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THE COEFFICIENTS CONNECTING THE
STARK AND FIELD-FREE WAVE FUNCTIONS
FOR HYDROGEN: THEORY AND
APPLICATION TO LORENTZ DISSOCIATION

Livermore, California

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C. Bruce Tarter

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ABSTRACT

A general expression for the expansion coefficients connecting the Stark (parabolic coordinates) and field-free (spherical coordinates) wave functions for hydrogen is obtained. Numerical tables of these coefficients through principal quantum number $n = 10$ are given. In the course of the derivation several new identities involving generalized hypergeometric functions are deduced. Applications to radiative attenuation, particularly in connection with the ALICE experiment, are discussed. It is concluded that previous calculations have considerably underestimated the degree of radiative attenuation experienced by the ALICE beam, thus decreasing the amount of Lorentz dissociation expected in the plasma region.

THE COEFFICIENTS CONNECTING THE STARK AND FIELD-FREE WAVE FUNCTIONS FOR HYDROGEN: THEORY AND APPLICATION TO LORENTZ DISSOCIATION

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I. INTRODUCTION

In a recent set of papers Hiskes,^{1,2,3} Hiskes and Bailey,⁴ and Hiskes and Tarter,^{5,6} have studied the problem of Lorentz ionization and its effect on the buildup time in the ALICE experiment. Phenomenologically, the problem consists of the production of a neutral beam of 20-keV hydrogen atoms via charge exchange, the radiative decay of the excited atoms in the beam as they pass through a drift space, and the subsequent Lorentz ionization of the remaining excited atoms in the plasma region. This set of events may be described as follows.

Let the charge exchange reaction, which takes place in a virtually field-free region, produce a distribution with N_{nlm} atoms in the quantum state described by the spherical wave function ϕ_{nlm} and quantum numbers n, l, m . As the atoms move down the drift tube they are subject to a fringing field which eventually becomes strong enough so that the quantum states must be represented by parabolic wave functions $u_{n(n_1n_2m)}$ and parabolic quantum numbers n, n_1, n_2, m , where $n = n_1 + n_2 + m + 1$. This transition is described by:

$$\phi_{nlm} = \sum_{n_1, n_2} A_{nlm}^{n_1 n_2} u_{n(n_1 n_2 m)} \quad (1)$$

The number of atoms in the state $n(n_1 n_2 m)$ is then:

$$N_{n(n_1 n_2 m)} = \sum_{l=m}^{n-1} \left| A_{nlm}^{n_1 n_2} \right|^2 N_{nlm} \quad (2)$$

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The quantity of interest in Lorentz ionization calculations is the number of atoms remaining in a given level n after drifting a distance L in time t_L . For simplicity we assume that the neutral atoms are formed in a field-free region but move immediately into a fringing field sufficient to require the parabolic representation. The fraction of the original number of atoms in a level n remaining after time t_L is then:

$$f_n(t_L) = \frac{\sum_{n_1 n_2 m} N_{n(n_1 n_2 m)} \exp\left(-t_L / \tau_{n(n_1 n_2 m)}\right)}{\sum_{n_1 n_2 m} N_{n(n_1 n_2 m)}} \quad (3)$$

where $\tau_{n(n_1 n_2 m)}$ is the radiative lifetime of the parabolic state.

Our primary purpose here is to study the fraction f_n as a function of the initial substate distribution $N_{n\ell m}$. Since the radiative lifetimes in both spherical and parabolic coordinates have previously been computed,⁶ it remains only to calculate the $A_{n\ell m}^{n_1 n_2}$, and this calculation comprises the major portion of the paper. A numerical tabulation of these coefficients through $n = 10$ is also given (see Appendix II). Finally, some simple calculations, corresponding to various choices of substate distribution, are done for the $n = 7, 8, 9, 10$ levels, and qualitative generalizations are made from these results. In Appendix I the mathematics involved in the derivation of the coefficients is developed in detail, and several identities concerning generalized hypergeometric functions are deduced.

II. DERIVATION OF THE EXPANSION COEFFICIENTS

A. The General Case

Before beginning the calculation it is convenient to define the generalized hypergeometric function

$${}_p F_q \left[\begin{matrix} a_1, \dots, a_p \\ \beta_1, \dots, \beta_q \end{matrix} ; x \right] = \sum_{n=0}^{\infty} \frac{(a_1)_n \dots (a_p)_n x^n}{(\beta_1)_n \dots (\beta_q)_n n!} \quad (4)$$

where

$$(a)_0 = 1 \quad (a)_n = a(a+1) \dots (a+n-1)$$

The series terminates if one of the a_j is a negative integer. In the above notation the confluent hypergeometric function is written as ${}_1F_1 \left[\begin{matrix} a; x \\ \beta; \end{matrix} \right]$ and the ordinary hypergeometric function becomes ${}_2F_1 \left[\begin{matrix} a_1, a_2; x \\ \beta; \end{matrix} \right]$. Additional properties of these functions are given in Appendix I and in refs. 7 and 8.

The expansion coefficients defined in (1) may be written as:

$$A_{nlm}^{n_1 n_2} = \int u_{n(n_1 n_2 m)}^* \phi_{nlm} d\tau \quad (5)$$

The hydrogen atom wave functions expressed in both spherical and parabolic coordinates are:⁹

$$\phi_{nlm} = \frac{2}{n^2 (2\ell + 1)!} \left[\frac{(n + \ell)!}{(n - \ell - 1)!} \right]^{1/2} \frac{e^{im\phi}}{\pi^{1/2}} P_\ell^m(\cos \theta) \left(\frac{2r}{n} \right)^\ell e^{-r/n} {}_1F_1 \left[\begin{matrix} -(n - \ell - 1); 2r/n \\ 2\ell + 2; \end{matrix} \right] \quad (6a)$$

$$u_{n(n_1 n_2 m)}^* = \frac{1}{n^2} \left(\frac{1}{m!} \right)^2 \left[\frac{(n_1 + m)! (n_2 + m)!}{n_1! n_2!} \right]^{1/2} \left(\frac{r}{n} \right)^m e^{-r/n} \frac{e^{-im\phi}}{\pi^{1/2}} (\sin^m \theta) \\ \times {}_1F_1 \left[\begin{matrix} -n_1; r(1 + \cos \theta)/n \\ m + 1; \end{matrix} \right] {}_1F_1 \left[\begin{matrix} -n_2; r(1 - \cos \theta)/n \\ m + 1; \end{matrix} \right] \quad (6b)$$

The associated Legendre polynomial may be expressed in terms of the ordinary hypergeometric function:⁸

$$P_\ell^m(\cos \theta) = \left[\frac{(\ell + m)! (2\ell + 1)!}{(\ell - m)!} \right]^{1/2} \frac{1}{2^m m!} \frac{\sin^m \theta}{m!} {}_2F_1 \left[\begin{matrix} m + \ell + 1; -(\ell - m); (1 - \cos \theta)/2 \\ m + 1; \end{matrix} \right] \quad (7)$$

After performing the ϕ integration and making the substitutions, $y = r/2n$, $x = (1 - \cos \theta)/2$, we have

$$A_{nlm}^{n_1 n_2} = \frac{1}{2n} \left(\frac{1}{m!} \right)^3 \frac{(2\ell + 1)^{1/2}}{(2\ell + 1)!} \left[\frac{(n + \ell)! (\ell + m)! (n_1 + m)! (n_2 + m)!}{(n - \ell - 1)! (\ell - m)! n_1! n_2!} \right]^{1/2} I_{xy} \quad (8)$$

where

$$I_{xy} = \int_0^\infty \int_0^1 y^{m+\ell+2} x^m (1-x)^m e^{-y} {}_2F_1 \left[\begin{matrix} m + \ell + 1, -(\ell - m); x \\ m + 1; \end{matrix} \right] \\ \times {}_1F_1 \left[\begin{matrix} -(n - \ell - 1); y \\ 2\ell + 2; \end{matrix} \right] {}_1F_1 \left[\begin{matrix} -n_1; (1-x)y \\ m + 1; \end{matrix} \right] {}_1F_1 \left[\begin{matrix} -n_2; xy \\ m + 1; \end{matrix} \right] dx dy$$

Each of the above hypergeometric functions may be expressed as a finite series:

$${}_1F_1 \left[\begin{matrix} -(n-\ell-1) \\ 2\ell+2 \end{matrix}; y \right] = \sum_{s=0}^{n-\ell-1} \frac{[-(n-\ell-1)]_s y^s}{(2\ell+2)_s s!} {}_1F_1 \left[\begin{matrix} -n_1; (1-x)y \\ m+1 \end{matrix} \right] = \sum_{k=0}^{n_1} \frac{[-(n_1)]_k y^k (1-x)^k}{(m+1)_k k!}$$

$${}_1F_1 \left[\begin{matrix} -n_2; xy \\ m+1 \end{matrix} \right] = \sum_{t=0}^{n_2} \frac{(-n_2)_t x^t y^t}{(m+1)_t t!} {}_2F_1 \left[\begin{matrix} m+\ell+1, -(\ell-m); x \\ m+1 \end{matrix} \right] = \sum_{r=0}^{\ell-m} \frac{[-(\ell-m)]_r (m+\ell+1)_r x^r}{(m+1)_r r!}$$
(9)

The x and y integrals are now elementary and we have:

$$I_x = \int_0^1 x^{m+r+t} (1-x)^{m+k} = \frac{\Gamma(m+r+t+1) \Gamma(m+k+1)}{\Gamma(2m+r+t+k+2)} \quad (10)$$

$$I_y = \int_0^\infty y^{\ell+m+k+t+s+2} e^{-y} = \Gamma(m+\ell+k+t+s+3) \quad (11)$$

Thus,

$$I_{xy} = \sum_{r=0}^{\ell-m} \sum_{s=0}^{n-\ell-1} \sum_{k=0}^{n_1} \sum_{t=0}^{n_2} \frac{(-n_1)_k (-n_2)_t [-(n-\ell-1)]_s [-(\ell-m)]_r (\ell+m+1)_r \Gamma(m+1)}{k! t! s! r! (m+1)_t (m+1)_r (2\ell+2)_s} \\ \times \frac{\Gamma(m+r+t+1) \Gamma(k+t+s+m+\ell+3)}{\Gamma(2m+r+t+k+2)} \quad (12)$$

By utilizing several identities among hypergeometric functions of unit argument these summations may be done explicitly (see Appendix Ia) and we find

$$I_{xy} = \frac{m! (2\ell+1)! (2n) (n_1+n_2)! (-1)^{\ell-m}}{(n+\ell)!} {}_3F_2 \left[\begin{matrix} m+\ell+1, -(\ell-m), -n_2; 1 \\ m+1, -(n-m-1) \end{matrix} \right] \quad (13)$$

Combining this with (8a) our final expression for the coefficients is

$$A_{n\ell m}^{n_1 n_2} = (-1)^{\ell-m} \frac{(n-m-1)!}{m!} \left[\frac{(2\ell+1) (\ell+m)! (n_1+m)! (n_2+m)!}{(n+\ell)! (\ell-m)! n_1! n_2! (n-\ell-1)!} \right]^{1/2} \\ {}_3F_2 \left[\begin{matrix} m+\ell+1, -(\ell-m), -n_2; 1 \\ m+1, -(n-m-1) \end{matrix} \right] \quad (14)$$

We also have the symmetry relation (Appendix Ib)

$${}_3F_2 \left[\begin{matrix} m + \ell + 1, -(\ell - m), -n_2; 1 \\ m + 1, -(n - m - 1); \end{matrix} \right] = (-1)^{\ell - m} {}_3F_2 \left[\begin{matrix} m + \ell + 1, -(\ell - m), -n_1; 1 \\ m + 1, -(n - m - 1); \end{matrix} \right] \quad (15)$$

which gives

$$A_{n\ell m}^{n_1, n_2} = (-1)^{\ell - m} A_{n\ell m}^{n_2, n_1}$$

B. Special Cases

In a number of special cases the formula (14) is reducible, viz. the hypergeometric function may be summed explicitly in terms of gamma functions. This reduction is performed in Appendix Ic for the special cases

$\ell = n - 1$, $\ell = m$. The results are:

$$\ell = m \quad A_{n\ell m}^{n_1, n_2} = \left[\frac{\binom{n_1 + \ell}{\ell} \binom{n_2 + \ell}{\ell}}{\binom{n + \ell}{2\ell + 1}} \right]^{1/2} \quad (16)$$

$$\ell = n - 1 \quad A_{n\ell m}^{n_1, n_2} = (-1)^{n_2 + \ell + m} \left[\frac{\binom{n - m - 1}{n_1} \binom{n + m - 1}{n_1 + m}}{\binom{2n - 2}{n - 1}} \right]^{1/2} \quad (17)$$

where

$$\binom{\lambda}{\mu} = \frac{\lambda!}{\mu! (\lambda - \mu)!}$$

C. Tabulation of the Coefficients

In Appendix II the coefficients $A_{n\ell m}^{n_1, n_2}$ have been tabulated numerically through $n = 10$. The fundamental check on the accuracy of this table utilizes the relation

$$\sum_{\ell=m}^{n-1} \left| A_{n\ell m}^{n_1, n_2} \right|^2 = \sum_{n_1, n_2} \left| A_{n\ell m}^{n_1, n_2} \right|^2 = 1$$

III. APPLICATION TO RADIATIVE DECAY

A. Statement of the Problem

In applications to radiative decay we will consider a 20-keV beam of neutral hydrogen atoms, produced by charge exchange, which travel 2 m through a fringing field. This corresponds fairly well to the current parameters of the ALICE experiment.

The initial population of the excited states as a function of the principal quantum number n has been determined experimentally by Futch and Damm,¹⁰ but their results give no information concerning the distribution over the degenerate substates of a given level. Regardless of the initial populations, however, it is usually assumed that elastic collisions will tend to establish a uniform distribution over these substates. Our approach will be to study the radiative attenuation of a beam with an arbitrary distribution over degenerate quantum states and consider the uniform distribution as a special case.

Let the initial number of atoms in the state $|nlm\rangle$ be N_{nlm} . Combining (2) and (3), the fraction of the original number of atoms remaining in a level n after time t_L is then given by

$$f_n(t_L) = \frac{1}{N_n} \sum_{n_1 n_2 m} \sum_{\ell=0}^{n-1} \left| A_{n\ell m}^{n_1 n_2} \right|^2 N_{n\ell m} \exp\left(-t_L/\tau_{n(n_1 n_2 m)}\right) \quad (18)$$

where

$$N_n = \sum_{n_1 n_2 m} N_{n(n_1 n_2 m)} = \sum_{\ell=0}^{n-1} N_{n\ell m} \quad (19)$$

It was noted by Hiskes and Tarter⁶ that for $m > 0$ the radiative lifetimes of the parabolic states were to a good approximation functions only of n , m . We may then define a mean lifetime

$$\overline{\tau_{nm}} = \frac{\sum_{n_1 n_2} \tau_{n(n_1 n_2 m)}}{n - m - 1} \quad (20)$$

in which case (18) simplifies to

$$f_n(t_L) = \frac{1}{N_n} \left[\sum_{n_1 n_2} \sum_{\ell=0}^{n-1} \left| A_{n\ell 0}^{n_1 n_2} \right|^2 N_{n\ell 0} \exp\left(\frac{-t_L}{\tau_{n(n_1 n_2 0)}}\right) + \sum_{\ell=1}^{n-1} \sum_{m=1}^{\ell} N_{n\ell m} \exp\left(\frac{-t_L}{\overline{\tau_{nm}}}\right) \right] \quad (21)$$

Equation (21) is the general expression describing the radiative attenuation of a beam which is formed in a field free region but which decays in the presence of an electric field. We now apply this formula to several special cases.

B. The Statistical Distribution

Almost all previous calculations have been made under the assumption of a statistical (uniform) distribution over degenerate quantum states. In spherical coordinates this implies

$$N_{nlm} = \frac{2 - \delta_{m0}}{2l + 1} N_{nl} \quad N_{nl} = \frac{2l + 1}{n^2} N_n \quad (22a)$$

while in parabolic coordinates we have

$$N_{n(n_1 n_2 m)} = \frac{2 - \delta_{m0}}{n^2} N_n \quad (22b)$$

It should be noted that the splitting of the degenerate parabolic states by the electric field is assumed to be negligible in comparison with the zero order energy differences.

We now substitute (22a) into (21), do the summation over l , and are left with

$$f_n = \frac{1}{n^2} \left[\sum_{n_1=0}^{n-1} \exp\left(\frac{-t_L}{\tau_{n(n_1 n_2 0)}}\right) + 2 \sum_{m=1}^{n-1} (n - m) \exp\left(\frac{-t_L}{\tau_{nm}}\right) \right] \quad (23)$$

Before the recent publication of the Stark lifetimes⁶ it was not feasible to use formula (23) for high n levels, and the calculation was usually performed in spherical coordinates using the expression

$$f_n = \sum_{l=0}^{n-1} \frac{2l + 1}{n^2} \exp\left(\frac{-t_L}{\tau_{nl}}\right) \quad (24)$$

Under certain external conditions⁹ it may become more meaningful physically to talk about a mean or average lifetime for a given level. In these circumstances f_n is independent of the representation of the quantum states and may be written simply as

$$f_n(t_L) = \exp \left(- \frac{1}{n^2} \sum_{\ell=0}^{n-1} \frac{(2\ell + 1) t_L}{\tau_{n\ell}} \right) \quad (25)$$

Equation (25) was utilized by Hiskes in his papers on the inverted cascade effect.^{2,3}

We have calculated f_n numerically for the $n = 7, 8, 9, 10$ levels, assuming a drift time of one microsecond, and using each of the Eqs. (23), (24), and (25). The results are given in Table I.

Table I. The fraction of the original number of atoms in a level n remaining after one microsecond.

n	Method of Calculation		
	Parabolic lifetimes (Eq. (23))	Spherical lifetimes (Eq. (24))	Average lifetimes (Eq. (25))
7	0.16	0.26	0.07
8	0.33	0.445	0.24
9	0.50	0.60	0.43
10	0.635	0.71	0.60

Before discussing the significance of these results and the physical conditions under which each method becomes valid, we consider the more general problem of an arbitrary distribution over substates.

C. Arbitrary Distribution over Substates

Very little generality is lost if we consider an arbitrary distribution over total angular momentum states ℓ , but a statistical distribution over m values. In addition to simplifying the mathematics, this assumption facilitates a direct comparison between the field free and Stark cases. Equation (21) may then be written as a series which involves only the initial occupation numbers of total angular momentum states:

$$f_n(t_L) = \frac{1}{N_n} \sum_{\ell=0}^{n-1} A_n(\ell) N_{n\ell} \quad (26)$$

where

$$A_n(\ell) = \frac{1}{2\ell + 1} \left\{ \sum_{n_1=0}^{n-1} \left| A_{n\ell 0}^{n_1 n_2} \right|^2 \exp\left(\frac{-t_L}{\tau_{n(n_1 n_2 0)}}\right) + 2 \sum_{m=1}^{\ell} \exp(-A_{nm} t) \right\} \quad (27)$$

In the absence of external fields f_n is simply

$$f_n(t_L) = \frac{1}{N_n} \sum_{\ell=0}^{n-1} B_n(\ell) N_{n\ell} \quad B_n(\ell) = \exp\left(\frac{-t_L}{\tau_{n\ell}}\right) \quad (28)$$

We have calculated the coefficients $A_n(\ell)$ and $B_n(\ell)$ for the $n = 10$ level, for a time of one microsecond, and the results are presented in Table II.

Table II

ℓ	Coefficients for $n = 10$			
	$A_n(\ell)$	$B_n(\ell)$	$A_n(\ell)/\Sigma A_n(\ell)$	$B_n(\ell)/\Sigma B_n(\ell)$
0	0.415	0.608	0.074	0.105
1	0.311	0.0046	0.055	0.001
2	0.429	0.156	0.076	0.027
3	0.509	0.396	0.091	0.069
4	0.567	0.575	0.101	0.099
5	0.613	0.695	0.109	0.120
6	0.651	0.773	0.116	0.134
7	0.682	0.825	0.122	0.143
8	0.707	0.861	0.126	0.149
9	0.729	0.888	0.130	0.154
$\Sigma A_n(\ell) = 5.613 \quad \Sigma B_n(\ell) = 5.782$				

Brief calculations for other values of n show that as n increases, the differences between coefficients of different ℓ values decrease, but the general characteristics of the table are the same for all values of n .

Several conclusions can be drawn immediately from Table II. If the beam consists primarily of atoms in low ℓ states then the electric field decreases the degree of radiative attenuation, while if high ℓ states are

predominant the attenuation is greater than if the field were absent. In general the presence of the field tends to destroy any dependence on the initial substate distribution, which is physically reasonable since the total angular momentum is then no longer a good quantum number.

D. Discussion of the Results

It is now possible to draw some rather definite conclusions from the results presented in Tables I and II. First consider the statistical calculations given in Table I. It is evident that previous work on the Lorentz ionization problem, which utilized the spherical coordinate expression (25), underestimated the degree of radiative attenuation by a substantial margin. There is currently not enough experimental or theoretical evidence to choose between the rigorous parabolic expression or the simpler average lifetime equation, but in either case the results for f_n are significantly below those obtained from the spherical calculation.

