.00000 00000 00000 00063 84
3	0.00000 00000 00000 00041 71
4	0.00000 00000 00000 00003 97
5	-0.00000 00000 00000 00001 29
6	-0.00000 00000 00000 00000 09
7	0.00000 00000 00000 00000 02

r	$F_{r,k}$, k = 27
0	0.00000 00000 00000 00057 44
1	0.00000 00000 00000 00070 39
2	-0.00000 00000 00000 00061 65
3	-0.00000 00000 00000 00009 26
4	0.00000 00000 00000 00003 34
5	0.00000 00000 00000 00000 33
6	-0.00000 00000 00000 00000 07
7	-0.00000 00000 00000 00000 01

r	$F_{r,k}$, k = 28
0	-0.00000 00000 00000 00014 31
1	0.00000 00000 00000 00056 22
2	0.00000 00000 00000 00016 37
3	-0.00000 00000 00000 00006 73
4	-0.00000 00000 00000 00000 90
5	0.00000 00000 00000 00000 21
6	0.00000 00000 00000 00000 02

r	$F_{r,k}$, k = 29
0	-0.00000 00000 00000 00009 11
1	-0.00000 00000 00000 00018 36
2	0.00000 00000 00000 00009 60
3	0.00000 00000 00000 00002 35
4	-0.00000 00000 00000 00000 52
5	-0.00000 00000 00000 00000 08
6	0.00000 00000 00000 00000 01

r	$F_{r,k}$, k = 30
0	0.00000 00000 00000 00003 72
1	-0.00000 00000 00000 00008 40
2	-0.00000 00000 00000 00004 16
3	0.00000 00000 00000 00000 99
4	0.00000 00000 00000 00000 24
5	-0.00000 00000 00000 00000 03
6	-0.00000 00000 00000 00000 01

r	$F_{r,k}$, k = 31
0	0.00000 00000 00000 00001 25
1	0.00000 00000 00000 00004 50
2	-0.00000 00000 00000 00001 30
3	-0.00000 00000 00000 00000 57
4	0.00000 00000 00000 00000 07
5	0.00000 00000 00000 00000 02

r	$F_{r,k}$, k = 32
0	-0.00000 00000 00000 00000 90
1	0.00000 00000 00000 00000 96
2	0.00000 00000 00000 00000 99
3	-0.00000 00000 00000 00000 11
4	-0.00000 00000 00000 00000 06

r	$F_{r,k}$, k = 33
0	-0.00000 00000 00000 00000 10
1	-0.00000 00000 00000 00001 06
2	0.00000 00000 00000 00000 10
3	0.00000 00000 00000 00000 13

TABLE 4 (Concluded)

Coefficients in the Expansion of

$$I_\nu(z) = (2\pi z)^{-\frac{1}{2}} e^z \sum_{k=0}^{\infty} M_k(\nu) T_k^*(8/z) \;, \; z \geq 8 \;,$$

$$M_k(\nu) = \sum_{r=0}^{\infty} F_{r,k} T_r^*(-\nu) \;, \; -1 \leq \nu \leq 0 \;.$$

r	$F_{r,k}$, k = 34
0	0.00000 00000 00000 00000 20
1	-0.00000 00000 00000 00000 01
2	-0.00000 00000 00000 00000 22
3	-0.00000 00000 00000 00000 00
4	0.00000 00000 00000 00000 01

r	$F_{r,k}$, k = 35
0	-0.00000 00000 00000 00000 02
1	0.00000 00000 00000 00000 22
2	0.00000 00000 00000 00000 02
3	-0.00000 00000 00000 00000 03

r	$F_{r,k}$, k = 36
0	-0.00000 00000 00000 00000 04
1	-0.00000 00000 00000 00000 04
2	0.00000 00000 00000 00000 04
3	0.00000 00000 00000 00000 01

r	$F_{r,k}$, k = 37
0	0.00000 00000 00000 00000 01
1	-0.00000 00000 00000 00000 04
2	-0.00000 00000 00000 00000 01

r	$F_{r,k}$, k = 38
0	0.00000 00000 00000 00000 01
1	0.00000 00000 00000 00000 02
2	-0.00000 00000 00000 00000 01

$F_{r,k}$, k = 39

The coefficients for k = 39 are all zero to 22 decimals.

r	$F_{r,k}$, k = 40
0	-0.00000 00000 00000 00000 00
1	-0.00000 00000 00000 00000 01

TABULATION OF CERTAIN FULLY SYMMETRIC NUMERICAL INTEGRATION FORMULAS OF DEGREE 7, 9 AND 11

by

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TABULATION OF CERTAIN FULLY SYMMETRIC NUMERICAL INTEGRATION FORMULAS OF DEGREE 7, 9 and 11

In this paper we tabulate some fully symmetric quadrature formulas which are computed by use of the algorithm described in [1]. See also Lyness [3] for a development of a related theory, and Haber [2] for a review of this theory. The formulas can be used to approximate three different types of integrals which take the form

(1) $$I(f) = \int_{R^n} w(\underset{\sim}{x}) f(\underset{\sim}{x}) dV(\underset{\sim}{x})$$

where R^n is a fully symmetric region in Euclidean n-space E^n, that is, whenever $\underset{\sim}{x} = (x^1, \ldots, x^n) \in R^n$ then $y \in R^n$ where $\underset{\sim}{y}$ is any point obtainable from $\underset{\sim}{x}$ by interchanging the coordinates of $\underset{\sim}{x}$ or changing the sign of the coordinates of $\underset{\sim}{x}$. The function $w(\underset{\sim}{x})$ is a fully symmetric weight function, that is, $w(\underset{\sim}{x}) = w(\underset{\sim}{y})$, which is positive in R^n, and $dV(\underset{\sim}{x}) = dx^1 \ldots dx^n$. The three different types of integrals $I(f)$ for which we tabulate formulas are described by

(a) n - cube, $R^n = \{(x^1, \ldots, x^2) : -1 \leq x^i \leq 1 ,\ i = 1,2,\ldots,n\}$
$w(\underset{\sim}{x}) = 1$;

(b) n - sphere, $R^n = \{(x^1, \ldots, x^n) : \Sigma_{i=1}^n (x^i)^2 \leq 1\}$,
$w(\underset{\sim}{x}) = 1$; and

(c) infinite n-space, $R^n = \{(x^1, \ldots, x^n) : \Sigma_{i=1}^n (x^i)^2 < \infty\}$
$w(\underset{\sim}{x}) = \exp\{-\Sigma_{i=1}^n (x^i)^2\}$.