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Author
Glendenning, Norman K.

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TABLES OF STRUCTURE AMPLITUDES FOR (α,d) REACTIONS

Norman K. Glendenning

August 1968

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UNIVERSITY of CALIFORNIA BERKELEY

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These tables are made available for the convenience of those interested in the analysis of two-nucleon transfer reactions. (There are separate tables for p, He^3 and p, t reactions.[1]) They provide the "projected wave function" for the center of mass motion of a pair of nucleons in a nucleus which occupy the single-particle states j and j' with spin J, <u>when</u> their relative motion corresponds to that characteristic of what it is in the alpha.[2] In the alpha the relative angular momentum of neutron-proton pairs is dominantly S. Projecting on the deuteron leaves their spins coupled to unity. For brevity this will be referred to as the ^3S correlation by which is also implied a spatial correlation dictated by the size of the alpha.

Let $\psi_{jj'J}(1,2)$ refer to the part of the nuclear wave function referring to the two nucleons labelled 1 and 2,

$$\psi_{jj'J}(1,2) \; = [\phi_{n\ell j}(1) \; \phi_{n'\ell'j'}(2)]_J \qquad\qquad (1)$$

Here ϕ denotes a single-particle wave function, and the square bracket denotes vector coupling. If however isospin is considered a good quantum number, we should construct instead, the two linear combinations

$$\psi_{jj'JT}(1,2) = \frac{1}{\sqrt{2(1 + \Delta_{jj'})}} \left\{ \psi_{jj'J}(1,2) + (-)^T \psi_{jj'J}(2,1) \right\} \quad (2)$$

with T = 0 or 1 and where $\Delta_{jj'} = \delta_{nn'} \delta_{\ell\ell'} \delta_{jj'}$. The projected wave function $\tilde{\phi}$ for a pure configuration such as this, outside a zero-spin core is

$$\tilde{\phi}_{jj'JST}(\underline{R}) = \langle \phi(\underline{r}) \chi_S (\sigma_1\sigma_2) | \psi_{jj'JT}(1,2) \rangle \quad (3)$$

Here $\phi(\underline{r})$ denotes the part of the alpha wave function that refers to the relative motion (assumed to be pure S-state) of the neutron-proton pair, while χ_S denotes their spin-function (which is dominantly and here assumed totally triplet). Because ϕ is symmetric, then χ_S must have the same symmetry as ψ_{JT}, which requires

$$S + T = \text{odd} \quad (4)$$

While most nuclear states are more complicated than the above description, their projected wave function can always be written as some linear combination of the elementary functions (3). The linear combination may involve configuration mixing amplitudes and fractional parentage coefficients, and its construction requires an intimate knowledge of all the conventions used in constructing the nuclear wave functions, as well as those used here.

Because for α,d reactions we want the ^3S projection, T must be zero. But because S = 1, there may be several values of the orbital angular momentum transfer L, depending upon the parity and spin of ψ. These are, for given total angular momentum transfer J,

$$L = J \quad \text{if} \quad \ell + \ell' + J \text{ is even,} \quad (5)$$

or $\quad L = J \pm 1 \quad \text{if} \quad \ell + \ell' + J \text{ is odd.}$

In general we may write the projected function (3) as

$$\tilde{\phi}_{jj'JST}(R) = \sum_L \tilde{u}_{jj'LSJT}(R)\, Y_L(R) \tag{6}$$

with the sum being over one or two terms as dictated by (5). The radial parts $\tilde{u}(R)$ of (6) are tabulated in the form of expansion coefficients referred to a harmonic oscillator basis. These are the coefficients G_N in[2]

$$\tilde{u}_{jj'LSJT}(R) = \sum_N G_{NLSJT}(jj')\, u_{NL}(2\nu R^2) \tag{7}$$

The value used for the oscillator parameter $\nu(=m\omega/\hbar)$ is listed in the tables and three values, corresponding to different masses, are used for each configuration. The function u_{NL} is an oscillator function defined in ref. 2, Eq. (A8).

The normalization of $\tilde{u}$ is not unity, since it is a projected function. In fact, its normalization (squared),

$$P = \sum_N G_N^2 \tag{8}$$

tells the probability of finding the favored ^3S correlation between the pair when their center of mass motion is characterized by L and J. The radial distribution of this probability is

$$P(R) = [R\tilde{u}(R)]^2 \tag{9}$$

Because these reactions are concentrated in the surface region, it will be recognized that even though two states may have about the same probability P of overlapping with the favored correlation,

the one for which this probability is concentrated in the surface will be more

strongly populated in the reaction. This is the reason why a spectroscopic

factor, which in single-transfer reactions is the probability for the appear-

ance of a certain single-particle state (having a specific radial form) has

less value in discussing two-nucleon transfer reactions. Two states built up

from the same configurations, having therefore orthogonal mixtures, may pre-

sent different radial profiles as far as the two-nuclear transfer reaction is

concerned.

In case isospin is not considered a good quantum number, the projection

$$\tilde{\phi}_{jj'JS} (\underset{\sim}{R}) = \langle \phi(\underset{\sim}{r})\, \chi_S\, (\sigma_1\sigma_2) \mid \psi_{jj'J}(1,2) \rangle \tag{10}$$

is required instead of (3). The multipole expansion of $\tilde{\phi}$ goes through as

before, but the amplitudes in the expansion of $\tilde{u}$ should be multiplied by

$$\left(\frac{1 + \Delta_{jj'}}{2} \right)^{1/2} \tag{11}$$

That is to say, entries in the table of G's corresponding to the two particles

occupying different single particle states, should be divided by $\sqrt{2}$.

Example 1.   Suppose it is postulated that a transfer reaction near

mass 16 to a 1^+ state involves the pure configuration $(p_{1/2}{}^2)_{J=1}$ with passive

zero spin core [e.g., $C^{12}(\alpha,d)N^{14}$]. From the tables or known selection rules,

we find that two values of L are allowed, 0 and 2. The projected functions $\tilde{u}_L$ corresponding to these are respectively

$$\tilde{u}_0(R) = 0.0075 \, u_{10}(2\nu R^2) - 0.1359 \, u_{20}(2\nu R^2)$$

$$\tilde{u}_2(R) = 0.6077 \, u_{12}(2\nu R^2)$$

with $\nu = 0.397 \, F^{-2}$.

These could be used in a DWBA calculation as the analogue of the single particle wave function in (d,p) reactions. That is to say

$$\frac{d\sigma}{d\Omega} \propto \left| \int \psi^{(-)} \tilde{u}_0 \, Y_0^0 \, \psi^{(+)} \, d\mathbf{R} \right|^2 + \frac{1}{5} \sum_M \left| \int \psi^{(-)} \tilde{u}_2 \, Y_2^M \, \psi^{(+)} \, d\mathbf{R} \right|^2$$

Conventions

1) The radial quantum number N has values $N \geq 1$ and is related to the oscillator quantum number according to

$$\mathcal{N} = 2(N-1) + L$$

The oscillator functions u_{NL} <u>all have positive slope</u> at the origin.

2) Spherical harmonics have Condon-Shortly phases.

3) The order of spin-orbit coupling is $\boldsymbol{\ell} + \mathbf{s} = \mathbf{j}$ not $\mathbf{s} + \boldsymbol{\ell} = \mathbf{j}$. The tables may be converted to the latter convention by multiplying all entries by the appropriate phase factor $(-)^\sigma$ where $\sigma = \ell_1 + j_1 + \ell_2 + j_2 + 1$.

4) If the order $j_2 j_1$ is desired while the table lists $j_1 j_2$, multiply the corresponding entries by $(-)^\rho$ where $\rho = j_1 + j_2 - J + 1$.

<u>Example 2</u>   As an extension of example 1, suppose the wave function is

$$\psi = \alpha(p_{1/2}^{\ 2})_{J=1} + \beta(d_{3/2}\ 2s_{1/2})_{J=1} \quad , \quad \text{with } T = 0$$

The second configuration contributed only to $L = 2$ transfer, and we have for

the configuration mixed structure amplitudes G_{NL},

$$G_{10} = 0.0075\ \alpha$$

$$G_{20} = -0.1359\ \alpha$$

$$G_{12} = 0.6077\ \alpha - 0.0065\ \beta$$

$$G_{22} = 0.5392\ \beta$$

and

$$\tilde{u}_0(R) = G_{10}\ u_{10}\ (2\nu R^2) + G_{20}\ u_{20}\ (2\nu R^2)$$

$$\tilde{u}_2(R) = G_{12}\ u_{12}\ (2\nu R^2) + G_{22}\ u_{22}\ (2\nu R^2)$$

with $\nu = 0.397\ F^{-2}$.

<u>Example 3</u>   The <u>same</u> function as in example 2 would appear, if written in

the convention in which the spin-orbit coupling is $\underset{\sim}{s} + \underset{\sim}{\ell} = j$, as

$$\psi = \alpha\ (\bar{p}_{1/2}^{\ 2})_{J=1} - \beta\ (\bar{d}_{3/2}\ 2\bar{s}_{1/2})_{J=1}$$

where the bars denote use of this latter convention. Application of the rules

on conventions leads to the same G's as before.

<u>Example 4</u>   If, unlike example 2, ψ is assumed to have <u>no</u> particular symmetry,

then in accordance with Eqs. (10) and (11)

$$G_{12} = 0.6077\alpha - 0.0046\beta$$

$$G_{22} = .3813\beta$$

Arrangement of the Tables

Configurations $(n_1 \ell_1 j_1)$ $(n_2 \ell_2 j_2)$ are considered, whose oscillator quantum numbers $(\mathcal{N} = 2(n-1)+\ell)$ differ at most by one. The table starts with both particles in the first oscillator shell $(\mathcal{N}_1, \mathcal{N}_2) = (1,1)$ and progresses through $(1,2)$, $(2,2)$, $(2,3)$, etc. In the tables these quantum numbers are denoted by NN1 and NN2. For each of these pairs of quantum numbers, all possible pairs of single-particle quantum numbers are constructed together with all their possible orbital and total angular momentum L and J, and their corresponding structure amplitudes are tabulated. Each pair of oscillator quanta $(\mathcal{N}_1 \ \mathcal{N}_2)$ is covered by three different choices of mass. Since the amplitudes are smoothly varying functions of mass, intermediate values can be easily interpolated if that is desired. The oscillator constant is chosen as

$$\nu = A^{-1/3}$$

corresponding approximately to $\hbar\omega = 41 \ A^{-1/3}$ MeV.

The size parameter of the alpha is taken as $0.233 \ F^{-2}$ (see Sec. II of Ref. 2).

These brief notes to the tables are not expected to be self-contained, and probably the reader needs at least a qualitative understanding of Ref. 2.

REFERENCES

1. Tables for the three reactions and their inverse are issued as UCRL

    reports as follows:

    $\qquad$ p, t $\qquad$ - UCRL-18268

    $\qquad$ p, He^3 $\qquad$ - UCRL-18269

    $\qquad$ α, d $\qquad$ - UCRL-18270

2. N. K. Glendenning, Phys. Rev. <u>137</u>, B102 (1965).

STRUCTURE TABLE

Structure Amplitudes for (a,d) Reactions

$S = 1$ $\eta = .2330$ $A = 4.0000$

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

NN1= 1   NN2= 1

N L J	N L J	S	J	L	G(1)	G(2)	G(3)	G(4)	G(5)	G(6)	G(7)

MASS= 4   NU= .630

N L J	N L J	S	J	L	G(1)	G(2)
1P 3/2	1P 3/2	1				
			1	0	.0944	.4194
			1	2	-.1876	
			3	2	.6891	
1P 3/2	1P 1/2	1				
			1	0	-.1194	-.5304
			1	2	-.2965	
			2	2	.6890	
1P 1/2	1P 1/2	1				
			1	0	-.0299	-.1326
			1	2	.5931	

MASS= 10   NU= .464

N L J	N L J	S	J	L	G(1)	G(2)
1P 3/2	1P 3/2	1				
			1	0	.0175	.4300
			1	2	-.1923	
			3	2	.7065	
1P 3/2	1P 1/2	1				
			1	0	-.0221	-.5438
			1	2	-.3040	
			2	2	.7064	
1P 1/2	1P 1/2	1				
			1	0	-.0055	-.1360
			1	2	.6081	

MASS= 16   NU= .397

N L J	N L J	S	J	L	G(1)	G(2)
1P 3/2	1P 3/2	1				
			1	0	-.0237	.4297
			1	2	-.1922	
			3	2	.7060	
1P 3/2	1P 1/2	1				
			1	0	.0300	-.5434
			1	2	-.3038	
			2	2	.7059	
1P 1/2	1P 1/2	1				
			1	0	.0075	-.1359
			1	2	.6077	

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

NN1= 1   NN2= 2

N L J	N L J	S	J	L	G(1)	G(2)	G(3)	G(4)	G(5)	G(6)	G(7)
					MASS= 16	NU= .397					
1P 3/2	1D 5/2	1									
			1	1	.0225	-.3157					
			2	1	-.0266	.3735					
			2	3	-.1630						
			3	3	-.1289						
			4	3	.8646						
1P 3/2	1D 3/2	1									
			0	1	.0411	-.5764					
			1	1	-.0300	.4209					
			2	1	.0116	-.1630					
			2	3	-.3735						
			3	3	.6314						
1P 3/2	2S 1/2	1									
			1	1	.0053	.3721					
			2	1	.0092	.6444					
1P 1/2	1D 5/2	1									
			2	1	-.0285	.3993					
			2	3	.1525						
			3	3	.5764						
1P 1/2	1D 3/2	1									
			1	1	-.0168	.2353					
			2	1	.0058	-.0815					
			2	3	.7471						
1P 1/2	2S 1/2	1									
			0	1	.0092	.6444					
			1	1	.0075	.5262					
					MASS= 28	NU= .329					
1P 3/2	1D 5/2	1									
			1	1	.0678	-.3117					
			2	1	-.0802	.3688					
			2	3	-.1610						
			3	3	-.1272						
			4	3	.8536						
1P 3/2	1D 3/2	1									
			0	1	.1237	-.5691					
			1	1	-.0903	.4156					
			2	1	.0350	-.1610					
			2	3	-.3688						
			3	3	.6234						
1P 3/2	2S 1/2	1									
			1	1	.0160	.3673					
			2	1	.0277	.6362					
1P 1/2	1D 5/2	1									
			2	1	-.0857	.3943					
			2	3	.1506						
			3	3	.5691						
1P 1/2	1D 3/2	1									
			1	1	-.0505	.2323					
			2	1	.0175	-.0805					
			2	3	.7376						

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

1P 1/2   2S 1/2   1
                     0   1   .0277   .6362
                     1   1   .0226   .5195

                  MASS= 40   NU=   .292

1P 3/2   1D 5/2   1
                     1   1   .0948   -.3071
                     2   1   -.1122   .3634
                     2   3   -.1586
                     3   3   -.1254
                     4   3   .8410
1P 3/2   1D 3/2   1
                     0   1   .1731   -.5607
                     1   1   -.1264   .4095
                     2   1   .0490   -.1586
                     2   3   -.3634
                     3   3   .6142
1P 3/2   2S 1/2   1
                     1   1   .0223   .3619
                     2   1   .0387   .6269
1P 1/2   1D 5/2   1
                     2   1   -.1199   .3884
                     2   3   .1483
                     3   3   .5607
1P 1/2   1D 3/2   1
                     1   1   -.0707   .2289
                     2   1   .0245   -.0793
                     2   3   .7267
1P 1/2   2S 1/2   1
                     0   1   .0387   .6269
                     1   1   .0316   .5118

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

NN1= 2   NN2= 2

N L J	N L J	S	J	L	G(1)	G(2)	G(3)	G(4)	G(5)	G(6)	G(7)

MASS= 16   NU= .397

N L J	N L J	S	J	L	G(1)	G(2)	G(3)
1D 5/2	1D 5/2	1					
			1	0	.0006	-.0217	.2157
			1	2	.0097	-.1153	
			3	2	-.0191	.2264	
			3	4	-.0924		
			5	4	.6114		
1D 5/2	1D 3/2	1					
			1	0	-.0009	.0329	-.3261
			1	2	.0129	-.1525	
			2	2	-.0243	.2882	
			3	2	.0147	-.1743	
			3	4	-.2401		
			4	4	.6113		
1D 5/2	2S 1/2	1					
			2	2	-.0041	.3410	
			3	2	-.0065	.5392	
1D 3/2	1D 3/2	1					
			1	0	-.0003	.0116	-.1153
			1	2	-.0182	.2157	
			3	2	.0032	-.0377	
			3	4	.5546		
1D 3/2	2S 1/2	1					
			1	2	-.0065	.5392	
			2	2	-.0050	.4176	
2S 1/2	2S 1/2	1					
			1	0	.0013	.0092	.4557

MASS= 28   NU= .329

N L J	N L J	S	J	L	G(1)	G(2)	G(3)
1D 5/2	1D 5/2	1					
			1	0	.0055	-.0655	.2130
			1	2	.0293	-.1138	
			3	2	-.0575	.2236	
			3	4	-.0913		
			5	4	.6037		
1D 5/2	1D 3/2	1					
			1	0	-.0083	.0990	-.3219
			1	2	.0387	-.1506	
			2	2	-.0732	.2845	
			3	2	.0443	-.1721	
			3	4	-.2371		
			4	4	.6036		
1D 5/2	2S 1/2	1					
			2	2	-.0124	.3367	
			3	2	-.0196	.5323	
1D 3/2	1D 3/2	1					
			1	0	-.0029	.0350	-.1138
			1	2	-.0548	.2130	
			3	2	.0096	-.0373	
			3	4	.5476		
1D 3/2	2S 1/2	1					
			1	2	-.0196	.5323	

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

```
                          2   2   -.0152    .4123
2S  1/2   2S  1/2   1
                          1   0    .0116    .0277    .4499


                     MASS=  40    NU=   .292


1D  5/2   1D  5/2   1
                          1   0    .0110   -.0916    .2098
                          1   2    .0410   -.1122
                          3   2   -.0805    .2203
                          3   4   -.0899
                          5   4    .5948
1D  5/2   1D  3/2   1
                          1   0   -.0166    .1385   -.3172
                          1   2    .0542   -.1483
                          2   2   -.1024    .2803
                          3   2    .0619   -.1695
                          3   4   -.2336
                          4   4    .5947
1D  5/2   2S  1/2   1
                          2   2   -.0173    .3317
                          3   2   -.0274    .5245
1D  3/2   1D  3/2   1
                          1   0   -.0059    .0490   -.1122
                          1   2   -.0766    .2098
                          3   2    .0134   -.0367
                          3   4    .5395
1D  3/2   2S  1/2   1
                          1   2   -.0274    .5245
                          2   2   -.0212    .4062
2S  1/2   2S  1/2   1
                          1   0    .0231    .0387    .4433
```

STRUCTURE AMPLITUDES FOR (α,d) REACTIONS

NN1= 2   NN2= 3

N L J	N L J	S	J	L	G(1)	G(2)	G(3)	G(4)	G(5)	G(6)	G(7)
					MASS= 40	NU=	.292				
1D 5/2	1F 7/2	1									
			1	1	-.0131	.0848	-.1641				
			2	1	.0136	-.0881	.1706				
			2	3	.0385	-.0929					
			3	3	.0240	-.0580					
			4	3	-.1029	.2485					
			4	5	-.0948						
			5	5	-.0580						
			6	5	.7677						
1D 5/2	1F 5/2	1									
			0	1	-.0245	.1587	-.3071				
			1	1	.0176	-.1138	.2202				
			2	1	-.0074	.0480	-.0929				
			2	3	.0707	-.1706					
			3	3	-.0912	.2202					
			4	3	.0393	-.0948					
			4	5	-.2485						
			5	5	.5506						
1D 5/2	2P 3/2	1									
			1	1	-.0088	-.0379	.2569				
			2	1	-.0104	-.0449	.3040				
			2	3	-.0049	-.1064					
			3	3	.0039	.0841					
			4	3	.0260	.5642					
1D 5/2	2P 1/2	1									
			2	1	.0111	.0480	-.3250				
			2	3	-.0046	-.0995					
			3	3	.0173	.3761					
1D 3/2	1F 7/2	1									
			2	1	.0181	-.1175	.2275				
			2	3	-.0288	.0696					
			3	3	-.0833	.2010					
			4	3	-.0621	.1498					
			4	5	.1572						
			5	5	.5319						
1D 3/2	1F 5/2	1									
			1	1	.0110	-.0710	.1373				
			2	1	-.0056	.0360	-.0696				
			2	3	-.0942	.2275					
			3	3	-.0186	.0450					
			4	3	.0139	-.0335					
			4	5	.7028						
1D 3/2	2P 3/2	1									
			0	1	-.0160	-.0692	.4691				
			1	1	-.0117	-.0506	.3426				
			2	1	-.0045	-.0196	.1327				
			2	3	.0112	.2437					
			3	3	.0190	.4120					
1D 3/2	2P 1/2	1									
			1	1	.0065	.0283	-.1915				
			2	1	.0023	.0098	-.0663				
			2	3	.0224	.4875					
2S 1/2	1F 7/2	1									
			3	3	.0380	-.2753					

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

			4	3	-.0581	.4205	
2S 1/2	1F 5/2	1					
			2	3	.0581	-.4205	
			3	3	-.0439	.3179	
2S 1/2	2P 3/2	1					
			1	1	-.0104	-.0223	-.3028
			2	1	.0179	.0387	.5245
2S 1/2	2P 1/2	1					
			0	1	-.0179	-.0387	-.5245
			1	1	.0146	.0316	.4282