Now suppose the distribution is not statistical, so that equation (26) and the results of Table II are applicable. On physical grounds the most probable nonuniform distribution is one which is concentrated in the lower angular momentum states. In that case f_n will be even lower than in the average lifetime case. The only situation in which a nonuniform distribution will decrease the radiative attenuation is one in which almost all of the atoms have high values of the total angular momentum.

In summary, we may say that regardless of the particular character of the substate distribution, all earlier calculations have significantly underestimated the degree of radiative attenuation. If the distribution is nonstatistical then previous estimates are probably an order of magnitude too high, while a statistical distribution will give 25 to 30% more attenuation. A good upper bound for the fraction f_n is obtained by using the parabolic equation (23). Before more exact theoretical predictions can be made, it will be necessary to have more detailed information concerning both the initial distribution over substates and the collision processes within the beam.

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APPENDIX I.

a. Evaluation of I_{xy}

I_{xy} is defined by (11) as the quadruple sum,

$$I_{xy} = \sum_{r=0}^{\ell-m} \sum_{t=0}^{n_2} \sum_{k=0}^{n_1} \sum_{s=0}^{n-\ell-1} \frac{(-n_1)_k (-n_2)_t [-(n-\ell-1)]_s [-(\ell-m)]_r (\ell+m+1)_r}{k! t! s! r! (m+1)_t (m+1)_r (2\ell+2)_s} \times \frac{\Gamma(m+1)\Gamma(\ell+m+k+t+s+3)\Gamma(m+r+t+1)}{\Gamma(2m+r+t+k+2)} \quad (A1)$$

Since the sums in r and s are uncoupled, it is convenient to evaluate these first.

$$\sum_{s=0}^{n-\ell-1} \frac{[-(n-\ell-1)]_s}{s! (2\ell+2)_s} \Gamma(m+\ell+k+t+s+3) = \Gamma(m+\ell+k+t+3) \times {}_2F_1 \left[\begin{matrix} -(n-\ell-1), m+\ell+k+t+3; 1 \\ 2\ell+2 \end{matrix} \right] = \frac{\Gamma(m+\ell+k+t+3)\Gamma(2\ell+2)}{\Gamma(n+\ell+1)} \times (\ell-m-k-t-1)_{n-\ell-1} \quad (A2)$$

by Vandermonde's theorem.⁷

$$\sum_{r=0}^{\ell-m} \frac{(\ell+m+1)_r [-(\ell-m)]_r \Gamma(m+r+t+1)}{(m+1)_r \Gamma(2m+r+t+k+2)} = \frac{\Gamma(m+t+1)}{\Gamma(2m+k+t+2)} {}_3F_2 \left[\begin{matrix} -(\ell-m), m+\ell+1, m+t+1; 1 \\ m+1, 2m+k+t+2 \end{matrix} \right] \quad (A3)$$

Cancelling out several terms, this leaves

$$I_{xy} = \frac{[\Gamma(m+1)]^2 \Gamma(2\ell+2)}{\Gamma(n+\ell+1)} \sum_{k=0}^{n_1} \sum_{t=0}^{n_2} \times \frac{(-n_1)_k (-n_2)_t \Gamma(m+\ell+k+t+3) (\ell-m-k-t-1)_{n-\ell-1}}{k! t! \Gamma(2m+k+t+2)} \times {}_3F_2 \left[\begin{matrix} -(\ell-m), m+\ell+1, m+t+1; 1 \\ m+1, 2m+k+t+2 \end{matrix} \right] \quad (A4)$$

The term, $(\ell-m-k-t-1)_{n-\ell-1}$, is nonzero only if: $k+t \leq \ell-m-1$ or $k+t \geq n-m-2 = n_1+n_2-1$. Also, utilizing a transformation⁷ of the ${}_3F_2$,

$${}_3F_2 \left[\begin{matrix} a, a', -N; 1 \\ c', 1 - N - c; \end{matrix} \right] = \frac{(c+a)_N}{(c)_N} {}_3F_2 \left[\begin{matrix} a, c' - a', -N; 1 \\ c', c + a \end{matrix} \right] \quad (A5)$$

one can show that our ${}_3F_2$ is zero unless

$$k + t \geq b - c.$$

Combining these three inequalities, it is evident that only the three terms with $k + t \geq n_1 + n_2 - 1$ contribute. After algebra, we have

$$I_{xy} = \frac{(-1)^{\ell-m} (m!)^2 (2\ell+1)! (n-\ell-1)!}{(n+m)!} \left\{ (n+\ell+1)(n-1) {}_3F_2(n_1, n_2) \right. \\ \left. - (n+m) \left[n_1 {}_3F_2(n_1-1, n_2) + n_2 {}_3F_2(n_1, n_2-1) \right] \right\} \quad (A6)$$

where

$${}_3F_2(k, t) = {}_3F_2 \left[\begin{matrix} m+t+1, m+\ell+1, -(\ell-m); 1 \\ m+1, 2m+k+t+2; \end{matrix} \right] \quad (A7)$$

After applying the transformation, (A5), with $c' = m+1$ and $a' = m+n_2+1$, and noting the relation of Rainville,¹¹

$$(a_1 - \beta_2 + 1) {}_3F_2 \left[\begin{matrix} a_1, a_2, a_3; 1 \\ \beta_1, \beta_2 \end{matrix} \right] = a_1 {}_3F_2 \left[\begin{matrix} a_1+1, a_2, a_3; 1 \\ \beta_1, \beta_2 \end{matrix} \right] - (\beta_2-1) {}_3F_2 \left[\begin{matrix} a_1, a_2, a_3; 1 \\ \beta_1, \beta_2-1 \end{matrix} \right]$$

we finally have (12),

$$I_{xy} = \frac{m! (2\ell+1)! 2n(n-m-1)! (-1)^{\ell-m}}{(n+\ell)!} {}_3F_2 \left[\begin{matrix} m+\ell+1, -(\ell-m), -n_2; 1 \\ m+1, -(n-m-1) \end{matrix} \right]$$

b. Proof of an Identity

The identity,

$${}_3F_2 \left[\begin{matrix} m+\ell+1, -(\ell-m), -n_2; 1 \\ m+1, -(n-m-1); \end{matrix} \right] = (-1)^{\ell-m} {}_3F_2 \left[\begin{matrix} m+\ell+1, -(\ell-m), -n_1; 1 \\ m+1, -(n-m-1) \end{matrix} \right] \quad (A8)$$

may be proven using (A5)

Let $N = \ell - m$

$$c = -\ell \quad c' = -(n-m-1) = -n_1 - n_2$$

$$a = m + \ell + 1 \quad a' = -n_2.$$

Then,

$$\begin{aligned} {}_3F_2 \left[\begin{matrix} m + \ell + 1, -(\ell - m), -n_2; 1 \\ m + 1, -(n - m - 1); \end{matrix} \right] &= \frac{(m + 1)_{\ell - m}}{(-\ell)_{\ell - m}} {}_3F_2 \left[\begin{matrix} m + \ell + 1, -(\ell - m), -n_1; 1 \\ m + 1, -(n - m - 1); \end{matrix} \right] \\ &= (-1)^{\ell - m} {}_3F_2 \left[\begin{matrix} m + \ell + 1, -(\ell - m), -n_1; 1 \\ m + 1, -(n - m - 1); \end{matrix} \right] \quad (A9) \end{aligned}$$

Several interesting consequences may be deduced from this formula. For example, if $n_1 = n_2$, and $\ell - m$ is odd, the ${}_3F_2$ function is zero.

C. Reduction in the Special Cases $\ell = n - 1$, $\ell = m$

The function ${}_3F_2 \left[\begin{matrix} m + \ell + 1, -(\ell - m), -n_2; 1 \\ m + 1, -(n - m - 1); \end{matrix} \right]$ can be evaluated

explicitly for certain special values of the parameters. We consider the simple cases $\ell = n - 1$, $\ell = m$.

If $\ell = m$, we merely have:

$${}_3F_2 \left[\begin{matrix} 2\ell + 1, 0, -n_2; 1 \\ m + 1, -(n - m - 1); \end{matrix} \right] \equiv 1 \quad (A10)$$

If $\ell = n - 1$, we have:

$${}_3F_2 \left[\begin{matrix} n + m, -(n - m - 1), -n_2; 1 \\ m + 1, -(n - m - 1); \end{matrix} \right] = {}_2F_1 \left[\begin{matrix} n + m, -n_2; 1 \\ m + 1 \end{matrix} \right] = \frac{\Gamma(n)\Gamma(m+1)}{\Gamma(n-n_2)\Gamma(n-n_1)} \quad (A11)$$

Other cases of reducibility are discussed in the book by Bailey.⁷

APPENDIX II
THE EXPANSION COEFFICIENTS $A_{nlm}^{n_1 n_2}$

(N,L,M,N1,N2) = (1,0,0,0,0)	A = 0.100000E 01	ASQ = 0.100000E 01
(N,L,M,N1,N2) = (2,0,0,0,1)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (2,0,0,1,0)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (2,1,0,0,1)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (2,1,0,1,0)	A = -0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (2,1,1,0,0)	A = 0.100000E 01	ASQ = 0.100000E 01
(N,L,M,N1,N2) = (3,0,0,0,2)	A = 0.577350E-00	ASQ = 0.333333E-00
(N,L,M,N1,N2) = (3,0,0,1,1)	A = 0.577350E-00	ASQ = 0.333333E-00
(N,L,M,N1,N2) = (3,0,0,2,0)	A = 0.577350E-00	ASQ = 0.333333E-00
(N,L,M,N1,N2) = (3,1,0,0,2)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (3,1,0,1,1)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (3,1,0,2,0)	A = -0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (3,1,1,0,1)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (3,1,1,1,0)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (3,2,0,0,2)	A = 0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (3,2,0,1,1)	A = -0.816497E-00	ASQ = 0.666667E-00
(N,L,M,N1,N2) = (3,2,0,2,0)	A = 0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (3,2,1,0,1)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (3,2,1,1,0)	A = -0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (3,2,2,0,0)	A = 0.100000E 01	ASQ = 0.100000E 01
(N,L,M,N1,N2) = (4,0,0,0,3)	A = 0.500000E-00	ASQ = 0.250000E-00
(N,L,M,N1,N2) = (4,0,0,1,2)	A = 0.500000E-00	ASQ = 0.250000E-00
(N,L,M,N1,N2) = (4,0,0,2,1)	A = 0.500000E-00	ASQ = 0.250000E-00
(N,L,M,N1,N2) = (4,0,0,3,0)	A = 0.500000E-00	ASQ = 0.250000E-00
(N,L,M,N1,N2) = (4,1,0,0,3)	A = 0.670820E-00	ASQ = 0.450000E-00
(N,L,M,N1,N2) = (4,1,0,1,2)	A = 0.223607E-00	ASQ = 0.500000E-01
(N,L,M,N1,N2) = (4,1,0,2,1)	A = -0.223607E-00	ASQ = 0.500000E-01
(N,L,M,N1,N2) = (4,1,0,3,0)	A = -0.670820E-00	ASQ = 0.450000E-00
(N,L,M,N1,N2) = (4,1,1,0,2)	A = 0.547723E-00	ASQ = 0.300000E-00
(N,L,M,N1,N2) = (4,1,1,1,1)	A = 0.632456E-00	ASQ = 0.400000E-00
(N,L,M,N1,N2) = (4,1,1,2,0)	A = 0.547723E-00	ASQ = 0.300000E-00
(N,L,M,N1,N2) = (4,2,0,0,3)	A = 0.500000E-00	ASQ = 0.250000E-00
(N,L,M,N1,N2) = (4,2,0,1,2)	A = -0.500000E-00	ASQ = 0.250000E-00
(N,L,M,N1,N2) = (4,2,0,2,1)	A = -0.500000E-00	ASQ = 0.250000E-00
(N,L,M,N1,N2) = (4,2,0,3,0)	A = 0.500000E-00	ASQ = 0.250000E-00
(N,L,M,N1,N2) = (4,2,1,0,2)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (4,2,1,1,1)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (4,2,1,2,0)	A = -0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (4,2,2,0,1)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (4,2,2,1,0)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (4,3,0,0,3)	A = 0.223607E-00	ASQ = 0.500000E-01
(N,L,M,N1,N2) = (4,3,0,1,2)	A = -0.670820E-00	ASQ = 0.450000E-00
(N,L,M,N1,N2) = (4,3,0,2,1)	A = 0.670820E-00	ASQ = 0.450000E-00
(N,L,M,N1,N2) = (4,3,0,3,0)	A = -0.223607E-00	ASQ = 0.500000E-01
(N,L,M,N1,N2) = (4,3,1,0,2)	A = 0.447214E-00	ASQ = 0.200000E-00
(N,L,M,N1,N2) = (4,3,1,1,1)	A = -0.774597E-00	ASQ = 0.600000E-00
(N,L,M,N1,N2) = (4,3,1,2,0)	A = 0.447214E-00	ASQ = 0.200000E-00
(N,L,M,N1,N2) = (4,3,2,0,1)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (4,3,2,1,0)	A = -0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (4,3,3,0,0)	A = 0.100000E 01	ASQ = 0.100000E 01

(N,L,M,N1,N2) = (5,0,0,0,4)	A = 0.447214E-00	ASQ = 0.200000E-00
(N,L,M,N1,N2) = (5,0,0,1,3)	A = 0.447214E-00	ASQ = 0.200000E-00
(N,L,M,N1,N2) = (5,0,0,2,2)	A = 0.447214E-00	ASQ = 0.200000E-00
(N,L,M,N1,N2) = (5,0,0,3,1)	A = 0.447214E-00	ASQ = 0.200000E-00
(N,L,M,N1,N2) = (5,0,0,4,0)	A = 0.447214E-00	ASQ = 0.200000E-00
(N,L,M,N1,N2) = (5,1,0,0,4)	A = 0.632456E-00	ASQ = 0.400000E-00
(N,L,M,N1,N2) = (5,1,0,1,3)	A = 0.316228E-00	ASQ = 0.100000E-00
(N,L,M,N1,N2) = (5,1,0,2,2)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (5,1,0,3,1)	A = -0.316228E-00	ASQ = 0.100000E-00
(N,L,M,N1,N2) = (5,1,0,4,0)	A = -0.632456E-00	ASQ = 0.400000E-00
(N,L,M,N1,N2) = (5,1,1,0,3)	A = 0.447214E-00	ASQ = 0.200000E-00
(N,L,M,N1,N2) = (5,1,1,1,2)	A = 0.547723E-00	ASQ = 0.300000E-00
(N,L,M,N1,N2) = (5,1,1,2,1)	A = 0.547723E-00	ASQ = 0.300000E-00
(N,L,M,N1,N2) = (5,1,1,3,0)	A = 0.447214E-00	ASQ = 0.200000E-00
(N,L,M,N1,N2) = (5,2,0,0,4)	A = 0.534522E-00	ASQ = 0.285714E-00
(N,L,M,N1,N2) = (5,2,0,1,3)	A = -0.267261E-00	ASQ = 0.714286E-01
(N,L,M,N1,N2) = (5,2,0,2,2)	A = -0.534522E-00	ASQ = 0.285714E-00
(N,L,M,N1,N2) = (5,2,0,3,1)	A = -0.267261E-00	ASQ = 0.714286E-01
(N,L,M,N1,N2) = (5,2,0,4,0)	A = 0.534522E-00	ASQ = 0.285714E-00
(N,L,M,N1,N2) = (5,2,1,0,3)	A = 0.654654E-00	ASQ = 0.428571E-00
(N,L,M,N1,N2) = (5,2,1,1,2)	A = 0.267261E-00	ASQ = 0.714286E-01
(N,L,M,N1,N2) = (5,2,1,2,1)	A = -0.267261E-00	ASQ = 0.714286E-01
(N,L,M,N1,N2) = (5,2,1,3,0)	A = -0.654654E-00	ASQ = 0.428571E-00
(N,L,M,N1,N2) = (5,2,2,0,2)	A = 0.534522E-00	ASQ = 0.285714E-00
(N,L,M,N1,N2) = (5,2,2,1,1)	A = 0.654654E-00	ASQ = 0.428571E-00
(N,L,M,N1,N2) = (5,2,2,2,0)	A = 0.534522E-00	ASQ = 0.285714E-00
(N,L,M,N1,N2) = (5,3,0,0,4)	A = 0.316228E-00	ASQ = 0.100000E-00
(N,L,M,N1,N2) = (5,3,0,1,3)	A = -0.632456E-00	ASQ = 0.400000E-00
(N,L,M,N1,N2) = (5,3,0,2,2)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (5,3,0,3,1)	A = 0.632456E-00	ASQ = 0.400000E-00
(N,L,M,N1,N2) = (5,3,0,4,0)	A = -0.316228E-00	ASQ = 0.100000E-00
(N,L,M,N1,N2) = (5,3,1,0,3)	A = 0.547723E-00	ASQ = 0.300000E-00
(N,L,M,N1,N2) = (5,3,1,1,2)	A = -0.447214E-00	ASQ = 0.200000E-00
(N,L,M,N1,N2) = (5,3,1,2,1)	A = -0.447214E-00	ASQ = 0.200000E-00
(N,L,M,N1,N2) = (5,3,1,3,0)	A = 0.547723E-00	ASQ = 0.300000E-00
(N,L,M,N1,N2) = (5,3,2,0,2)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (5,3,2,1,1)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (5,3,2,2,0)	A = -0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (5,3,3,0,1)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (5,3,3,1,0)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (5,4,0,0,4)	A = 0.119523E-00	ASQ = 0.142857E-01
(N,L,M,N1,N2) = (5,4,0,1,3)	A = -0.478091E-00	ASQ = 0.228571E-00
(N,L,M,N1,N2) = (5,4,0,2,2)	A = 0.717137E-00	ASQ = 0.514286E-00
(N,L,M,N1,N2) = (5,4,0,3,1)	A = -0.478091E-00	ASQ = 0.228571E-00
(N,L,M,N1,N2) = (5,4,0,4,0)	A = 0.119523E-00	ASQ = 0.142857E-01
(N,L,M,N1,N2) = (5,4,1,0,3)	A = 0.267261E-00	ASQ = 0.714286E-01
(N,L,M,N1,N2) = (5,4,1,1,2)	A = -0.654654E-00	ASQ = 0.428571E-00
(N,L,M,N1,N2) = (5,4,1,2,1)	A = 0.654654E-00	ASQ = 0.428571E-00
(N,L,M,N1,N2) = (5,4,1,3,0)	A = -0.267261E-00	ASQ = 0.714286E-01
(N,L,M,N1,N2) = (5,4,2,0,2)	A = 0.462910E-00	ASQ = 0.214286E-00

(N,L,M,N1,N2) = (5,4,2,1,1)	A = -0.755929E-00	ASQ = 0.571429E-00
(N,L,M,N1,N2) = (5,4,2,2,0)	A = 0.462910E-00	ASQ = 0.214286E-00
(N,L,M,N1,N2) = (5,4,3,0,1)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (5,4,3,1,0)	A = -0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (5,4,4,0,0)	A = 0.100000E 01	ASQ = 0.100000E 01
(N,L,M,N1,N2) = (6,0,0,0,5)	A = 0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (6,0,0,1,4)	A = 0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (6,0,0,2,3)	A = 0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (6,0,0,3,2)	A = 0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (6,0,0,4,1)	A = 0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (6,0,0,5,0)	A = 0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (6,1,0,0,5)	A = 0.597614E-00	ASQ = 0.357143E-00
(N,L,M,N1,N2) = (6,1,0,1,4)	A = 0.358569E-00	ASQ = 0.128571E-00
(N,L,M,N1,N2) = (6,1,0,2,3)	A = 0.119523E-00	ASQ = 0.142857E-01
(N,L,M,N1,N2) = (6,1,0,3,2)	A = -0.119523E-00	ASQ = 0.142857E-01
(N,L,M,N1,N2) = (6,1,0,4,1)	A = -0.358569E-00	ASQ = 0.128571E-00
(N,L,M,N1,N2) = (6,1,0,5,0)	A = -0.597614E-00	ASQ = 0.357143E-00
(N,L,M,N1,N2) = (6,1,1,0,4)	A = 0.377964E-00	ASQ = 0.142857E-00
(N,L,M,N1,N2) = (6,1,1,1,3)	A = 0.478091E-00	ASQ = 0.228571E-00
(N,L,M,N1,N2) = (6,1,1,2,2)	A = 0.507093E-00	ASQ = 0.257143E-00
(N,L,M,N1,N2) = (6,1,1,3,1)	A = 0.478091E-00	ASQ = 0.228571E-00
(N,L,M,N1,N2) = (6,1,1,4,0)	A = 0.377964E-00	ASQ = 0.142857E-00
(N,L,M,N1,N2) = (6,2,0,0,5)	A = 0.545545E-00	ASQ = 0.297619E-00
(N,L,M,N1,N2) = (6,2,0,1,4)	A = -0.109109E-00	ASQ = 0.119048E-01
(N,L,M,N1,N2) = (6,2,0,2,3)	A = -0.436436E-00	ASQ = 0.190476E-00
(N,L,M,N1,N2) = (6,2,0,3,2)	A = -0.436436E-00	ASQ = 0.190476E-00
(N,L,M,N1,N2) = (6,2,0,4,1)	A = -0.109109E-00	ASQ = 0.119048E-01
(N,L,M,N1,N2) = (6,2,0,5,0)	A = 0.545545E-00	ASQ = 0.297619E-00
(N,L,M,N1,N2) = (6,2,1,0,4)	A = 0.597614E-00	ASQ = 0.357143E-00
(N,L,M,N1,N2) = (6,2,1,1,3)	A = 0.377964E-00	ASQ = 0.142857E-00
(N,L,M,N1,N2) = (6,2,1,2,2)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (6,2,1,3,1)	A = -0.377964E-00	ASQ = 0.142857E-00
(N,L,M,N1,N2) = (6,2,1,4,0)	A = -0.597614E-00	ASQ = 0.357143E-00
(N,L,M,N1,N2) = (6,2,2,0,3)	A = 0.422577E-00	ASQ = 0.178571E-00
(N,L,M,N1,N2) = (6,2,2,1,2)	A = 0.566947E-00	ASQ = 0.321429E-00
(N,L,M,N1,N2) = (6,2,2,2,1)	A = 0.566947E-00	ASQ = 0.321429E-00
(N,L,M,N1,N2) = (6,2,2,3,0)	A = 0.422577E-00	ASQ = 0.178571E-00
(N,L,M,N1,N2) = (6,3,0,0,5)	A = 0.372678E-00	ASQ = 0.138889E-00
(N,L,M,N1,N2) = (6,3,0,1,4)	A = -0.521749E-00	ASQ = 0.272222E-00
(N,L,M,N1,N2) = (6,3,0,2,3)	A = -0.298142E-00	ASQ = 0.888889E-01
(N,L,M,N1,N2) = (6,3,0,3,2)	A = 0.298142E-00	ASQ = 0.888889E-01
(N,L,M,N1,N2) = (6,3,0,4,1)	A = 0.521749E-00	ASQ = 0.272222E-00
(N,L,M,N1,N2) = (6,3,0,5,0)	A = -0.372678E-00	ASQ = 0.138889E-00
(N,L,M,N1,N2) = (6,3,1,0,4)	A = 0.577350E-00	ASQ = 0.333333E-00
(N,L,M,N1,N2) = (6,3,1,1,3)	A = -0.182574E-00	ASQ = 0.333333E-01
(N,L,M,N1,N2) = (6,3,1,2,2)	A = -0.516398E-00	ASQ = 0.266667E-00
(N,L,M,N1,N2) = (6,3,1,3,1)	A = -0.182574E-00	ASQ = 0.333333E-01
(N,L,M,N1,N2) = (6,3,1,4,0)	A = 0.577350E-00	ASQ = 0.333333E-00
(N,L,M,N1,N2) = (6,3,2,0,3)	A = 0.645497E-00	ASQ = 0.416667E-00
(N,L,M,N1,N2) = (6,3,2,1,2)	A = 0.288675E-00	ASQ = 0.833333E-01

(N,L,M,N1,N2) = (6,3,2,2,1)	A = -0.288675E-00	ASQ = 0.833333E-01
(N,L,M,N1,N2) = (6,3,2,3,0)	A = -0.645497E-00	ASQ = 0.416667E-00
(N,L,M,N1,N2) = (6,3,3,0,2)	A = 0.527046E-00	ASQ = 0.277778E-00
(N,L,M,N1,N2) = (6,3,3,1,1)	A = 0.666667E-00	ASQ = 0.444444E-00
(N,L,M,N1,N2) = (6,3,3,2,0)	A = 0.527046E-00	ASQ = 0.277778E-00
(N,L,M,N1,N2) = (6,4,0,0,5)	A = 0.188982E-00	ASQ = 0.357143E-01
(N,L,M,N1,N2) = (6,4,0,1,4)	A = -0.566947E-00	ASQ = 0.321429E-00
(N,L,M,N1,N2) = (6,4,0,2,3)	A = 0.377964E-00	ASQ = 0.142857E-00
(N,L,M,N1,N2) = (6,4,0,3,2)	A = 0.377964E-00	ASQ = 0.142857E-00
(N,L,M,N1,N2) = (6,4,0,4,1)	A = -0.566947E-00	ASQ = 0.321429E-00
(N,L,M,N1,N2) = (6,4,0,5,0)	A = 0.188982E-00	ASQ = 0.357143E-01
(N,L,M,N1,N2) = (6,4,1,0,4)	A = 0.377964E-00	ASQ = 0.142857E-00
(N,L,M,N1,N2) = (6,4,1,1,3)	A = -0.597614E-00	ASQ = 0.357143E-00
(N,L,M,N1,N2) = (6,4,1,2,2)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (6,4,1,3,1)	A = 0.597614E-00	ASQ = 0.357143E-00
(N,L,M,N1,N2) = (6,4,1,4,0)	A = -0.377964E-00	ASQ = 0.142857E-00
(N,L,M,N1,N2) = (6,4,2,0,3)	A = 0.566947E-00	ASQ = 0.321429E-00
(N,L,M,N1,N2) = (6,4,2,1,2)	A = -0.422577E-00	ASQ = 0.178571E-00
(N,L,M,N1,N2) = (6,4,2,2,1)	A = -0.422577E-00	ASQ = 0.178571E-00
(N,L,M,N1,N2) = (6,4,2,3,0)	A = 0.566947E-00	ASQ = 0.321429E-00
(N,L,M,N1,N2) = (6,4,3,0,2)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (6,4,3,1,1)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (6,4,3,2,0)	A = -0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (6,4,4,0,1)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (6,4,4,1,0)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (6,5,0,0,5)	A = 0.629941E-01	ASQ = 0.396825E-02
(N,L,M,N1,N2) = (6,5,0,1,4)	A = -0.314970E-00	ASQ = 0.992063E-01
(N,L,M,N1,N2) = (6,5,0,2,3)	A = 0.629941E-00	ASQ = 0.396825E-00
(N,L,M,N1,N2) = (6,5,0,3,2)	A = -0.629941E-00	ASQ = 0.396825E-00
(N,L,M,N1,N2) = (6,5,0,4,1)	A = 0.314970E-00	ASQ = 0.992063E-01
(N,L,M,N1,N2) = (6,5,0,5,0)	A = -0.629941E-01	ASQ = 0.396825E-02
(N,L,M,N1,N2) = (6,5,1,0,4)	A = 0.154303E-00	ASQ = 0.238095E-01
(N,L,M,N1,N2) = (6,5,1,1,3)	A = -0.487950E-00	ASQ = 0.238095E-00
(N,L,M,N1,N2) = (6,5,1,2,2)	A = 0.690066E-00	ASQ = 0.476190E-00
(N,L,M,N1,N2) = (6,5,1,3,1)	A = -0.487950E-00	ASQ = 0.238095E-00
(N,L,M,N1,N2) = (6,5,1,4,0)	A = 0.154303E-00	ASQ = 0.238095E-01
(N,L,M,N1,N2) = (6,5,2,0,3)	A = 0.288675E-00	ASQ = 0.833333E-01
(N,L,M,N1,N2) = (6,5,2,1,2)	A = -0.645497E-00	ASQ = 0.416667E-00
(N,L,M,N1,N2) = (6,5,2,2,1)	A = 0.645497E-00	ASQ = 0.416667E-00
(N,L,M,N1,N2) = (6,5,2,3,0)	A = -0.288675E-00	ASQ = 0.833333E-01
(N,L,M,N1,N2) = (6,5,3,0,2)	A = 0.471405E-00	ASQ = 0.222222E-00
(N,L,M,N1,N2) = (6,5,3,1,1)	A = -0.745356E-00	ASQ = 0.555556E-00
(N,L,M,N1,N2) = (6,5,3,2,0)	A = 0.471405E-00	ASQ = 0.222222E-00
(N,L,M,N1,N2) = (6,5,4,0,1)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (6,5,4,1,0)	A = -0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (6,5,5,0,0)	A = 0.100000E 01	ASQ = 0.100000E 01
(N,L,M,N1,N2) = (7,0,0,0,6)	A = 0.377964E-00	ASQ = 0.142857E-00
(N,L,M,N1,N2) = (7,0,0,1,5)	A = 0.377964E-00	ASQ = 0.142857E-00
(N,L,M,N1,N2) = (7,0,0,2,4)	A = 0.377964E-00	ASQ = 0.142857E-00
(N,L,M,N1,N2) = (7,0,0,3,3)	A = 0.377964E-00	ASQ = 0.142857E-00

(N,L,M,N1,N2) = (7,0,0,4,2)	A = 0.377964E-00	ASQ = 0.142857E-00
(N,L,M,N1,N2) = (7,0,0,5,1)	A = 0.377964E-00	ASQ = 0.142857E-00
(N,L,M,N1,N2) = (7,0,0,6,0)	A = 0.377964E-00	ASQ = 0.142857E-00
(N,L,M,N1,N2) = (7,1,0,0,6)	A = 0.566947E-00	ASQ = 0.321429E-00
(N,L,M,N1,N2) = (7,1,0,1,5)	A = 0.377964E-00	ASQ = 0.142857E-00
(N,L,M,N1,N2) = (7,1,0,2,4)	A = 0.188982E-00	ASQ = 0.357143E-01
(N,L,M,N1,N2) = (7,1,0,3,3)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (7,1,0,4,2)	A = -0.188982E-00	ASQ = 0.357143E-01
(N,L,M,N1,N2) = (7,1,0,5,1)	A = -0.377964E-00	ASQ = 0.142857E-00
(N,L,M,N1,N2) = (7,1,0,6,0)	A = -0.566947E-00	ASQ = 0.321429E-00
(N,L,M,N1,N2) = (7,1,1,0,5)	A = 0.327327E-00	ASQ = 0.107143E-00
(N,L,M,N1,N2) = (7,1,1,1,4)	A = 0.422577E-00	ASQ = 0.178571E-00
(N,L,M,N1,N2) = (7,1,1,2,3)	A = 0.462910E-00	ASQ = 0.214286E-00
(N,L,M,N1,N2) = (7,1,1,3,2)	A = 0.462910E-00	ASQ = 0.214286E-00
(N,L,M,N1,N2) = (7,1,1,4,1)	A = 0.422577E-00	ASQ = 0.178571E-00
(N,L,M,N1,N2) = (7,1,1,5,0)	A = 0.327327E-00	ASQ = 0.107143E-00
(N,L,M,N1,N2) = (7,2,0,0,6)	A = 0.545545E-00	ASQ = 0.297619E-00
(N,L,M,N1,N2) = (7,2,0,1,5)	A = -0.186064E-13	ASQ = 0.346197E-27
(N,L,M,N1,N2) = (7,2,0,2,4)	A = -0.327327E-00	ASQ = 0.107143E-00
(N,L,M,N1,N2) = (7,2,0,3,3)	A = -0.436436E-00	ASQ = 0.190476E-00
(N,L,M,N1,N2) = (7,2,0,4,2)	A = -0.327327E-00	ASQ = 0.107143E-00
(N,L,M,N1,N2) = (7,2,0,5,1)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (7,2,0,6,0)	A = 0.545545E-00	ASQ = 0.297619E-00
(N,L,M,N1,N2) = (7,2,1,0,5)	A = 0.545545E-00	ASQ = 0.297619E-00
(N,L,M,N1,N2) = (7,2,1,1,4)	A = 0.422577E-00	ASQ = 0.178571E-00
(N,L,M,N1,N2) = (7,2,1,2,3)	A = 0.154303E-00	ASQ = 0.238095E-01
(N,L,M,N1,N2) = (7,2,1,3,2)	A = -0.154303E-00	ASQ = 0.238095E-01
(N,L,M,N1,N2) = (7,2,1,4,1)	A = -0.422577E-00	ASQ = 0.178571E-00
(N,L,M,N1,N2) = (7,2,1,5,0)	A = -0.545545E-00	ASQ = 0.297619E-00
(N,L,M,N1,N2) = (7,2,2,0,4)	A = 0.345033E-00	ASQ = 0.119048E-00
(N,L,M,N1,N2) = (7,2,2,1,3)	A = 0.487950E-00	ASQ = 0.238095E-00
(N,L,M,N1,N2) = (7,2,2,2,2)	A = 0.534522E-00	ASQ = 0.285714E-00
(N,L,M,N1,N2) = (7,2,2,3,1)	A = 0.487950E-00	ASQ = 0.238095E-00
(N,L,M,N1,N2) = (7,2,2,4,0)	A = 0.345033E-00	ASQ = 0.119048E-00
(N,L,M,N1,N2) = (7,3,0,0,6)	A = 0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (7,3,0,1,5)	A = -0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (7,3,0,2,4)	A = -0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (7,3,0,3,3)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (7,3,0,4,2)	A = 0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (7,3,0,5,1)	A = 0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (7,3,0,6,0)	A = -0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (7,3,1,0,5)	A = 0.577350E-00	ASQ = 0.333333E-00
(N,L,M,N1,N2) = (7,3,1,1,4)	A = -0.381317E-12	ASQ = 0.145403E-24
(N,L,M,N1,N2) = (7,3,1,2,3)	A = -0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (7,3,1,3,2)	A = -0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (7,3,1,4,1)	A = -0.381317E-13	ASQ = 0.145403E-26
(N,L,M,N1,N2) = (7,3,1,5,0)	A = 0.577350E-00	ASQ = 0.333333E-00
(N,L,M,N1,N2) = (7,3,2,0,4)	A = 0.577350E-00	ASQ = 0.333333E-00
(N,L,M,N1,N2) = (7,3,2,1,3)	A = 0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (7,3,2,2,2)	A = 0.	ASQ = 0.

(N,L,M,N1,N2) = (7,3,2,3,1)	A = -0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (7,3,2,4,0)	A = -0.577350E-00	ASQ = 0.333333E-00
(N,L,M,N1,N2) = (7,3,3,0,3)	A = 0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (7,3,3,1,2)	A = 0.577350E-00	ASQ = 0.333333E-00
(N,L,M,N1,N2) = (7,3,3,2,1)	A = 0.577350E-00	ASQ = 0.333333E-00
(N,L,M,N1,N2) = (7,3,3,3,0)	A = 0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (7,4,0,0,6)	A = 0.241747E-00	ASQ = 0.584416E-01
(N,L,M,N1,N2) = (7,4,0,1,5)	A = -0.564076E-00	ASQ = 0.318182E-00
(N,L,M,N1,N2) = (7,4,0,2,4)	A = 0.805823E-01	ASQ = 0.649351E-02
(N,L,M,N1,N2) = (7,4,0,3,3)	A = 0.483494E-00	ASQ = 0.233766E-00
(N,L,M,N1,N2) = (7,4,0,4,2)	A = 0.805823E-01	ASQ = 0.649351E-02
(N,L,M,N1,N2) = (7,4,0,5,1)	A = -0.564076E-00	ASQ = 0.318182E-00
(N,L,M,N1,N2) = (7,4,0,6,0)	A = 0.241747E-00	ASQ = 0.584416E-01
(N,L,M,N1,N2) = (7,4,1,0,5)	A = 0.441367E-00	ASQ = 0.194805E-00
(N,L,M,N1,N2) = (7,4,1,1,4)	A = -0.455842E-00	ASQ = 0.207792E-00
(N,L,M,N1,N2) = (7,4,1,2,3)	A = -0.312094E-00	ASQ = 0.974026E-01
(N,L,M,N1,N2) = (7,4,1,3,2)	A = 0.312094E-00	ASQ = 0.974026E-01
(N,L,M,N1,N2) = (7,4,1,4,1)	A = 0.455842E-00	ASQ = 0.207792E-00
(N,L,M,N1,N2) = (7,4,1,5,0)	A = -0.441367E-00	ASQ = 0.194805E-00
(N,L,M,N1,N2) = (7,4,2,0,4)	A = 0.592157E-00	ASQ = 0.350649E-00
(N,L,M,N1,N2) = (7,4,2,1,3)	A = -0.139573E-00	ASQ = 0.194805E-01
(N,L,M,N1,N2) = (7,4,2,2,2)	A = -0.509647E-00	ASQ = 0.259740E-00
(N,L,M,N1,N2) = (7,4,2,3,1)	A = -0.139573E-00	ASQ = 0.194805E-01
(N,L,M,N1,N2) = (7,4,2,4,0)	A = 0.592157E-00	ASQ = 0.350649E-00
(N,L,M,N1,N2) = (7,4,3,0,3)	A = 0.639602E-00	ASQ = 0.409091E-00
(N,L,M,N1,N2) = (7,4,3,1,2)	A = 0.301511E-00	ASQ = 0.909091E-01
(N,L,M,N1,N2) = (7,4,3,2,1)	A = -0.301511E-00	ASQ = 0.909091E-01
(N,L,M,N1,N2) = (7,4,3,3,0)	A = -0.639602E-00	ASQ = 0.409091E-00
(N,L,M,N1,N2) = (7,4,4,0,2)	A = 0.522233E-00	ASQ = 0.272727E-00
(N,L,M,N1,N2) = (7,4,4,1,1)	A = 0.674200E-00	ASQ = 0.454545E-00
(N,L,M,N1,N2) = (7,4,4,2,0)	A = 0.522233E-00	ASQ = 0.272727E-00
(N,L,M,N1,N2) = (7,5,0,0,6)	A = 0.109109E-00	ASQ = 0.119048E-01
(N,L,M,N1,N2) = (7,5,0,1,5)	A = -0.436436E-00	ASQ = 0.190476E-00
(N,L,M,N1,N2) = (7,5,0,2,4)	A = 0.545545E-00	ASQ = 0.297619E-00
(N,L,M,N1,N2) = (7,5,0,3,3)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (7,5,0,4,2)	A = -0.545545E-00	ASQ = 0.297619E-00
(N,L,M,N1,N2) = (7,5,0,5,1)	A = 0.436436E-00	ASQ = 0.190476E-00
(N,L,M,N1,N2) = (7,5,0,6,0)	A = -0.109109E-00	ASQ = 0.119048E-01
(N,L,M,N1,N2) = (7,5,1,0,5)	A = 0.243975E-00	ASQ = 0.595238E-01
(N,L,M,N1,N2) = (7,5,1,1,4)	A = -0.566947E-00	ASQ = 0.321429E-00
(N,L,M,N1,N2) = (7,5,1,2,3)	A = 0.345033E-00	ASQ = 0.119048E-00
(N,L,M,N1,N2) = (7,5,1,3,2)	A = 0.345033E-00	ASQ = 0.119048E-00
(N,L,M,N1,N2) = (7,5,1,4,1)	A = -0.566947E-00	ASQ = 0.321429E-00
(N,L,M,N1,N2) = (7,5,1,5,0)	A = 0.243975E-00	ASQ = 0.595238E-01
(N,L,M,N1,N2) = (7,5,2,0,4)	A = 0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (7,5,2,1,3)	A = -0.577350E-00	ASQ = 0.333333E-00
(N,L,M,N1,N2) = (7,5,2,2,2)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (7,5,2,3,1)	A = 0.577350E-00	ASQ = 0.333333E-00
(N,L,M,N1,N2) = (7,5,2,4,0)	A = -0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (7,5,3,0,3)	A = 0.577350E-00	ASQ = 0.333333E-00