MASS= 60   NU= .255

1D 5/2	1F 7/2	1					
			1	1	-.0226	.1101	-.1604
			2	1	.0234	-.1144	.1667
			2	3	.0499	-.0907	
			3	3	.0312	-.0567	
			4	3	-.1336	.2428	
			4	5	-.0926		
			5	5	-.0567		
			6	5	.7502		
1D 5/2	1F 5/2	1					
			0	1	-.0422	.2059	-.3001
			1	1	.0303	-.1477	.2152
			2	1	-.0128	.0623	-.0907
			2	3	.0917	-.1667	
			3	3	-.1184	.2152	
			4	3	.0509	-.0926	
			4	5	-.2428		
			5	5	.5380		
1D 5/2	2P 3/2	1					
			1	1	-.0151	-.0492	.2511
			2	1	-.0179	-.0582	.2971
			2	3	-.0064	-.1040	
			3	3	.0050	.0822	
			4	3	.0337	.5513	
1D 5/2	2P 1/2	1					
			2	1	.0191	.0623	-.3176
			2	3	-.0059	-.0972	
			3	3	.0225	.3675	
1D 3/2	1F 7/2	1					
			2	1	.0313	-.1525	.2223
			2	3	-.0374	.0681	
			3	3	-.1081	.1965	
			4	3	-.0806	.1464	
			4	5	.1536		
			5	5	.5198		
1D 3/2	1F 5/2	1					
			1	1	.0189	-.0921	.1342
			2	1	-.0096	.0467	-.0681
			2	3	-.1223	.2223	
			3	3	-.0242	.0439	
			4	3	.0180	-.0327	
			4	5	.6868		
1D 3/2	2P 3/2	1					
			0	1	-.0276	-.0899	.4584
			1	1	-.0202	-.0656	.3348
			2	1	-.0078	-.0254	.1297
			2	3	.0146	.2382	

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

				3	3	.0246	.4026	
1D 3/2	2P 1/2	1						
				1	1	.0113	.0367	-.1871
				2	1	.0039	.0127	-.0648
				2	3	.0291	.4764	
2S 1/2	1F 7/2	1						
				3	3	.0493	-.2690	
				4	3	-.0754	.4109	
2S 1/2	1F 5/2	1						
				2	3	.0754	-.4109	
				3	3	-.0570	.3106	
2S 1/2	2P 3/2	1						
				1	1	-.0178	-.0290	-.2959
				2	1	.0309	.0502	.5125
2S 1/2	2P 1/2	1						
				0	1	-.0309	-.0502	-.5125
				1	1	.0252	.0410	.4185

MASS= 80   NU= .232

1D 5/2	1F 7/2	1						
				1	1	-.0303	.1262	-.1572
				2	1	.0315	-.1312	.1634
				2	3	.0572	-.0889	
				3	3	.0358	-.0556	
				4	3	-.1532	.2380	
				4	5	-.0908		
				5	5	-.0556		
				6	5	.7352		
1D 5/2	1F 5/2	1						
				0	1	-.0566	.2361	-.2941
				1	1	.0406	-.1693	.2109
				2	1	-.0171	.0714	-.0889
				2	3	.1052	-.1634	
				3	3	-.1358	.2109	
				4	3	.0584	-.0908	
				4	5	-.2380		
				5	5	.5272		
1D 5/2	2P 3/2	1						
				1	1	-.0203	-.0564	.2460
				2	1	-.0240	-.0668	.2911
				2	3	-.0073	-.1019	
				3	3	.0058	.0805	
				4	3	.0386	.5403	
1D 5/2	2P 1/2	1						
				2	1	.0257	.0714	-.3112
				2	3	-.0068	-.0953	
				3	3	.0258	.3602	
1D 3/2	1F 7/2	1						
				2	1	.0420	-.1749	.2178
				2	3	-.0429	.0667	
				3	3	-.1239	.1925	
				4	3	-.0924	.1435	
				4	5	.1505		
				5	5	.5094		
1D 3/2	1F 5/2	1						
				1	1	.0253	-.1056	.1315
				2	1	-.0128	.0535	-.0667
				2	3	-.1402	.2178	
				3	3	-.0277	.0430	

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

					4	3	.0207	-.0321
					4	5	.6731	
1D	3/2	2P	3/2	1				
					0	1	-.0371	-.1030	.4492
					1	1	-.0271	-.0753	.3281
					2	1	-.0105	-.0291	.1271
					2	3	.0167	.2334
					3	3	.0282	.3945
1D	3/2	2P	1/2	1				
					1	1	.0151	.0421	-.1834
					2	1	.0052	.0146	-.0635
					2	3	.0334	.4668
2S	1/2	1F	7/2	1				
					3	3	.0566	-.2636
					4	3	-.0864	.4027
2S	1/2	1F	5/2	1				
					2	3	.0864	-.4027
					3	3	-.0653	.3044
2S	1/2	2P	3/2	1				
					1	1	-.0239	-.0333	-.2900
					2	1	.0415	.0576	.5022
2S	1/2	2P	1/2	1				
					0	1	-.0415	-.0576	-.5022
					1	1	.0339	.0470	.4101

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

NN1= 3   NN2= 3

N L J	N L J	S	J	L	G(1)	G(2)	G(3)	G(4)	G(5)	G(6)	G(7)

MASS= 40   NU= .292

N L J	N L J	S	J	L	G(1)	G(2)	G(3)	G(4)
1F 7/2	1F 7/2	1						
			1	0	-.0012	.0148	-.0680	.1075
			1	2	-.0066	.0364	-.0621	
			3	2	.0102	-.0558	.0953	
			3	4	.0228	-.0498		
			5	4	-.0733	.1600		
			5	6	-.0573			
			7	6	.5430			
1F 7/2	1F 5/2	1						
			1	0	.0019	-.0242	.1110	-.1755
			1	2	-.0081	.0445	-.0760	
			2	2	.0147	-.0805	.1373	
			3	2	-.0100	.0549	-.0938	
			3	4	.0463	-.1010		
			4	4	-.0861	.1881		
			5	4	.0445	-.0972		
			5	6	-.1885			
			6	6	.5429			
1F 7/2	2P 3/2	1						
			2	2	-.0026	-.0573	.2202	
			3	2	-.0027	-.0594	.2280	
			3	4	.0030	-.0728		
			4	4	-.0046	.1111		
			5	4	-.0212	.5093		
1F 7/2	2P 1/2	1						
			3	2	.0031	.0685	-.2632	
			3	4	.0026	-.0630		
			4	4	-.0137	.3287		
1F 5/2	1F 5/2	1						
			1	0	.0008	-.0096	.0439	-.0694
			1	2	.0103	-.0563	.0961	
			3	2	-.0034	.0184	-.0315	
			3	4	-.0690	.1506		
			5	4	.0083	-.0181		
			5	6	.5059			
1F 5/2	2P 3/2	1						
			1	2	-.0042	-.0929	.3568	
			2	2	-.0027	-.0585	.2248	
			3	2	-.0008	-.0177	.0680	
			3	4	-.0102	.2440		
			4	4	-.0155	.3727		
1F 5/2	2P 1/2	1						
			2	2	.0020	.0438	-.1682	
			3	2	.0005	.0099	-.0380	
			3	4	-.0182	.4365		
2P 3/2	2P 3/2	1						
			1	0	-.0033	.0020	-.0091	.3028
			1	2	-.0041	-.0068	-.1049	
			3	2	.0151	.0251	.3855	
2P 3/2	2P 1/2	1						
			1	0	.0042	-.0025	.0115	-.3830
			1	2	-.0065	-.0108	-.1658	
			2	2	.0151	.0251	.3854	
2P 1/2	2P 1/2	1						

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

```
                1  0    .0011   -.0006    .0029   -.0958
                1  2    .0130    .0216    .3317


            MASS= 60   NU=  .255


1F 7/2  1F 7/2  1
                1  0   -.0027    .0256   -.0883    .1050
                1  2   -.0114    .0472   -.0606
                3  2    .0176   -.0724    .0931
                3  4    .0296   -.0486
                5  4   -.0951    .1563
                5  6   -.0560
                7  6    .5306
1F 7/2  1F 5/2  1
                1  0    .0044   -.0418    .1441   -.1715
                1  2   -.0140    .0578   -.0743
                2  2    .0253   -.1044    .1342
                3  2   -.0173    .0713   -.0917
                3  4    .0600   -.0987
                4  4   -.1118    .1838
                5  4    .0578   -.0950
                5  6   -.1842
                6  6    .5305
1F 7/2  2P 3/2  1
                2  2   -.0045   -.0744    .2152
                3  2   -.0047   -.0770    .2228
                3  4    .0039   -.0711
                4  4   -.0060    .1086
                5  4   -.0275    .4977
1F 7/2  2P 1/2  1
                3  2    .0054    .0889   -.2572
                3  4    .0034   -.0616
                4  4   -.0178    .3212
1F 5/2  1F 5/2  1
                1  0    .0017   -.0165    .0570   -.0678
                1  2    .0177   -.0731    .0939
                3  2   -.0058    .0239   -.0307
                3  4   -.0895    .1472
                5  4    .0108   -.0177
                5  6    .4944
1F 5/2  2P 3/2  1
                1  2   -.0073   -.1206    .3487
                2  2   -.0046   -.0759    .2196
                3  2   -.0014   -.0230    .0664
                3  4   -.0132    .2385
                4  4   -.0201    .3642
1F 5/2  2P 1/2  1
                2  2    .0034    .0568   -.1644
                3  2    .0008    .0128   -.0371
                3  4   -.0236    .4266
2P 3/2  2P 3/2  1
                1  0   -.0076    .0034   -.0118    .2959
                1  2   -.0071   -.0089   -.1025
                3  2    .0260    .0326    .3767
2P 3/2  2P 1/2  1
                1  0    .0097   -.0043    .0150   -.3743
                1  2   -.0112   -.0140   -.1621
                2  2    .0259    .0326    .3766
2P 1/2  2P 1/2  1
                1  0    .0024   -.0011    .0037   -.0936
```

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

1   2   .0223   .0280   .3242

MASS= 80   NU=   .232

1F 7/2   1F 7/2   1
1	0	-.0043	.0343	-.1012	.1029
1	2	-.0154	.0541	-.0594	
3	2	.0236	-.0831	.0912	
3	4	.0339	-.0476		
5	4	-.1090	.1532		
5	6	-.0549			
7	6	.5199			

1F 7/2   1F 5/2   1
1	0	.0069	-.0561	.1652	-.1680
1	2	-.0188	.0662	-.0728	
2	2	.0340	-.1197	.1315	
3	2	-.0232	.0818	-.0898	
3	4	.0689	-.0968		
4	4	-.1282	.1801		
5	4	.0662	-.0931		
5	6	-.1805			
6	6	.5199			

1F 7/2   2P 3/2   1
2	2	-.0061	-.0853	.2109
3	2	-.0063	-.0883	.2183
3	4	.0045	-.0697	
4	4	-.0069	.1064	
5	4	-.0316	.4877	

1F 7/2   2P 1/2   1
3	2	.0072	.1020	-.2521
3	4	.0039	-.0603	
4	4	-.0204	.3148	

1F 5/2   1F 5/2   1
1	0	.0027	-.0222	.0653	-.0664
1	2	.0238	-.0838	.0921	
3	2	-.0078	.0274	-.0301	
3	4	-.1027	.1442		
5	4	.0123	-.0173		
5	6	.4845			

1F 5/2   2P 3/2   1
1	2	-.0098	-.1383	.3417
2	2	-.0062	-.0871	.2152
3	2	-.0019	-.0263	.0651
3	4	-.0151	.2337	
4	4	-.0231	.3569	

1F 5/2   2P 1/2   1
2	2	.0046	.0652	-.1611
3	2	.0010	.0147	-.0364
3	4	-.0270	.4180	

2P 3/2   2P 3/2   1
1	0	-.0120	.0046	-.0136	.2900
1	2	-.0095	-.0102	-.1005	
3	2	.0348	.0373	.3691	

2P 3/2   2P 1/2   1
1	0	.0152	-.0058	.0172	-.3668
1	2	-.0150	-.0161	-.1588	
2	2	.0348	.0373	.3691	

2P 1/2   2P 1/2   1
1	0	.0038	-.0015	.0043	-.0917
1	2	.0300	.0321	.3177	

STRUCTURE AMPLITUDES FOR (α,d) REACTIONS

NN1= 3   NN2= 4

N L J	N L J	S	J	L	G(1)	G(2)	G(3)	G(4)	G(5)	G(6)	G(7)

MASS= 80   NU= .232

1F 7/2	1G 9/2	1									
			1	1	.0059	-.0371	.0924	-.0828			
			2	1	-.0058	.0360	-.0897	.0804			
			2	3	-.0157	.0488	-.0485				
			3	3	-.0088	.0273	-.0271				
			4	3	.0317	-.0984	.0978				
			4	5	.0375	-.0485					
			5	5	.0176	-.0227					
			6	5	-.1440	.1861					
			6	7	-.0629						
			7	7	-.0327						
			8	7	.6877						
1F 7/2	1G 7/2	1									
			0	1	.0113	-.0704	.1753	-.1572			
			1	1	-.0080	.0501	-.1249	.1120			
			2	1	.0035	-.0217	.0541	-.0485			
			2	3	-.0261	.0810	-.0804				
			3	3	.0314	-.0977	.0970				
			4	3	-.0157	.0488	-.0485				
			4	5	.0756	-.0978					
			5	5	-.1187	.1534					
			6	5	.0487	-.0629					
			6	7	-.1861						
			7	7	.4901						
1F 7/2	2D 5/2	1									
			1	1	.0061	-.0026	-.0829	.1544			
			2	1	.0064	-.0027	-.0861	.1604			
			2	3	.0070	.0288	-.0788				
			3	3	-.0044	-.0180	.0493				
			4	3	-.0186	-.0772	.2109				
			4	5	-.0037	-.0618					
			5	5	.0023	.0379					
			6	5	.0298	.5010					
1F 7/2	2D 3/2	1									
			2	1	-.0085	.0035	.1148	-.2139			
			2	3	.0052	.0216	-.0591				
			3	3	-.0151	-.0625	.1707				
			4	3	.0112	.0466	-.1272				
			4	5	-.0061	-.1025					
			5	5	.0207	.3471					
1F 7/2	3S 1/2	1									
			3	3	-.0134	-.0179	.1955				
			4	3	-.0205	-.0273	.2986				
1F 5/2	1G 9/2	1									
			2	1	-.0085	.0532	-.1325	.1188			
			2	3	.0106	-.0331	.0328				
			3	3	.0287	-.0891	.0886				
			4	3	.0248	-.0772	.0767				
			4	5	-.0478	.0618					
			5	5	-.1147	.1482					
			6	5	-.0665	.0860					
			6	7	.1362						
			7	7	.4813						
1F 5/2	1G 7/2	1									

STRUCTURE AMPLITUDES FOR (α,d) REACTIONS

			1	1	-.0052	.0326	-.0811	.0728
			2	1	.0030	-.0188	.0468	-.0420
			2	3	.0301	-.0935	.0929	
			3	3	.0075	-.0234	.0232	
			4	3	-.0088	.0273	-.0271	
			4	5	-.1353	.1749		
			5	5	-.0138	.0179		
			6	5	.0141	-.0182		
			6	7	.6448			
1F 5/2	2D 5/2	1						
			0	1	.0115	-.0048	-.1550	.2888
			1	1	.0082	-.0034	-.1112	.2071
			2	1	.0035	-.0014	-.0469	.0873
			2	3	-.0128	-.0530	.1448	
			3	3	-.0165	-.0684	.1869	
			4	3	-.0071	-.0294	.0804	
			4	5	.0096	.1621		
			5	5	.0214	.3593		
1F 5/2	2D 3/2	1						
			1	1	-.0051	.0021	.0693	-.1291
			2	1	-.0026	.0011	.0352	-.0655
			2	3	-.0171	-.0707	.1931	
			3	3	.0034	.0140	-.0382	
			4	3	.0025	.0104	-.0284	
			4	5	.0273	.4586		
1F 5/2	3S 1/2	1						
			2	3	-.0205	-.0273	.2986	
			3	3	-.0155	-.0207	.2258	
2P 3/2	1G 9/2	1						
			3	3	-.0050	.0924	-.1683	
			4	3	.0048	-.0901	.1641	
			4	5	.0086	-.0481		
			5	5	.0193	-.1082		
			6	5	-.0748	.4191		
2P 3/2	1G 7/2	1						
			2	3	-.0077	.1431	-.2607	
			3	3	.0044	-.0826	.1505	
			4	3	-.0011	.0205	-.0374	
			4	5	.0377	-.2110		
			5	5	-.0547	.3061		
2P 3/2	2D 5/2	1						
			1	1	.0096	.0040	.0299	-.2416
			2	1	-.0114	-.0047	-.0354	.2859
			2	3	-.0068	-.0083	-.0903	
			3	3	-.0054	-.0065	-.0714	
			4	3	.0360	.0438	.4789	
2P 3/2	2D 3/2	1						
			0	1	.0175	.0073	.0547	-.4411
			1	1	-.0128	-.0053	-.0399	.3221
			2	1	.0050	.0021	.0155	-.1248
			2	3	-.0156	-.0189	-.2069	
			3	3	.0263	.0320	.3497	
2P 3/2	3S 1/2	1						
			1	1	.0019	.0164	.0295	.2382
			2	1	.0033	.0283	.0511	.4126
2P 1/2	1G 9/2	1						
			4	3	.0058	-.1086	.1979	
			4	5	-.0071	.0399		
			5	5	-.0473	.2651		
2P 1/2	1G 7/2	1						
			3	3	.0038	-.0716	.1303	
			4	3	-.0007	.0121	-.0221	

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

```
                    4   5   -.0637    .3567
2P  1/2   2D  5/2  1
                    2   1   -.0122   -.0051   -.0379    .3056
                    2   3    .0064    .0077    .0845
                    3   3    .0240    .0292    .3193
2P  1/2   2D  3/2  1
                    1   1   -.0072   -.0030   -.0223    .1801
                    2   1    .0025    .0010    .0077   -.0624
                    2   3    .0311    .0379    .4138
2P  1/2   3S  1/2  1
                    0   1    .0033    .0283    .0511    .4126
                    1   1    .0027    .0231    .0417    .3369


              MASS=110    NU=  .209


1F  7/2   1G  9/2  1
                    1   1    .0089   -.0483    .1041   -.0807
                    2   1   -.0087    .0469   -.1010    .0784
                    2   3   -.0205    .0550   -.0473
                    3   3   -.0114    .0307   -.0264
                    4   3    .0413   -.1108    .0953
                    4   5    .0423   -.0473
                    5   5    .0198   -.0221
                    6   5   -.1622    .1814
                    6   7   -.0613
                    7   7   -.0319
                    8   7    .6700
1F  7/2   1G  7/2  1
                    0   1    .0169   -.0916    .1974   -.1531
                    1   1   -.0121    .0653   -.1407    .1091
                    2   1    .0052   -.0283    .0609   -.0473
                    2   3   -.0339    .0912   -.0784
                    3   3    .0409   -.1100    .0945
                    4   3   -.0205    .0550   -.0473
                    4   5    .0852   -.0953
                    5   5   -.1337    .1495
                    6   5    .0548   -.0613
                    6   7   -.1814
                    7   7    .4775
1F  7/2   2D  5/2  1
                    1   1    .0092   -.0033   -.0933    .1504
                    2   1    .0096   -.0035   -.0970    .1563
                    2   3    .0091    .0325   -.0768
                    3   3   -.0057   -.0203    .0480
                    4   3   -.0243   -.0870    .2055
                    4   5   -.0041   -.0602
                    5   5    .0025    .0369
                    6   5    .0336    .4881
1F  7/2   2D  3/2  1
                    2   1   -.0128    .0046    .1293   -.2084
                    2   3    .0068    .0244   -.0576
                    3   3   -.0196   -.0704    .1663
                    4   3    .0146    .0524   -.1239
                    4   5   -.0069   -.0999
                    5   5    .0233    .3381
1F  7/2   3S  1/2  1
                    3   3   -.0175   -.0201    .1905
                    4   3   -.0267   -.0308    .2910
1F  5/2   1G  9/2  1
                    2   1   -.0128    .0693   -.1492    .1158
```

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

				2	3	.0139	-.0372	.0320
				3	3	.0374	-.1004	.0863
				4	3	.0324	-.0870	.0747
				4	5	-.0539	.0602	
				5	5	-.1292	.1444	
				6	5	-.0749	.0838	
				6	7	.1327		
				7	7	.4689		
1F 5/2	1G 7/2	1						
				1	1	-.0078	.0424	-.0914 .0709
				2	1	.0045	-.0245	.0528 -.0409
				2	3	.0392	-.1053	.0905
				3	3	.0098	-.0263	.0226
				4	3	-.0114	.0307	-.0264
				4	5	-.1524	.1704	
				5	5	-.0156	.0174	
				6	5	.0158	-.0177	
				6	7	.6282		
1F 5/2	2D 5/2	1						
				0	1	.0173	-.0062	-.1746 .2814
				1	1	.0124	-.0045	-.1252 .2018
				2	1	.0052	-.0019	-.0528 .0851
				2	3	-.0167	-.0597	.1411
				3	3	-.0215	-.0771	.1821
				4	3	-.0093	-.0332	.0784
				4	5	.0109	.1580	
				5	5	.0241	.3500	
1F 5/2	2D 3/2	1						
				1	1	-.0077	.0028	.0781 -.1258
				2	1	-.0039	.0014	.0396 -.0638
				2	3	-.0222	-.0796	.1881
				3	3	.0044	.0157	-.0372
				4	3	.0033	.0117	-.0277
				4	5	.0307	.4468	
1F 5/2	3S 1/2	1						
				2	3	-.0267	-.0308	.2910
				3	3	-.0202	-.0233	.2199
2P 3/2	1G 9/2	1						
				3	3	-.0065	.1041	-.1639
				4	3	.0063	-.1014	.1598
				4	5	.0097	-.0469	
				5	5	.0218	-.1054	
				6	5	-.0843	.4083	
2P 3/2	1G 7/2	1						
				2	3	-.0100	.1612	-.2540
				3	3	.0058	-.0931	.1466
				4	3	-.0014	.0231	-.0364
				4	5	.0424	-.2056	
				5	5	-.0616	.2982	
2P 3/2	2D 5/2	1						
				1	1	.0145	.0052	.0337 -.2354
				2	1	-.0171	-.0062	-.0399 .2785
				2	3	-.0089	-.0093	-.0880
				3	3	-.0070	-.0074	-.0696
				4	3	.0469	.0494	.4666
2P 3/2	2D 3/2	1						
				0	1	.0264	.0095	.0616 -.4298
				1	1	-.0193	-.0070	-.0450 .3139
				2	1	.0075	.0027	.0174 -.1216
				2	3	-.0203	-.0213	-.2016
				3	3	.0343	.0360	.3407
2P 3/2	3S 1/2	1						