(N,L,M,N1,N2) = (7,5,3,1,2)	A = -0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (7,5,3,2,1)	A = -0.408248E-00	ASQ = 0.166667E-00
(N,L,M,N1,N2) = (7,5,3,3,0)	A = 0.577350E-00	ASQ = 0.333333E-00
(N,L,M,N1,N2) = (7,5,4,0,2)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (7,5,4,1,1)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (7,5,4,2,0)	A = -0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (7,5,5,0,1)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (7,5,5,1,0)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (7,6,0,0,6)	A = 0.328976E-01	ASQ = 0.108225E-02
(N,L,M,N1,N2) = (7,6,0,1,5)	A = -0.197386E-00	ASQ = 0.389610E-01
(N,L,M,N1,N2) = (7,6,0,2,4)	A = 0.493464E-00	ASQ = 0.243506E-00
(N,L,M,N1,N2) = (7,6,0,3,3)	A = -0.657952E-00	ASQ = 0.432900E-00
(N,L,M,N1,N2) = (7,6,0,4,2)	A = 0.493464E-00	ASQ = 0.243506E-00
(N,L,M,N1,N2) = (7,6,0,5,1)	A = -0.197386E-00	ASQ = 0.389610E-01
(N,L,M,N1,N2) = (7,6,0,6,0)	A = 0.328976E-01	ASQ = 0.108225E-02
(N,L,M,N1,N2) = (7,6,1,0,5)	A = 0.870388E-01	ASQ = 0.757576E-02
(N,L,M,N1,N2) = (7,6,1,1,4)	A = -0.337100E-00	ASQ = 0.113636E-00
(N,L,M,N1,N2) = (7,6,1,2,3)	A = 0.615457E-00	ASQ = 0.378788E-00
(N,L,M,N1,N2) = (7,6,1,3,2)	A = -0.615457E-00	ASQ = 0.378788E-00
(N,L,M,N1,N2) = (7,6,1,4,1)	A = 0.337100E-00	ASQ = 0.113636E-00
(N,L,M,N1,N2) = (7,6,1,5,0)	A = -0.870388E-01	ASQ = 0.757576E-02
(N,L,M,N1,N2) = (7,6,2,0,4)	A = 0.174078E-00	ASQ = 0.303030E-01
(N,L,M,N1,N2) = (7,6,2,1,3)	A = -0.492366E-00	ASQ = 0.242424E-00
(N,L,M,N1,N2) = (7,6,2,2,2)	A = 0.674200E-00	ASQ = 0.454545E-00
(N,L,M,N1,N2) = (7,6,2,3,1)	A = -0.492366E-00	ASQ = 0.242424E-00
(N,L,M,N1,N2) = (7,6,2,4,0)	A = 0.174078E-00	ASQ = 0.303030E-01
(N,L,M,N1,N2) = (7,6,3,0,3)	A = 0.301511E-00	ASQ = 0.909091E-01
(N,L,M,N1,N2) = (7,6,3,1,2)	A = -0.639602E-00	ASQ = 0.409091E-00
(N,L,M,N1,N2) = (7,6,3,2,1)	A = 0.639602E-00	ASQ = 0.409091E-00
(N,L,M,N1,N2) = (7,6,3,3,0)	A = -0.301511E-00	ASQ = 0.909091E-01
(N,L,M,N1,N2) = (7,6,4,0,2)	A = 0.476731E-00	ASQ = 0.227273E-00
(N,L,M,N1,N2) = (7,6,4,1,1)	A = -0.738549E-00	ASQ = 0.545455E-00
(N,L,M,N1,N2) = (7,6,4,2,0)	A = 0.476731E-00	ASQ = 0.227273E-00
(N,L,M,N1,N2) = (7,6,5,0,1)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (7,6,5,1,0)	A = -0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (7,6,6,0,0)	A = 0.100000E 01	ASQ = 0.100000E 01
(N,L,M,N1,N2) = (8,0,0,0,7)	A = 0.353553E-00	ASQ = 0.125000E-00
(N,L,M,N1,N2) = (8,0,0,1,6)	A = 0.353553E-00	ASQ = 0.125000E-00
(N,L,M,N1,N2) = (8,0,0,2,5)	A = 0.353553E-00	ASQ = 0.125000E-00
(N,L,M,N1,N2) = (8,0,0,3,4)	A = 0.353553E-00	ASQ = 0.125000E-00
(N,L,M,N1,N2) = (8,0,0,4,3)	A = 0.353553E-00	ASQ = 0.125000E-00
(N,L,M,N1,N2) = (8,0,0,5,2)	A = 0.353553E-00	ASQ = 0.125000E-00
(N,L,M,N1,N2) = (8,0,0,6,1)	A = 0.353553E-00	ASQ = 0.125000E-00
(N,L,M,N1,N2) = (8,0,0,7,0)	A = 0.353553E-00	ASQ = 0.125000E-00
(N,L,M,N1,N2) = (8,1,0,0,7)	A = 0.540062E-00	ASQ = 0.291667E-00
(N,L,M,N1,N2) = (8,1,0,1,6)	A = 0.385758E-00	ASQ = 0.148810E-00
(N,L,M,N1,N2) = (8,1,0,2,5)	A = 0.231455E-00	ASQ = 0.535714E-01
(N,L,M,N1,N2) = (8,1,0,3,4)	A = 0.771517E-01	ASQ = 0.595238E-02
(N,L,M,N1,N2) = (8,1,0,4,3)	A = -0.771517E-01	ASQ = 0.595238E-02
(N,L,M,N1,N2) = (8,1,0,5,2)	A = -0.231455E-00	ASQ = 0.535714E-01

(N,L,M,N1,N2) = (8,1,0,6,1)	A = -0.385758E-00	ASQ = 0.148810E-00
(N,L,M,N1,N2) = (8,1,0,7,0)	A = -0.540062E-00	ASQ = 0.291667E-00
(N,L,M,N1,N2) = (8,1,1,0,6)	A = 0.288675E-00	ASQ = 0.833333E-01
(N,L,M,N1,N2) = (8,1,1,1,5)	A = 0.377964E-00	ASQ = 0.142857E-00
(N,L,M,N1,N2) = (8,1,1,2,4)	A = 0.422577E-00	ASQ = 0.178571E-00
(N,L,M,N1,N2) = (8,1,1,3,3)	A = 0.436436E-00	ASQ = 0.190476E-00
(N,L,M,N1,N2) = (8,1,1,4,2)	A = 0.422577E-00	ASQ = 0.178571E-00
(N,L,M,N1,N2) = (8,1,1,5,1)	A = 0.377964E-00	ASQ = 0.142857E-00
(N,L,M,N1,N2) = (8,1,1,6,0)	A = 0.288675E-00	ASQ = 0.833333E-01
(N,L,M,N1,N2) = (8,2,0,0,7)	A = 0.540062E-00	ASQ = 0.291667E-00
(N,L,M,N1,N2) = (8,2,0,1,6)	A = 0.771517E-01	ASQ = 0.595238E-02
(N,L,M,N1,N2) = (8,2,0,2,5)	A = -0.231455E-00	ASQ = 0.535714E-01
(N,L,M,N1,N2) = (8,2,0,3,4)	A = -0.385758E-00	ASQ = 0.148810E-00
(N,L,M,N1,N2) = (8,2,0,4,3)	A = -0.385758E-00	ASQ = 0.148810E-00
(N,L,M,N1,N2) = (8,2,0,5,2)	A = -0.231455E-00	ASQ = 0.535714E-01
(N,L,M,N1,N2) = (8,2,0,6,1)	A = 0.771517E-01	ASQ = 0.595238E-02
(N,L,M,N1,N2) = (8,2,0,7,0)	A = 0.540062E-00	ASQ = 0.291667E-00
(N,L,M,N1,N2) = (8,2,1,0,6)	A = 0.500000E-00	ASQ = 0.250000E-00
(N,L,M,N1,N2) = (8,2,1,1,5)	A = 0.436436E-00	ASQ = 0.190476E-00
(N,L,M,N1,N2) = (8,2,1,2,4)	A = 0.243975E-00	ASQ = 0.595238E-01
(N,L,M,N1,N2) = (8,2,1,3,3)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (8,2,1,4,2)	A = -0.243975E-00	ASQ = 0.595238E-01
(N,L,M,N1,N2) = (8,2,1,5,1)	A = -0.436436E-00	ASQ = 0.190476E-00
(N,L,M,N1,N2) = (8,2,1,6,0)	A = -0.500000E-00	ASQ = 0.250000E-00
(N,L,M,N1,N2) = (8,2,2,0,5)	A = 0.288675E-00	ASQ = 0.833333E-01
(N,L,M,N1,N2) = (8,2,2,1,4)	A = 0.422577E-00	ASQ = 0.178571E-00
(N,L,M,N1,N2) = (8,2,2,2,3)	A = 0.487950E-00	ASQ = 0.238095E-00
(N,L,M,N1,N2) = (8,2,2,3,2)	A = 0.487950E-00	ASQ = 0.238095E-00
(N,L,M,N1,N2) = (8,2,2,4,1)	A = 0.422577E-00	ASQ = 0.178571E-00
(N,L,M,N1,N2) = (8,2,2,5,0)	A = 0.288675E-00	ASQ = 0.833333E-01
(N,L,M,N1,N2) = (8,3,0,0,7)	A = 0.430820E-00	ASQ = 0.185606E-00
(N,L,M,N1,N2) = (8,3,0,1,6)	A = -0.307729E-00	ASQ = 0.946970E-01
(N,L,M,N1,N2) = (8,3,0,2,5)	A = -0.430820E-00	ASQ = 0.185606E-00
(N,L,M,N1,N2) = (8,3,0,3,4)	A = -0.184637E-00	ASQ = 0.340909E-01
(N,L,M,N1,N2) = (8,3,0,4,3)	A = 0.184637E-00	ASQ = 0.340909E-01
(N,L,M,N1,N2) = (8,3,0,5,2)	A = 0.430820E-00	ASQ = 0.185606E-00
(N,L,M,N1,N2) = (8,3,0,6,1)	A = 0.307729E-00	ASQ = 0.946970E-01
(N,L,M,N1,N2) = (8,3,0,7,0)	A = -0.430820E-00	ASQ = 0.185606E-00
(N,L,M,N1,N2) = (8,3,1,0,6)	A = 0.564076E-00	ASQ = 0.318182E-00
(N,L,M,N1,N2) = (8,3,1,1,5)	A = 0.123091E-00	ASQ = 0.151515E-01
(N,L,M,N1,N2) = (8,3,1,2,4)	A = -0.275241E-00	ASQ = 0.757576E-01
(N,L,M,N1,N2) = (8,3,1,3,3)	A = -0.426401E-00	ASQ = 0.181818E-00
(N,L,M,N1,N2) = (8,3,1,4,2)	A = -0.275241E-00	ASQ = 0.757576E-01
(N,L,M,N1,N2) = (8,3,1,5,1)	A = 0.123091E-00	ASQ = 0.151515E-01
(N,L,M,N1,N2) = (8,3,1,6,0)	A = 0.564076E-00	ASQ = 0.318182E-00
(N,L,M,N1,N2) = (8,3,2,0,5)	A = 0.514929E-00	ASQ = 0.265152E-00
(N,L,M,N1,N2) = (8,3,2,1,4)	A = 0.452267E-00	ASQ = 0.204545E-00
(N,L,M,N1,N2) = (8,3,2,2,3)	A = 0.174078E-00	ASQ = 0.303030E-01
(N,L,M,N1,N2) = (8,3,2,3,2)	A = -0.174078E-00	ASQ = 0.303030E-01
(N,L,M,N1,N2) = (8,3,2,4,1)	A = -0.452267E-00	ASQ = 0.204545E-00

(N,L,M,N1,N2) = (8,3,2,5,0)	A = -0.514929E-00	ASQ = 0.265152E-00
(N,L,M,N1,N2) = (8,3,3,0,4)	A = 0.325669E-00	ASQ = 0.106061E-00
(N,L,M,N1,N2) = (8,3,3,1,3)	A = 0.492366E-00	ASQ = 0.242424E-00
(N,L,M,N1,N2) = (8,3,3,2,2)	A = 0.550482E-00	ASQ = 0.303030E-00
(N,L,M,N1,N2) = (8,3,3,3,1)	A = 0.492366E-00	ASQ = 0.242424E-00
(N,L,M,N1,N2) = (8,3,3,4,0)	A = 0.325669E-00	ASQ = 0.106061E-00
(N,L,M,N1,N2) = (8,4,0,0,7)	A = 0.282038E-00	ASQ = 0.795455E-01
(N,L,M,N1,N2) = (8,4,0,1,6)	A = -0.523785E-00	ASQ = 0.274351E-00
(N,L,M,N1,N2) = (8,4,0,2,5)	A = -0.120873E-00	ASQ = 0.146104E-01
(N,L,M,N1,N2) = (8,4,0,3,4)	A = 0.362620E-00	ASQ = 0.131494E-00
(N,L,M,N1,N2) = (8,4,0,4,3)	A = 0.362620E-00	ASQ = 0.131494E-00
(N,L,M,N1,N2) = (8,4,0,5,2)	A = -0.120873E-00	ASQ = 0.146104E-01
(N,L,M,N1,N2) = (8,4,0,6,1)	A = -0.523785E-00	ASQ = 0.274351E-00
(N,L,M,N1,N2) = (8,4,0,7,0)	A = 0.282038E-00	ASQ = 0.795455E-01
(N,L,M,N1,N2) = (8,4,1,0,6)	A = 0.476731E-00	ASQ = 0.227273E-00
(N,L,M,N1,N2) = (8,4,1,1,5)	A = -0.312094E-00	ASQ = 0.974026E-01
(N,L,M,N1,N2) = (8,4,1,2,4)	A = -0.418718E-00	ASQ = 0.175325E-00
(N,L,M,N1,N2) = (8,4,1,3,3)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (8,4,1,4,2)	A = 0.418718E-00	ASQ = 0.175325E-00
(N,L,M,N1,N2) = (8,4,1,5,1)	A = 0.312094E-00	ASQ = 0.974026E-01
(N,L,M,N1,N2) = (8,4,1,6,0)	A = -0.476731E-00	ASQ = 0.227273E-00
(N,L,M,N1,N2) = (8,4,2,0,5)	A = 0.583874E-00	ASQ = 0.340909E-00
(N,L,M,N1,N2) = (8,4,2,1,4)	A = 0.569803E-01	ASQ = 0.324675E-02
(N,L,M,N1,N2) = (8,4,2,2,3)	A = -0.394771E-00	ASQ = 0.155844E-00
(N,L,M,N1,N2) = (8,4,2,3,2)	A = -0.394771E-00	ASQ = 0.155844E-00
(N,L,M,N1,N2) = (8,4,2,4,1)	A = 0.569803E-01	ASQ = 0.324675E-02
(N,L,M,N1,N2) = (8,4,2,5,0)	A = 0.583874E-00	ASQ = 0.340909E-00
(N,L,M,N1,N2) = (8,4,3,0,4)	A = 0.564076E-00	ASQ = 0.318182E-00
(N,L,M,N1,N2) = (8,4,3,1,3)	A = 0.426401E-00	ASQ = 0.181818E-00
(N,L,M,N1,N2) = (8,4,3,2,2)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (8,4,3,3,1)	A = -0.426401E-00	ASQ = 0.181818E-00
(N,L,M,N1,N2) = (8,4,3,4,0)	A = -0.564076E-00	ASQ = 0.318182E-00
(N,L,M,N1,N2) = (8,4,4,0,3)	A = 0.398862E-00	ASQ = 0.159091E-00
(N,L,M,N1,N2) = (8,4,4,1,2)	A = 0.583874E-00	ASQ = 0.340909E-00
(N,L,M,N1,N2) = (8,4,4,2,1)	A = 0.583874E-00	ASQ = 0.340909E-00
(N,L,M,N1,N2) = (8,4,4,3,0)	A = 0.398862E-00	ASQ = 0.159091E-00
(N,L,M,N1,N2) = (8,5,0,0,7)	A = 0.149786E-00	ASQ = 0.224359E-01
(N,L,M,N1,N2) = (8,5,0,1,6)	A = -0.492155E-00	ASQ = 0.242216E-00
(N,L,M,N1,N2) = (8,5,0,2,5)	A = 0.363766E-00	ASQ = 0.132326E-00
(N,L,M,N1,N2) = (8,5,0,3,4)	A = 0.320970E-00	ASQ = 0.103022E-00
(N,L,M,N1,N2) = (8,5,0,4,3)	A = -0.320970E-00	ASQ = 0.103022E-00
(N,L,M,N1,N2) = (8,5,0,5,2)	A = -0.363766E-00	ASQ = 0.132326E-00
(N,L,M,N1,N2) = (8,5,0,6,1)	A = 0.492155E-00	ASQ = 0.242216E-00
(N,L,M,N1,N2) = (8,5,0,7,0)	A = -0.149786E-00	ASQ = 0.224359E-01
(N,L,M,N1,N2) = (8,5,1,0,6)	A = 0.310087E-00	ASQ = 0.961538E-01
(N,L,M,N1,N2) = (8,5,1,1,5)	A = -0.541332E-00	ASQ = 0.293040E-00
(N,L,M,N1,N2) = (8,5,1,2,4)	A = 0.302614E-01	ASQ = 0.915751E-03
(N,L,M,N1,N2) = (8,5,1,3,3)	A = 0.468807E-00	ASQ = 0.219780E-00
(N,L,M,N1,N2) = (8,5,1,4,2)	A = 0.302614E-01	ASQ = 0.915751E-03
(N,L,M,N1,N2) = (8,5,1,5,1)	A = -0.541332E-00	ASQ = 0.293040E-00

{N,L,M,N1,N2} = { 8,5,1,6,0}	A = 0.310087E-00	ASQ = 0.961538E-01
{N,L,M,N1,N2} = { 8,5,2,0,5}	A = 0.473665E-00	ASQ = 0.224359E-00
{N,L,M,N1,N2} = { 8,5,2,1,4}	A = -0.416025E-00	ASQ = 0.173077E-00
{N,L,M,N1,N2} = { 8,5,2,2,3}	A = -0.320256E-00	ASQ = 0.102564E-00
{N,L,M,N1,N2} = { 8,5,2,3,2}	A = 0.320256E-00	ASQ = 0.102564E-00
{N,L,M,N1,N2} = { 8,5,2,4,1}	A = 0.416025E-00	ASQ = 0.173077E-00
{N,L,M,N1,N2} = { 8,5,2,5,0}	A = -0.473665E-00	ASQ = 0.224359E-00
{N,L,M,N1,N2} = { 8,5,3,0,4}	A = 0.599145E-00	ASQ = 0.358974E-00
{N,L,M,N1,N2} = { 8,5,3,1,3}	A = -0.113228E-00	ASQ = 0.128205E-01
{N,L,M,N1,N2} = { 8,5,3,2,2}	A = -0.506370E-00	ASQ = 0.256410E-00
{N,L,M,N1,N2} = { 8,5,3,3,1}	A = -0.113228E-00	ASQ = 0.128205E-01
{N,L,M,N1,N2} = { 8,5,3,4,0}	A = 0.599145E-00	ASQ = 0.358974E-00
{N,L,M,N1,N2} = { 8,5,4,0,3}	A = 0.635489E-00	ASQ = 0.403846E-00
{N,L,M,N1,N2} = { 8,5,4,1,2}	A = 0.310087E-00	ASQ = 0.961538E-01
{N,L,M,N1,N2} = { 8,5,4,2,1}	A = -0.310087E-00	ASQ = 0.961538E-01
{N,L,M,N1,N2} = { 8,5,4,3,0}	A = -0.635489E-00	ASQ = 0.403846E-00
{N,L,M,N1,N2} = { 8,5,5,0,2}	A = 0.518875E-00	ASQ = 0.269231E-00
{N,L,M,N1,N2} = { 8,5,5,1,1}	A = 0.679366E-00	ASQ = 0.461538E-00
{N,L,M,N1,N2} = { 8,5,5,2,0}	A = 0.518875E-00	ASQ = 0.269231E-00
{N,L,M,N1,N2} = { 8,6,0,0,7}	A = 0.615457E-01	ASQ = 0.378788E-02
{N,L,M,N1,N2} = { 8,6,0,1,6}	A = -0.307729E-00	ASQ = 0.946970E-01
{N,L,M,N1,N2} = { 8,6,0,2,5}	A = 0.553912E-00	ASQ = 0.306818E-00
{N,L,M,N1,N2} = { 8,6,0,3,4}	A = -0.307729E-00	ASQ = 0.946970E-01
{N,L,M,N1,N2} = { 8,6,0,4,3}	A = -0.307729E-00	ASQ = 0.946970E-01
{N,L,M,N1,N2} = { 8,6,0,5,2}	A = 0.553912E-00	ASQ = 0.306818E-00
{N,L,M,N1,N2} = { 8,6,0,6,1}	A = -0.307729E-00	ASQ = 0.946970E-01
{N,L,M,N1,N2} = { 8,6,0,7,0}	A = 0.615457E-01	ASQ = 0.378788E-02
{N,L,M,N1,N2} = { 8,6,1,0,6}	A = 0.150756E-00	ASQ = 0.227273E-01
{N,L,M,N1,N2} = { 8,6,1,1,5}	A = -0.460566E-00	ASQ = 0.212121E-00
{N,L,M,N1,N2} = { 8,6,1,2,4}	A = 0.514929E-00	ASQ = 0.265152E-00
{N,L,M,N1,N2} = { 8,6,1,3,3}	A = 0.	ASQ = 0.
{N,L,M,N1,N2} = { 8,6,1,4,2}	A = -0.514929E-00	ASQ = 0.265152E-00
{N,L,M,N1,N2} = { 8,6,1,5,1}	A = 0.460566E-00	ASQ = 0.212121E-00
{N,L,M,N1,N2} = { 8,6,1,6,0}	A = -0.150756E-00	ASQ = 0.227273E-01
{N,L,M,N1,N2} = { 8,6,2,0,5}	A = 0.275241E-00	ASQ = 0.757576E-01
{N,L,M,N1,N2} = { 8,6,2,1,4}	A = -0.564076E-00	ASQ = 0.318182E-00
{N,L,M,N1,N2} = { 8,6,2,2,3}	A = 0.325669E-00	ASQ = 0.106061E-00
{N,L,M,N1,N2} = { 8,6,2,3,2}	A = 0.325669E-00	ASQ = 0.106061E-00
{N,L,M,N1,N2} = { 8,6,2,4,1}	A = -0.564076E-00	ASQ = 0.318182E-00
{N,L,M,N1,N2} = { 8,6,2,5,0}	A = 0.275241E-00	ASQ = 0.757576E-01
{N,L,M,N1,N2} = { 8,6,3,0,4}	A = 0.426401E-00	ASQ = 0.181818E-00
{N,L,M,N1,N2} = { 8,6,3,1,3}	A = -0.564076E-00	ASQ = 0.318182E-00
{N,L,M,N1,N2} = { 8,6,3,2,2}	A = 0.	ASQ = 0.
{N,L,M,N1,N2} = { 8,6,3,3,1}	A = 0.564076E-00	ASQ = 0.318182E-00
{N,L,M,N1,N2} = { 8,6,3,4,0}	A = -0.426401E-00	ASQ = 0.181818E-00
{N,L,M,N1,N2} = { 8,6,4,0,3}	A = 0.583874E-00	ASQ = 0.340909E-00
{N,L,M,N1,N2} = { 8,6,4,1,2}	A = -0.398862E-00	ASQ = 0.159091E-00
{N,L,M,N1,N2} = { 8,6,4,2,1}	A = -0.398862E-00	ASQ = 0.159091E-00
{N,L,M,N1,N2} = { 8,6,4,3,0}	A = 0.583874E-00	ASQ = 0.340909E-00
{N,L,M,N1,N2} = { 8,6,5,0,2}	A = 0.707107E-00	ASQ = 0.500000E-00

(N,L,M,N1,N2) = (8,6,5,1,1)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (8,6,5,2,0)	A = -0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (8,6,6,0,1)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (8,6,6,1,0)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (8,7,0,0,7)	A = 0.170697E-01	ASQ = 0.291375E-03
(N,L,M,N1,N2) = (8,7,0,1,6)	A = -0.119488E-00	ASQ = 0.142774E-01
(N,L,M,N1,N2) = (8,7,0,2,5)	A = 0.358464E-00	ASQ = 0.128497E-00
(N,L,M,N1,N2) = (8,7,0,3,4)	A = -0.597440E-00	ASQ = 0.356935E-00
(N,L,M,N1,N2) = (8,7,0,4,3)	A = 0.597440E-00	ASQ = 0.356935E-00
(N,L,M,N1,N2) = (8,7,0,5,2)	A = -0.358464E-00	ASQ = 0.128497E-00
(N,L,M,N1,N2) = (8,7,0,6,1)	A = 0.119488E-00	ASQ = 0.142774E-01
(N,L,M,N1,N2) = (8,7,0,7,0)	A = -0.170697E-01	ASQ = 0.291375E-03
(N,L,M,N1,N2) = (8,7,1,0,6)	A = 0.482804E-01	ASQ = 0.233100E-02
(N,L,M,N1,N2) = (8,7,1,1,5)	A = -0.221249E-00	ASQ = 0.489510E-01
(N,L,M,N1,N2) = (8,7,1,2,4)	A = 0.494727E-00	ASQ = 0.244755E-00
(N,L,M,N1,N2) = (8,7,1,3,3)	A = -0.638690E-00	ASQ = 0.407925E-00
(N,L,M,N1,N2) = (8,7,1,4,2)	A = 0.494727E-00	ASQ = 0.244755E-00
(N,L,M,N1,N2) = (8,7,1,5,1)	A = -0.221249E-00	ASQ = 0.489510E-01
(N,L,M,N1,N2) = (8,7,1,6,0)	A = 0.482805E-01	ASQ = 0.233100E-02
(N,L,M,N1,N2) = (8,7,2,0,5)	A = 0.102418E-00	ASQ = 0.104895E-01
(N,L,M,N1,N2) = (8,7,2,1,4)	A = -0.349825E-00	ASQ = 0.122378E-00
(N,L,M,N1,N2) = (8,7,2,2,3)	A = 0.605915E-00	ASQ = 0.367133E-00
(N,L,M,N1,N2) = (8,7,2,3,2)	A = -0.605915E-00	ASQ = 0.367133E-00
(N,L,M,N1,N2) = (8,7,2,4,1)	A = 0.349825E-00	ASQ = 0.122378E-00
(N,L,M,N1,N2) = (8,7,2,5,0)	A = -0.102418E-00	ASQ = 0.104895E-01
(N,L,M,N1,N2) = (8,7,3,0,4)	A = 0.186989E-00	ASQ = 0.349650E-01
(N,L,M,N1,N2) = (8,7,3,1,3)	A = -0.494727E-00	ASQ = 0.244755E-00
(N,L,M,N1,N2) = (8,7,3,2,2)	A = 0.663747E-00	ASQ = 0.440559E-00
(N,L,M,N1,N2) = (8,7,3,3,1)	A = -0.494727E-00	ASQ = 0.244755E-00
(N,L,M,N1,N2) = (8,7,3,4,0)	A = 0.186989E-00	ASQ = 0.349650E-01
(N,L,M,N1,N2) = (8,7,4,0,3)	A = 0.310087E-00	ASQ = 0.961539E-01
(N,L,M,N1,N2) = (8,7,4,1,2)	A = -0.635489E-00	ASQ = 0.403846E-00
(N,L,M,N1,N2) = (8,7,4,2,1)	A = 0.635489E-00	ASQ = 0.403846E-00
(N,L,M,N1,N2) = (8,7,4,3,0)	A = -0.310087E-00	ASQ = 0.961538E-01
(N,L,M,N1,N2) = (8,7,5,0,2)	A = 0.480384E-00	ASQ = 0.230769E-00
(N,L,M,N1,N2) = (8,7,5,1,1)	A = -0.733799E-00	ASQ = 0.538462E-00
(N,L,M,N1,N2) = (8,7,5,2,0)	A = 0.480384E-00	ASQ = 0.230769E-00
(N,L,M,N1,N2) = (8,7,6,0,1)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (8,7,6,1,0)	A = -0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (8,7,7,0,0)	A = 0.100000E 01	ASQ = 0.100000E 01
(N,L,M,N1,N2) = (9,0,0,0,8)	A = 0.333333E-00	ASQ = 0.111111E-00
(N,L,M,N1,N2) = (9,0,0,1,7)	A = 0.333333E-00	ASQ = 0.111111E-00
(N,L,M,N1,N2) = (9,0,0,2,6)	A = 0.333333E-00	ASQ = 0.111111E-00
(N,L,M,N1,N2) = (9,0,0,3,5)	A = 0.333333E-00	ASQ = 0.111111E-00
(N,L,M,N1,N2) = (9,0,0,4,4)	A = 0.333333E-00	ASQ = 0.111111E-00
(N,L,M,N1,N2) = (9,0,0,5,3)	A = 0.333333E-00	ASQ = 0.111111E-00
(N,L,M,N1,N2) = (9,0,0,6,2)	A = 0.333333E-00	ASQ = 0.111111E-00
(N,L,M,N1,N2) = (9,0,0,7,1)	A = 0.333333E-00	ASQ = 0.111111E-00
(N,L,M,N1,N2) = (9,0,0,8,0)	A = 0.333333E-00	ASQ = 0.111111E-00
(N,L,M,N1,N2) = (9,1,0,0,8)	A = 0.516398E-00	ASQ = 0.266667E-00

{N,L,M,N1,N2} = { 9,1,0,1,7}	A = 0.387298E-00	ASQ = 0.150000E-00
{N,L,M,N1,N2} = { 9,1,0,2,6}	A = 0.258199E-00	ASQ = 0.666667E-01
{N,L,M,N1,N2} = { 9,1,0,3,5}	A = 0.129099E-00	ASQ = 0.166667E-01
{N,L,M,N1,N2} = { 9,1,0,4,4}	A = 0.	ASQ = 0.
{N,L,M,N1,N2} = { 9,1,0,5,3}	A = -0.129099E-00	ASQ = 0.166667E-01
{N,L,M,N1,N2} = { 9,1,0,6,2}	A = -0.258199E-00	ASQ = 0.666667E-01
{N,L,M,N1,N2} = { 9,1,0,7,1}	A = -0.387298E-00	ASQ = 0.150000E-00
{N,L,M,N1,N2} = { 9,1,0,8,0}	A = -0.516398E-00	ASQ = 0.266667E-00
{N,L,M,N1,N2} = { 9,1,1,0,7}	A = 0.258199E-00	ASQ = 0.666667E-01
{N,L,M,N1,N2} = { 9,1,1,1,6}	A = 0.341565E-00	ASQ = 0.116667E-00
{N,L,M,N1,N2} = { 9,1,1,2,5}	A = 0.387298E-00	ASQ = 0.150000E-00
{N,L,M,N1,N2} = { 9,1,1,3,4}	A = 0.408248E-00	ASQ = 0.166667E-00
{N,L,M,N1,N2} = { 9,1,1,4,3}	A = 0.408248E-00	ASQ = 0.166667E-00
{N,L,M,N1,N2} = { 9,1,1,5,2}	A = 0.387298E-00	ASQ = 0.150000E-00
{N,L,M,N1,N2} = { 9,1,1,6,1}	A = 0.341565E-00	ASQ = 0.116667E-00
{N,L,M,N1,N2} = { 9,1,1,7,0}	A = 0.258199E-00	ASQ = 0.666667E-01
{N,L,M,N1,N2} = { 9,2,0,0,8}	A = 0.531816E-00	ASQ = 0.282828E-00
{N,L,M,N1,N2} = { 9,2,0,1,7}	A = 0.132954E-00	ASQ = 0.176768E-01
{N,L,M,N1,N2} = { 9,2,0,2,6}	A = -0.151947E-00	ASQ = 0.230880E-01
{N,L,M,N1,N2} = { 9,2,0,3,5}	A = -0.322888E-00	ASQ = 0.104257E-00
{N,L,M,N1,N2} = { 9,2,0,4,4}	A = -0.379869E-00	ASQ = 0.144300E-00
{N,L,M,N1,N2} = { 9,2,0,5,3}	A = -0.322888E-00	ASQ = 0.104257E-00
{N,L,M,N1,N2} = { 9,2,0,6,2}	A = -0.151947E-00	ASQ = 0.230880E-01
{N,L,M,N1,N2} = { 9,2,0,7,1}	A = 0.132954E-00	ASQ = 0.176768E-01
{N,L,M,N1,N2} = { 9,2,0,8,0}	A = 0.531816E-00	ASQ = 0.282828E-00
{N,L,M,N1,N2} = { 9,2,1,0,7}	A = 0.460566E-00	ASQ = 0.212121E-00
{N,L,M,N1,N2} = { 9,2,1,1,6}	A = 0.435194E-00	ASQ = 0.189394E-00
{N,L,M,N1,N2} = { 9,2,1,2,5}	A = 0.296078E-00	ASQ = 0.876623E-01
{N,L,M,N1,N2} = { 9,2,1,3,4}	A = 0.104031E-00	ASQ = 0.108225E-01
{N,L,M,N1,N2} = { 9,2,1,4,3}	A = -0.104031E-00	ASQ = 0.108225E-01
{N,L,M,N1,N2} = { 9,2,1,5,2}	A = -0.296078E-00	ASQ = 0.876623E-01
{N,L,M,N1,N2} = { 9,2,1,6,1}	A = -0.435194E-00	ASQ = 0.189394E-00
{N,L,M,N1,N2} = { 9,2,1,7,0}	A = -0.460566E-00	ASQ = 0.212121E-00
{N,L,M,N1,N2} = { 9,2,2,0,6}	A = 0.246183E-00	ASQ = 0.606061E-01
{N,L,M,N1,N2} = { 9,2,2,1,5}	A = 0.369274E-00	ASQ = 0.136364E-00
{N,L,M,N1,N2} = { 9,2,2,2,4}	A = 0.441367E-00	ASQ = 0.194805E-00
{N,L,M,N1,N2} = { 9,2,2,3,3}	A = 0.465242E-00	ASQ = 0.216450E-00
{N,L,M,N1,N2} = { 9,2,2,4,2}	A = 0.441367E-00	ASQ = 0.194805E-00
{N,L,M,N1,N2} = { 9,2,2,5,1}	A = 0.369274E-00	ASQ = 0.136364E-00
{N,L,M,N1,N2} = { 9,2,2,6,0}	A = 0.246183E-00	ASQ = 0.606061E-01
{N,L,M,N1,N2} = { 9,3,0,0,8}	A = 0.444949E-00	ASQ = 0.197980E-00
{N,L,M,N1,N2} = { 9,3,0,1,7}	A = -0.222475E-00	ASQ = 0.494949E-01
{N,L,M,N1,N2} = { 9,3,0,2,6}	A = -0.413167E-00	ASQ = 0.170707E-00
{N,L,M,N1,N2} = { 9,3,0,3,5}	A = -0.286039E-00	ASQ = 0.818182E-01
{N,L,M,N1,N2} = { 9,3,0,4,4}	A = 0.	ASQ = 0.
{N,L,M,N1,N2} = { 9,3,0,5,3}	A = 0.286039E-00	ASQ = 0.818182E-01
{N,L,M,N1,N2} = { 9,3,0,6,2}	A = 0.413167E-00	ASQ = 0.170707E-00
{N,L,M,N1,N2} = { 9,3,0,7,1}	A = 0.222475E-00	ASQ = 0.494949E-01
{N,L,M,N1,N2} = { 9,3,0,8,0}	A = -0.444949E-00	ASQ = 0.197980E-00
{N,L,M,N1,N2} = { 9,3,1,0,7}	A = 0.544949E-00	ASQ = 0.296970E-00

(N,L,M,N1,N2) = (9,3,1,1,6)	A = 0.205971E-00	ASQ = 0.424242E-01
(N,L,M,N1,N2) = (9,3,1,2,5)	A = -0.155700E-00	ASQ = 0.242424E-01
(N,L,M,N1,N2) = (9,3,1,3,4)	A = -0.369274E-00	ASQ = 0.136364E-00
(N,L,M,N1,N2) = (9,3,1,4,3)	A = -0.369274E-00	ASQ = 0.136364E-00
(N,L,M,N1,N2) = (9,3,1,5,2)	A = -0.155700E-00	ASQ = 0.242424E-01
(N,L,M,N1,N2) = (9,3,1,6,1)	A = 0.205971E-00	ASQ = 0.424242E-01
(N,L,M,N1,N2) = (9,3,1,7,0)	A = 0.544949E-00	ASQ = 0.296970E-00
(N,L,M,N1,N2) = (9,3,2,0,6)	A = 0.460566E-00	ASQ = 0.212121E-00
(N,L,M,N1,N2) = (9,3,2,1,5)	A = 0.460566E-00	ASQ = 0.212121E-00
(N,L,M,N1,N2) = (9,3,2,2,4)	A = 0.275241E-00	ASQ = 0.757576E-01
(N,L,M,N1,N2) = (9,3,2,3,3)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (9,3,2,4,2)	A = -0.275241E-00	ASQ = 0.757576E-01
(N,L,M,N1,N2) = (9,3,2,5,1)	A = -0.460566E-00	ASQ = 0.212121E-00
(N,L,M,N1,N2) = (9,3,2,6,0)	A = -0.460566E-00	ASQ = 0.212121E-00
(N,L,M,N1,N2) = (9,3,3,0,5)	A = 0.265908E-00	ASQ = 0.707071E-01
(N,L,M,N1,N2) = (9,3,3,1,4)	A = 0.420437E-00	ASQ = 0.176768E-00
(N,L,M,N1,N2) = (9,3,3,2,3)	A = 0.502519E-00	ASQ = 0.252525E-00
(N,L,M,N1,N2) = (9,3,3,3,2)	A = 0.502519E-00	ASQ = 0.252525E-00
(N,L,M,N1,N2) = (9,3,3,4,1)	A = 0.420437E-00	ASQ = 0.176768E-00
(N,L,M,N1,N2) = (9,3,3,5,0)	A = 0.265908E-00	ASQ = 0.707071E-01
(N,L,M,N1,N2) = (9,4,0,0,8)	A = 0.312893E-00	ASQ = 0.979021E-01
(N,L,M,N1,N2) = (9,4,0,1,7)	A = -0.469340E-00	ASQ = 0.220280E-00
(N,L,M,N1,N2) = (9,4,0,2,6)	A = -0.245845E-00	ASQ = 0.604396E-01
(N,L,M,N1,N2) = (9,4,0,3,5)	A = 0.201146E-00	ASQ = 0.404595E-01
(N,L,M,N1,N2) = (9,4,0,4,4)	A = 0.402291E-00	ASQ = 0.161838E-00
(N,L,M,N1,N2) = (9,4,0,5,3)	A = 0.201146E-00	ASQ = 0.404595E-01
(N,L,M,N1,N2) = (9,4,0,6,2)	A = -0.245845E-00	ASQ = 0.604396E-01
(N,L,M,N1,N2) = (9,4,0,7,1)	A = -0.469340E-00	ASQ = 0.220280E-00
(N,L,M,N1,N2) = (9,4,0,8,0)	A = 0.312893E-00	ASQ = 0.979021E-01
(N,L,M,N1,N2) = (9,4,1,0,7)	A = 0.494727E-00	ASQ = 0.244755E-00
(N,L,M,N1,N2) = (9,4,1,1,6)	A = -0.186989E-00	ASQ = 0.349650E-01
(N,L,M,N1,N2) = (9,4,1,2,5)	A = -0.424052E-00	ASQ = 0.179820E-00
(N,L,M,N1,N2) = (9,4,1,3,4)	A = -0.201146E-00	ASQ = 0.404595E-01
(N,L,M,N1,N2) = (9,4,1,4,3)	A = 0.201146E-00	ASQ = 0.404595E-01
(N,L,M,N1,N2) = (9,4,1,5,2)	A = 0.424052E-00	ASQ = 0.179820E-00
(N,L,M,N1,N2) = (9,4,1,6,1)	A = 0.186989E-00	ASQ = 0.349650E-01
(N,L,M,N1,N2) = (9,4,1,7,0)	A = -0.494727E-00	ASQ = 0.244755E-00
(N,L,M,N1,N2) = (9,4,2,0,6)	A = 0.560968E-00	ASQ = 0.314685E-00
(N,L,M,N1,N2) = (9,4,2,1,5)	A = 0.186989E-00	ASQ = 0.349650E-01
(N,L,M,N1,N2) = (9,4,2,2,4)	A = -0.245845E-00	ASQ = 0.604396E-01
(N,L,M,N1,N2) = (9,4,2,3,3)	A = -0.424052E-00	ASQ = 0.179820E-00
(N,L,M,N1,N2) = (9,4,2,4,2)	A = -0.245845E-00	ASQ = 0.604396E-01
(N,L,M,N1,N2) = (9,4,2,5,1)	A = 0.186989E-00	ASQ = 0.349650E-01
(N,L,M,N1,N2) = (9,4,2,6,0)	A = 0.560968E-00	ASQ = 0.314685E-00
(N,L,M,N1,N2) = (9,4,3,0,5)	A = 0.494727E-00	ASQ = 0.244755E-00
(N,L,M,N1,N2) = (9,4,3,1,4)	A = 0.469340E-00	ASQ = 0.220280E-00
(N,L,M,N1,N2) = (9,4,3,2,3)	A = 0.186989E-00	ASQ = 0.349650E-01
(N,L,M,N1,N2) = (9,4,3,3,2)	A = -0.186989E-00	ASQ = 0.349650E-01
(N,L,M,N1,N2) = (9,4,3,4,1)	A = -0.469340E-00	ASQ = 0.220280E-00
(N,L,M,N1,N2) = (9,4,3,5,0)	A = -0.494727E-00	ASQ = 0.244755E-00

(N,L,M,N1,N2) = (9,4,4,0,4)	A = 0.312893E-00	ASQ = 0.979021E-01
(N,L,M,N1,N2) = (9,4,4,1,3)	A = 0.494727E-00	ASQ = 0.244755E-00
(N,L,M,N1,N2) = (9,4,4,2,2)	A = 0.560968E-00	ASQ = 0.314685E-00
(N,L,M,N1,N2) = (9,4,4,3,1)	A = 0.494727E-00	ASQ = 0.244755E-00
(N,L,M,N1,N2) = (9,4,4,4,0)	A = 0.312893E-00	ASQ = 0.979021E-01
(N,L,M,N1,N2) = (9,5,0,0,8)	A = 0.184900E-00	ASQ = 0.341880E-01
(N,L,M,N1,N2) = (9,5,0,1,7)	A = -0.508475E-00	ASQ = 0.258547E-00
(N,L,M,N1,N2) = (9,5,0,2,6)	A = 0.184900E-00	ASQ = 0.341880E-01
(N,L,M,N1,N2) = (9,5,0,3,5)	A = 0.416025E-00	ASQ = 0.173077E-00
(N,L,M,N1,N2) = (9,5,0,4,4)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (9,5,0,5,3)	A = -0.416025E-00	ASQ = 0.173077E-00
(N,L,M,N1,N2) = (9,5,0,6,2)	A = -0.184900E-00	ASQ = 0.341880E-01
(N,L,M,N1,N2) = (9,5,0,7,1)	A = 0.508475E-00	ASQ = 0.258547E-00
(N,L,M,N1,N2) = (9,5,0,8,0)	A = -0.184900E-00	ASQ = 0.341880E-01
(N,L,M,N1,N2) = (9,5,1,0,7)	A = 0.358057E-00	ASQ = 0.128205E-00
(N,L,M,N1,N2) = (9,5,1,1,6)	A = -0.473665E-00	ASQ = 0.224359E-00
(N,L,M,N1,N2) = (9,5,1,2,5)	A = -0.179029E-00	ASQ = 0.320513E-01
(N,L,M,N1,N2) = (9,5,1,3,4)	A = 0.339683E-00	ASQ = 0.115385E-00
(N,L,M,N1,N2) = (9,5,1,4,3)	A = 0.339683E-00	ASQ = 0.115385E-00
(N,L,M,N1,N2) = (9,5,1,5,2)	A = -0.179029E-00	ASQ = 0.320513E-01
(N,L,M,N1,N2) = (9,5,1,6,1)	A = -0.473665E-00	ASQ = 0.224359E-00
(N,L,M,N1,N2) = (9,5,1,7,0)	A = 0.358057E-00	ASQ = 0.128205E-00
(N,L,M,N1,N2) = (9,5,2,0,6)	A = 0.506370E-00	ASQ = 0.256410E-00
(N,L,M,N1,N2) = (9,5,2,1,5)	A = -0.253185E-00	ASQ = 0.641026E-01
(N,L,M,N1,N2) = (9,5,2,2,4)	A = -0.423659E-00	ASQ = 0.179487E-00
(N,L,M,N1,N2) = (9,5,2,3,3)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (9,5,2,4,2)	A = 0.423659E-00	ASQ = 0.179487E-00
(N,L,M,N1,N2) = (9,5,2,5,1)	A = 0.253185E-00	ASQ = 0.641026E-01
(N,L,M,N1,N2) = (9,5,2,6,0)	A = -0.506370E-00	ASQ = 0.256410E-00
(N,L,M,N1,N2) = (9,5,3,0,5)	A = 0.584705E-00	ASQ = 0.341880E-00
(N,L,M,N1,N2) = (9,5,3,1,4)	A = 0.924500E-01	ASQ = 0.854701E-02
(N,L,M,N1,N2) = (9,5,3,2,3)	A = -0.386746E-00	ASQ = 0.149573E-00
(N,L,M,N1,N2) = (9,5,3,3,2)	A = -0.386746E-00	ASQ = 0.149573E-00
(N,L,M,N1,N2) = (9,5,3,4,1)	A = 0.924500E-01	ASQ = 0.854701E-02
(N,L,M,N1,N2) = (9,5,3,5,0)	A = 0.584705E-00	ASQ = 0.341880E-00
(N,L,M,N1,N2) = (9,5,4,0,4)	A = 0.554700E-00	ASQ = 0.307692E-00
(N,L,M,N1,N2) = (9,5,4,1,3)	A = 0.438529E-00	ASQ = 0.192308E-00
(N,L,M,N1,N2) = (9,5,4,2,2)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (9,5,4,3,1)	A = -0.438529E-00	ASQ = 0.192308E-00
(N,L,M,N1,N2) = (9,5,4,4,0)	A = -0.554700E-00	ASQ = 0.307692E-00
(N,L,M,N1,N2) = (9,5,5,0,3)	A = 0.392232E-00	ASQ = 0.153846E-00
(N,L,M,N1,N2) = (9,5,5,1,2)	A = 0.588348E-00	ASQ = 0.346154E-00
(N,L,M,N1,N2) = (9,5,5,2,1)	A = 0.588348E-00	ASQ = 0.346154E-00
(N,L,M,N1,N2) = (9,5,5,3,0)	A = 0.392232E-00	ASQ = 0.153846E-00
(N,L,M,N1,N2) = (9,6,0,0,8)	A = 0.898933E-01	ASQ = 0.808081E-02
(N,L,M,N1,N2) = (9,6,0,1,7)	A = -0.382047E-00	ASQ = 0.145960E-00
(N,L,M,N1,N2) = (9,6,0,2,6)	A = 0.494413E-00	ASQ = 0.244444E-00
(N,L,M,N1,N2) = (9,6,0,3,5)	A = 0.224733E-01	ASQ = 0.505051E-03
(N,L,M,N1,N2) = (9,6,0,4,4)	A = -0.449467E-00	ASQ = 0.202020E-00
(N,L,M,N1,N2) = (9,6,0,5,3)	A = 0.224733E-01	ASQ = 0.505051E-03