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

					1	1	.0029	.0213	.0332	.2321
					2	1	.0049	.0369	.0576	.4020
2P	1/2	1G 9/2	1							
					4	3	.0076	-.1224	.1928	
					4	5	-.0080	.0389		
					5	5	-.0533	.2583		
2P	1/2	1G 7/2	1							
					3	3	.0050	-.0806	.1270	
					4	3	-.0008	.0137	-.0216	
					4	5	-.0717	.3475		
2P	1/2	2D 5/2	1							
					2	1	-.0183	-.0066	-.0426	.2978
					2	3	.0083	.0087	.0823	
					3	3	.0313	.0329	.3110	
2P	1/2	2D 3/2	1							
					1	1	-.0108	-.0039	-.0251	.1755
					2	1	.0037	.0013	.0087	-.0608
					2	3	.0406	.0426	.4032	
2P	1/2	3S 1/2	1							
					0	1	.0049	.0369	.0576	.4020
					1	1	.0040	.0301	.0470	.3282

MASS=140   NU= .193

1F	7/2	1G 9/2	1							
					1	1	.0116	-.0570	.1118	-.0789
					2	1	-.0113	.0554	-.1086	.0767
					2	3	-.0242	.0591	-.0462	
					3	3	-.0135	.0330	-.0258	
					4	3	.0487	-.1191	.0932	
					4	5	.0454	-.0462		
					5	5	.0213	-.0216		
					6	5	-.1744	.1774		
					6	7	-.0600			
					7	7	-.0312			
					8	7	.6553			
1F	7/2	1G 7/2	1							
					0	1	.0220	-.1082	.2122	-.1498
					1	1	-.0157	.0771	-.1512	.1068
					2	1	.0068	-.0334	.0655	-.0462
					2	3	-.0401	.0980	-.0767	
					3	3	.0484	-.1182	.0925	
					4	3	-.0242	.0591	-.0462	
					4	5	.0916	-.0932		
					5	5	-.1437	.1462		
					6	5	.0589	-.0600		
					6	7	-.1774			
					7	7	.4670			
1F	7/2	2D 5/2	1							
					1	1	.0120	-.0039	-.1003	.1471
					2	1	.0125	-.0041	-.1043	.1529
					2	3	.0107	.0349	-.0751	
					3	3	-.0067	-.0218	.0469	
					4	3	-.0287	-.0935	.2010	
					4	5	-.0045	-.0589		
					5	5	.0027	.0361		
					6	5	.0361	.4774		
1F	7/2	2D 3/2	1							
					2	1	-.0166	.0055	.1390	-.2038
					2	3	.0080	.0262	-.0563	

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

				3	3	-.0232	-.0756	.1626
				4	3	.0173	.0564	-.1212
				4	5	-.0074	-.0977	
				5	5	.0250	.3307	
1F 7/2	3S 1/2	1						
				3	3	-.0207	-.0217	.1863
				4	3	-.0316	-.0331	.2846
1F 5/2	1G 9/2	1						
				2	1	-.0166	.0818	-.1604	.1132
				2	3	.0164	-.0400	.0313
				3	3	.0441	-.1079	.0844
				4	3	.0382	-.0935	.0731
				4	5	-.0579	.0589	
				5	5	-.1388	.1412	
				6	5	-.0805	.0819	
				6	7	.1298		
				7	7	.4586		
1F 5/2	1G 7/2	1						
				1	1	-.0102	.0501	-.0982	.0693
				2	1	.0059	-.0289	.0567	-.0400
				2	3	.0463	-.1132	.0885
				3	3	.0116	-.0283	.0221
				4	3	-.0135	.0330	-.0258
				4	5	-.1638	.1667	
				5	5	-.0167	.0170	
				6	5	.0170	-.0173	
				6	7	.6144		
1F 5/2	2D 5/2	1						
				0	1	.0225	-.0074	-.1877	.2752
				1	1	.0161	-.0053	-.1346	.1973
				2	1	.0068	-.0022	-.0568	.0832
				2	3	-.0197	-.0642	.1380
				3	3	-.0254	-.0828	.1781
				4	3	-.0109	-.0356	.0767
				4	5	.0117	.1545	
				5	5	.0259	.3423	
1F 5/2	2D 3/2	1						
				1	1	-.0100	.0033	.0839	-.1231
				2	1	-.0051	.0017	.0426	-.0624
				2	3	-.0262	-.0856	.1840
				3	3	.0052	.0169	-.0364
				4	3	.0039	.0126	-.0271
				4	5	.0330	.4370	
1F 5/2	3S 1/2	1						
				2	3	-.0316	-.0331	.2846
				3	3	-.0239	-.0250	.2151
2P 3/2	1G 9/2	1						
				3	3	-.0076	.1118	-.1603
				4	3	.0074	-.1090	.1563
				4	5	.0104	-.0458	
				5	5	.0234	-.1031	
				6	5	-.0906	.3994	
2P 3/2	1G 7/2	1						
				2	3	-.0118	.1733	-.2484
				3	3	.0068	-.1000	.1434
				4	3	-.0017	.0249	-.0356
				4	5	.0456	-.2011	
				5	5	-.0662	.2917	
2P 3/2	2D 5/2	1						
				1	1	.0188	.0062	.0362	-.2302
				2	1	-.0222	-.0073	-.0429	.2724
				2	3	-.0105	-.0100	-.0860

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

			3	3	-.0083	-.0079	-.0680	
			4	3	.0554	.0531	.4563	
2P 3/2	2D 3/2	1						
			0	1	.0343	.0113	.0662	-.4203
			1	1	-.0250	-.0082	-.0483	.3070
			2	1	.0097	.0032	.0187	-.1189
			2	3	-.0240	-.0229	-.1972	
			3	3	.0405	.0387	.3333	
2P 3/2	3S 1/2	1						
			1	1	.0037	.0252	.0357	.2270
			2	1	.0064	.0436	.0619	.3932
2P 1/2	1G 9/2	1						
			4	3	.0090	-.1315	.1885	
			4	5	-.0086	.0380		
			5	5	-.0573	.2526		
2P 1/2	1G 7/2	1						
			3	3	.0059	-.0866	.1242	
			4	3	-.0010	.0147	-.0211	
			4	5	-.0771	.3399		
2P 1/2	2D 5/2	1						
			2	1	-.0238	-.0078	-.0458	.2912
			2	3	.0098	.0094	.0805	
			3	3	.0370	.0354	.3042	
2P 1/2	2D 3/2	1						
			1	1	-.0140	-.0046	-.0270	.1716
			2	1	.0048	.0016	.0094	-.0594
			2	3	.0479	.0458	.3943	
2P 1/2	3S 1/2	1						
			0	1	.0064	.0436	.0619	.3932
			1	1	.0052	.0356	.0505	.3210

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

NN1= 4   NN2= 4

N L J	N L J	S	J	L	G(1)	G(2)	G(3)	G(4)	G(5)	G(6)	G(7)
					MASS= 80	NU= .232					
1G 9/2	1G 9/2	1									
			1	0	.0007	-.0076	.0335	-.0681	.0529		
			1	2	.0034	-.0179	.0393	-.0319			
			3	2	-.0045	.0239	-.0526	.0427			
			3	4	-.0098	.0275	-.0251				
			5	4	.0231	-.0648	.0593				
			5	6	.0232	-.0279					
			7	6	-.1022	.1230					
			7	8	-.0395						
			9	8	.4864						
1G 9/2	1G 7/2	1									
			1	0	-.0012	.0129	-.0571	.1161	-.0902		
			1	2	.0040	-.0210	.0461	-.0374			
			2	2	-.0071	.0373	-.0819	.0664			
			3	2	.0050	-.0266	.0584	-.0473			
			3	4	-.0176	.0495	-.0453				
			4	4	.0301	-.0844	.0772				
			5	4	-.0185	.0519	-.0474				
			5	6	.0580	-.0698					
			6	6	-.1155	.1389					
			7	6	.0530	-.0638					
			7	8	-.1522						
			8	8	.4863						
1G 9/2	2D 5/2	1									
			2	2	.0037	.0108	-.0903	.1272			
			3	2	.0033	.0096	-.0800	.1127			
			3	4	.0016	.0264	-.0523				
			4	4	-.0019	-.0312	.0618				
			5	4	-.0053	-.0898	.1779				
			5	6	.0027	-.0484					
			6	6	-.0031	.0567					
			7	6	-.0258	.4660					
1G 9/2	2D 3/2	1									
			3	2	-.0048	-.0142	.1182	-.1665			
			3	4	.0011	.0179	-.0354				
			4	4	-.0040	-.0682	.1350				
			5	4	.0034	.0575	-.1139				
			5	6	.0042	-.0755					
			6	6	-.0176	.3184					
1G 9/2	3S 1/2	1									
			4	4	-.0078	-.0427	.1692				
			5	4	-.0117	-.0641	.2538				
1G 7/2	1G 7/2	1									
			1	0	-.0005	.0054	-.0239	.0486	-.0377		
			1	2	-.0047	.0251	-.0551	.0447			
			3	2	.0020	-.0105	.0231	-.0187			
			3	4	.0223	-.0627	.0573				
			5	4	-.0055	.0155	-.0142				
			5	6	-.0971	.1168					
			7	6	.0088	-.0105					
			7	8	.4602						
1G 7/2	2D 5/2	1									
			1	2	.0061	.0178	-.1483	.2090			
			2	2	.0036	.0107	-.0894	.1259			

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

```
                          3  2   .0012   .0037  -.0305   .0430
                          3  4  -.0041  -.0692   .1370
                          4  4  -.0046  -.0773   .1530
                          5  4  -.0016  -.0266   .0527
                          5  6  -.0090   .1631
                          6  6  -.0186   .3356
1G 7/2   2D 3/2   1
                          2  2  -.0031  -.0092   .0766  -.1079
                          3  2  -.0011  -.0032   .0264  -.0372
                          3  4  -.0047  -.0799   .1582
                          4  4   .0014   .0244  -.0483
                          5  4   .0006   .0102  -.0201
                          5  6  -.0237   .4272
1G 7/2   3S 1/2   1
                          3  4  -.0117  -.0641   .2538
                          4  4  -.0088  -.0478   .1892
2D 5/2   2D 5/2   1
                          1  0   .0026  -.0063  -.0046  -.0565   .1973
                          1  2   .0043   .0019   .0175  -.0935
                          3  2  -.0085  -.0038  -.0343   .1836
                          3  4  -.0044  -.0044  -.0520
                          5  4   .0290   .0290   .3440
2D 5/2   2D 3/2   1
                          1  0  -.0040   .0095   .0070   .0853  -.2983
                          1  2   .0057   .0026   .0231  -.1236
                          2  2  -.0108  -.0049  -.0436   .2337
                          3  2   .0065   .0029   .0264  -.1413
                          3  4  -.0114  -.0114  -.1351
                          4  4   .0290   .0289   .3440
2D 5/2   3S 1/2   1
                          2  2  -.0032   .0109   .0086   .2313
                          3  2  -.0051   .0173   .0137   .3658
2D 3/2   2D 3/2   1
                          1  0  -.0014   .0034   .0025   .0302  -.1055
                          1  2  -.0081  -.0036  -.0327   .1749
                          3  2   .0014   .0006   .0057  -.0306
                          3  4   .0263   .0263   .3121
2D 3/2   3S 1/2   1
                          1  2  -.0051   .0173   .0137   .3658
                          2  2  -.0040   .0134   .0106   .2833
3S 1/2   3S 1/2   1
                          1  0   .0039   .0046   .0283   .0417   .2918


                    MASS=110    NU=  .209


1G 9/2   1G 9/2   1
                          1  0   .0012  -.0114   .0436  -.0767   .0515
                          1  2   .0051  -.0233   .0443  -.0311
                          3  2  -.0068   .0312  -.0593   .0416
                          3  4  -.0127   .0309  -.0245
                          5  4   .0300  -.0730   .0577
                          5  6   .0261  -.0272
                          7  6  -.1151   .1198
                          7  8  -.0385
                          9  8   .4739
1G 9/2   1G 7/2   1
                          1  0  -.0021   .0194  -.0744   .1308  -.0879
                          1  2   .0060  -.0273   .0519  -.0364
                          2  2  -.0106   .0485  -.0922   .0647
                          3  2   .0076  -.0346   .0657  -.0461
```

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

				3	4	-.0229	.0558	-.0441		
				4	4	.0391	-.0951	.0752		
				5	4	-.0240	.0584	-.0462		
				5	6	.0654	-.0680			
				6	6	-.1301	.1354			
				7	6	.0597	-.0621			
				7	8	-.1483				
				8	8	.4738				
1G 9/2	2D 5/2		1							
				2	2	.0055	.0141	-.1017	.1239	
				3	2	.0049	.0125	-.0901	.1098	
				3	4	.0020	.0297	-.0509		
				4	4	-.0024	-.0352	.0602		
				5	4	-.0069	-.1012	.1733		
				5	6	.0030	-.0471			
				6	6	-.0035	.0553			
				7	6	-.0291	.4540			
1G 9/2	2D 3/2		1							
				3	2	-.0073	-.0184	.1331	-.1623	
				3	4	.0014	.0201	-.0345		
				4	4	-.0053	-.0768	.1315		
				5	4	.0044	.0648	-.1110		
				5	6	.0047	-.0736			
				6	6	-.0199	.3102			
1G 9/2	3S 1/2		1							
				4	4	-.0102	-.0481	.1648		
				5	4	-.0153	-.0722	.2473		
1G 7/2	1G 7/2		1							
				1	0	-.0009	.0081	-.0311	.0547	-.0368
				1	2	-.0071	.0327	-.0621	.0435	
				3	2	.0030	-.0137	.0260	-.0182	
				3	4	.0290	-.0706	.0558		
				5	4	-.0072	.0175	-.0138		
				5	6	-.1094	.1138			
				7	6	.0099	-.0103			
				7	8	.4484				
1G 7/2	2D 5/2		1							
				1	2	.0091	.0231	-.1671	.2036	
				2	2	.0055	.0139	-.1007	.1227	
				3	2	.0019	.0048	-.0344	.0419	
				3	4	-.0053	-.0780	.1335		
				4	4	-.0060	-.0871	.1491		
				5	4	-.0021	-.0300	.0514		
				5	6	-.0102	.1589			
				6	6	-.0209	.3269			
1G 7/2	2D 3/2		1							
				2	2	-.0047	-.0119	.0863	-.1052	
				3	2	-.0016	-.0041	.0298	-.0363	
				3	4	-.0062	-.0900	.1542		
				4	4	.0019	.0275	-.0471		
				5	4	.0008	.0115	-.0196		
				5	6	-.0267	.4162			
1G 7/2	3S 1/2		1							
				3	4	-.0153	-.0722	.2473		
				4	4	-.0114	-.0538	.1843		
2D 5/2	2D 5/2		1							
				1	0	.0046	-.0095	-.0060	-.0636	.1922
				1	2	.0065	.0025	.0197	-.0911	
				3	2	-.0127	-.0050	-.0386	.1789	
				3	4	-.0057	-.0049	-.0507		
				5	4	.0378	.0326	.3352		
2D 5/2	2D 3/2		1							

STRUCTURE AMPLITUDES FOR (α,d) REACTIONS

				1	0	-.0069	.0143	.0091	.0961	-.2906
				1	2	.0086	.0033	.0260	-.1205
				2	2	-.0162	-.0063	-.0492	.2277
				3	2	.0098	.0038	.0297	-.1377
				3	4	-.0149	-.0128	-.1316
				4	4	.0378	.0326	.3351
2D 5/2	3S 1/2	1							
				2	2	-.0049	.0142	.0097	.2254
				3	2	-.0077	.0225	.0154	.3564
2D 3/2	2D 3/2	1							
				1	0	-.0024	.0051	.0032	.0340	-.1028
				1	2	-.0121	-.0047	-.0368	.1704
				3	2	.0021	.0008	.0064	-.0298
				3	4	.0343	.0296	.3040
2D 3/2	3S 1/2	1							
				1	2	-.0077	.0225	.0154	.3564
				2	2	-.0059	.0174	.0119	.2760
3S 1/2	3S 1/2	1							
				1	0	.0068	.0070	.0369	.0470	.2843

MASS=140   NU= .193

1G 9/2	1G 9/2	1							
				1	0	.0017	-.0148	.0515	-.0824	.0504
				1	2	.0066	-.0275	.0476	-.0304
				3	2	-.0089	.0368	-.0637	.0407
				3	4	-.0150	.0333	-.0239
				5	4	.0355	-.0785	.0565
				5	6	.0281	-.0266
				7	6	-.1238	.1172
				7	8	-.0376
				9	8	.4634
1G 9/2	1G 7/2	1							
				1	0	-.0030	.0252	-.0878	.1406	-.0859
				1	2	.0078	-.0323	.0558	-.0356
				2	2	-.0138	.0573	-.0991	.0633
				3	2	.0098	-.0409	.0707	-.0451
				3	4	-.0271	.0600	-.0431
				4	4	.0462	-.1022	.0735
				5	4	-.0284	.0628	-.0452
				5	6	.0703	-.0665
				6	6	-.1398	.1324
				7	6	.0642	-.0608
				7	8	-.1450
				8	8	.4634
1G 9/2	2D 5/2	1							
				2	2	.0072	.0166	-.1093	.1212
				3	2	.0064	.0147	-.0969	.1074
				3	4	.0024	.0320	-.0498
				4	4	-.0028	-.0378	.0589
				5	4	-.0082	-.1087	.1695
				5	6	.0032	-.0461
				6	6	-.0038	.0540
				7	6	-.0313	.4441
1G 9/2	2D 3/2	1							
				3	2	-.0094	-.0218	.1431	-.1587
				3	4	.0016	.0216	-.0337
				4	4	-.0062	-.0825	.1286
				5	4	.0052	.0697	-.1086
				5	6	.0051	-.0720

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

			6	6	-.0214	.3034			
1G 9/2	3S 1/2	1							
			4	4	-.0120	-.0517	.1612		
			5	4	-.0181	-.0776	.2418		
1G 7/2	1G 7/2	1							
			1	0	-.0012	.0106	-.0367	.0588	-.0360
			1	2	-.0093	.0386	-.0667	.0426	
			3	2	.0039	-.0162	.0279	-.0178	
			3	4	.0343	-.0759	.0546		
			5	4	-.0085	.0188	-.0135		
			5	6	-.1176	.1113			
			7	6	.0106	-.0101			
			7	8	.4386				
1G 7/2	2D 5/2	1							
			1	2	.0118	.0273	-.1796	.1992	
			2	2	.0071	.0165	-.1082	.1200	
			3	2	.0024	.0056	-.0369	.0410	
			3	4	-.0063	-.0838	.1306		
			4	4	-.0071	-.0936	.1458		
			5	4	-.0024	-.0322	.0503		
			5	6	-.0109	.1555			
			6	6	-.0225	.3198			
1G 7/2	2D 3/2	1							
			2	2	-.0061	-.0141	.0927	-.1028	
			3	2	-.0021	-.0049	.0320	-.0355	
			3	4	-.0073	-.0967	.1508		
			4	4	.0022	.0296	-.0461		
			5	4	.0009	.0123	-.0192		
			5	6	-.0287	.4071			
1G 7/2	3S 1/2	1							
			3	4	-.0181	-.0776	.2418		
			4	4	-.0135	-.0578	.1803		
2D 5/2	2D 5/2	1							
			1	0	.0065	-.0123	-.0071	-.0683	.1880
			1	2	.0084	.0030	.0211	-.0891	
			3	2	-.0166	-.0059	-.0415	.1749	
			3	4	-.0068	-.0053	-.0496		
			5	4	.0447	.0351	.3278		
2D 5/2	2D 3/2	1							
			1	0	-.0099	.0185	.0108	.1033	-.2842
			1	2	.0111	.0040	.0280	-.1178	
			2	2	-.0211	-.0075	-.0528	.2227	
			3	2	.0127	.0045	.0320	-.1347	
			3	4	-.0175	-.0138	-.1287		
			4	4	.0447	.0351	.3278		
2D 5/2	3S 1/2	1							
			2	2	-.0063	.0168	.0105	.2204	
			3	2	-.0100	.0266	.0165	.3485	
2D 3/2	2D 3/2	1							
			1	0	-.0035	.0066	.0038	.0365	-.1005
			1	2	-.0158	-.0056	-.0395	.1667	
			3	2	.0028	.0010	.0069	-.0292	
			3	4	.0405	.0318	.2974		
2D 3/2	3S 1/2	1							
			1	2	-.0100	.0266	.0165	.3485	
			2	2	-.0077	.0206	.0128	.2700	
3S 1/2	3S 1/2	1							
			1	0	.0096	.0091	.0436	.0505	.2781