(N,L,M,N1,N2) = (9,6,0,6,2)	A = 0.494413E-00	ASQ = 0.244444E-00
(N,L,M,N1,N2) = (9,6,0,7,1)	A = -0.382047E-00	ASQ = 0.145960E-00
(N,L,M,N1,N2) = (9,6,0,8,0)	A = 0.898933E-01	ASQ = 0.808081E-02
(N,L,M,N1,N2) = (9,6,1,0,7)	A = 0.205971E-00	ASQ = 0.424242E-01
(N,L,M,N1,N2) = (9,6,1,1,6)	A = -0.506024E-00	ASQ = 0.256061E-00
(N,L,M,N1,N2) = (9,6,1,2,5)	A = 0.308957E-00	ASQ = 0.954545E-01
(N,L,M,N1,N2) = (9,6,1,3,4)	A = 0.325669E-00	ASQ = 0.106061E-00
(N,L,M,N1,N2) = (9,6,1,4,3)	A = -0.325669E-00	ASQ = 0.106061E-00
(N,L,M,N1,N2) = (9,6,1,5,2)	A = -0.308957E-00	ASQ = 0.954545E-01
(N,L,M,N1,N2) = (9,6,1,6,1)	A = 0.506024E-00	ASQ = 0.256061E-00
(N,L,M,N1,N2) = (9,6,1,7,0)	A = -0.205971E-00	ASQ = 0.424242E-01
(N,L,M,N1,N2) = (9,6,2,0,6)	A = 0.348155E-00	ASQ = 0.121212E-00
(N,L,M,N1,N2) = (9,6,2,1,5)	A = -0.522233E-00	ASQ = 0.272727E-00
(N,L,M,N1,N2) = (9,6,2,2,4)	A = -0.295970E-10	ASQ = 0.875985E-21
(N,L,M,N1,N2) = (9,6,2,3,3)	A = 0.460566E-00	ASQ = 0.212121E-00
(N,L,M,N1,N2) = (9,6,2,4,2)	A = 0.429157E-10	ASQ = 0.184176E-20
(N,L,M,N1,N2) = (9,6,2,5,1)	A = -0.522233E-00	ASQ = 0.272727E-00
(N,L,M,N1,N2) = (9,6,2,6,0)	A = 0.348155E-00	ASQ = 0.121212E-00
(N,L,M,N1,N2) = (9,6,3,0,5)	A = 0.492366E-00	ASQ = 0.242424E-00
(N,L,M,N1,N2) = (9,6,3,1,4)	A = -0.389249E-00	ASQ = 0.151515E-00
(N,L,M,N1,N2) = (9,6,3,2,3)	A = -0.325669E-00	ASQ = 0.106061E-00
(N,L,M,N1,N2) = (9,6,3,3,2)	A = 0.325669E-00	ASQ = 0.106061E-00
(N,L,M,N1,N2) = (9,6,3,4,1)	A = 0.389249E-00	ASQ = 0.151515E-00
(N,L,M,N1,N2) = (9,6,3,5,0)	A = -0.492366E-00	ASQ = 0.242424E-00
(N,L,M,N1,N2) = (9,6,4,0,4)	A = 0.603023E-00	ASQ = 0.363636E-00
(N,L,M,N1,N2) = (9,6,4,1,3)	A = -0.953463E-01	ASQ = 0.909091E-02
(N,L,M,N1,N2) = (9,6,4,2,2)	A = -0.504525E-00	ASQ = 0.254545E-00
(N,L,M,N1,N2) = (9,6,4,3,1)	A = -0.953463E-01	ASQ = 0.909091E-02
(N,L,M,N1,N2) = (9,6,4,4,0)	A = 0.603023E-00	ASQ = 0.363636E-00
(N,L,M,N1,N2) = (9,6,5,0,3)	A = 0.632456E-00	ASQ = 0.400000E-00
(N,L,M,N1,N2) = (9,6,5,1,2)	A = 0.316228E-00	ASQ = 0.100000E-00
(N,L,M,N1,N2) = (9,6,5,2,1)	A = -0.316228E-00	ASQ = 0.100000E-00
(N,L,M,N1,N2) = (9,6,5,3,0)	A = -0.632456E-00	ASQ = 0.400000E-00
(N,L,M,N1,N2) = (9,6,6,0,2)	A = 0.516398E-00	ASQ = 0.266667E-00
(N,L,M,N1,N2) = (9,6,6,1,1)	A = 0.683130E-00	ASQ = 0.466667E-00
(N,L,M,N1,N2) = (9,6,6,2,0)	A = 0.516398E-00	ASQ = 0.266667E-00
(N,L,M,N1,N2) = (9,7,0,0,8)	A = 0.341394E-01	ASQ = 0.116550E-02
(N,L,M,N1,N2) = (9,7,0,1,7)	A = -0.204837E-00	ASQ = 0.419580E-01
(N,L,M,N1,N2) = (9,7,0,2,6)	A = 0.477952E-00	ASQ = 0.228438E-00
(N,L,M,N1,N2) = (9,7,0,3,5)	A = -0.477952E-00	ASQ = 0.228438E-00
(N,L,M,N1,N2) = (9,7,0,4,4)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (9,7,0,5,3)	A = 0.477952E-00	ASQ = 0.228438E-00
(N,L,M,N1,N2) = (9,7,0,6,2)	A = -0.477952E-00	ASQ = 0.228438E-00
(N,L,M,N1,N2) = (9,7,0,7,1)	A = 0.204837E-00	ASQ = 0.419580E-01
(N,L,M,N1,N2) = (9,7,0,8,0)	A = -0.341394E-01	ASQ = 0.116550E-02
(N,L,M,N1,N2) = (9,7,1,0,7)	A = 0.903245E-01	ASQ = 0.815851E-02
(N,L,M,N1,N2) = (9,7,1,1,6)	A = -0.341394E-00	ASQ = 0.116550E-00
(N,L,M,N1,N2) = (9,7,1,2,5)	A = 0.541947E-00	ASQ = 0.293706E-00
(N,L,M,N1,N2) = (9,7,1,3,4)	A = -0.285631E-00	ASQ = 0.815851E-01
(N,L,M,N1,N2) = (9,7,1,4,3)	A = -0.285631E-00	ASQ = 0.815851E-01

(N,L,M,N1,N2) = (9,7,1,5,2)	A = 0.541947E-00	ASQ = 0.293706E-00
(N,L,M,N1,N2) = (9,7,1,6,1)	A = -0.341394E-00	ASQ = 0.116550E-00
(N,L,M,N1,N2) = (9,7,1,7,0)	A = 0.903245E-01	ASQ = 0.815851E-02
(N,L,M,N1,N2) = (9,7,2,0,6)	A = 0.177394E-00	ASQ = 0.314685E-01
(N,L,M,N1,N2) = (9,7,2,1,5)	A = -0.473050E-00	ASQ = 0.223776E-00
(N,L,M,N1,N2) = (9,7,2,2,4)	A = 0.494727E-00	ASQ = 0.244755E-00
(N,L,M,N1,N2) = (9,7,2,3,3)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (9,7,2,4,2)	A = -0.494727E-00	ASQ = 0.244755E-00
(N,L,M,N1,N2) = (9,7,2,5,1)	A = 0.473050E-00	ASQ = 0.223776E-00
(N,L,M,N1,N2) = (9,7,2,6,0)	A = -0.177394E-00	ASQ = 0.314685E-01
(N,L,M,N1,N2) = (9,7,3,0,5)	A = 0.295656E-00	ASQ = 0.874126E-01
(N,L,M,N1,N2) = (9,7,3,1,4)	A = -0.560968E-00	ASQ = 0.314685E-00
(N,L,M,N1,N2) = (9,7,3,2,3)	A = 0.312893E-00	ASQ = 0.979021E-01
(N,L,M,N1,N2) = (9,7,3,3,2)	A = 0.312893E-00	ASQ = 0.979021E-01
(N,L,M,N1,N2) = (9,7,3,4,1)	A = -0.560968E-00	ASQ = 0.314685E-00
(N,L,M,N1,N2) = (9,7,3,5,0)	A = 0.295656E-00	ASQ = 0.874126E-01
(N,L,M,N1,N2) = (9,7,4,0,4)	A = 0.438529E-00	ASQ = 0.192308E-00
(N,L,M,N1,N2) = (9,7,4,1,3)	A = -0.554700E-00	ASQ = 0.307692E-00
(N,L,M,N1,N2) = (9,7,4,2,2)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (9,7,4,3,1)	A = 0.554700E-00	ASQ = 0.307692E-00
(N,L,M,N1,N2) = (9,7,4,4,0)	A = -0.438529E-00	ASQ = 0.192308E-00
(N,L,M,N1,N2) = (9,7,5,0,3)	A = 0.588348E-00	ASQ = 0.346154E-00
(N,L,M,N1,N2) = (9,7,5,1,2)	A = -0.392232E-00	ASQ = 0.153846E-00
(N,L,M,N1,N2) = (9,7,5,2,1)	A = -0.392232E-00	ASQ = 0.153846E-00
(N,L,M,N1,N2) = (9,7,5,3,0)	A = 0.588348E-00	ASQ = 0.346154E-00
(N,L,M,N1,N2) = (9,7,6,0,2)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (9,7,6,1,1)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (9,7,6,2,0)	A = -0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (9,7,7,0,1)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (9,7,7,1,0)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (9,8,0,0,8)	A = 0.881475E-02	ASQ = 0.776998E-04
(N,L,M,N1,N2) = (9,8,0,1,7)	A = -0.705181E-01	ASQ = 0.497281E-02
(N,L,M,N1,N2) = (9,8,0,2,6)	A = 0.246813E-00	ASQ = 0.609169E-01
(N,L,M,N1,N2) = (9,8,0,3,5)	A = -0.493627E-00	ASQ = 0.243667E-00
(N,L,M,N1,N2) = (9,8,0,4,4)	A = 0.617034E-00	ASQ = 0.380730E-00
(N,L,M,N1,N2) = (9,8,0,5,3)	A = -0.493627E-00	ASQ = 0.243667E-00
(N,L,M,N1,N2) = (9,8,0,6,2)	A = 0.246813E-00	ASQ = 0.609169E-01
(N,L,M,N1,N2) = (9,8,0,7,1)	A = -0.705181E-01	ASQ = 0.497280E-02
(N,L,M,N1,N2) = (9,8,0,8,0)	A = 0.881476E-02	ASQ = 0.777001E-04
(N,L,M,N1,N2) = (9,8,1,0,7)	A = 0.264444E-01	ASQ = 0.699308E-03
(N,L,M,N1,N2) = (9,8,1,1,6)	A = -0.139930E-00	ASQ = 0.195804E-01
(N,L,M,N1,N2) = (9,8,1,2,5)	A = 0.370220E-00	ASQ = 0.137063E-00
(N,L,M,N1,N2) = (9,8,1,3,4)	A = -0.585369E-00	ASQ = 0.342657E-00
(N,L,M,N1,N2) = (9,8,1,4,3)	A = 0.585369E-00	ASQ = 0.342657E-00
(N,L,M,N1,N2) = (9,8,1,5,2)	A = -0.370220E-00	ASQ = 0.137063E-00
(N,L,M,N1,N2) = (9,8,1,6,1)	A = 0.139930E-00	ASQ = 0.195804E-01
(N,L,M,N1,N2) = (9,8,1,7,0)	A = -0.264443E-01	ASQ = 0.699301E-03
(N,L,M,N1,N2) = (9,8,2,0,6)	A = 0.591320E-01	ASQ = 0.349659E-02
(N,L,M,N1,N2) = (9,8,2,1,5)	A = -0.236525E-00	ASQ = 0.559441E-01
(N,L,M,N1,N2) = (9,8,2,2,4)	A = 0.494727E-00	ASQ = 0.244755E-00

(N,L,M,N1,N2) = (9,8,2,3,3)	A = -0.625786E-00	ASQ = 0.391608E-00
(N,L,M,N1,N2) = (9,8,2,4,2)	A = 0.494727E-00	ASQ = 0.244755E-00
(N,L,M,N1,N2) = (9,8,2,5,1)	A = -0.236525E-00	ASQ = 0.559441E-01
(N,L,M,N1,N2) = (9,8,2,6,0)	A = 0.591312E-01	ASQ = 0.349650E-02
(N,L,M,N1,N2) = (9,8,3,0,5)	A = 0.113228E-00	ASQ = 0.128206E-01
(N,L,M,N1,N2) = (9,8,3,1,4)	A = -0.358057E-00	ASQ = 0.128205E-00
(N,L,M,N1,N2) = (9,8,3,2,3)	A = 0.599145E-00	ASQ = 0.358974E-00
(N,L,M,N1,N2) = (9,8,3,3,2)	A = -0.599145E-00	ASQ = 0.358974E-00
(N,L,M,N1,N2) = (9,8,3,4,1)	A = 0.358057E-00	ASQ = 0.128205E-00
(N,L,M,N1,N2) = (9,8,3,5,0)	A = -0.113228E-00	ASQ = 0.128205E-01
(N,L,M,N1,N2) = (9,8,4,0,4)	A = 0.196116E-00	ASQ = 0.384616E-01
(N,L,M,N1,N2) = (9,8,4,1,3)	A = -0.496139E-00	ASQ = 0.246154E-00
(N,L,M,N1,N2) = (9,8,4,2,2)	A = 0.656330E-00	ASQ = 0.430769E-00
(N,L,M,N1,N2) = (9,8,4,3,1)	A = -0.496139E-00	ASQ = 0.246154E-00
(N,L,M,N1,N2) = (9,8,4,4,0)	A = 0.196116E-00	ASQ = 0.384615E-01
(N,L,M,N1,N2) = (9,8,5,0,3)	A = 0.316228E-00	ASQ = 0.999999E-01
(N,L,M,N1,N2) = (9,8,5,1,2)	A = -0.632456E-00	ASQ = 0.400000E-00
(N,L,M,N1,N2) = (9,8,5,2,1)	A = 0.632456E-00	ASQ = 0.400000E-00
(N,L,M,N1,N2) = (9,8,5,3,0)	A = -0.316228E-00	ASQ = 0.100000E-00
(N,L,M,N1,N2) = (9,8,6,0,2)	A = 0.483046E-00	ASQ = 0.233334E-00
(N,L,M,N1,N2) = (9,8,6,1,1)	A = -0.730297E-00	ASQ = 0.533333E-00
(N,L,M,N1,N2) = (9,8,6,2,0)	A = 0.483046E-00	ASQ = 0.233333E-00
(N,L,M,N1,N2) = (9,8,7,0,1)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (9,8,7,1,0)	A = -0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (9,8,8,0,0)	A = 0.100000E 01	ASQ = 0.100000E 01
(N,L,M,N1,N2) = (10,0,0,0,9)	A = 0.316228E-00	ASQ = 0.100000E-00
(N,L,M,N1,N2) = (10,0,0,1,8)	A = 0.316228E-00	ASQ = 0.100000E-00
(N,L,M,N1,N2) = (10,0,0,2,7)	A = 0.316228E-00	ASQ = 0.100000E-00
(N,L,M,N1,N2) = (10,0,0,3,6)	A = 0.316228E-00	ASQ = 0.100000E-00
(N,L,M,N1,N2) = (10,0,0,4,5)	A = 0.316228E-00	ASQ = 0.100000E-00
(N,L,M,N1,N2) = (10,0,0,5,4)	A = 0.316228E-00	ASQ = 0.100000E-00
(N,L,M,N1,N2) = (10,0,0,6,3)	A = 0.316228E-00	ASQ = 0.100000E-00
(N,L,M,N1,N2) = (10,0,0,7,2)	A = 0.316228E-00	ASQ = 0.100000E-00
(N,L,M,N1,N2) = (10,0,0,8,1)	A = 0.316228E-00	ASQ = 0.100000E-00
(N,L,M,N1,N2) = (10,0,0,9,0)	A = 0.316228E-00	ASQ = 0.100000E-00
(N,L,M,N1,N2) = (10,1,0,0,9)	A = 0.495434E-00	ASQ = 0.245455E-00
(N,L,M,N1,N2) = (10,1,0,1,8)	A = 0.385337E-00	ASQ = 0.148485E-00
(N,L,M,N1,N2) = (10,1,0,2,7)	A = 0.275241E-00	ASQ = 0.757576E-01
(N,L,M,N1,N2) = (10,1,0,3,6)	A = 0.165145E-00	ASQ = 0.272727E-01
(N,L,M,N1,N2) = (10,1,0,4,5)	A = 0.550482E-01	ASQ = 0.303030E-02
(N,L,M,N1,N2) = (10,1,0,5,4)	A = -0.550482E-01	ASQ = 0.303030E-02
(N,L,M,N1,N2) = (10,1,0,6,3)	A = -0.165145E-00	ASQ = 0.272727E-01
(N,L,M,N1,N2) = (10,1,0,7,2)	A = -0.275241E-00	ASQ = 0.757576E-01
(N,L,M,N1,N2) = (10,1,0,8,1)	A = -0.385337E-00	ASQ = 0.148485E-00
(N,L,M,N1,N2) = (10,1,0,9,0)	A = -0.495434E-00	ASQ = 0.245455E-00
(N,L,M,N1,N2) = (10,1,1,0,8)	A = 0.233550E-00	ASQ = 0.545455E-01
(N,L,M,N1,N2) = (10,1,1,1,7)	A = 0.311400E-00	ASQ = 0.969697E-01
(N,L,M,N1,N2) = (10,1,1,2,6)	A = 0.356753E-00	ASQ = 0.127273E-00
(N,L,M,N1,N2) = (10,1,1,3,5)	A = 0.381385E-00	ASQ = 0.145455E-00
(N,L,M,N1,N2) = (10,1,1,4,4)	A = 0.389249E-00	ASQ = 0.151515E-00