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

NN1= 4   NN2= 5

N L J	N L J	S	J	L	G(1)	G(2)	G(3)	G(4)	G(5)	G(6)	G(7)
					MASS=140	NU=	.193				
1G 9/2	1H11/2	1									
			1	1	-.0027	.0180	-.0528	.0746	-.0412		
			2	1	.0025	-.0167	.0492	-.0694	.0384		
			2	3	.0073	-.0268	.0419	-.0246			
			3	3	.0038	-.0140	.0219	-.0129			
			4	3	-.0125	.0458	-.0716	.0421			
			4	5	-.0175	.0355	-.0238				
			5	5	-.0071	.0145	-.0097				
			6	5	.0483	-.0982	.0657				
			6	7	.0332	-.0295					
			7	7	.0130	-.0115					
			8	7	-.1660	.1477					
			8	9	-.0452						
			9	9	-.0208						
			10	9	.6217						
1G 9/2	1H 9/2	1									
			0	1	-.0052	.0344	-.1011	.1428	-.0789		
			1	1	.0037	-.0244	.0719	-.1015	.0561		
			2	1	-.0016	.0107	-.0315	.0445	-.0246		
			2	3	.0114	-.0418	.0654	-.0384			
			3	3	-.0134	.0490	-.0766	.0450			
			4	3	.0071	-.0259	.0405	-.0238			
			4	5	-.0309	.0628	-.0421				
			5	5	.0437	-.0889	.0595				
			6	5	-.0217	.0441	-.0295				
			6	7	.0739	-.0657					
			7	7	-.1319	.1173					
			8	7	.0508	-.0452					
			8	9	-.1477						
			9	9	.4418						
1G 9/2	2F 7/2	1									
			1	1	-.0037	.0086	.0203	-.0933	.0873		
			2	1	-.0036	.0084	.0197	-.0906	.0847		
			2	3	-.0055	-.0040	.0441	-.0481			
			3	3	.0031	.0023	-.0247	.0269			
			4	3	.0111	.0081	-.0889	.0970			
			4	5	.0062	.0252	-.0422				
			5	5	-.0029	-.0118	.0197				
			6	5	-.0238	-.0967	.1619				
			6	7	-.0027	-.0412					
			7	7	.0014	.0214					
			8	7	.0298	.4503					
1G 9/2	2F 5/2	1									
			2	1	.0053	-.0124	-.0292	.1338	-.1252		
			2	3	-.0037	-.0027	.0299	-.0326			
			3	3	.0100	.0074	-.0805	.0878			
			4	3	-.0087	-.0064	.0697	-.0761			
			4	5	.0079	.0321	-.0538				
			5	5	-.0189	-.0770	.1289				
			6	5	.0110	.0447	-.0748				
			6	7	-.0059	-.0892					
			7	7	.0208	.3152					
1G 9/2	3P 3/2	1									
			3	3	.0069	-.0160	-.0643	.1338			

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

	4	3	.0068	-.0156	-.0627	.1305	
	4	5	.0037	.0033	-.0335		
	5	5	-.0082	-.0075	.0755		
	6	5	-.0319	-.0291	.2923		

1G 9/2 3P 1/2 1

	4	3	-.0082	.0188	.0756	-.1573	
	4	5	.0030	.0028	-.0278		
	5	5	-.0202	-.0184	.1849		

1G 7/2 1H11/2 1

	2	1	.0040	-.0262	.0771	-.1089	.0602
	2	3	-.0047	.0171	-.0267	.0157	
	3	3	-.0122	.0447	-.0699	.0411	
	4	3	-.0112	.0410	-.0641	.0376	
	4	5	.0195	-.0397	.0266		
	5	5	.0422	-.0859	.0575		
	6	5	.0296	-.0602	.0403		
	6	7	-.0541	.0481			
	7	7	-.1295	.1152			
	8	7	-.0644	.0573			
	8	9	.1165				
	9	9	.4369				

1G 7/2 1H 9/2 1

	1	1	.0025	-.0162	.0477	-.0673	.0372
	2	1	-.0015	.0100	-.0295	.0416	-.0230
	2	3	-.0122	.0447	-.0699	.0410	
	3	3	-.0034	.0125	-.0195	.0115	
	4	3	.0047	-.0173	.0271	-.0159	
	4	5	.0462	-.0940	.0630		
	5	5	.0062	-.0126	.0084		
	6	5	-.0101	.0206	-.0138		
	6	7	-.1580	.1406			
	7	7	-.0103	.0091			
	8	7	.0127	-.0113			
	8	9	.5908				

1G 7/2 2F 7/2 1

	0	1	-.0070	.0164	.0386	-.1770	.1656
	1	1	-.0050	.0117	.0275	-.1261	.1180
	2	1	-.0022	.0051	.0119	-.0546	.0511
	2	3	.0091	.0067	-.0732	.0798	
	3	3	.0110	.0081	-.0882	.0962	
	4	3	.0055	.0040	-.0441	.0481	
	4	5	-.0125	-.0508	.0851		
	5	5	-.0196	-.0797	.1334		
	6	5	-.0080	-.0327	.0547		
	6	7	.0081	.1219			
	7	7	.0212	.3209			

1G 7/2 2F 5/2 1

	1	1	.0032	-.0076	-.0179	.0819	-.0767
	2	1	.0019	-.0044	-.0103	.0473	-.0443
	2	3	.0105	.0077	-.0845	.0921	
	3	3	-.0026	-.0019	.0211	-.0230	
	4	3	-.0031	-.0023	.0247	-.0269	
	4	5	-.0223	-.0909	.1521		
	5	5	.0023	.0093	-.0155		
	6	5	.0023	.0094	-.0158		
	6	7	.0279	.4222			

1G 7/2 3P 3/2 1

	2	3	.0108	-.0247	-.0995	.2073	
	3	3	.0062	-.0143	-.0575	.1197	
	4	3	.0015	-.0035	-.0143	.0297	
	4	5	-.0161	-.0147	.1472		
	5	5	-.0233	-.0213	.2135		

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

```
1G 7/2   3P 1/2   1
                3   3   -.0054    .0124    .0498   -.1036
                4   3   -.0009    .0021    .0084   -.0176
                4   5   -.0272   -.0248    .2488
2D 5/2   1H11/2   1
                3   3   -.0022   -.0289    .1028   -.0942
                4   3    .0018    .0238   -.0844    .0774
                4   5   -.0016    .0268   -.0337
                5   5   -.0028    .0461   -.0578
                6   5    .0068   -.1107    .1389
                6   7    .0070   -.0354
                7   7    .0120   -.0605
                8   7   -.0785    .3955
2D 5/2   1H 9/2   1
                2   3   -.0034   -.0452    .1608   -.1473
                3   3    .0018    .0244   -.0867    .0795
                4   3   -.0005   -.0070    .0250   -.0229
                4   5   -.0056    .0904   -.1135
                5   5    .0057   -.0929    .1166
                6   5   -.0017    .0269   -.0338
                6   7    .0288   -.1453
                7   7   -.0566    .2851
2D 5/2   2F 7/2   1
                1   1   -.0069    .0064    .0063    .0802   -.1626
                2   1    .0071   -.0067   -.0066   -.0834    .1690
                2   3    .0070    .0046    .0239   -.0782
                3   3    .0044    .0029    .0149   -.0489
                4   3   -.0187   -.0122   -.0639    .2092
                4   5   -.0063   -.0054   -.0538
                5   5   -.0038   -.0033   -.0329
                6   5    .0508    .0434    .4358
2D 5/2   2F 5/2   1
                0   1   -.0129    .0120    .0118    .1501   -.3042
                1   1    .0092   -.0086   -.0085   -.1076    .2182
                2   1   -.0039    .0036    .0036    .0454   -.0920
                2   3    .0128    .0084    .0439   -.1436
                3   3   -.0165   -.0108   -.0567    .1854
                4   3    .0071    .0047    .0244   -.0798
                4   5   -.0165   -.0140   -.1410
                5   5    .0365    .0311    .3125
2D 5/2   3P 3/2   1
                1   1   -.0037   -.0103   -.0035   -.0168    .2041
                2   1   -.0044   -.0122   -.0042   -.0199    .2415
                2   3   -.0007   -.0067   -.0094   -.0718
                3   3    .0006    .0053    .0074    .0568
                4   3    .0038    .0358    .0499    .3808
2D 5/2   3P 1/2   1
                2   1    .0047    .0131    .0045    .0212   -.2581
                2   3   -.0007   -.0063   -.0088   -.0672
                3   3    .0025    .0238    .0333    .2539
2D 3/2   1H11/2   1
                4   3    .0028    .0373   -.1325    .1214
                4   5    .0010   -.0171    .0215
                5   5    .0049   -.0804    .1010
                6   5    .0045   -.0738    .0926
                6   7   -.0105    .0530
                7   7   -.0531    .2674
2D 3/2   1H 9/2   1
                3   3    .0018    .0248   -.0881    .0807
                4   3   -.0005   -.0066    .0234   -.0215
                4   5    .0059   -.0967    .1214
                5   5    .0022   -.0362    .0455
```

STRUCTURE AMPLITUDES FOR (α,d) REACTIONS

			6	5	-.0007	.0108	-.0136		
			6	7	-.0719	.3623			
2D 3/2	2F 7/2	1							
			2	1	.0095	-.0089	-.0087	-.1111	.2253
			2	3	-.0052	-.0034	-.0179	.0586	
			3	3	-.0151	-.0099	-.0517	.1693	
			4	3	-.0113	-.0074	-.0386	.1262	
			4	5	.0104	.0089	.0892		
			5	5	.0352	.0301	.3019		
2D 3/2	2F 5/2	1							
			1	1	.0057	-.0054	-.0053	-.0671	.1361
			2	1	-.0029	.0027	.0027	.0340	-.0690
			2	3	-.0171	-.0112	-.0585	.1915	
			3	3	-.0034	-.0022	-.0116	.0378	
			4	3	.0025	.0016	.0086	-.0282	
			4	5	.0466	.0397	.3989		
2D 3/2	3P 3/2	1							
			0	1	-.0067	-.0189	-.0064	-.0306	.3726
			1	1	-.0049	-.0138	-.0047	-.0224	.2721
			2	1	-.0019	-.0053	-.0018	-.0087	.1054
			2	3	.0016	.0154	.0215	.1645	
			3	3	.0028	.0261	.0364	.2781	
2D 3/2	3P 1/2	1							
			1	1	.0028	.0077	.0026	.0125	-.1521
			2	1	.0010	.0027	.0009	.0043	-.0527
			2	3	.0033	.0309	.0431	.3291	
3S 1/2	1H11/2	1							
			5	5	.0025	.0670	-.1346		
			6	5	-.0038	-.0994	.1997		
3S 1/2	1H 9/2	1							
			4	5	.0038	.0994	-.1997		
			5	5	-.0028	-.0734	.1475		
3S 1/2	2F 7/2	1							
			3	3	.0101	-.0064	.0085	-.1939	
			4	3	-.0154	.0098	-.0129	.2962	
3S 1/2	2F 5/2	1							
			2	3	.0154	-.0098	.0129	-.2962	
			3	3	-.0116	.0074	-.0098	.2239	
3S 1/2	3P 3/2	1							
			1	1	-.0036	-.0044	-.0252	-.0331	-.2012
			2	1	.0063	.0077	.0436	.0573	.3485
3S 1/2	3P 1/2	1							
			0	1	-.0063	-.0077	-.0436	-.0573	-.3485
			1	1	.0052	.0063	.0356	.0468	.2846

MASS=182   NU=   .176

1G 9/2	1H11/2	1							
			1	1	-.0038	.0230	-.0617	.0795	-.0401
			2	1	.0036	-.0214	.0574	-.0740	.0374
			2	3	.0093	-.0312	.0446	-.0239	
			3	3	.0049	-.0163	.0233	-.0125	
			4	3	-.0160	.0535	-.0764	.0410	
			4	5	-.0204	.0379	-.0232		
			5	5	-.0083	.0155	-.0095		
			6	5	.0563	-.1047	.0640		
			6	7	.0354	-.0288			
			7	7	.0138	-.0112			
			8	7	-.1770	.1438			
			8	9	-.0440				

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

			9	9	-.0203			
			10	9	.6054			
1G 9/2	1H 9/2	1						
			0	1	-.0073	.0440	-.1181	.1522	-.0769
			1	1	.0052	-.0312	.0839	-.1082	.0546
			2	1	-.0023	.0137	-.0368	.0474	-.0239
			2	3	.0146	-.0488	.0697	-.0374
			3	3	-.0171	.0572	-.0817	.0438
			4	3	.0090	-.0303	.0432	-.0232
			4	5	-.0361	.0670	-.0410
			5	5	.0510	-.0948	.0580
			6	5	-.0253	.0470	-.0288
			6	7	.0788	-.0640
			7	7	-.1407	.1143
			8	7	.0542	-.0440
			8	9	-.1438
			9	9	.4303
1G 9/2	2F 7/2	1						
			1	1	-.0052	.0110	.0237	-.0995	.0850
			2	1	-.0050	.0107	.0230	-.0966	.0825
			2	3	-.0070	-.0047	.0470	-.0469
			3	3	.0039	.0026	-.0263	.0262
			4	3	.0142	.0095	-.0948	.0944
			4	5	.0072	.0269	-.0411
			5	5	-.0034	-.0126	.0192
			6	5	-.0277	-.1031	.1577
			6	7	-.0029	-.0401
			7	7	.0015	.0209
			8	7	.0318	.4385
1G 9/2	2F 5/2	1						
			2	1	.0074	-.0158	-.0340	.1426	-.1219
			2	3	-.0048	-.0032	.0318	-.0317
			3	3	.0128	.0086	-.0859	.0855
			4	3	-.0111	-.0074	.0744	-.0741
			4	5	.0092	.0343	-.0524
			5	5	-.0221	-.0821	.1255
			6	5	.0128	.0476	-.0728
			6	7	-.0063	-.0869
			7	7	.0222	.3069
1G 9/2	3P 3/2	1						
			3	3	.0089	-.0186	-.0685	.1303
			4	3	.0087	-.0182	-.0668	.1270
			4	5	.0043	.0036	-.0327
			5	5	-.0096	-.0080	.0735
			6	5	-.0373	-.0310	.2847
1G 9/2	3P 1/2	1						
			4	3	-.0104	.0219	.0806	-.1532
			4	5	.0035	.0030	-.0271
			5	5	-.0236	-.0196	.1800
1G 7/2	1H11/2	1						
			2	1	.0056	-.0335	.0901	-.1161	.0586
			2	3	-.0059	.0199	-.0284	.0153
			3	3	-.0156	.0522	-.0746	.0400
			4	3	-.0143	.0478	-.0683	.0367
			4	5	.0228	-.0424	.0259
			5	5	.0493	-.0915	.0560
			6	5	.0346	-.0642	.0393
			6	7	-.0577	.0469
			7	7	-.1381	.1122
			8	7	-.0687	.0558
			8	9	.1135
			9	9	.4255

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

1G 7/2	1H 9/2	1						
			1	1	.0035	-.0207	.0557	-.0718	.0362
			2	1	-.0021	.0128	-.0344	.0443	-.0224
			2	3	-.0156	.0522	-.0745	.0400	
			3	3	-.0044	.0146	-.0208	.0112	
			4	3	.0060	-.0202	.0289	-.0155	
			4	5	.0540	-.1003	.0613		
			5	5	.0072	-.0134	.0082		
			6	5	-.0118	.0220	-.0134		
			6	7	-.1685	.1369			
			7	7	-.0110	.0089			
			8	7	.0135	-.0110			
			8	9	.5754				
1G 7/2	2F 7/2	1						
			0	1	-.0098	.0210	.0450	-.1887	.1613
			1	1	-.0070	.0149	.0321	-.1345	.1149
			2	1	-.0030	.0065	.0139	-.0582	.0498
			2	3	.0116	.0078	-.0780	.0777	
			3	3	.0140	.0094	-.0941	.0937	
			4	3	.0070	.0047	-.0470	.0469	
			4	5	-.0146	-.0542	.0828		
			5	5	-.0229	-.0850	.1300		
			6	5	-.0094	-.0349	.0533		
			6	7	.0086	.1187			
			7	7	.0226	.3126			
1G 7/2	2F 5/2	1						
			1	1	.0045	-.0097	-.0208	.0873	-.0747
			2	1	.0026	-.0056	-.0120	.0504	-.0431
			2	3	.0134	.0090	-.0901	.0897	
			3	3	-.0034	-.0023	.0225	-.0224	
			4	3	-.0039	-.0026	.0263	-.0262	
			4	5	-.0261	-.0969	.1482		
			5	5	.0027	.0099	-.0151		
			6	5	.0027	.0101	-.0154		
			6	7	.0298	.4112			
1G 7/2	3P 3/2	1						
			2	3	.0138	-.0289	-.1061	.2019	
			3	3	.0079	-.0167	-.0613	.1165	
			4	3	.0020	-.0041	-.0152	.0290	
			4	5	-.0188	-.0156	.1433		
			5	5	-.0272	-.0227	.2079		
1G 7/2	3P 1/2	1						
			3	3	-.0069	.0144	.0531	-.1009	
			4	3	-.0012	.0024	.0090	-.0171	
			4	5	-.0317	-.0264	.2423		
2D 5/2	1H11/2	1						
			3	3	-.0028	-.0338	.1097	-.0918	
			4	3	.0023	.0277	-.0900	.0753	
			4	5	-.0019	.0286	-.0328		
			5	5	-.0033	.0491	-.0563		
			6	5	.0079	-.1180	.1353		
			6	7	.0075	-.0344			
			7	7	.0128	-.0589			
			8	7	-.0837	.3852			
2D 5/2	1H 9/2	1						
			2	3	-.0043	-.0528	.1714	-.1435	
			3	3	.0023	.0285	-.0925	.0774	
			4	3	-.0007	-.0082	.0267	-.0223	
			4	5	-.0065	.0964	-.1106		
			5	5	.0067	-.0990	.1136		
			6	5	-.0019	.0287	-.0329		
			6	7	.0307	-.1415			

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

				7	7	-.0603	.2776		
2D 5/2	2F 7/2	1							
				1	1	-.0096	.0082	.0074	.0855	-.1584
				2	1	.0100	-.0086	-.0077	-.0889	.1646
				2	3	.0089	.0053	.0255	-.0761	
				3	3	.0056	.0033	.0159	-.0476	
				4	3	-.0239	-.0143	-.0682	.2037	
				4	5	-.0073	-.0057	-.0524		
				5	5	-.0045	-.0035	-.0321		
				6	5	.0594	.0463	.4244		
2D 5/2	2F 5/2	1							
				0	1	-.0180	.0154	.0138	.1600	-.2963
				1	1	.0129	-.0110	-.0099	-.1147	.2125
				2	1	-.0054	.0047	.0042	.0484	-.0896
				2	3	.0164	.0098	.0468	-.1399	
				3	3	-.0212	-.0126	-.0604	.1806	
				4	3	.0091	.0054	.0260	-.0777	
				4	5	-.0192	-.0150	-.1374		
				5	5	.0426	.0332	.3043		
2D 5/2	3P 3/2	1							
				1	1	-.0052	-.0132	-.0041	-.0179	.1987
				2	1	-.0061	-.0156	-.0049	-.0212	.2352
				2	3	-.0009	-.0079	-.0100	-.0699	
				3	3	.0007	.0062	.0079	.0553	
				4	3	.0048	.0417	.0532	.3709	
2D 5/2	3P 1/2	1							
				2	1	.0065	.0167	.0052	.0226	-.2514
				2	3	-.0009	-.0074	-.0094	-.0654	
				3	3	.0032	.0278	.0355	.2472	
2D 3/2	1H11/2	1							
				4	3	.0035	.0435	-.1412	.1182	
				4	5	.0012	-.0182	.0209		
				5	5	.0058	-.0858	.0983		
				6	5	.0053	-.0787	.0902		
				6	7	-.0112	.0517			
				7	7	-.0566	.2604			
2D 3/2	1H 9/2	1							
				3	3	.0024	.0289	-.0939	.0786	
				4	3	-.0006	-.0077	.0250	-.0209	
				4	5	.0069	-.1031	.1182		
				5	5	.0026	-.0387	.0443		
				6	5	-.0008	.0115	-.0132		
				6	7	-.0766	.3528			
2D 3/2	2F 7/2	1							
				2	1	.0133	-.0114	-.0102	-.1185	.2194
				2	3	-.0067	-.0040	-.0191	.0571	
				3	3	-.0193	-.0115	-.0552	.1648	
				4	3	-.0144	-.0086	-.0411	.1229	
				4	5	.0122	.0095	.0869		
				5	5	.0411	.0320	.2940		
2D 3/2	2F 5/2	1							
				1	1	.0080	-.0069	-.0062	-.0716	.1325
				2	1	-.0041	.0035	.0031	.0363	-.0672
				2	3	-.0218	-.0130	-.0624	.1865	
				3	3	-.0043	-.0026	-.0123	.0369	
				4	3	.0032	.0019	.0092	-.0275	
				4	5	.0543	.0423	.3885		
2D 3/2	3P 3/2	1							
				0	1	-.0094	-.0241	-.0075	-.0327	.3628
				1	1	-.0069	-.0176	-.0055	-.0239	.2650
				2	1	-.0027	-.0068	-.0021	-.0092	.1026
				2	3	.0021	.0180	.0230	.1602	

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

```
                     3  3   .0035   .0305   .0388   .2708
2D 3/2  3P 1/2  1
                     1  1   .0039   .0098   .0031   .0133  -.1481
                     2  1   .0013   .0034   .0011   .0046  -.0513
                     2  3   .0042   .0361   .0460   .3205
3S 1/2  1H11/2  1
                     5  5   .0030   .0715  -.1311
                     6  5  -.0044  -.1060   .1945
3S 1/2  1H 9/2  1
                     4  5   .0044   .1060  -.1945
                     5  5  -.0032  -.0783   .1436
3S 1/2  2F 7/2  1
                     3  3   .0129  -.0075   .0090  -.1888
                     4  3  -.0196   .0114  -.0138   .2884
3S 1/2  2F 5/2  1
                     2  3   .0196  -.0114   .0138  -.2884
                     3  3  -.0149   .0086  -.0104   .2180
3S 1/2  3P 3/2  1
                     1  1  -.0051  -.0057  -.0294  -.0353  -.1960
                     2  1   .0088   .0098   .0509   .0611   .3394
3S 1/2  3P 1/2  1
                     0  1  -.0088  -.0098  -.0509  -.0611  -.3394
                     1  1   .0072   .0080   .0416   .0499   .2771


              MASS=224    NU=   .165


1G 9/2  1H11/2  1
                     1  1  -.0048   .0272  -.0685   .0829  -.0393
                     2  1   .0045  -.0253   .0638  -.0772   .0365
                     2  3   .0111  -.0347   .0465  -.0234
                     3  3   .0058  -.0182   .0243  -.0122
                     4  3  -.0189   .0595  -.0796   .0401
                     4  5  -.0227   .0395  -.0227
                     5  5  -.0093   .0161  -.0093
                     6  5   .0626  -.1091   .0626
                     6  7   .0369  -.0281
                     7  7   .0144  -.0110
                     8  7  -.1846   .1406
                     8  9  -.0430
                     9  9  -.0198
                    10  9   .5919
1G 9/2  1H 9/2  1
                     0  1  -.0093   .0521  -.1313   .1587  -.0752
                     1  1   .0066  -.0370   .0933  -.1128   .0534
                     2  1  -.0029   .0162  -.0409   .0494  -.0234
                     2  3   .0173  -.0542   .0726  -.0365
                     3  3  -.0202   .0636  -.0851   .0428
                     4  3   .0107  -.0336   .0450  -.0227
                     4  5  -.0401   .0698  -.0401
                     5  5   .0567  -.0988   .0567
                     6  5  -.0281   .0490  -.0281
                     6  7   .0821  -.0626
                     7  7  -.1466   .1117
                     8  7   .0565  -.0430
                     8  9  -.1406
                     9  9   .4206
1G 9/2  2F 7/2  1
                     1  1  -.0065   .0131   .0264  -.1037   .0831
                     2  1  -.0063   .0127   .0256  -.1007   .0807
                     2  3  -.0083  -.0052   .0490  -.0458
```

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

3	3	.0047	.0029	-.0274	.0256	
4	3	.0168	.0105	-.0988	.0923	
4	5	.0080	.0280	-.0402		
5	5	-.0038	-.0131	.0188		
6	5	-.0308	-.1075	.1542		
6	7	-.0030	-.0392			
7	7	.0016	.0204			
8	7	.0331	.4287			

1G 9/2 2F 5/2 1

2	1	.0094	-.0188	-.0378	.1487	-.1192
2	3	-.0056	-.0035	.0332	-.0310	
3	3	.0152	.0095	-.0895	.0836	
4	3	-.0132	-.0083	.0775	-.0724	
4	5	.0102	.0357	-.0512		
5	5	-.0246	-.0856	.1227		
6	5	.0142	.0497	-.0712		
6	7	-.0066	-.0849			
7	7	.0232	.3000			

1G 9/2 3P 3/2 1

3	3	.0105	-.0207	-.0714	.1274
4	3	.0103	-.0202	-.0696	.1242
4	5	.0048	.0037	-.0319	
5	5	-.0107	-.0084	.0719	
6	5	-.0414	-.0323	.2783	

1G 9/2 3P 1/2 1

4	3	-.0124	.0244	.0840	-.1498
4	5	.0039	.0031	-.0265	
5	5	-.0262	-.0205	.1760	

1G 7/2 1H11/2 1

2	1	.0071	-.0397	.1001	-.1211	.0573
2	3	-.0070	.0221	-.0297	.0149	
3	3	-.0185	.0580	-.0777	.0391	
4	3	-.0169	.0532	-.0712	.0358	
4	5	.0254	-.0442	.0253		
5	5	.0548	-.0954	.0547		
6	5	.0384	-.0670	.0384		
6	7	-.0601	.0458			
7	7	-.1440	.1097			
8	7	-.0716	.0545			
8	9	.1109				
9	9	.4159				

1G 7/2 1H 9/2 1

1	1	.0044	-.0246	.0619	-.0748	.0354
2	1	-.0027	.0152	-.0382	.0462	-.0219
2	3	-.0185	.0580	-.0777	.0391	
3	3	-.0052	.0162	-.0217	.0109	
4	3	.0072	-.0225	.0301	-.0151	
4	5	.0600	-.1045	.0600		
5	5	.0080	-.0140	.0080		
6	5	-.0132	.0229	-.0131		
6	7	-.1756	.1338			
7	7	-.0114	.0087			
8	7	.0141	-.0108			
8	9	.5625				

1G 7/2 2F 7/2 1

0	1	-.0124	.0248	.0501	-.1967	.1577
1	1	-.0088	.0177	.0357	-.1402	.1124
2	1	-.0038	.0077	.0154	-.0607	.0487
2	3	.0138	.0087	-.0813	.0760	
3	3	.0166	.0105	-.0981	.0916	
4	3	.0083	.0052	-.0490	.0458	
4	5	-.0162	-.0565	.0810		

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

			5	5	-.0254	-.0886	.1270		
			6	5	-.0104	-.0363	.0521		
			6	7	.0090	.1160			
			7	7	.0236	.3056			
1G 7/2	2F 5/2	1							
			1	1	.0057	-.0115	-.0232	.0911	-.0730
			2	1	.0033	-.0066	-.0134	.0526	-.0421
			2	3	.0159	.0100	-.0939	.0877	
			3	3	-.0040	-.0025	.0235	-.0219	
			4	3	-.0047	-.0029	.0274	-.0256	
			4	5	-.0290	-.1010	.1448		
			5	5	.0030	.0103	-.0148		
			6	5	.0030	.0105	-.0150		
			6	7	.0310	.4020			
1G 7/2	3P 3/2	1							
			2	3	.0163	-.0321	-.1107	.1973	
			3	3	.0094	-.0185	-.0639	.1139	
			4	3	.0023	-.0046	-.0159	.0283	
			4	5	-.0209	-.0163	.1401		
			5	5	-.0302	-.0236	.2032		
1G 7/2	3P 1/2	1							
			3	3	-.0082	.0160	.0553	-.0987	
			4	3	-.0014	.0027	.0094	-.0167	
			4	5	-.0352	-.0275	.2368		
2D 5/2	1H11/2	1							
			3	3	-.0033	-.0376	.1143	-.0897	
			4	3	.0027	.0308	-.0939	.0736	
			4	5	-.0021	.0298	-.0320		
			5	5	-.0037	.0512	-.0551		
			6	5	.0088	-.1230	.1323		
			6	7	.0078	-.0337			
			7	7	.0133	-.0576			
			8	7	-.0872	.3766			
2D 5/2	1H 9/2	1							
			2	3	-.0051	-.0587	.1787	-.1402	
			3	3	.0027	.0317	-.0964	.0756	
			4	3	-.0008	-.0091	.0278	-.0218	
			4	5	-.0072	.1005	-.1081		
			5	5	.0074	-.1032	.1110		
			6	5	-.0021	.0299	-.0322		
			6	7	.0320	-.1383			
			7	7	-.0629	.2714			
2D 5/2	2F 7/2	1							
			1	1	-.0122	.0098	.0082	.0892	-.1548
			2	1	.0126	-.0101	-.0085	-.0927	.1609
			2	3	.0106	.0059	.0266	-.0744	
			3	3	.0066	.0037	.0166	-.0465	
			4	3	-.0283	-.0158	-.0711	.1992	
			4	5	-.0081	-.0060	-.0512		
			5	5	-.0050	-.0036	-.0314		
			6	5	.0660	.0482	.4149		
2D 5/2	2F 5/2	1							
			0	1	-.0227	.0183	.0153	.1668	-.2896
			1	1	.0163	-.0131	-.0110	-.1196	.2077
			2	1	-.0069	.0055	.0046	.0504	-.0876
			2	3	.0194	.0109	.0488	-.1367	
			3	3	-.0251	-.0140	-.0630	.1765	
			4	3	.0108	.0060	.0271	-.0760	
			4	5	-.0214	-.0156	-.1343		
			5	5	.0473	.0346	.2975		
2D 5/2	3P 3/2	1							
			1	1	-.0065	-.0156	-.0046	-.0186	.1943

STRUCTURE AMPLITUDES FOR (α,d) REACTIONS

Label									
		2	1	-.0077	-.0185	-.0054	-.0221	.2299	
		2	3	-.0011	-.0088	-.0105	-.0684		
		3	3	.0009	.0069	.0083	.0540		
		4	3	.0057	.0464	.0554	.3626		
2D 5/2	3P 1/2	1							
		2	1	.0083	.0198	.0058	.0236	-.2458	
		2	3	-.0010	-.0082	-.0098	-.0639		
		3	3	.0038	.0309	.0370	.2417		
2D 3/2	1H11/2	1							
		4	3	.0042	.0484	-.1472	.1155		
		4	5	.0014	-.0190	.0204			
		5	5	.0064	-.0894	.0961			
		6	5	.0059	-.0820	.0882			
		6	7	-.0117	.0505				
		7	7	-.0590	.2546				
2D 3/2	1H 9/2	1							
		3	3	.0028	.0322	-.0979	.0768		
		4	3	-.0007	-.0086	.0260	-.0204		
		4	5	.0077	-.1075	.1155			
		5	5	.0029	-.0403	.0433			
		6	5	-.0009	.0120	-.0129			
		6	7	-.0799	.3449				
2D 3/2	2F 7/2	1							
		2	1	.0168	-.0135	-.0114	-.1235	.2145	
		2	3	-.0079	-.0044	-.0199	.0558		
		3	3	-.0229	-.0128	-.0575	.1611		
		4	3	-.0171	-.0096	-.0429	.1201		
		4	5	.0135	.0099	.0849			
		5	5	.0457	.0334	.2874			
2D 3/2	2F 5/2	1							
		1	1	.0102	-.0082	-.0069	-.0746	.1295	
		2	1	-.0052	.0041	.0035	.0378	-.0657	
		2	3	-.0259	-.0145	-.0650	.1823		
		3	3	-.0051	-.0029	-.0129	.0360		
		4	3	.0038	.0021	.0096	-.0269		
		4	5	.0604	.0441	.3798			
2D 3/2	3P 3/2	1							
		0	1	-.0119	-.0286	-.0083	-.0340	.3547	
		1	1	-.0087	-.0209	-.0061	-.0249	.2591	
		2	1	-.0034	-.0081	-.0024	-.0096	.1003	
		2	3	.0025	.0201	.0240	.1566		
		3	3	.0042	.0339	.0405	.2648		
2D 3/2	3P 1/2	1							
		1	1	.0049	.0117	.0034	.0139	-.1448	
		2	1	.0017	.0040	.0012	.0048	-.0502	
		2	3	.0049	.0401	.0479	.3133		
3S 1/2	1H11/2	1							
		5	5	.0033	.0745	-.1282			
		6	5	-.0049	-.1105	.1901			
3S 1/2	1H 9/2	1							
		4	5	.0049	.1105	-.1901			
		5	5	-.0036	-.0816	.1404			
3S 1/2	2F 7/2	1							
		3	3	.0152	-.0083	.0094	-.1846		
		4	3	-.0233	.0127	-.0144	.2820		
3S 1/2	2F 5/2	1							
		2	3	.0233	-.0127	.0144	-.2820		
		3	3	-.0176	.0096	-.0109	.2132		
3S 1/2	3P 3/2	1							
		1	1	-.0064	-.0067	-.0327	-.0368	-.1916	
		2	1	.0112	.0116	.0566	.0637	.3318	
3S 1/2	3P 1/2	1							

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

```
0  1  -.0112  -.0116  -.0566  -.0637  -.3318
1  1   .0091   .0095   .0462   .0520   .2709
```

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

NN1= 5   NN2= 5

N L J	N L J	S	J	L	G(1)	G(2)	G(3)	G(4)	G(5)	G(6)	G(7)

MASS=140   NU= .193

1H11/2	1H11/2	1									
			1	0	-.0004	.0038	-.0178	.0428	-.0523	.0259	
			1	2	-.0017	.0095	-.0247	.0316	-.0161		
			3	2	.0021	-.0117	.0303	-.0386	.0197		
			3	4	.0048	-.0158	.0227	-.0124			
			5	4	-.0094	.0311	-.0447	.0244			
			5	6	-.0111	.0211	-.0133				
			7	6	.0347	-.0658	.0414				
			7	8	.0211	-.0178					
			9	8	-.1177	.0990					
			9	10	-.0290						
			11	10	.4397						
1H11/2	1H 9/2	1									
			1	0	.0006	-.0067	.0313	-.0751	.0918	-.0454	
			1	2	-.0020	.0109	-.0282	.0360	-.0183		
			2	2	.0035	-.0191	.0496	-.0634	.0322		
			3	2	-.0025	.0139	-.0361	.0461	-.0234		
			3	4	.0080	-.0265	.0381	-.0208			
			4	4	-.0131	.0435	-.0625	.0342			
			5	4	.0086	-.0286	.0411	-.0225			
			5	6	-.0242	.0458	-.0288				
			6	6	.0428	-.0810	.0510				
			7	6	-.0241	.0456	-.0287				
			7	8	.0609	-.0512					
			8	8	-.1298	.1092					
			9	8	.0541	-.0456					
			9	10	-.1260						
			10	10	.4396						
1H11/2	2F 7/2	1									
			2	2	-.0029	.0016	.0332	-.0901	.0701		
			3	2	-.0024	.0013	.0270	-.0734	.0571		
			3	4	-.0024	-.0079	.0343	-.0312			
			4	4	.0025	.0083	-.0358	.0326			
			5	4	.0060	.0198	-.0856	.0780			
			5	6	.0016	.0239	-.0320				
			6	6	-.0014	-.0212	.0283				
			7	6	-.0071	-.1070	.1431				
			7	8	.0021	-.0343					
			8	8	-.0021	.0343					
			9	8	-.0266	.4258					
1H11/2	2F 5/2	1									
			3	2	.0039	-.0022	-.0450	.1221	-.0950		
			3	4	-.0014	-.0048	.0206	-.0188			
			4	4	.0050	.0167	-.0720	.0656			
			5	4	-.0050	-.0167	.0722	-.0658			
			5	6	.0019	.0284	-.0379				
			6	6	-.0055	-.0826	.1104				
			7	6	.0034	.0519	-.0694				
			7	8	.0044	-.0707					
			8	8	-.0185	.2957					
1H11/2	3P 3/2	1									
			4	4	.0064	-.0007	-.0770	.1115			
			5	4	.0060	-.0007	-.0725	.1050			
			5	6	.0020	.0070	-.0248				

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

```
                  6  6  -.0061  -.0207   .0736
                  7  6  -.0213  -.0726   .2589
1H11/2  3P 1/2  1
                  5  4  -.0074   .0008   .0900  -.1302
                  5  6   .0016   .0056  -.0200
                  6  6  -.0133  -.0453   .1615
1H 9/2  1H 9/2  1
                  1  0   .0003  -.0029   .0135  -.0325   .0397  -.0197
                  1  2   .0023  -.0125   .0325  -.0415   .0211
                  3  2  -.0011   .0060  -.0156   .0200  -.0102
                  3  4  -.0092   .0306  -.0440   .0241
                  5  4   .0031  -.0103   .0148  -.0081
                  5  6   .0335  -.0634   .0399
                  7  6  -.0065   .0123  -.0078
                  7  8  -.1127   .0948
                  9  8   .0081  -.0068
                  9 10   .4202
1H 9/2  2F 7/2  1
                  1  2  -.0048   .0027   .0551  -.1494   .1162
                  2  2  -.0028   .0016   .0326  -.0885   .0688
                  3  2  -.0010   .0006   .0116  -.0315   .0245
                  3  4   .0056   .0185  -.0798   .0727
                  4  4   .0057   .0189  -.0816   .0744
                  5  4   .0023   .0077  -.0334   .0304
                  5  6  -.0040  -.0613   .0819
                  6  6  -.0057  -.0871   .1164
                  7  6  -.0020  -.0300   .0401
                  7  8  -.0077   .1225
                  8  8  -.0190   .3045
1H 9/2  2F 5/2  1
                  2  2   .0026  -.0014  -.0294   .0798  -.0621
                  3  2   .0010  -.0006  -.0119   .0322  -.0250
                  3  4   .0055   .0181  -.0782   .0712
                  4  4  -.0022  -.0071   .0308  -.0281
                  5  4  -.0014  -.0047   .0205  -.0186
                  5  6  -.0066  -.1000   .1337
                  6  6   .0011   .0168  -.0224
                  7  6   .0006   .0092  -.0123
                  7  8  -.0250   .4002
1H 9/2  3P 3/2  1
                  3  4   .0096  -.0011  -.1166   .1688
                  4  4   .0052  -.0006  -.0635   .0920
                  5  4   .0011  -.0001  -.0134   .0194
                  5  6  -.0110  -.0376   .1342
                  6  6  -.0155  -.0529   .1886
1H 9/2  3P 1/2  1
                  4  4  -.0050   .0006   .0602  -.0872
                  5  4  -.0007   .0001   .0082  -.0119
                  5  6  -.0180  -.0615   .2191
2F 7/2  2F 7/2  1
                  1  0  -.0017   .0062  -.0015   .0036  -.0847   .1212
                  1  2  -.0035   .0022   .0007   .0394  -.0652
                  3  2   .0053  -.0033  -.0011  -.0605   .1000
                  3  4   .0043   .0025   .0158  -.0431
                  5  4  -.0139  -.0081  -.0507   .1387
                  5  6  -.0042  -.0031  -.0328
                  7  6   .0399   .0291   .3108
2F 7/2  2F 5/2  1
                  1  0   .0028  -.0102   .0025  -.0060   .1383  -.1979
                  1  2  -.0042   .0026   .0009   .0483  -.0798
                  2  2   .0077  -.0048  -.0016  -.0872   .1442
                  3  2  -.0052   .0033   .0011   .0596  -.0985
```

STRUCTURE AMPLITUDES FOR (α,d) REACTIONS

		3	4	.0088	.0051	.0320	-.0876	
		4	4	-.0163	-.0096	-.0596	.1630	
		5	4	.0084	.0049	.0308	-.0843	
		5	6	-.0139	-.0101	-.1079		
		6	6	.0399	.0291	.3108		
2F 7/2	3P 3/2	1						
		2	2	.0001	-.0119	-.0053	-.0421	.1854
		3	2	.0001	-.0123	-.0055	-.0435	.1919
		3	4	.0012	-.0036	-.0021	-.0506	
		4	4	-.0018	.0055	.0031	.0773	
		5	4	-.0083	.0254	.0144	.3540	
2F 7/2	3P 1/2	1						
		3	2	-.0002	.0143	.0064	.0503	-.2216
		3	4	.0010	-.0031	-.0018	-.0438	
		4	4	-.0053	.0164	.0093	.2285	
2F 5/2	2F 5/2	1						
		1	0	.0011	-.0040	.0010	-.0024	.0547	-.0782
		1	2	.0054	-.0034	-.0011	-.0611	.1009
		3	2	-.0018	.0011	.0004	.0200	-.0330
		3	4	-.0131	-.0077	-.0478	.1306	
		5	4	.0016	.0009	.0057	-.0157	
		5	6	.0372	.0271	.2896		
2F 5/2	3P 3/2	1						
		1	2	.0002	-.0193	-.0086	-.0681	.3004
		2	2	.0001	-.0122	-.0054	-.0429	.1892
		3	2	.0000	-.0037	-.0016	-.0130	.0572
		3	4	-.0040	.0122	.0069	.1696	
		4	4	-.0061	.0186	.0105	.2591	
2F 5/2	3P 1/2	1						
		2	2	-.0001	.0091	.0041	.0321	-.1416
		3	2	-.0000	.0021	.0009	.0073	-.0320
		3	4	-.0071	.0218	.0123	.3034	
3P 3/2	3P 3/2	1						
		1	0	-.0031	-.0006	-.0058	.0139	.0081	.2196
		1	2	-.0016	-.0014	-.0094	-.0107	-.0708
		3	2	.0060	.0052	.0346	.0394	.2602
3P 3/2	3P 1/2	1						
		1	0	.0039	.0007	.0073	-.0176	-.0102	-.2777
		1	2	-.0026	-.0022	-.0149	-.0169	-.1119
		2	2	.0060	.0052	.0345	.0393	.2601
3P 1/2	3P 1/2	1						
		1	0	.0010	.0002	.0018	-.0044	-.0026	-.0694
		1	2	.0052	.0044	.0297	.0339	.2239

MASS=182   NU= .176

1H11/2	1H11/2	1						
		1	0	-.0006	.0054	-.0228	.0500	-.0558	.0252
		1	2	-.0024	.0122	-.0288	.0336	-.0156
		3	2	.0029	-.0149	.0353	-.0412	.0191
		3	4	.0061	-.0185	.0242	-.0121	
		5	4	-.0120	.0363	-.0477	.0238	
		5	6	-.0130	.0225	-.0129		
		7	6	.0406	-.0702	.0403		
		7	8	.0225	-.0173			
		9	8	-.1255	.0965			
		9	10	-.0282				
		11	10	.4282				
1H11/2	1H 9/2	1						
		1	0	.0010	-.0094	.0400	-.0876	.0979	-.0442