(N,L,M,N1,N2) = (10,1,1,5,3)	A = 0.381385E-00	ASQ = 0.145455E-00
(N,L,M,N1,N2) = (10,1,1,6,2)	A = 0.356753E-00	ASQ = 0.127273E-00
(N,L,M,N1,N2) = (10,1,1,7,1)	A = 0.311400E-00	ASQ = 0.969697E-01
(N,L,M,N1,N2) = (10,1,1,8,0)	A = 0.233550E-00	ASQ = 0.545455E-01
(N,L,M,N1,N2) = (10,2,0,0,9)	A = 0.522233E-00	ASQ = 0.272727E-00
(N,L,M,N1,N2) = (10,2,0,1,8)	A = 0.174078E-00	ASQ = 0.303030E-01
(N,L,M,N1,N2) = (10,2,0,2,7)	A = -0.870388E-01	ASQ = 0.757576E-02
(N,L,M,N1,N2) = (10,2,0,3,6)	A = -0.261116E-00	ASQ = 0.681818E-01
(N,L,M,N1,N2) = (10,2,0,4,5)	A = -0.348155E-00	ASQ = 0.121212E-00
(N,L,M,N1,N2) = (10,2,0,5,4)	A = -0.348155E-00	ASQ = 0.121212E-00
(N,L,M,N1,N2) = (10,2,0,6,3)	A = -0.261116E-00	ASQ = 0.681818E-01
(N,L,M,N1,N2) = (10,2,0,7,2)	A = -0.870388E-01	ASQ = 0.757576E-02
(N,L,M,N1,N2) = (10,2,0,8,1)	A = 0.174078E-00	ASQ = 0.303030E-01
(N,L,M,N1,N2) = (10,2,0,9,0)	A = 0.522233E-00	ASQ = 0.272727E-00
(N,L,M,N1,N2) = (10,2,1,0,8)	A = 0.426401E-00	ASQ = 0.181818E-00
(N,L,M,N1,N2) = (10,2,1,1,7)	A = 0.426401E-00	ASQ = 0.181818E-00
(N,L,M,N1,N2) = (10,2,1,2,6)	A = 0.325669E-00	ASQ = 0.106061E-00
(N,L,M,N1,N2) = (10,2,1,3,5)	A = 0.174078E-00	ASQ = 0.303030E-01
(N,L,M,N1,N2) = (10,2,1,4,4)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (10,2,1,5,3)	A = -0.174078E-00	ASQ = 0.303030E-01
(N,L,M,N1,N2) = (10,2,1,6,2)	A = -0.325669E-00	ASQ = 0.106061E-00
(N,L,M,N1,N2) = (10,2,1,7,1)	A = -0.426401E-00	ASQ = 0.181818E-00
(N,L,M,N1,N2) = (10,2,1,8,0)	A = -0.426401E-00	ASQ = 0.181818E-00
(N,L,M,N1,N2) = (10,2,2,0,7)	A = 0.213201E-00	ASQ = 0.454545E-01
(N,L,M,N1,N2) = (10,2,2,1,6)	A = 0.325669E-00	ASQ = 0.106061E-00
(N,L,M,N1,N2) = (10,2,2,2,5)	A = 0.398862E-00	ASQ = 0.159091E-00
(N,L,M,N1,N2) = (10,2,2,3,4)	A = 0.435194E-00	ASQ = 0.189394E-00
(N,L,M,N1,N2) = (10,2,2,4,3)	A = 0.435194E-00	ASQ = 0.189394E-00
(N,L,M,N1,N2) = (10,2,2,5,2)	A = 0.398862E-00	ASQ = 0.159091E-00
(N,L,M,N1,N2) = (10,2,2,6,1)	A = 0.325669E-00	ASQ = 0.106061E-00
(N,L,M,N1,N2) = (10,2,2,7,0)	A = 0.213201E-00	ASQ = 0.454545E-01
(N,L,M,N1,N2) = (10,3,0,0,9)	A = 0.453425E-00	ASQ = 0.205594E-00
(N,L,M,N1,N2) = (10,3,0,1,8)	A = -0.151142E-00	ASQ = 0.228438E-01
(N,L,M,N1,N2) = (10,3,0,2,7)	A = -0.377854E-00	ASQ = 0.142774E-00
(N,L,M,N1,N2) = (10,3,0,3,6)	A = -0.334671E-00	ASQ = 0.112005E-00
(N,L,M,N1,N2) = (10,3,0,4,5)	A = -0.129550E-00	ASQ = 0.167832E-01
(N,L,M,N1,N2) = (10,3,0,5,4)	A = 0.129550E-00	ASQ = 0.167832E-01
(N,L,M,N1,N2) = (10,3,0,6,3)	A = 0.334671E-00	ASQ = 0.112005E-00
(N,L,M,N1,N2) = (10,3,0,7,2)	A = 0.377854E-00	ASQ = 0.142774E-00
(N,L,M,N1,N2) = (10,3,0,8,1)	A = 0.151142E-00	ASQ = 0.228438E-01
(N,L,M,N1,N2) = (10,3,0,9,0)	A = -0.453425E-00	ASQ = 0.205594E-00
(N,L,M,N1,N2) = (10,3,1,0,8)	A = 0.523570E-00	ASQ = 0.274126E-00
(N,L,M,N1,N2) = (10,3,1,1,7)	A = 0.261785E-00	ASQ = 0.685315E-01
(N,L,M,N1,N2) = (10,3,1,2,6)	A = -0.571262E-01	ASQ = 0.326340E-02
(N,L,M,N1,N2) = (10,3,1,3,5)	A = -0.290085E-00	ASQ = 0.841492E-01
(N,L,M,N1,N2) = (10,3,1,4,4)	A = -0.373979E-00	ASQ = 0.139860E-00
(N,L,M,N1,N2) = (10,3,1,5,3)	A = -0.290085E-00	ASQ = 0.841492E-01
(N,L,M,N1,N2) = (10,3,1,6,2)	A = -0.571262E-01	ASQ = 0.326340E-02
(N,L,M,N1,N2) = (10,3,1,7,1)	A = 0.261785E-00	ASQ = 0.685315E-01
(N,L,M,N1,N2) = (10,3,1,8,0)	A = 0.523570E-00	ASQ = 0.274126E-00

(N,L,M,N1,N2) = (10,3,2,0,7)	A = 0.413919E-00	ASQ = 0.171329E-00
(N,L,M,N1,N2) = (10,3,2,1,6)	A = 0.451622E-00	ASQ = 0.203963E-00
(N,L,M,N1,N2) = (10,3,2,2,5)	A = 0.331873E-00	ASQ = 0.110140E-00
(N,L,M,N1,N2) = (10,3,2,3,4)	A = 0.120701E-00	ASQ = 0.145688E-01
(N,L,M,N1,N2) = (10,3,2,4,3)	A = -0.120701E-00	ASQ = 0.145688E-01
(N,L,M,N1,N2) = (10,3,2,5,2)	A = -0.331873E-00	ASQ = 0.110140E-00
(N,L,M,N1,N2) = (10,3,2,6,1)	A = -0.451622E-00	ASQ = 0.203963E-00
(N,L,M,N1,N2) = (10,3,2,7,0)	A = -0.413919E-00	ASQ = 0.171329E-00
(N,L,M,N1,N2) = (10,3,3,0,6)	A = 0.221249E-00	ASQ = 0.489510E-01
(N,L,M,N1,N2) = (10,3,3,1,5)	A = 0.361298E-00	ASQ = 0.130536E-00
(N,L,M,N1,N2) = (10,3,3,2,4)	A = 0.451622E-00	ASQ = 0.203963E-00
(N,L,M,N1,N2) = (10,3,3,3,3)	A = 0.482805E-00	ASQ = 0.233100E-00
(N,L,M,N1,N2) = (10,3,3,4,2)	A = 0.451622E-00	ASQ = 0.203963E-00
(N,L,M,N1,N2) = (10,3,3,5,1)	A = 0.361298E-00	ASQ = 0.130536E-00
(N,L,M,N1,N2) = (10,3,3,6,0)	A = 0.221249E-00	ASQ = 0.489510E-01
(N,L,M,N1,N2) = (10,4,0,0,9)	A = 0.336581E-00	ASQ = 0.113287E-00
(N,L,M,N1,N2) = (10,4,0,1,8)	A = -0.411377E-00	ASQ = 0.169231E-00
(N,L,M,N1,N2) = (10,4,0,2,7)	A = -0.317882E-00	ASQ = 0.101049E-00
(N,L,M,N1,N2) = (10,4,0,3,6)	A = 0.560968E-01	ASQ = 0.314685E-02
(N,L,M,N1,N2) = (10,4,0,4,5)	A = 0.336581E-00	ASQ = 0.113287E-00
(N,L,M,N1,N2) = (10,4,0,5,4)	A = 0.336581E-00	ASQ = 0.113287E-00
(N,L,M,N1,N2) = (10,4,0,6,3)	A = 0.560968E-01	ASQ = 0.314685E-02
(N,L,M,N1,N2) = (10,4,0,7,2)	A = -0.317882E-00	ASQ = 0.101049E-00
(N,L,M,N1,N2) = (10,4,0,8,1)	A = -0.411377E-00	ASQ = 0.169231E-00
(N,L,M,N1,N2) = (10,4,0,9,0)	A = 0.336581E-00	ASQ = 0.113287E-00
(N,L,M,N1,N2) = (10,4,1,0,8)	A = 0.501745E-00	ASQ = 0.251748E-00
(N,L,M,N1,N2) = (10,4,1,1,7)	A = -0.836242E-01	ASQ = 0.699301E-02
(N,L,M,N1,N2) = (10,4,1,2,6)	A = -0.383214E-00	ASQ = 0.146853E-00
(N,L,M,N1,N2) = (10,4,1,3,5)	A = -0.307255E-00	ASQ = 0.944056E-01
(N,L,M,N1,N2) = (10,4,1,4,4)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (10,4,1,5,3)	A = 0.307255E-00	ASQ = 0.944056E-01
(N,L,M,N1,N2) = (10,4,1,6,2)	A = 0.383214E-00	ASQ = 0.146853E-00
(N,L,M,N1,N2) = (10,4,1,7,1)	A = 0.836242E-01	ASQ = 0.699301E-02
(N,L,M,N1,N2) = (10,4,1,8,0)	A = -0.501745E-00	ASQ = 0.251748E-00
(N,L,M,N1,N2) = (10,4,2,0,7)	A = 0.532181E-00	ASQ = 0.283217E-00
(N,L,M,N1,N2) = (10,4,2,1,6)	A = 0.270973E-00	ASQ = 0.734266E-01
(N,L,M,N1,N2) = (10,4,2,2,5)	A = -0.110624E-00	ASQ = 0.122378E-01
(N,L,M,N1,N2) = (10,4,2,3,4)	A = -0.362103E-00	ASQ = 0.131119E-00
(N,L,M,N1,N2) = (10,4,2,4,3)	A = -0.362103E-00	ASQ = 0.131119E-00
(N,L,M,N1,N2) = (10,4,2,5,2)	A = -0.110624E-00	ASQ = 0.122378E-01
(N,L,M,N1,N2) = (10,4,2,6,1)	A = 0.270973E-00	ASQ = 0.734266E-01
(N,L,M,N1,N2) = (10,4,2,7,0)	A = 0.532181E-00	ASQ = 0.283217E-00
(N,L,M,N1,N2) = (10,4,3,0,6)	A = 0.434524E-00	ASQ = 0.188811E-00
(N,L,M,N1,N2) = (10,4,3,1,5)	A = 0.473050E-00	ASQ = 0.223776E-00
(N,L,M,N1,N2) = (10,4,3,2,4)	A = 0.295656E-00	ASQ = 0.874126E-01
(N,L,M,N1,N2) = (10,4,3,3,3)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (10,4,3,4,2)	A = -0.295656E-00	ASQ = 0.874126E-01
(N,L,M,N1,N2) = (10,4,3,5,1)	A = -0.473050E-00	ASQ = 0.223776E-00
(N,L,M,N1,N2) = (10,4,3,6,0)	A = -0.434524E-00	ASQ = 0.188811E-00
(N,L,M,N1,N2) = (10,4,4,0,5)	A = 0.250873E-00	ASQ = 0.629371E-01

{N,L,M,N1,N2} = {10,4,4,1,4}	A = 0.418121E-00	ASQ = 0.174825E-00
{N,L,M,N1,N2} = {10,4,4,2,3}	A = 0.512092E-00	ASQ = 0.262238E-00
{N,L,M,N1,N2} = {10,4,4,3,2}	A = 0.512092E-00	ASQ = 0.262238E-00
{N,L,M,N1,N2} = {10,4,4,4,1}	A = 0.418121E-00	ASQ = 0.174825E-00
{N,L,M,N1,N2} = {10,4,4,5,0}	A = 0.250873E-00	ASQ = 0.629371E-01
{N,L,M,N1,N2} = {10,5,0,0,9}	A = 0.214834E-00	ASQ = 0.461538E-01
{N,L,M,N1,N2} = {10,5,0,1,8}	A = -0.501280E-00	ASQ = 0.251282E-00
{N,L,M,N1,N2} = {10,5,0,2,7}	A = 0.358057E-01	ASQ = 0.128205E-02
{N,L,M,N1,N2} = {10,5,0,3,6}	A = 0.393863E-00	ASQ = 0.155128E-00
{N,L,M,N1,N2} = {10,5,0,4,5}	A = 0.214834E-00	ASQ = 0.461538E-01
{N,L,M,N1,N2} = {10,5,0,5,4}	A = -0.214834E-00	ASQ = 0.461538E-01
{N,L,M,N1,N2} = {10,5,0,6,3}	A = -0.393863E-00	ASQ = 0.155128E-00
{N,L,M,N1,N2} = {10,5,0,7,2}	A = -0.358057E-01	ASQ = 0.128205E-02
{N,L,M,N1,N2} = {10,5,0,8,1}	A = 0.501280E-00	ASQ = 0.251282E-00
{N,L,M,N1,N2} = {10,5,0,9,0}	A = -0.214834E-00	ASQ = 0.461538E-01
{N,L,M,N1,N2} = {10,5,1,0,8}	A = 0.392232E-00	ASQ = 0.153846E-00
{N,L,M,N1,N2} = {10,5,1,1,7}	A = -0.392232E-00	ASQ = 0.153846E-00
{N,L,M,N1,N2} = {10,5,1,2,6}	A = -0.299572E-00	ASQ = 0.897436E-01
{N,L,M,N1,N2} = {10,5,1,3,5}	A = 0.160128E-00	ASQ = 0.256410E-01
{N,L,M,N1,N2} = {10,5,1,4,4}	A = 0.392232E-00	ASQ = 0.153846E-00
{N,L,M,N1,N2} = {10,5,1,5,3}	A = 0.160128E-00	ASQ = 0.256410E-01
{N,L,M,N1,N2} = {10,5,1,6,2}	A = -0.299572E-00	ASQ = 0.897436E-01
{N,L,M,N1,N2} = {10,5,1,7,1}	A = -0.392232E-00	ASQ = 0.153846E-00
{N,L,M,N1,N2} = {10,5,1,8,0}	A = 0.392232E-00	ASQ = 0.153846E-00
{N,L,M,N1,N2} = {10,5,2,0,7}	A = 0.518875E-00	ASQ = 0.269231E-00
{N,L,M,N1,N2} = {10,5,2,1,6}	A = -0.113228E-00	ASQ = 0.128205E-01
{N,L,M,N1,N2} = {10,5,2,2,5}	A = -0.416025E-00	ASQ = 0.173077E-00
{N,L,M,N1,N2} = {10,5,2,3,4}	A = -0.211830E-00	ASQ = 0.448718E-01
{N,L,M,N1,N2} = {10,5,2,4,3}	A = 0.211830E-00	ASQ = 0.448718E-01
{N,L,M,N1,N2} = {10,5,2,5,2}	A = 0.416025E-00	ASQ = 0.173077E-00
{N,L,M,N1,N2} = {10,5,2,6,1}	A = 0.113228E-00	ASQ = 0.128205E-01
{N,L,M,N1,N2} = {10,5,2,7,0}	A = -0.518875E-00	ASQ = 0.269231E-00
{N,L,M,N1,N2} = {10,5,3,0,6}	A = 0.554700E-00	ASQ = 0.307692E-00
{N,L,M,N1,N2} = {10,5,3,1,5}	A = 0.226455E-00	ASQ = 0.512821E-01
{N,L,M,N1,N2} = {10,5,3,2,4}	A = -0.226455E-00	ASQ = 0.512821E-01
{N,L,M,N1,N2} = {10,5,3,3,3}	A = -0.423659E-00	ASQ = 0.179487E-00
{N,L,M,N1,N2} = {10,5,3,4,2}	A = -0.226455E-00	ASQ = 0.512821E-01
{N,L,M,N1,N2} = {10,5,3,5,1}	A = 0.226455E-00	ASQ = 0.512821E-01
{N,L,M,N1,N2} = {10,5,3,6,0}	A = 0.554700E-00	ASQ = 0.307692E-00
{N,L,M,N1,N2} = {10,5,4,0,5}	A = 0.480384E-00	ASQ = 0.230769E-00
{N,L,M,N1,N2} = {10,5,4,1,4}	A = 0.480384E-00	ASQ = 0.230769E-00
{N,L,M,N1,N2} = {10,5,4,2,3}	A = 0.196116E-00	ASQ = 0.384615E-01
{N,L,M,N1,N2} = {10,5,4,3,2}	A = -0.196116E-00	ASQ = 0.384615E-01
{N,L,M,N1,N2} = {10,5,4,4,1}	A = -0.480384E-00	ASQ = 0.230769E-00
{N,L,M,N1,N2} = {10,5,4,5,0}	A = -0.480384E-00	ASQ = 0.230769E-00
{N,L,M,N1,N2} = {10,5,5,0,4}	A = 0.303822E-00	ASQ = 0.923077E-01
{N,L,M,N1,N2} = {10,5,5,1,3}	A = 0.496139E-00	ASQ = 0.246154E-00
{N,L,M,N1,N2} = {10,5,5,2,2}	A = 0.568399E-00	ASQ = 0.323077E-00
{N,L,M,N1,N2} = {10,5,5,3,1}	A = 0.496139E-00	ASQ = 0.246154E-00
{N,L,M,N1,N2} = {10,5,5,4,0}	A = 0.303822E-00	ASQ = 0.923077E-01

{N,L,M,N1,N2} = (10,6,0,0,9)	A = 0.116775E-00	ASQ = 0.136364E-01
{N,L,M,N1,N2} = (10,6,0,1,8)	A = -0.428174E-00	ASQ = 0.183333E-00
{N,L,M,N1,N2} = (10,6,0,2,7)	A = 0.389249E-00	ASQ = 0.151515E-00
{N,L,M,N1,N2} = (10,6,0,3,6)	A = 0.233550E-00	ASQ = 0.545455E-01
{N,L,M,N1,N2} = (10,6,0,4,5)	A = -0.311400E-00	ASQ = 0.969697E-01
{N,L,M,N1,N2} = (10,6,0,5,4)	A = -0.311400E-00	ASQ = 0.969697E-01
{N,L,M,N1,N2} = (10,6,0,6,3)	A = 0.233550E-00	ASQ = 0.545455E-01
{N,L,M,N1,N2} = (10,6,0,7,2)	A = 0.389249E-00	ASQ = 0.151515E-00
{N,L,M,N1,N2} = (10,6,0,8,1)	A = -0.428174E-00	ASQ = 0.183333E-00
{N,L,M,N1,N2} = (10,6,0,9,0)	A = 0.116775E-00	ASQ = 0.136364E-01
{N,L,M,N1,N2} = (10,6,1,0,8)	A = 0.252262E-00	ASQ = 0.636364E-01
{N,L,M,N1,N2} = (10,6,1,1,7)	A = -0.504525E-00	ASQ = 0.254545E-00
{N,L,M,N1,N2} = (10,6,1,2,6)	A = 0.110096E-00	ASQ = 0.121212E-01
{N,L,M,N1,N2} = (10,6,1,3,5)	A = 0.411943E-00	ASQ = 0.169697E-00
{N,L,M,N1,N2} = (10,6,1,4,4)	A = 0.	ASQ = 0.
{N,L,M,N1,N2} = (10,6,1,5,3)	A = -0.411943E-00	ASQ = 0.169697E-00
{N,L,M,N1,N2} = (10,6,1,6,2)	A = -0.110096E-00	ASQ = 0.121212E-01
{N,L,M,N1,N2} = (10,6,1,7,1)	A = 0.504525E-00	ASQ = 0.254545E-00
{N,L,M,N1,N2} = (10,6,1,8,0)	A = -0.252262E-00	ASQ = 0.636364E-01
{N,L,M,N1,N2} = (10,6,2,0,7)	A = 0.398862E-00	ASQ = 0.159091E-00
{N,L,M,N1,N2} = (10,6,2,1,6)	A = -0.435194E-00	ASQ = 0.189394E-00
{N,L,M,N1,N2} = (10,6,2,2,5)	A = -0.213201E-00	ASQ = 0.454545E-01
{N,L,M,N1,N2} = (10,6,2,3,4)	A = 0.325669E-00	ASQ = 0.106061E-00
{N,L,M,N1,N2} = (10,6,2,4,3)	A = 0.325669E-00	ASQ = 0.106061E-00
{N,L,M,N1,N2} = (10,6,2,5,2)	A = -0.213201E-00	ASQ = 0.454545E-01
{N,L,M,N1,N2} = (10,6,2,6,1)	A = -0.435194E-00	ASQ = 0.189394E-00
{N,L,M,N1,N2} = (10,6,2,7,0)	A = 0.398862E-00	ASQ = 0.159091E-00
{N,L,M,N1,N2} = (10,6,3,0,6)	A = 0.522233E-00	ASQ = 0.272727E-00
{N,L,M,N1,N2} = (10,6,3,1,5)	A = -0.213201E-00	ASQ = 0.454545E-01
{N,L,M,N1,N2} = (10,6,3,2,4)	A = -0.426401E-00	ASQ = 0.181818E-00
{N,L,M,N1,N2} = (10,6,3,3,3)	A = 0.	ASQ = 0.
{N,L,M,N1,N2} = (10,6,3,4,2)	A = 0.426401E-00	ASQ = 0.181818E-00
{N,L,M,N1,N2} = (10,6,3,5,1)	A = 0.213201E-00	ASQ = 0.454545E-01
{N,L,M,N1,N2} = (10,6,3,6,0)	A = -0.522233E-00	ASQ = 0.272727E-00
{N,L,M,N1,N2} = (10,6,4,0,5)	A = 0.583874E-00	ASQ = 0.340909E-00
{N,L,M,N1,N2} = (10,6,4,1,4)	A = 0.116775E-00	ASQ = 0.136364E-01
{N,L,M,N1,N2} = (10,6,4,2,3)	A = -0.381385E-00	ASQ = 0.145455E-00
{N,L,M,N1,N2} = (10,6,4,3,2)	A = -0.381385E-00	ASQ = 0.145455E-00
{N,L,M,N1,N2} = (10,6,4,4,1)	A = 0.116775E-00	ASQ = 0.136364E-01
{N,L,M,N1,N2} = (10,6,4,5,0)	A = 0.583874E-00	ASQ = 0.340909E-00
{N,L,M,N1,N2} = (10,6,5,0,4)	A = 0.547723E-00	ASQ = 0.300000E-00
{N,L,M,N1,N2} = (10,6,5,1,3)	A = 0.447214E-00	ASQ = 0.200000E-00
{N,L,M,N1,N2} = (10,6,5,2,2)	A = 0.	ASQ = 0.
{N,L,M,N1,N2} = (10,6,5,3,1)	A = -0.447214E-00	ASQ = 0.200000E-00
{N,L,M,N1,N2} = (10,6,5,4,0)	A = -0.547723E-00	ASQ = 0.300000E-00
{N,L,M,N1,N2} = (10,6,6,0,3)	A = 0.387298E-00	ASQ = 0.150000E-00
{N,L,M,N1,N2} = (10,6,6,1,2)	A = 0.591608E-00	ASQ = 0.350000E-00
{N,L,M,N1,N2} = (10,6,6,2,1)	A = 0.591608E-00	ASQ = 0.350000E-00
{N,L,M,N1,N2} = (10,6,6,3,0)	A = 0.387298E-00	ASQ = 0.150000E-00
{N,L,M,N1,N2} = (10,7,0,0,9)	A = 0.526938E-01	ASQ = 0.277664E-02