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

```
         1  2  -.0027    .0139   -.0329    .0384   -.0178
         2  2   .0048   -.0245    .0579   -.0676    .0314
         3  2  -.0035    .0178   -.0421    .0491   -.0228
         3  4   .0102   -.0309    .0407   -.0203
         4  4  -.0167    .0507   -.0667    .0333
         5  4   .0110   -.0334    .0439   -.0219
         5  6  -.0282    .0488   -.0280
         6  6   .0499   -.0864    .0496
         7  6  -.0281    .0487   -.0280
         7  8   .0649   -.0499
         8  8  -.1384    .1064
         9  8   .0577   -.0444
         9 10  -.1227
        10 10   .4281
1H11/2  2F 7/2  1
         2  2  -.0040    .0020    .0388   -.0960    .0682
         3  2  -.0033    .0017    .0316   -.0782    .0556
         3  4  -.0031   -.0093    .0365   -.0304
         4  4   .0032    .0097   -.0381    .0317
         5  4   .0076    .0232   -.0913    .0760
         5  6   .0018    .0255   -.0311
         6  6  -.0016   -.0226    .0276
         7  6  -.0082   -.1141    .1393
         7  8   .0023   -.0334
         8  8  -.0023    .0334
         9  8  -.0284    .4147
1H11/2  2F 5/2  1
         3  2   .0055   -.0028   -.0525    .1302   -.0925
         3  4  -.0018   -.0056    .0220   -.0183
         4  4   .0064    .0195   -.0767    .0639
         5  4  -.0064   -.0195    .0770   -.0641
         5  6   .0022    .0302   -.0369
         6  6  -.0064   -.0881    .1075
         7  6   .0040    .0554   -.0676
         7  8   .0047   -.0689
         8  8  -.0197    .2879
1H11/2  3P 3/2  1
         4  4   .0081   -.0008   -.0821    .1086
         5  4   .0076   -.0008   -.0773    .1022
         5  6   .0024    .0074   -.0242
         6  6  -.0071   -.0220    .0717
         7  6  -.0249   -.0775    .2522
1H11/2  3P 1/2  1
         5  4  -.0095    .0010    .0959   -.1268
         5  6   .0019    .0060   -.0195
         6  6  -.0155   -.0483    .1572
1H 9/2  1H 9/2  1
         1  0   .0004   -.0041    .0173   -.0380    .0424   -.0191
         1  2   .0032   -.0160    .0380   -.0443    .0206
         3  2  -.0015    .0077   -.0182    .0213   -.0099
         3  4  -.0118    .0357   -.0470    .0234
         5  4   .0040   -.0120    .0158   -.0079
         5  6   .0391   -.0676    .0389
         7  6  -.0076    .0131   -.0076
         7  8  -.1202    .0924
         9  8   .0087   -.0067
         9 10   .4092
1H 9/2  2F 7/2  1
         1  2  -.0067    .0034    .0643   -.1593    .1132
         2  2  -.0040    .0020    .0381   -.0943    .0670
         3  2  -.0014    .0007    .0136   -.0336    .0239
         3  4   .0071    .0216   -.0851    .0708
```

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

			4	4	.0073	.0221	-.0870	.0724	
			5	4	.0030	.0090	-.0356	.0297	
			5	6	-.0047	-.0653	.0797		
			6	6	-.0067	-.0928	.1133		
			7	6	-.0023	-.0320	.0390		
			7	8	-.0082	.1193			
			8	8	-.0203	.2965			
1H 9/2	2F 5/2	1							
			2	2	.0036	-.0018	-.0344	.0851	-.0605
			3	2	.0014	-.0007	-.0138	.0343	-.0244
			3	4	.0070	.0211	-.0833	.0694	
			4	4	-.0028	-.0083	.0329	-.0274	
			5	4	-.0018	-.0055	.0218	-.0182	
			5	6	-.0077	-.1067	.1302		
			6	6	.0013	.0179	-.0218		
			7	6	.0007	.0098	-.0119		
			7	8	-.0267	.3897			
1H 9/2	3P 3/2	1							
			3	4	.0123	-.0013	-.1243	.1644	
			4	4	.0067	-.0007	-.0678	.0896	
			5	4	.0014	-.0001	-.0143	.0189	
			5	6	-.0129	-.0401	.1307		
			6	6	-.0181	-.0564	.1836		
1H 9/2	3P 1/2	1							
			4	4	-.0063	.0007	.0642	-.0849	
			5	4	-.0009	.0001	.0088	-.0116	
			5	6	-.0211	-.0656	.2134		
2F 7/2	2F 7/2	1							
			1	0	-.0026	.0087	-.0019	.0043	-.0903	.1181
			1	2	-.0048	.0028	.0008	.0420	-.0635
			3	2	.0074	-.0042	-.0013	-.0645	.0974
			3	4	.0055	.0030	.0168	-.0420	
			5	4	-.0178	-.0095	-.0541	.1351	
			5	6	-.0049	-.0033	-.0319		
			7	6	.0466	.0310	.3027		
2F 7/2	2F 5/2	1							
			1	0	.0043	-.0142	.0032	-.0069	.1474	-.1927
			1	2	-.0059	.0034	.0010	.0515	-.0777
			2	2	.0107	-.0061	-.0018	-.0930	.1404
			3	2	-.0073	.0042	.0012	.0635	-.0959
			3	4	.0112	.0060	.0342	-.0853	
			4	4	-.0209	-.0112	-.0636	.1588	
			5	4	.0108	.0058	.0329	-.0821	
			5	6	-.0162	-.0108	-.1051		
			6	6	.0466	.0310	.3026		
2F 7/2	3P 3/2	1							
			2	2	.0002	-.0153	-.0062	-.0448	.1806
			3	2	.0002	-.0158	-.0064	-.0464	.1869
			3	4	.0015	-.0042	-.0022	-.0493	
			4	4	-.0023	.0065	.0033	.0752	
			5	4	-.0106	.0296	.0153	.3448	
2F 7/2	3P 1/2	1							
			3	2	-.0002	.0182	.0074	.0536	-.2158
			3	4	.0013	-.0037	-.0019	-.0427	
			4	4	-.0068	.0191	.0099	.2225	
2F 5/2	2F 5/2	1							
			1	0	.0017	-.0056	.0013	-.0027	.0583	-.0762
			1	2	.0075	-.0043	-.0013	-.0651	.0983
			3	2	-.0025	.0014	.0004	.0213	-.0322
			3	4	-.0167	-.0089	-.0509	.1272	
			5	4	.0020	.0011	.0061	-.0153	
			5	6	.0434	.0289	.2820		

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

2F 5/2	3P 3/2	1							
			1	2	.0003	-.0247	-.0101	-.0727	.2925
			2	2	.0002	-.0156	-.0063	-.0458	.1843
			3	2	.0001	-.0047	-.0019	-.0138	.0557
			3	4	-.0051	.0142	.0074	.1652	
			4	4	-.0078	.0217	.0112	.2523	
2F 5/2	3P 1/2	1							
			2	2	-.0001	.0116	.0047	.0343	-.1379
			3	2	-.0000	.0026	.0011	.0077	-.0311
			3	4	-.0091	.0254	.0132	.2955	
3P 3/2	3P 3/2	1							
			1	0	-.0047	-.0008	-.0074	.0163	.0086	.2138
			1	2	-.0023	-.0018	-.0110	-.0114	-.0690
			3	2	.0085	.0066	.0403	.0420	.2534
3P 3/2	3P 1/2	1							
			1	0	.0060	.0010	.0094	-.0206	-.0109	-.2704
			1	2	-.0036	-.0028	-.0174	-.0181	-.1090
			2	2	.0085	.0066	.0403	.0420	.2533
3P 1/2	3P 1/2	1							
			1	0	.0015	.0003	.0023	-.0051	-.0027	-.0676
			1	2	.0073	.0057	.0347	.0361	.2181

MASS=224   NU= .165

1H11/2	1H11/2	1							
			1	0	-.0007	.0068	-.0270	.0555	-.0582	.0246
			1	2	-.0030	.0144	-.0321	.0351	-.0153
			3	2	.0037	-.0177	.0393	-.0430	.0187
			3	4	.0072	-.0205	.0253	-.0118	
			5	4	-.0142	.0403	-.0497	.0233	
			5	6	-.0144	.0234	-.0126		
			7	6	.0451	-.0731	.0394		
			7	8	.0235	-.0169			
			9	8	-.1308	.0943			
			9	10	-.0276				
			11	10	.4186				
1H11/2	1H 9/2	1							
			1	0	.0013	-.0119	.0474	-.0974	.1020	-.0432
			1	2	-.0035	.0165	-.0366	.0400	-.0174
			2	2	.0061	-.0290	.0644	-.0704	.0307
			3	2	-.0044	.0211	-.0468	.0512	-.0223
			3	4	.0121	-.0344	.0424	-.0198	
			4	4	-.0198	.0564	-.0695	.0325	
			5	4	.0131	-.0371	.0457	-.0214	
			5	6	-.0314	.0509	-.0274		
			6	6	.0555	-.0901	.0485		
			7	6	-.0313	.0507	-.0273		
			7	8	.0676	-.0488			
			8	8	-.1443	.1040			
			9	8	.0602	-.0434			
			9	10	-.1200				
			10	10	.4185				
1H11/2	2F 7/2	1							
			2	2	-.0051	.0024	.0431	-.1001	.0667
			3	2	-.0042	.0020	.0351	-.0815	.0543
			3	4	-.0036	-.0103	.0381	-.0297	
			4	4	.0038	.0108	-.0398	.0310	
			5	4	.0091	.0257	-.0951	.0743	
			5	6	.0020	.0266	-.0304		
			6	6	-.0018	-.0236	.0270		

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

			7	6	-.0092	-.1190	.1362			
			7	8	.0024	-.0327				
			8	8	-.0024	.0327				
			9	8	-.0296	.4054				
1H11/2	2F 5/2	1								
			3	2	.0069	-.0033	-.0584	.1357	-.0904	
			3	4	-.0022	-.0062	.0229	-.0179		
			4	4	.0076	.0216	-.0800	.0624		
			5	4	-.0076	-.0217	.0802	-.0626		
			5	6	.0024	.0315	-.0361			
			6	6	-.0071	-.0918	.1051			
			7	6	.0044	.0577	-.0661			
			7	8	.0049	-.0673				
			8	8	-.0206	.2815				
1H11/2	3P 3/2	1								
			4	4	.0096	-.0009	-.0856	.1061		
			5	4	.0091	-.0009	-.0806	.0999		
			5	6	.0026	.0077	-.0236			
			6	6	-.0079	-.0230	.0701			
			7	6	-.0277	-.0807	.2465			
1H11/2	3P 1/2	1								
			5	4	-.0112	.0011	.1000	-.1239		
			5	6	.0021	.0062	-.0190			
			6	6	-.0172	-.0504	.1537			
1H 9/2	1H 9/2	1								
			1	0	.0006	-.0052	.0205	-.0422	.0442	-.0187
			1	2	.0040	-.0190	.0422	-.0462	.0201	
			3	2	-.0019	.0091	-.0203	.0222	-.0097	
			3	4	-.0140	.0397	-.0489	.0229		
			5	4	.0047	-.0134	.0165	-.0077		
			5	6	.0435	-.0705	.0380			
			7	6	-.0084	.0137	-.0074			
			7	8	-.1253	.0903				
			9	8	.0090	-.0065				
			9	10	.4001					
1H 9/2	2F 7/2	1								
			1	2	-.0085	.0040	.0714	-.1660	.1106	
			2	2	-.0050	.0024	.0423	-.0983	.0655	
			3	2	-.0018	.0008	.0151	-.0350	.0233	
			3	4	.0084	.0240	-.0887	.0692		
			4	4	.0086	.0245	-.0907	.0708		
			5	4	.0035	.0100	-.0371	.0290		
			5	6	-.0052	-.0681	.0780			
			6	6	-.0075	-.0968	.1108			
			7	6	-.0026	-.0333	.0381			
			7	8	-.0085	.1166				
			8	8	-.0212	.2899				
1H 9/2	2F 5/2	1								
			2	2	.0045	-.0021	-.0382	.0888	-.0591	
			3	2	.0018	-.0009	-.0154	.0358	-.0238	
			3	4	.0083	.0235	-.0869	.0678		
			4	4	-.0033	-.0093	.0343	-.0267		
			5	4	-.0022	-.0062	.0227	-.0178		
			5	6	-.0086	-.1112	.1273			
			6	6	.0014	.0186	-.0213			
			7	6	.0008	.0102	-.0117			
			7	8	-.0278	.3810				
1H 9/2	3P 3/2	1								
			3	4	.0146	-.0014	-.1296	.1607		
			4	4	.0079	-.0008	-.0706	.0876		
			5	4	.0017	-.0002	-.0149	.0185		
			5	6	-.0143	-.0418	.1278			

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

State 1	State 2									
			6	6	-.0201	-.0588	.1795			
1H 9/2	3P 1/2	1								
			4	4	-.0075	.0007	.0669	-.0830		
			5	4	-.0010	.0001	.0091	-.0113		
			5	6	-.0234	-.0683	.2086			
2F 7/2	2F 7/2	1								
			1	0	-.0035	.0110	-.0023	.0047	-.0941	.1154
			1	2	-.0061	.0033	.0009	.0438	-.0620	
			3	2	.0094	-.0050	-.0014	-.0673	.0952	
			3	4	.0066	.0033	.0175	-.0411		
			5	4	-.0211	-.0106	-.0564	.1321		
			5	6	-.0055	-.0034	-.0312			
			7	6	.0518	.0323	.2959			
2F 7/2	2F 5/2	1								
			1	0	.0057	-.0180	.0038	-.0077	.1537	-.1884
			1	2	-.0075	.0040	.0011	.0537	-.0760	
			2	2	.0136	-.0073	-.0020	-.0970	.1373	
			3	2	-.0093	.0050	.0014	.0662	-.0938	
			3	4	.0133	.0067	.0356	-.0834		
			4	4	-.0248	-.0124	-.0663	.1552		
			5	4	.0128	.0064	.0343	-.0802		
			5	6	-.0180	-.0112	-.1027			
			6	6	.0518	.0323	.2958			
2F 7/2	3P 3/2	1								
			2	2	.0002	-.0181	-.0069	-.0468	.1765	
			3	2	.0003	-.0187	-.0072	-.0484	.1827	
			3	4	.0018	-.0047	-.0023	-.0481		
			4	4	-.0027	.0072	.0035	.0735		
			5	4	-.0126	.0330	.0160	.3370		
2F 7/2	3P 1/2	1								
			3	2	-.0003	.0216	.0083	.0559	-.2110	
			3	4	.0016	-.0041	-.0020	-.0417		
			4	4	-.0081	.0213	.0103	.2176		
2F 5/2	2F 5/2	1								
			1	0	.0023	-.0071	.0015	-.0031	.0608	-.0745
			1	2	.0095	-.0051	-.0014	-.0679	.0961	
			3	2	-.0031	.0017	.0005	.0222	-.0315	
			3	4	-.0198	-.0099	-.0531	.1243		
			5	4	.0024	.0012	.0064	-.0150		
			5	6	.0483	.0301	.2757			
2F 5/2	3P 3/2	1								
			1	2	.0004	-.0293	-.0112	-.0757	.2860	
			2	2	.0003	-.0185	-.0071	-.0477	.1802	
			3	2	.0001	-.0056	-.0021	-.0144	.0545	
			3	4	-.0060	.0158	.0077	.1615		
			4	4	-.0092	.0241	.0117	.2467		
2F 5/2	3P 1/2	1								
			2	2	-.0002	.0138	.0053	.0357	-.1348	
			3	2	-.0000	.0031	.0012	.0081	-.0305	
			3	4	-.0108	.0282	.0137	.2889		
3P 3/2	3P 3/2	1								
			1	0	-.0064	-.0010	-.0088	.0181	.0090	.2091
			1	2	-.0029	-.0021	-.0122	-.0119	-.0674	
			3	2	.0107	.0078	.0448	.0437	.2477	
3P 3/2	3P 1/2	1								
			1	0	.0080	.0013	.0111	-.0229	-.0113	-.2644
			1	2	-.0046	-.0034	-.0193	-.0188	-.1066	
			2	2	.0107	.0078	.0448	.0437	.2477	
3P 1/2	3P 1/2	1								
			1	0	.0020	.0003	.0028	-.0057	-.0028	-.0661
			1	2	.0092	.0067	.0386	.0376	.2132	

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

N L J	N L J	S	J	L	G(1)	G(2)	G(3)	G(4)	G(5)	G(6)	G(7)

NN1= 5   NN2= 6

MASS=224   NU= .165

N L J	N L J	S	J	L	G(1)	G(2)	G(3)	G(4)	G(5)	G(6)
1H11/2	1I13/2	1								
			1	1	.0013	-.0091	.0304	-.0552	.0523	-.0204
			2	1	-.0012	.0082	-.0275	.0499	-.0473	.0184
			2	3	-.0036	.0150	-.0301	.0303	-.0123	
			3	3	-.0018	.0075	-.0151	.0151	-.0061	
			4	3	.0055	-.0230	.0463	-.0465	.0189	
			4	5	.0088	-.0229	.0263	-.0116		
			5	5	.0033	-.0086	.0099	-.0043		
			6	5	-.0199	.0520	-.0597	.0262		
			6	7	-.0176	.0268	-.0137			
			7	7	-.0059	.0090	-.0046			
			8	7	.0617	-.0940	.0479			
			8	9	.0287	-.0197				
			9	9	.0098	-.0067				
			10	9	-.1772	.1215				
			10	11	-.0342					
			11	11	-.0143					
			12	11	.5667					
1H11/2	1I11/2	1								
			0	1	.0025	-.0175	.0586	-.1064	.1007	-.0393
			1	1	-.0018	.0124	-.0416	.0755	-.0715	.0279
			2	1	.0008	-.0055	.0183	-.0333	.0315	-.0123
			2	3	-.0054	.0225	-.0452	.0454	-.0184	
			3	3	.0062	-.0259	.0521	-.0525	.0213	
			4	3	-.0034	.0141	-.0284	.0286	-.0116	
			4	5	.0143	-.0374	.0429	-.0189		
			5	5	-.0193	.0504	-.0578	.0254		
			6	5	.0104	-.0271	.0310	-.0137		
			6	7	-.0338	.0515	-.0262			
			7	7	.0530	-.0808	.0412			
			8	7	-.0254	.0387	-.0197			
			8	9	.0698	-.0479				
			9	9	-.1377	.0944				
			10	9	.0498	-.0342				
			10	11	-.1215					
			11	11	.4021					
1H11/2	2G 9/2	1								
			1	1	.0021	-.0075	.0011	.0418	-.0810	.0477
			2	1	.0019	-.0070	.0010	.0389	-.0754	.0444
			2	3	.0037	-.0033	-.0179	.0427	-.0273	
			3	3	-.0019	.0017	.0093	-.0223	.0143	
			4	3	-.0064	.0057	.0306	-.0731	.0468	
			4	5	-.0054	-.0066	.0315	-.0244		
			5	5	.0022	.0027	-.0129	.0100		
			6	5	.0150	.0183	-.0871	.0674		
			6	7	.0053	.0216	-.0261			
			7	7	-.0021	-.0084	.0102			
			8	7	-.0266	-.1080	.1307			
			8	9	-.0021	-.0297				
			9	9	.0010	.0137				
			10	9	.0284	.4089				
1H11/2	2G 7/2	1								
			2	1	-.0031	.0110	-.0016	-.0610	.1183	-.0697
			2	3	.0024	-.0021	-.0114	.0272	-.0174	

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

			3	3	-.0062	.0056	.0298	-.0713	.0457	
			4	3	.0057	-.0051	-.0273	.0653	-.0418	
			4	5	-.0061	-.0074	.0353	-.0273		
			5	5	.0131	.0160	-.0762	.0589		
			6	5	-.0092	-.0112	.0534	-.0413		
			6	7	.0087	.0352	-.0426			
			7	7	-.0207	-.0842	.1020			
			8	7	.0103	.0419	-.0507			
			8	9	-.0053	-.0766				
			9	9	.0200	.2873				
1H11/2	3D 5/2	1								
			3	3	-.0026	.0154	.0031	-.0808	.0819	
			4	3	-.0021	.0126	.0025	-.0663	.0672	
			4	5	-.0026	.0044	.0180	-.0270		
			5	5	.0045	-.0076	-.0310	.0464		
			6	5	.0109	-.0182	-.0744	.1113		
			6	7	.0036	.0025	-.0245			
			7	7	-.0062	-.0043	.0418			
			8	7	-.0404	-.0283	.2736			
1H11/2	3D 3/2	1								
			4	3	.0033	-.0198	-.0040	.1040	-.1055	
			4	5	-.0017	.0028	.0115	-.0172		
			5	5	.0079	-.0132	-.0541	.0809		
			6	5	-.0073	.0121	.0496	-.0742		
			6	7	.0054	.0038	-.0367			
			7	7	-.0273	-.0191	.1850			
1H11/2	4S 1/2	1								
			5	5	.0058	-.0194	-.0401	.0999		
			6	5	.0086	-.0288	-.0594	.1481		
1H 9/2	1I13/2	1								
			2	1	-.0019	.0134	-.0449	.0815	-.0772	.0301
			2	3	.0022	-.0092	.0184	-.0185	.0075	
			3	3	.0057	-.0237	.0476	-.0479	.0194	
			4	3	.0053	-.0223	.0449	-.0451	.0183	
			4	5	-.0090	.0237	-.0271	.0119		
			5	5	-.0186	.0487	-.0558	.0246		
			6	5	-.0141	.0370	-.0424	.0187		
			6	7	.0247	-.0377	.0192			
			7	7	.0521	-.0794	.0404			
			8	7	.0322	-.0490	.0250			
			8	9	-.0551	.0378				
			9	9	-.1361	.0933				
			10	9	-.0603	.0414				
			10	11	.1003					
			11	11	.3990					
1H 9/2	1I11/2	1								
			1	1	-.0012	.0083	-.0280	.0507	-.0480	.0187
			2	1	.0008	-.0054	.0180	-.0327	.0310	-.0121
			2	3	.0055	-.0229	.0460	-.0463	.0188	
			3	3	.0016	-.0068	.0137	-.0138	.0056	
			4	3	-.0025	.0104	-.0210	.0211	-.0086	
			4	5	-.0193	.0506	-.0580	.0255		
			5	5	-.0030	.0077	-.0089	.0039		
			6	5	.0059	-.0154	.0177	-.0078		
			6	7	.0594	-.0905	.0461			
			7	7	.0051	-.0078	.0040			
			8	7	-.0104	.0159	-.0081			
			8	9	-.1700	.1166				
			9	9	-.0078	.0054				
			10	9	.0111	-.0076				
			10	11	.5433					
1H 9/2	2G 9/2	1								

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

0	1	.0040	-.0144	.0021	.0800	-.1551	.0913
1	1	.0028	-.0102	.0015	.0568	-.1102	.0649
2	1	.0012	-.0045	.0007	.0249	-.0483	.0284
2	3	-.0058	.0052	.0279	-.0666	.0427	
3	3	-.0068	.0061	.0327	-.0781	.0500	
4	3	-.0036	.0032	.0173	-.0413	.0265	
4	5	.0096	.0117	-.0558	.0431		
5	5	.0136	.0166	-.0788	.0610		
6	5	.0067	.0082	-.0391	.0303		
6	7	-.0118	-.0481	.0582			
7	7	-.0211	-.0858	.1038			
8	7	-.0081	-.0330	.0400			
8	9	.0067	.0971				
9	9	.0202	.2906				

1H 9/2   2G 7/2 1

1	1	-.0019	.0068	-.0010	-.0377	.0731	-.0431
2	1	-.0012	.0042	-.0006	-.0233	.0452	-.0266
2	3	-.0062	.0056	.0298	-.0712	.0456	
3	3	.0017	-.0016	-.0083	.0199	-.0127	
4	3	.0024	-.0022	-.0116	.0276	-.0177	
4	5	.0144	.0176	-.0834	.0645		
5	5	-.0019	-.0023	.0112	-.0086		
6	5	-.0032	-.0038	.0183	-.0142		
6	7	-.0253	-.1028	.1244	-		
7	7	.0016	.0067	-.0081			
8	7	.0020	.0083	-.0100			
8	9	.0270	.3886				

1H 9/2   3D 5/2 1

2	3	-.0040	.0240	.0048	-.1263	.1280
3	3	-.0022	.0130	.0026	-.0681	.0691
4	3	-.0006	.0037	.0008	-.0197	.0199
4	5	.0089	-.0148	-.0608	.0910	
5	5	.0092	-.0152	-.0625	.0934	
6	5	.0027	-.0044	-.0181	.0271	
6	7	-.0148	-.0104	.1005		
7	7	-.0291	-.0204	.1972		

1H 9/2   3D 3/2 1

3	3	.0022	-.0132	-.0026	.0692	-.0701
4	3	.0006	-.0035	-.0007	.0184	-.0186
4	5	.0095	-.0159	-.0650	.0972	
5	5	-.0036	.0060	.0244	-.0365	
6	5	-.0011	.0018	.0073	-.0109	
6	7	-.0370	-.0259	.2506		

1H 9/2   4S 1/2 1

4	5	.0086	-.0288	-.0594	.1481
5	5	.0064	-.0213	-.0439	.1094

2F 7/2   1I13/2 1

3	3	.0030	.0062	-.0499	.0879	-.0509
4	3	-.0022	-.0046	.0372	-.0655	.0379
4	5	-.0009	-.0115	.0291	-.0198	
5	5	-.0013	-.0173	.0437	-.0297	
6	5	.0026	.0343	-.0865	.0588	
6	7	-.0015	.0235	-.0228		
7	7	-.0020	.0302	-.0292		
8	7	.0079	-.1206	.1167		
8	9	.0055	-.0265			
9	9	.0081	-.0387			
10	9	-.0769	.3691			

2F 7/2   1I11/2 1

2	3	.0047	.0098	-.0785	.1383	-.0801
3	3	-.0024	-.0051	.0412	-.0725	.0420
4	3	.0007	.0016	-.0126	.0221	-.0128

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

4	5	-.0026	-.0341	.0861	-.0585		
5	5	.0024	.0316	-.0797	.0542		
6	5	-.0008	-.0111	.0280	-.0190		
6	7	-.0048	.0728	-.0705			
7	7	.0064	-.0969	.0938			
8	7	-.0019	.0289	-.0280			
8	9	.0231	-.1108				
9	9	-.0551	.2643				

2F 7/2   2G 9/2   1

1	1	.0044	-.0090	-.0023	-.0126	.0997	-.1010
2	1	-.0043	.0087	.0023	.0123	-.0968	.0981
2	3	-.0057	.0010	-.0007	.0440	-.0535	
3	3	-.0032	.0006	-.0004	.0246	-.0299	
4	3	.0114	-.0020	.0014	-.0886	.1078	
4	5	.0066	.0044	.0212	-.0433		
5	5	.0031	.0020	.0099	-.0202		
6	5	-.0252	-.0168	-.0814	.1660		
6	7	-.0057	-.0038	-.0365			
7	7	-.0030	-.0020	-.0190			
8	7	.0620	.0411	.3984			

2F 7/2   2G 7/2   1

0	1	.0084	-.0170	-.0044	-.0240	.1891	-.1916
1	1	-.0060	.0122	.0031	.0171	-.1348	.1366
2	1	.0026	-.0053	-.0014	-.0074	.0584	-.0591
2	3	-.0094	.0017	-.0011	.0729	-.0887	
3	3	.0113	-.0020	.0013	-.0879	.1070	
4	3	-.0057	.0010	-.0007	.0440	-.0535	
4	5	.0132	.0088	.0427	-.0872		
5	5	-.0207	-.0138	-.0671	.1368		
6	5	.0085	.0057	.0275	-.0561		
6	7	-.0168	-.0111	-.1078			
7	7	.0442	.0293	.2840			

2F 7/2   3D 5/2   1

1	1	.0036	.0028	-.0095	-.0128	-.0639	.1471
2	1	.0037	.0029	-.0099	-.0133	-.0664	.1529
2	3	.0020	.0065	.0051	.0168	-.0679	
3	3	-.0012	-.0041	-.0032	-.0105	.0425	
4	3	-.0053	-.0175	-.0137	-.0448	.1818	
4	5	-.0005	-.0050	-.0058	-.0431		
5	5	.0003	.0031	.0035	.0264		
6	5	.0041	.0407	.0467	.3492		

2F 7/2   3D 3/2   1

2	1	-.0050	-.0039	.0132	.0178	.0885	-.2038
2	3	.0015	.0049	.0038	.0126	-.0510	
3	3	-.0043	-.0142	-.0111	-.0363	.1471	
4	3	.0032	.0106	.0083	.0270	-.1096	
4	5	-.0008	-.0083	-.0096	-.0715		
5	5	.0028	.0282	.0323	.2419		

2F 7/2   4S 1/2   1

3	3	-.0046	-.0069	.0020	.0000	.1560
4	3	-.0071	-.0106	.0030	.0000	.2383

2F 5/2   1I13/2   1

4	3	-.0040	-.0083	.0666	-.1172	.0679
4	5	.0005	.0064	-.0163	.0111	
5	5	.0021	.0274	-.0690	.0469	
6	5	.0023	.0304	-.0766	.0521	
6	7	.0017	-.0266	.0257		
7	7	.0060	-.0909	.0880		
8	7	.0040	-.0606	.0587		
8	9	-.0110	.0528			
9	9	-.0531	.2547			

2F 5/2   1I11/2   1

STRUCTURE AMPLITUDES FOR (α,d) REACTIONS

			3	3	-.0026	-.0055	.0445	-.0784	.0454
			4	3	.0008	.0017	-.0141	.0248	-.0143
			4	5	.0023	.0305	-.0770	.0524	
			5	5	.0011	.0150	-.0378	.0257	
			6	5	-.0006	-.0072	.0182	-.0124	
			6	7	.0074	-.1121	.1085		
			7	7	.0016	-.0240	.0232		
			8	7	-.0006	.0092	-.0089		
			8	9	-.0723	.3471			
2F 5/2	2G 9/2	1	2	1	-.0064	.0129	.0033	.0181	-.1430	.1448
			2	3	.0038	-.0007	.0005	-.0298	.0362
			3	3	.0104	-.0018	.0012	-.0803	.0977
			4	3	.0090	-.0016	.0011	-.0695	.0846
			4	5	-.0084	-.0056	-.0270	.0551	
			5	5	-.0200	-.0134	-.0648	.1321	
			6	5	-.0116	-.0077	-.0376	.0767	
			6	7	.0123	.0082	.0789		
			7	7	.0434	.0288	.2788		
2F 5/2	2G 7/2	1	1	1	-.0039	.0079	.0020	.0111	-.0876	.0887
			2	1	.0022	-.0046	-.0012	-.0064	.0506	-.0512
			2	3	.0109	-.0019	.0013	-.0842	.1024
			3	3	.0027	-.0005	.0003	-.0210	.0256
			4	3	-.0032	.0006	-.0004	.0246	-.0299
			4	5	-.0236	-.0158	-.0765	.1559	
			5	5	-.0024	-.0016	-.0078	.0159	
			6	5	.0025	.0016	.0079	-.0162	
			6	7	.0581	.0386	.3736		
2F 5/2	3D 5/2	1	0	1	.0067	.0053	-.0178	-.0240	-.1195	.2752
			1	1	.0048	.0038	-.0128	-.0172	-.0857	.1973
			2	1	.0020	.0016	-.0054	-.0073	-.0361	.0832
			2	3	-.0036	-.0120	-.0094	-.0308	.1248
			3	3	-.0047	-.0155	-.0122	-.0397	.1611
			4	3	-.0020	-.0067	-.0052	-.0171	.0693
			4	5	.0013	.0132	.0151	.1130	
			5	5	.0029	.0292	.0335	.2504	
2F 5/2	3D 3/2	1	1	1	-.0030	-.0024	.0080	.0107	.0535	-.1231
			2	1	-.0015	-.0012	.0040	.0054	.0271	-.0624
			2	3	-.0048	-.0160	-.0126	-.0410	.1664
			3	3	.0010	.0032	.0025	.0081	-.0329
			4	3	.0007	.0024	.0018	.0060	-.0245
			4	5	.0037	.0373	.0427	.3196	
2F 5/2	4S 1/2	1	2	3	-.0071	-.0106	.0030	.0000	.2383
			3	3	-.0054	-.0080	.0023	.0000	.1802
3P 3/2	1I 13/2	1	5	5	-.0064	-.0145	.0884	-.0862	
			6	5	.0059	.0134	-.0813	.0793	
			6	7	.0009	.0090	-.0174		
			7	7	.0033	.0331	-.0641		
			8	7	-.0110	-.1094	.2119		
3P 3/2	1I 11/2	1	4	5	-.0096	-.0217	.1320	-.1287	
			5	5	.0050	.0113	-.0690	.0673	
			6	5	-.0009	-.0021	.0127	-.0124	
			6	7	.0058	.0578	-.1119		
			7	7	-.0080	-.0795	.1539		
3P 3/2	2G 9/2	1	3	3	-.0047	.0144	.0075	.0611	-.1488

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

Label									
	4	3	.0045	−.0141	−.0073	−.0596	.1450		
	4	5	.0025	−.0019	.0015	−.0344			
	5	5	.0055	−.0042	.0034	−.0774			
	6	5	−.0215	.0163	−.0134	.2996			
3P 3/2 2G 7/2 1									
	2	3	−.0072	.0223	.0116	.0947	−.2305		
	3	3	.0042	−.0129	−.0067	−.0547	.1331		
	4	3	−.0010	.0032	.0017	.0136	−.0331		
	4	5	.0108	−.0082	.0067	−.1509			
	5	5	−.0157	.0119	−.0098	.2188			
3P 3/2 3D 5/2 1									
	1	1	.0045	.0033	.0120	−.0049	.0073	−.1846	
	2	1	−.0053	−.0039	−.0141	.0058	−.0086	.2184	
	2	3	−.0018	−.0015	−.0097	−.0103	−.0624		
	3	3	−.0015	−.0012	−.0076	−.0081	−.0493		
	4	3	.0098	.0081	.0513	.0544	.3310		
3P 3/2 3D 3/2 1									
	0	1	.0082	.0061	.0218	−.0089	.0133	−.3370	
	1	1	−.0060	−.0044	−.0159	.0065	−.0097	.2461	
	2	1	.0023	.0017	.0062	−.0025	.0038	−.0953	
	2	3	−.0042	−.0035	−.0222	−.0235	−.1430		
	3	3	.0071	.0059	.0375	.0397	.2417		
3P 3/2 4S 1/2 1									
	1	1	.0008	.0045	.0062	.0275	.0333	.1685	
	2	1	.0014	.0078	.0108	.0476	.0576	.2919	
3P 1/2 1I13/2 1									
	6	5	.0075	.0169	−.1029	.1003			
	6	7	−.0007	−.0071	.0138				
	7	7	−.0068	−.0675	.1308				
3P 1/2 1I11/2 1									
	5	5	.0050	.0114	−.0696	.0679			
	6	5	−.0006	−.0013	.0079	−.0077			
	6	7	−.0093	−.0922	.1786				
3P 1/2 2G 9/2 1									
	4	3	.0055	−.0170	−.0088	−.0719	.1749		
	4	5	−.0020	.0016	−.0013	.0285			
	5	5	−.0136	.0103	−.0084	.1895			
3P 1/2 2G 7/2 1									
	3	3	.0036	−.0112	−.0058	−.0474	.1152		
	4	3	−.0006	.0019	.0010	.0080	−.0196		
	4	5	−.0183	.0139	−.0114	.2550			
3P 1/2 3D 5/2 1									
	2	1	−.0057	−.0042	−.0151	.0062	−.0092	.2335	
	2	3	.0017	.0014	.0090	.0096	.0584		
	3	3	.0065	.0054	.0342	.0363	.2206		
3P 1/2 3D 3/2 1									
	1	1	−.0034	−.0025	−.0089	.0037	−.0054	.1376	
	2	1	.0012	.0009	.0031	−.0013	.0019	−.0477	
	2	3	.0084	.0070	.0443	.0470	.2860		
3P 1/2 4S 1/2 1									
	0	1	.0014	.0078	.0108	.0476	.0576	.2919	
	1	1	.0012	.0064	.0088	.0388	.0470	.2383	

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

NN1= 6   NN2= 6

N L J	N L J	S	J	L	G(1)	G(2)	G(3)	G(4)	G(5)	G(6)	G(7)
					MASS=224	NU=	.165				
1I13/2	1I13/2	1									
			1	0	.0002	-.0020	.0097	-.0267	.0419	-.0355	.0126
			1	2	.0009	-.0052	.0154	-.0253	.0220	-.0080	
			3	2	-.0010	.0060	-.0177	.0291	-.0253	.0092	
			3	4	-.0024	.0093	-.0171	.0160	-.0061		
			5	4	.0043	-.0161	.0298	-.0279	.0106		
			5	6	.0058	-.0140	.0151	-.0063			
			7	6	-.0146	.0355	-.0383	.0159			
			7	8	-.0114	.0164	-.0080				
			9	8	.0441	-.0636	.0308				
			9	10	.0186	-.0122					
			11	10	-.1255	.0822					
			11	12	-.0223						
			13	12	.4008						
1I13/2	1I11/2	1									
			1	0	-.0003	.0035	-.0174	.0477	-.0750	.0635	-.0226
			1	2	.0010	-.0058	.0172	-.0283	.0246	-.0089	
			2	2	-.0017	.0102	-.0302	.0495	-.0432	.0157	
			3	2	.0013	-.0075	.0222	-.0364	.0317	-.0115	
			3	4	-.0039	.0148	-.0273	.0256	-.0098		
			4	4	.0063	-.0237	.0439	-.0411	.0157		
			5	4	-.0043	.0162	-.0299	.0280	-.0107		
			5	6	.0115	-.0279	.0301	-.0125			
			6	6	-.0192	.0467	-.0503	.0209			
			7	6	.0118	-.0287	.0309	-.0129			
			7	8	-.0282	.0407	-.0197				
			8	8	.0524	-.0755	.0366				
			9	8	-.0274	.0395	-.0192				
			9	10	.0599	-.0392					
			10	10	-.1362	.0892					
			11	10	.0524	-.0343					
			11	12	-.1066						
			12	12	.4007						
1I13/2	2G 9/2	1									
			2	2	.0019	-.0042	-.0087	.0492	-.0733	.0376	
			3	2	.0015	-.0033	-.0067	.0379	-.0565	.0290	
			3	4	.0021	.0008	-.0173	.0310	-.0175		
			4	4	-.0020	-.0008	.0167	-.0300	.0169		
			5	4	-.0043	-.0016	.0360	-.0645	.0363		
			5	6	-.0026	-.0092	.0266	-.0180			
			6	6	.0020	.0070	-.0204	.0139			
			7	6	.0083	.0291	-.0845	.0573			
			7	8	.0014	.0207	-.0211				
			8	8	-.0011	-.0155	.0157				
			9	8	-.0081	-.1164	.1185				
			9	10	.0017	-.0257					
			10	10	-.0015	.0228					
			11	10	-.0259	.3906					
1I13/2	2G 7/2	1									
			3	2	-.0027	.0059	.0120	-.0679	.1011	-.0519	
			3	4	.0011	.0004	-.0097	.0173	-.0098		
			4	4	-.0039	-.0015	.0325	-.0583	.0328		
			5	4	.0042	.0016	-.0349	.0626	-.0353		
			5	6	-.0027	-.0095	.0275	-.0186			

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

6	6	.0070	.0245	-.0711	.0482		
7	6	-.0054	-.0189	.0549	-.0372		
7	8	.0022	.0320	-.0325			
8	8	-.0062	-.0891	.0907			
9	8	.0033	.0470	-.0479			
9	10	.0042	-.0635				
10	10	-.0181	.2731				

1I13/2 3D 5/2 1

4	4	-.0034	.0095	.0197	-.0820	.0664	
5	4	-.0027	.0074	.0154	-.0642	.0520	
5	6	-.0020	.0001	.0173	-.0195		
6	6	.0046	-.0003	-.0387	.0437		
7	6	.0099	-.0007	-.0838	.0946		
7	8	.0023	.0057	-.0195			
8	8	-.0052	-.0128	.0435			
9	8	-.0294	-.0732	.2483			

1I13/2 3D 3/2 1

5	4	.0044	-.0121	-.0252	.1049	-.0849	
5	6	-.0013	.0001	.0106	-.0119		
6	6	.0070	-.0005	-.0590	.0666		
7	6	-.0068	.0004	.0575	-.0649		
7	8	.0034	.0084	-.0284			
8	8	-.0197	-.0491	.1665			

1I13/2 4S 1/2 1

6	6	.0066	-.0077	-.0544	.0860
7	6	.0097	-.0114	-.0801	.1266

1I11/2 1I11/2 1

1	0	-.0001	.0016	-.0077	.0212	-.0332	.0282 -.0100
1	2	-.0011	.0066	-.0194	.0319	-.0278	.0101
3	2	.0006	-.0034	.0102	-.0167	.0146	-.0053
3	4	.0042	-.0161	.0298	-.0279	.0106	
5	4	-.0017	.0065	-.0120	.0113	-.0043	
5	6	-.0142	.0347	-.0374	.0155		
7	6	.0039	-.0095	.0102	-.0043		
7	8	.0427	-.0615	.0298			
9	8	-.0068	.0098	-.0047			
9	10	-.1209	.0792				
11	10	.0072	-.0047				
11	12	.3857					

1I11/2 2G 9/2 1

1	2	.0032	-.0071	-.0145	.0821	-.1223	.0628
2	2	.0019	-.0042	-.0085	.0482	-.0718	.0368
3	2	.0007	-.0015	-.0031	.0175	-.0261	.0134
3	4	-.0045	-.0017	.0374	-.0672	.0378	
4	4	-.0044	-.0017	.0368	-.0661	.0372	
5	4	-.0019	-.0007	.0161	-.0290	.0163	
5	6	.0058	.0204	-.0593	.0402		
6	6	.0074	.0258	-.0750	.0508		
7	6	.0031	.0109	-.0317	.0215		
7	8	-.0038	-.0553	.0563			
8	8	-.0064	-.0918	.0934			
9	8	-.0021	-.0306	.0312			
9	10	-.0065	.0975				
10	10	-.0185	.2783				

1I11/2 2G 7/2 1

2	2	-.0017	.0039	.0079	-.0447	.0666	-.0342
3	2	-.0008	.0017	.0035	-.0196	.0292	-.0150
3	4	-.0040	-.0015	.0335	-.0601	.0338	
4	4	.0018	.0007	-.0150	.0269	-.0151	
5	4	.0014	.0005	-.0119	.0214	-.0121	
5	6	.0079	.0276	-.0802	.0543		
6	6	-.0017	-.0061	.0178	-.0120		