(N,L,M,N1,N2) = (10,7,0,1,8)	A = -0.275179E-00	ASQ = 0.757233E-01
(N,L,M,N1,N2) = (10,7,0,2,7)	A = 0.503518E-00	ASQ = 0.253531E-00
(N,L,M,N1,N2) = (10,7,0,3,6)	A = -0.245904E-00	ASQ = 0.604689E-01
(N,L,M,N1,N2) = (10,7,0,4,5)	A = -0.327872E-00	ASQ = 0.107500E-00
(N,L,M,N1,N2) = (10,7,0,5,4)	A = 0.327872E-00	ASQ = 0.107500E-00
(N,L,M,N1,N2) = (10,7,0,6,3)	A = 0.245904E-00	ASQ = 0.604689E-01
(N,L,M,N1,N2) = (10,7,0,7,2)	A = -0.503518E-00	ASQ = 0.253531E-00
(N,L,M,N1,N2) = (10,7,0,8,1)	A = 0.275179E-00	ASQ = 0.757233E-01
(N,L,M,N1,N2) = (10,7,0,9,0)	A = -0.526938E-01	ASQ = 0.277664E-02
(N,L,M,N1,N2) = (10,7,1,0,8)	A = 0.131441E-00	ASQ = 0.172768E-01
(N,L,M,N1,N2) = (10,7,1,1,7)	A = -0.416231E-00	ASQ = 0.173248E-00
(N,L,M,N1,N2) = (10,7,1,2,6)	A = 0.458926E-00	ASQ = 0.210613E-00
(N,L,M,N1,N2) = (10,7,1,3,5)	A = 0.536607E-01	ASQ = 0.287947E-02
(N,L,M,N1,N2) = (10,7,1,4,4)	A = -0.438138E-00	ASQ = 0.191965E-00
(N,L,M,N1,N2) = (10,7,1,5,3)	A = 0.536607E-01	ASQ = 0.287947E-02
(N,L,M,N1,N2) = (10,7,1,6,2)	A = 0.458926E-00	ASQ = 0.210613E-00
(N,L,M,N1,N2) = (10,7,1,7,1)	A = -0.416231E-00	ASQ = 0.173248E-00
(N,L,M,N1,N2) = (10,7,1,8,0)	A = 0.131441E-00	ASQ = 0.172768E-01
(N,L,M,N1,N2) = (10,7,2,0,7)	A = 0.241473E-00	ASQ = 0.583093E-01
(N,L,M,N1,N2) = (10,7,2,1,6)	A = -0.509373E-00	ASQ = 0.259461E-00
(N,L,M,N1,N2) = (10,7,2,2,5)	A = 0.272487E-00	ASQ = 0.742493E-01
(N,L,M,N1,N2) = (10,7,2,3,4)	A = 0.328603E-00	ASQ = 0.107980E-00
(N,L,M,N1,N2) = (10,7,2,4,3)	A = -0.328603E-00	ASQ = 0.107980E-00
(N,L,M,N1,N2) = (10,7,2,5,2)	A = -0.272487E-00	ASQ = 0.742493E-01
(N,L,M,N1,N2) = (10,7,2,6,1)	A = 0.509373E-00	ASQ = 0.259461E-00
(N,L,M,N1,N2) = (10,7,2,7,0)	A = -0.241473E-00	ASQ = 0.583093E-01
(N,L,M,N1,N2) = (10,7,3,0,6)	A = 0.372601E-00	ASQ = 0.138832E-00
(N,L,M,N1,N2) = (10,7,3,1,5)	A = -0.507046E-00	ASQ = 0.257096E-00
(N,L,M,N1,N2) = (10,7,3,2,4)	A = -0.202818E-01	ASQ = 0.411353E-03
(N,L,M,N1,N2) = (10,7,3,3,3)	A = 0.455326E-00	ASQ = 0.207322E-00
(N,L,M,N1,N2) = (10,7,3,4,2)	A = -0.202818E-01	ASQ = 0.411353E-03
(N,L,M,N1,N2) = (10,7,3,5,1)	A = -0.507046E-00	ASQ = 0.257096E-00
(N,L,M,N1,N2) = (10,7,3,6,0)	A = 0.372601E-00	ASQ = 0.138832E-00
(N,L,M,N1,N2) = (10,7,4,0,5)	A = 0.504505E-00	ASQ = 0.254525E-00
(N,L,M,N1,N2) = (10,7,4,1,4)	A = -0.369970E-00	ASQ = 0.136878E-00
(N,L,M,N1,N2) = (10,7,4,2,3)	A = -0.329541E-00	ASQ = 0.108597E-00
(N,L,M,N1,N2) = (10,7,4,3,2)	A = 0.329541E-00	ASQ = 0.108597E-00
(N,L,M,N1,N2) = (10,7,4,4,1)	A = 0.369970E-00	ASQ = 0.136878E-00
(N,L,M,N1,N2) = (10,7,4,5,0)	A = -0.504505E-00	ASQ = 0.254525E-00
(N,L,M,N1,N2) = (10,7,5,0,4)	A = 0.605406E-00	ASQ = 0.366516E-00
(N,L,M,N1,N2) = (10,7,5,1,3)	A = -0.823853E-01	ASQ = 0.678733E-02
(N,L,M,N1,N2) = (10,7,5,2,2)	A = -0.503382E-00	ASQ = 0.253394E-00
(N,L,M,N1,N2) = (10,7,5,3,1)	A = -0.823853E-01	ASQ = 0.678733E-02
(N,L,M,N1,N2) = (10,7,5,4,0)	A = 0.605406E-00	ASQ = 0.366516E-00
(N,L,M,N1,N2) = (10,7,6,0,3)	A = 0.630126E-00	ASQ = 0.397059E-00
(N,L,M,N1,N2) = (10,7,6,1,2)	A = 0.320844E-00	ASQ = 0.102941E-00
(N,L,M,N1,N2) = (10,7,6,2,1)	A = -0.320844E-00	ASQ = 0.102941E-00
(N,L,M,N1,N2) = (10,7,6,3,0)	A = -0.630126E-00	ASQ = 0.397059E-00
(N,L,M,N1,N2) = (10,7,7,0,2)	A = 0.514496E-00	ASQ = 0.264706E-00
(N,L,M,N1,N2) = (10,7,7,1,1)	A = 0.685994E-00	ASQ = 0.470588E-00

(N,L,M,N1,N2) = (10,7,7,2,0)	A = 0.514496E-00	ASQ = 0.264706E-00
(N,L,M,N1,N2) = (10,8,0,0,9)	A = 0.186989E-01	ASQ = 0.349650E-03
(N,L,M,N1,N2) = (10,8,0,1,8)	A = -0.130893E-00	ASQ = 0.171329E-01
(N,L,M,N1,N2) = (10,8,0,2,7)	A = 0.373979E-00	ASQ = 0.139860E-00
(N,L,M,N1,N2) = (10,8,0,3,6)	A = -0.523570E-00	ASQ = 0.274126E-00
(N,L,M,N1,N2) = (10,8,0,4,5)	A = 0.261785E-00	ASQ = 0.685315E-01
(N,L,M,N1,N2) = (10,8,0,5,4)	A = 0.261785E-00	ASQ = 0.685315E-01
(N,L,M,N1,N2) = (10,8,0,6,3)	A = -0.523570E-00	ASQ = 0.274126E-00
(N,L,M,N1,N2) = (10,8,0,7,2)	A = 0.373979E-00	ASQ = 0.139860E-00
(N,L,M,N1,N2) = (10,8,0,8,1)	A = -0.130893E-00	ASQ = 0.171329E-01
(N,L,M,N1,N2) = (10,8,0,9,0)	A = 0.186989E-01	ASQ = 0.349650E-03
(N,L,M,N1,N2) = (10,8,1,0,8)	A = 0.528886E-01	ASQ = 0.279721E-02
(N,L,M,N1,N2) = (10,8,1,1,7)	A = -0.237999E-00	ASQ = 0.566433E-01
(N,L,M,N1,N2) = (10,8,1,2,6)	A = 0.484732E-00	ASQ = 0.234965E-00
(N,L,M,N1,N2) = (10,8,1,3,5)	A = -0.453425E-00	ASQ = 0.205594E-00
(N,L,M,N1,N2) = (10,8,1,4,4)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (10,8,1,5,3)	A = 0.453425E-00	ASQ = 0.205594E-00
(N,L,M,N1,N2) = (10,8,1,6,2)	A = -0.484732E-00	ASQ = 0.234965E-00
(N,L,M,N1,N2) = (10,8,1,7,1)	A = 0.237999E-00	ASQ = 0.566434E-01
(N,L,M,N1,N2) = (10,8,1,8,0)	A = -0.528886E-01	ASQ = 0.279720E-02
(N,L,M,N1,N2) = (10,8,2,0,7)	A = 0.110625E-00	ASQ = 0.122378E-01
(N,L,M,N1,N2) = (10,8,2,1,6)	A = -0.362103E-00	ASQ = 0.131119E-00
(N,L,M,N1,N2) = (10,8,2,2,5)	A = 0.532181E-00	ASQ = 0.283217E-00
(N,L,M,N1,N2) = (10,8,2,3,4)	A = -0.270973E-00	ASQ = 0.734266E-01
(N,L,M,N1,N2) = (10,8,2,4,3)	A = -0.270973E-00	ASQ = 0.734266E-01
(N,L,M,N1,N2) = (10,8,2,5,2)	A = 0.532181E-00	ASQ = 0.283217E-00
(N,L,M,N1,N2) = (10,8,2,6,1)	A = -0.362103E-00	ASQ = 0.131119E-00
(N,L,M,N1,N2) = (10,8,2,7,0)	A = 0.110624E-00	ASQ = 0.122378E-01
(N,L,M,N1,N2) = (10,8,3,0,6)	A = 0.196116E-00	ASQ = 0.384615E-01
(N,L,M,N1,N2) = (10,8,3,1,5)	A = -0.480384E-00	ASQ = 0.230769E-00
(N,L,M,N1,N2) = (10,8,3,2,4)	A = 0.480384E-00	ASQ = 0.230769E-00
(N,L,M,N1,N2) = (10,8,3,3,3)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (10,8,3,4,2)	A = -0.480384E-00	ASQ = 0.230769E-00
(N,L,M,N1,N2) = (10,8,3,5,1)	A = 0.480384E-00	ASQ = 0.230769E-00
(N,L,M,N1,N2) = (10,8,3,6,0)	A = -0.196116E-00	ASQ = 0.384615E-01
(N,L,M,N1,N2) = (10,8,4,0,5)	A = 0.310087E-00	ASQ = 0.961540E-01
(N,L,M,N1,N2) = (10,8,4,1,4)	A = -0.558156E-00	ASQ = 0.311539E-00
(N,L,M,N1,N2) = (10,8,4,2,3)	A = 0.303822E-00	ASQ = 0.923077E-01
(N,L,M,N1,N2) = (10,8,4,3,2)	A = 0.303822E-00	ASQ = 0.923077E-01
(N,L,M,N1,N2) = (10,8,4,4,1)	A = -0.558156E-00	ASQ = 0.311538E-00
(N,L,M,N1,N2) = (10,8,4,5,0)	A = 0.310087E-00	ASQ = 0.961538E-01
(N,L,M,N1,N2) = (10,8,5,0,4)	A = 0.447214E-00	ASQ = 0.200000E-00
(N,L,M,N1,N2) = (10,8,5,1,3)	A = -0.547723E-00	ASQ = 0.300000E-00
(N,L,M,N1,N2) = (10,8,5,2,2)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (10,8,5,3,1)	A = 0.547723E-00	ASQ = 0.300000E-00
(N,L,M,N1,N2) = (10,8,5,4,0)	A = -0.447214E-00	ASQ = 0.200000E-00
(N,L,M,N1,N2) = (10,8,6,0,3)	A = 0.591608E-00	ASQ = 0.350000E-00
(N,L,M,N1,N2) = (10,8,6,1,2)	A = -0.387298E-00	ASQ = 0.150000E-00
(N,L,M,N1,N2) = (10,8,6,2,1)	A = -0.387298E-00	ASQ = 0.150000E-00
(N,L,M,N1,N2) = (10,8,6,3,0)	A = 0.591608E-00	ASQ = 0.350000E-00

(N,L,M,N1,N2) = (10,8,7,0,2)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (10,8,7,1,1)	A = 0.	ASQ = 0.
(N,L,M,N1,N2) = (10,8,7,2,0)	A = -0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (10,8,8,0,1)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (10,8,8,1,0)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (10,9,0,0,9)	A = 0.453590E-02	ASQ = 0.205744E-04
(N,L,M,N1,N2) = (10,9,0,1,8)	A = -0.408161E-01	ASQ = 0.166596E-02
(N,L,M,N1,N2) = (10,9,0,2,7)	A = 0.163266E-00	ASQ = 0.266556E-01
(N,L,M,N1,N2) = (10,9,0,3,6)	A = -0.380953E-00	ASQ = 0.145125E-00
(N,L,M,N1,N2) = (10,9,0,4,5)	A = 0.571430E-00	ASQ = 0.326532E-00
(N,L,M,N1,N2) = (10,9,0,5,4)	A = -0.571430E-00	ASQ = 0.326532E-00
(N,L,M,N1,N2) = (10,9,0,6,3)	A = 0.380953E-00	ASQ = 0.145125E-00
(N,L,M,N1,N2) = (10,9,0,7,2)	A = -0.163266E-00	ASQ = 0.266557E-01
(N,L,M,N1,N2) = (10,9,0,8,1)	A = 0.408164E-01	ASQ = 0.166598E-02
(N,L,M,N1,N2) = (10,9,0,9,0)	A = -0.453516E-02	ASQ = 0.205677E-04
(N,L,M,N1,N2) = (10,9,1,0,8)	A = 0.143414E-01	ASQ = 0.205677E-03
(N,L,M,N1,N2) = (10,9,1,1,7)	A = -0.860492E-01	ASQ = 0.740447E-02
(N,L,M,N1,N2) = (10,9,1,2,6)	A = 0.262882E-00	ASQ = 0.691070E-01
(N,L,M,N1,N2) = (10,9,1,3,5)	A = -0.491809E-00	ASQ = 0.241876E-00
(N,L,M,N1,N2) = (10,9,1,4,4)	A = 0.602340E-00	ASQ = 0.362814E-00
(N,L,M,N1,N2) = (10,9,1,5,3)	A = -0.491809E-00	ASQ = 0.241876E-00
(N,L,M,N1,N2) = (10,9,1,6,2)	A = 0.262883E-00	ASQ = 0.691074E-01
(N,L,M,N1,N2) = (10,9,1,7,1)	A = -0.860486E-01	ASQ = 0.740436E-02
(N,L,M,N1,N2) = (10,9,1,8,0)	A = 0.143414E-01	ASQ = 0.205677E-03
(N,L,M,N1,N2) = (10,9,2,0,7)	A = 0.336422E-01	ASQ = 0.113180E-02
(N,L,M,N1,N2) = (10,9,2,1,6)	A = -0.154128E-00	ASQ = 0.237554E-01
(N,L,M,N1,N2) = (10,9,2,2,5)	A = 0.377537E-00	ASQ = 0.142534E-00
(N,L,M,N1,N2) = (10,9,2,3,4)	A = -0.576697E-00	ASQ = 0.332579E-00
(N,L,M,N1,N2) = (10,9,2,4,3)	A = 0.576697E-00	ASQ = 0.332579E-00
(N,L,M,N1,N2) = (10,9,2,5,2)	A = -0.377537E-00	ASQ = 0.142534E-00
(N,L,M,N1,N2) = (10,9,2,6,1)	A = 0.154129E-00	ASQ = 0.237557E-01
(N,L,M,N1,N2) = (10,9,2,7,0)	A = -0.336336E-01	ASQ = 0.113122E-02
(N,L,M,N1,N2) = (10,9,3,0,6)	A = 0.672641E-01	ASQ = 0.452446E-02
(N,L,M,N1,N2) = (10,9,3,1,5)	A = -0.247154E-00	ASQ = 0.610853E-01
(N,L,M,N1,N2) = (10,9,3,2,4)	A = 0.494311E-00	ASQ = 0.244344E-00
(N,L,M,N1,N2) = (10,9,3,3,3)	A = -0.616515E-00	ASQ = 0.380091E-00
(N,L,M,N1,N2) = (10,9,3,4,2)	A = 0.494312E-00	ASQ = 0.244344E-00
(N,L,M,N1,N2) = (10,9,3,5,1)	A = -0.247156E-00	ASQ = 0.610860E-01
(N,L,M,N1,N2) = (10,9,3,6,0)	A = 0.672673E-01	ASQ = 0.452489E-02
(N,L,M,N1,N2) = (10,9,4,0,5)	A = 0.121267E-00	ASQ = 0.147057E-01
(N,L,M,N1,N2) = (10,9,4,1,4)	A = -0.363803E-00	ASQ = 0.132352E-00
(N,L,M,N1,N2) = (10,9,4,2,3)	A = 0.594089E-00	ASQ = 0.352942E-00
(N,L,M,N1,N2) = (10,9,4,3,2)	A = -0.594089E-00	ASQ = 0.352941E-00
(N,L,M,N1,N2) = (10,9,4,4,1)	A = 0.363803E-00	ASQ = 0.132353E-00
(N,L,M,N1,N2) = (10,9,4,5,0)	A = -0.121268E-00	ASQ = 0.147059E-01
(N,L,M,N1,N2) = (10,9,5,0,4)	A = 0.202915E-00	ASQ = 0.411744E-01
(N,L,M,N1,N2) = (10,9,5,1,3)	A = -0.497049E-00	ASQ = 0.247058E-00
(N,L,M,N1,N2) = (10,9,5,2,2)	A = 0.650791E-00	ASQ = 0.423530E-00
(N,L,M,N1,N2) = (10,9,5,3,1)	A = -0.497050E-00	ASQ = 0.247059E-00
(N,L,M,N1,N2) = (10,9,5,4,0)	A = 0.202920E-00	ASQ = 0.411765E-01

(N,L,M,N1,N2) = (10,9,6,0,3)	A = 0.320842E-00	ASQ = 0.102939E-00
(N,L,M,N1,N2) = (10,9,6,1,2)	A = -0.630126E-00	ASQ = 0.397059E-00
(N,L,M,N1,N2) = (10,9,6,2,1)	A = 0.630126E-00	ASQ = 0.397059E-00
(N,L,M,N1,N2) = (10,9,6,3,0)	A = -0.320844E-00	ASQ = 0.102941E-00
(N,L,M,N1,N2) = (10,9,7,0,2)	A = 0.485069E-00	ASQ = 0.235292E-00
(N,L,M,N1,N2) = (10,9,7,1,1)	A = -0.727607E-00	ASQ = 0.529412E-00
(N,L,M,N1,N2) = (10,9,7,2,0)	A = 0.485071E-00	ASQ = 0.235294E-00
(N,L,M,N1,N2) = (10,9,8,0,1)	A = 0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (10,9,8,1,0)	A = -0.707107E-00	ASQ = 0.500000E-00
(N,L,M,N1,N2) = (10,9,9,0,0)	A = 0.100000E 01	ASQ = 0.100000E 01

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