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

Label									
	7	6	-.0016	-.0055	.0158	-.0107			
	7	8	-.0077	-.1107	.1127				
	8	8	.0009	.0123	-.0125				
	9	8	.0006	.0080	-.0082				
	9	10	-.0247	.3720					
1I11/2 3D 5/2 1									
	3	4	-.0052	.0144	.0300	-.1249	.1011		
	4	4	-.0026	.0072	.0150	-.0624	.0505		
	5	4	-.0007	.0018	.0038	-.0156	.0127		
	5	6	.0084	-.0006	-.0710	.0801			
	6	6	.0082	-.0005	-.0689	.0778			
	7	6	.0021	-.0001	-.0173	.0196			
	7	8	-.0111	-.0277	.0942				
	8	8	-.0212	-.0527	.1789				
1I11/2 3D 3/2 1									
	4	4	.0030	-.0082	-.0170	.0707	-.0572		
	5	4	.0006	-.0018	-.0037	.0154	-.0124		
	5	6	.0086	-.0006	-.0723	.0816			
	6	6	-.0036	.0002	.0306	-.0346			
	7	6	-.0009	.0001	.0072	-.0081			
	7	8	-.0269	-.0669	.2271				
1I11/2 4S 1/2 1									
	5	6	.0097	-.0114	-.0801	.1266			
	6	6	.0071	-.0083	-.0588	.0929			
2G 9/2 2G 9/2 1									
	1	0	.0010	-.0048	.0054	.0023	.0231	-.0875	.0714
	1	2	.0025	-.0038	-.0012	-.0097	.0468	-.0411	
	3	2	-.0033	.0051	.0016	.0130	-.0626	.0550	
	3	4	-.0036	.0003	-.0018	.0265	-.0286		
	5	4	.0084	-.0008	.0042	-.0626	.0676		
	5	6	.0042	.0025	.0139	-.0254			
	7	6	-.0187	-.0111	-.0612	.1116			
	7	8	-.0039	-.0023	-.0230				
	9	8	.0478	.0278	.2833				
2G 9/2 2G 7/2 1									
	1	0	-.0017	.0082	-.0091	-.0040	-.0394	.1493	-.1218
	1	2	.0029	-.0045	-.0014	-.0114	.0549	-.0481	
	2	2	-.0051	.0079	.0025	.0203	-.0975	.0855	
	3	2	.0037	-.0057	-.0018	-.0144	.0695	-.0610	
	3	4	-.0064	.0006	-.0032	.0478	-.0516		
	4	4	.0109	-.0010	.0055	-.0816	.0880		
	5	4	-.0067	.0006	-.0034	.0501	-.0541		
	5	6	.0106	.0063	.0347	-.0634			
	6	6	-.0211	-.0125	-.0691	.1261			
	7	6	.0097	.0057	.0317	-.0579			
	7	8	-.0149	-.0087	-.0886				
	8	8	.0478	.0278	.2832				
2G 9/2 3D 5/2 1									
	2	2	.0014	.0071	-.0068	-.0046	-.0800	.1280	
	3	2	.0012	.0063	-.0061	-.0041	-.0709	.1135	
	3	4	-.0002	.0050	.0031	.0180	-.0466		
	4	4	.0002	-.0059	-.0036	-.0213	.0551		
	5	4	.0006	-.0169	-.0105	-.0612	.1586		
	5	6	.0011	-.0032	-.0014	-.0343			
	6	6	-.0013	.0038	.0017	.0402			
	7	6	-.0107	.0312	.0139	.3307			
2G 9/2 3D 3/2 1									
	3	2	-.0018	-.0093	.0090	.0060	.1047	-.1676	
	3	4	-.0001	.0034	.0021	.0122	-.0315		
	4	4	.0005	-.0128	-.0079	-.0465	.1203		
	5	4	-.0004	.0108	.0067	.0392	-.1016		
	5	6	.0017	-.0051	-.0023	-.0536			

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

			n	l	c1	c2	c3	c4	c5	c6	c7
			6	6	-.0073	.0213	.0095	.2259			
2G 9/2	4S 1/2	1									
			4	4	-.0016	-.0109	-.0015	-.0216	.1397		
			5	4	-.0024	-.0164	-.0023	-.0323	.2095		
2G 7/2	2G 7/2	1									
			1	0	-.0007	.0034	-.0038	-.0017	-.0165	.0625	-.0510
			1	2	-.0035	.0053	.0017	.0136	-.0656	.0576	
			3	2	.0015	-.0022	-.0007	-.0057	.0275	-.0241	
			3	4	.0081	-.0008	.0041	-.0605	.0653		
			5	4	-.0020	.0002	-.0010	.0150	-.0162		
			5	6	-.0178	-.0105	-.0581	.1061			
			7	6	.0016	.0009	.0052	-.0096			
			7	8	.0452	.0263	.2681				
2G 7/2	3D 5/2	1									
			1	2	.0022	.0117	-.0112	-.0075	-.1315	.2104	
			2	2	.0014	.0070	-.0068	-.0045	-.0792	.1267	
			3	2	.0005	.0024	-.0023	-.0015	-.0270	.0433	
			3	4	.0005	-.0130	-.0081	-.0472	.1222		
			4	4	.0005	-.0145	-.0090	-.0527	.1365		
			5	4	.0002	-.0050	-.0031	-.0182	.0470		
			5	6	-.0037	-.0109	.0049	.1158			
			6	6	-.0077	.0225	.0100	.2381			
2G 7/2	3D 3/2	1									
			2	2	-.0012	-.0060	.0058	.0039	.0679	-.1086	
			3	2	-.0004	-.0021	.0020	.0013	.0234	-.0375	
			3	4	.0006	-.0150	-.0093	-.0545	.1411		
			4	4	-.0002	.0046	.0028	.0166	-.0431		
			5	4	-.0001	.0019	.0012	.0069	-.0180		
			5	6	-.0098	.0286	.0128	.3031			
2G 7/2	4S 1/2	1									
			3	4	-.0024	-.0164	-.0023	-.0323	.2095		
			4	4	-.0018	-.0122	-.0017	-.0241	.1561		
3D 5/2	3D 5/2	1									
			1	0	.0023	-.0019	-.0009	-.0149	-.0038	-.0352	.1628
			1	2	.0021	.0013	.0062	-.0007	.0081	-.0736	
			3	2	-.0041	-.0026	-.0121	.0014	-.0159	.1445	
			3	4	-.0013	-.0008	-.0060	-.0056	-.0363		
			5	4	.0088	.0056	.0395	.0370	.2398		
3D 5/2	3D 3/2	1									
			1	0	-.0035	.0029	.0013	.0225	.0057	.0532	-.2461
			1	2	.0028	.0017	.0081	-.0009	.0107	-.0973	
			2	2	-.0053	-.0032	-.0154	.0018	-.0203	.1839	
			3	2	.0032	.0020	.0093	-.0011	.0123	-.1112	
			3	4	-.0035	-.0022	-.0155	-.0145	-.0942		
			4	4	.0088	.0056	.0395	.0370	.2397		
3D 5/2	4S 1/2	1									
			2	2	-.0020	.0022	-.0008	.0213	.0186	.1685	
			3	2	-.0031	.0034	-.0013	.0337	.0294	.2665	
3D 3/2	3D 3/2	1									
			1	0	-.0012	.0010	.0005	.0080	.0020	.0188	-.0870
			1	2	-.0039	-.0024	-.0115	.0013	-.0152	.1376	
			3	2	.0007	.0004	.0020	-.0002	.0027	-.0241	
			3	4	.0080	.0051	.0359	.0336	.2175		
3D 3/2	4S 1/2	1									
			1	2	-.0031	.0034	-.0013	.0337	.0294	.2665	
			2	2	-.0024	.0027	-.0010	.0261	.0228	.2064	
4S 1/2	4S 1/2	1									
			1	0	.0029	.0025	.0096	.0108	.0412	.0446	.2064

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

NN1= 6   NN2= 7

N L J	N L J	S	J	L	G(1)	G(2)	G(3)	G(4)	G(5)	G(6)	G(7)
		MASS=224		NU= .165							
1I13/2	1J15/2	1									
			1	1	-.0003	.0028	-.0119	.0287	-.0408	.0318	-.0105
			2	1	.0003	-.0025	.0105	-.0254	.0361	-.0281	.0093
			2	3	.0011	-.0057	.0153	-.0231	.0188	-.0064	
			3	3	.0005	-.0028	.0074	-.0112	.0091	-.0031	
			4	3	-.0016	.0081	-.0218	.0329	-.0267	.0091	
			4	5	-.0031	.0108	-.0186	.0164	-.0059		
			5	5	-.0011	.0038	-.0066	.0058	-.0021		
			6	5	.0061	-.0214	.0369	-.0324	.0117		
			6	7	.0072	-.0166	.0169	-.0067			
			7	7	.0022	-.0051	.0051	-.0020			
			8	7	-.0204	.0467	-.0475	.0188			
			8	9	-.0143	.0196	-.0091				
			9	9	-.0042	.0057	-.0026				
			10	9	.0606	-.0831	.0385				
			10	11	.0234	-.0147					
			11	11	.0072	-.0045					
			12	11	-.1711	.1075					
			12	13	-.0281						
			13	13	-.0108						
			14	13	.5461						
1I13/2	1J13/2	1									
			0	1	-.0006	.0055	-.0230	.0556	-.0789	.0615	-.0204
			1	1	.0005	-.0039	.0163	-.0394	.0560	-.0436	.0144
			2	1	-.0002	.0017	-.0072	.0174	-.0248	.0193	-.0064
			2	3	.0016	-.0083	.0223	-.0337	.0273	-.0093	
			3	3	-.0018	.0095	-.0256	.0386	-.0313	.0107	
			4	3	.0010	-.0053	.0141	-.0213	.0173	-.0059	
			4	5	-.0048	.0167	-.0287	.0252	-.0091		
			5	5	.0063	-.0219	.0376	-.0331	.0119		
			6	5	-.0035	.0122	-.0211	.0185	-.0067		
			6	7	.0127	-.0290	.0295	-.0117			
			7	7	-.0187	.0427	-.0435	.0172			
			8	7	.0098	-.0225	.0229	-.0091			
			8	9	-.0296	.0406	-.0188				
			9	9	.0504	-.0692	.0320				
			10	9	-.0231	.0317	-.0147				
			10	11	.0612	-.0385					
			11	11	-.1310	.0823					
			12	11	.0447	-.0281					
			12	13	-.1075						
			13	13	.3871						
1I13/2	2H11/2	1									
			1	1	-.0006	.0032	-.0047	-.0097	.0438	-.0575	.0268
			2	1	-.0006	.0029	-.0043	-.0088	.0397	-.0520	.0242
			2	3	-.0014	.0031	.0031	-.0221	.0320	-.0157	
			3	3	.0007	-.0016	-.0016	.0110	-.0160	.0079	
			4	3	.0022	-.0048	-.0048	.0339	-.0492	.0241	
			4	5	.0027	-.0007	-.0139	.0256	-.0140		
			5	5	-.0010	.0003	.0052	-.0096	.0052		
			6	5	-.0061	.0015	.0316	-.0579	.0317		
			6	7	-.0039	-.0065	.0223	-.0150			
			7	7	.0013	.0022	-.0075	.0050			
			8	7	.0136	.0228	-.0782	.0527			

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

		8	9	.0038	.0174	-.0185			
		9	9	-.0013	-.0059	.0063			
		10	9	-.0235	-.1073	.1143			
		10	11	-.0015	-.0237				
		11	11	.0006	.0099				
		12	11	.0250	.3929				
1I13/2	2H 9/2	1							
		2	1	.0009	-.0047	.0069	.0144	-.0648	.0850	-.0396
		2	3	-.0009	.0019	.0019	-.0135	.0196	-.0096
		3	3	.0022	-.0050	-.0049	.0349	-.0506	.0248
		4	3	-.0021	.0047	.0046	-.0329	.0477	-.0234
		4	5	.0028	-.0007	-.0144	.0263	-.0144
		5	5	-.0058	.0014	.0296	-.0542	.0297
		6	5	.0044	-.0011	-.0225	.0412	-.0226
		6	7	-.0055	-.0092	.0314	-.0211
		7	7	.0115	.0193	-.0661	.0445
		8	7	-.0071	-.0119	.0408	-.0275
		8	9	.0073	.0333	-.0355
		9	9	-.0180	-.0824	.0878
		10	9	.0080	.0365	-.0389
		10	11	-.0044	-.0696
		11	11	.0176	.2767
1I13/2	3F 7/2	1							
		3	3	.0003	-.0062	.0104	.0217	-.0708	.0500
		4	3	.0002	-.0046	.0078	.0162	-.0528	.0373
		4	5	.0009	-.0042	-.0027	.0215	-.0184
		5	5	-.0013	.0063	.0040	-.0322	.0276
		6	5	-.0026	.0124	.0080	-.0639	.0546
		6	7	-.0021	.0032	.0147	-.0193
		7	7	.0028	-.0040	-.0189	.0247
		8	7	.0110	-.0162	-.0753	.0988
		8	9	.0028	.0018	-.0192
		9	9	-.0041	-.0026	.0280
		10	9	-.0392	-.0251	.2669
1I13/2	3F 5/2	1							
		4	3	-.0004	.0083	-.0139	-.0290	.0945	-.0667
		4	5	.0005	-.0023	-.0015	.0120	-.0103
		5	5	-.0021	.0099	.0064	-.0510	.0436
		6	5	.0023	-.0110	-.0071	.0565	-.0484
		6	7	-.0024	.0036	.0166	-.0218
		7	7	.0083	-.0122	-.0567	.0744
		8	7	-.0055	.0081	.0378	-.0496
		8	9	.0056	.0036	-.0382
		9	9	-.0270	-.0173	.1841
1I13/2	4P 3/2	1							
		5	5	-.0008	.0121	-.0071	-.0581	.0723
		6	5	-.0008	.0111	-.0065	-.0535	.0665
		6	7	-.0007	.0027	.0048	-.0133
		7	7	.0026	-.0100	-.0177	.0490
		8	7	.0085	-.0332	-.0584	.1618
1I13/2	4P 1/2	1							
		6	5	.0010	-.0141	.0082	.0676	-.0842
		6	7	-.0006	.0022	.0038	-.0105
		7	7	.0052	-.0205	-.0361	.0999
1I11/2	1J15/2	1							
		2	1	.0005	-.0042	.0177	-.0427	.0607	-.0473	.0157
		2	3	-.0007	.0034	-.0091	.0138	-.0112	.0038
		3	3	-.0017	.0087	-.0233	.0352	-.0286	.0097
		4	3	-.0016	.0083	-.0224	.0338	-.0274	.0093
		4	5	.0030	-.0105	.0181	-.0160	.0058
		5	5	.0061	-.0211	.0363	-.0320	.0115
		6	5	.0048	-.0167	.0288	-.0253	.0091

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

6	7	-.0093	.0212	-.0216	.0086		
7	7	-.0183	.0419	-.0427	.0169		
8	7	-.0125	.0285	-.0290	.0115		
8	9	.0234	-.0320	.0148			
9	9	.0499	-.0684	.0317			
10	9	.0280	-.0384	.0178			
10	11	-.0506	.0318				
11	11	-.1300	.0817				
12	11	-.0525	.0330				
12	13	.0916					
13	13	.3850					

1I11/2   1J13/2   1

1	1	.0003	-.0026	.0110	-.0267	.0379	-.0295	.0098
2	1	-.0002	.0017	-.0073	.0177	-.0251	.0196	-.0065
2	3	-.0016	.0082	-.0220	.0332	-.0269	.0092	
3	3	-.0005	.0026	-.0069	.0104	-.0084	.0029	
4	3	.0008	-.0042	.0112	-.0169	.0137	-.0047	
4	5	.0060	-.0211	.0363	-.0319	.0115		
5	5	.0010	-.0035	.0060	-.0053	.0019		
6	5	-.0022	.0078	-.0135	.0118	-.0043		
6	7	-.0198	.0454	-.0462	.0183			
7	7	-.0020	.0046	-.0047	.0018			
8	7	.0050	-.0114	.0116	-.0046			
8	9	.0586	-.0803	.0372				
9	9	.0036	-.0050	.0023				
10	9	-.0086	.0117	-.0054				
10	11	-.1652	.1038					
11	11	-.0058	.0036					
12	11	.0091	-.0057					
12	13	.5267						

1I11/2   2H11/2   1

0	1	-.0012	.0062	-.0091	-.0188	.0845	-.1109	.0516
1	1	-.0009	.0044	-.0064	-.0133	.0600	-.0787	.0366
2	1	-.0004	.0019	-.0028	-.0059	.0264	-.0347	.0162
2	3	.0021	-.0047	-.0047	.0331	-.0480	.0236	
3	3	.0025	-.0054	-.0054	.0382	-.0554	.0272	
4	3	.0013	-.0030	-.0029	.0208	-.0302	.0148	
4	5	-.0044	.0011	.0227	-.0417	.0228		
5	5	-.0060	.0015	.0306	-.0561	.0307		
6	5	-.0032	.0008	.0164	-.0301	.0165		
6	7	.0075	.0125	-.0429	.0289			
7	7	.0117	.0196	-.0673	.0453			
8	7	.0056	.0094	-.0322	.0217			
8	9	-.0093	-.0423	.0450				
9	9	-.0182	-.0833	.0888				
10	9	-.0066	-.0302	.0321				
10	11	.0054	.0842					
11	11	.0178	.2788					

1I11/2   2H 9/2   1

1	1	.0006	-.0029	.0043	.0090	-.0403	.0529	-.0246
2	1	.0004	-.0019	.0028	.0058	-.0260	.0341	-.0159
2	3	.0022	-.0048	-.0047	.0337	-.0489	.0240	
3	3	-.0006	.0014	.0014	-.0101	.0146	-.0072	
4	3	-.0010	.0022	.0022	-.0154	.0223	-.0109	
4	5	-.0060	.0015	.0307	-.0563	.0309		
5	5	.0009	-.0002	-.0047	.0086	-.0047		
6	5	.0018	-.0005	-.0094	.0172	-.0094		
6	7	.0131	.0220	-.0753	.0507			
7	7	-.0011	-.0019	.0065	-.0044			
8	7	-.0023	-.0039	.0132	-.0089			
8	9	-.0225	-.1029	.1096				
9	9	.0010	.0047	-.0051				

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

			10	9	.0015	.0067	-.0072			
			10	11	.0240	.3767				
1I11/2	3F 7/2	1								
			2	3	.0005	-.0098	.0164	.0342	-.1115	.0787
			3	3	.0002	-.0051	.0086	.0179	-.0584	.0413
			4	3	.0001	-.0016	.0026	.0055	-.0178	.0126
			4	5	-.0026	.0124	.0080	-.0636	.0544	
			5	5	-.0024	.0114	.0074	-.0589	.0504	
			6	5	-.0008	.0040	.0026	-.0206	.0177	
			6	7	.0066	-.0098	-.0454	.0596		
			7	7	.0088	-.0130	-.0605	.0794		
			8	7	.0026	-.0039	-.0180	.0237		
			8	9	-.0118	-.0075	.0801			
			9	9	-.0280	-.0179	.1911			
1I11/2	3F 5/2	1								
			3	3	-.0003	.0055	-.0093	-.0194	.0632	-.0446
			4	3	-.0001	.0018	-.0029	-.0061	.0200	-.0141
			4	5	-.0023	.0110	.0071	-.0569	.0487	
			5	5	.0011	-.0054	-.0035	.0279	-.0239	
			6	5	.0005	-.0026	-.0017	.0134	-.0115	
			6	7	.0102	-.0150	-.0700	.0918		
			7	7	-.0022	.0032	.0150	-.0196		
			8	7	-.0008	.0012	.0058	-.0076		
			8	9	-.0368	-.0236	.2509			
1I11/2	4P 3/2	1								
			4	5	-.0012	.0181	-.0105	-.0868	.1080	
			5	5	-.0006	.0095	-.0055	-.0454	.0565	
			6	5	-.0001	.0017	-.0010	-.0083	.0104	
			6	7	.0045	-.0175	-.0309	.0855		
			7	7	.0061	-.0241	-.0424	.1175		
1I11/2	4P 1/2	1								
			5	5	.0006	-.0095	.0056	.0457	-.0569	
			6	5	.0001	-.0011	.0006	.0052	-.0065	
			6	7	.0071	-.0280	-.0492	.1364		
2G 9/2	1J15/2	1								
			3	3	-.0014	.0009	.0152	-.0494	.0616	-.0283
			4	3	.0010	-.0006	-.0106	.0346	-.0431	.0198
			4	5	.0010	.0028	-.0153	.0227	-.0115	
			5	5	.0013	.0038	-.0210	.0312	-.0158	
			6	5	-.0023	-.0068	.0372	-.0553	.0280	
			6	7	-.0007	-.0099	.0218	-.0133		
			7	7	-.0008	-.0110	.0241	-.0147		
			8	7	.0025	.0356	-.0783	.0476		
			8	9	-.0011	.0189	-.0168			
			9	9	-.0012	.0204	-.0181			
			10	9	.0071	-.1176	.1044			
			10	11	.0041	-.0216				
			11	11	.0054	-.0281				
			12	11	-.0690	.3610				
2G 9/2	1J13/2	1								
			2	3	-.0023	.0014	.0240	-.0781	.0974	-.0448
			3	3	.0012	-.0007	-.0124	.0403	-.0503	.0231
			4	3	-.0004	.0002	.0039	-.0127	.0158	-.0073
			4	5	.0026	.0076	-.0416	.0618	-.0313	
			5	5	-.0023	-.0067	.0367	-.0545	.0276	
			6	5	.0009	.0025	-.0139	.0207	-.0105	
			6	7	-.0018	-.0265	.0583	-.0354		
			7	7	.0021	.0310	-.0682	.0414		
			8	7	-.0008	-.0115	.0253	-.0154		
			8	9	-.0036	.0585	-.0520			
			9	9	.0056	-.0921	.0817			
			10	9	-.0017	.0272	-.0241			

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

Label									
	10	11	.0179	-.0935					
	11	11	-.0492	.2576					
2G 9/2 2H11/2 1									
	1	1	-.0015	.0049	-.0028	-.0023	-.0313	.0885	-.0628
	2	1	.0014	-.0045	.0026	.0021	.0292	-.0823	.0584
	2	3	.0025	-.0027	-.0018	-.0120	.0446	-.0349	
\	3	3	.0013	-.0014	-.0009	-.0063	.0233	-.0183	
	4	3	-.0043	.0047	.0030	.0205	-.0764	.0598	
	4	5	-.0038	-.0005	-.0030	.0302	-.0295		
	5	5	-.0015	-.0002	-.0012	.0123	-.0120		
	6	5	.0105	.0014	.0082	-.0833	.0815		
	6	7	.0046	.0033	.0173	-.0288			
	7	7	.0018	.0013	.0068	-.0112			
	8	7	-.0231	-.0164	-.0865	.1438			
	8	9	-.0043	-.0026	-.0279				
	9	9	-.0020	-.0012	-.0129				
	10	9	.0589	.0361	.3846				
2G 9/2 2H 9/2 1									
	0	1	-.0028	.0093	-.0054	-.0044	-.0600	.1694	-.1202
	1	1	.0020	-.0066	.0039	.0031	.0427	-.1204	.0854
	2	1	-.0009	.0029	-.0017	-.0014	-.0187	.0527	-.0374
	2	3	.0039	-.0043	-.0028	-.0187	.0697	-.0546	
	3	3	-.0046	.0050	.0032	.0220	-.0817	.0639	
	4	3	.0024	-.0026	-.0017	-.0116	.0432	-.0338	
	4	5	-.0067	-.0009	-.0053	.0533	-.0521		
	5	5	.0095	.0013	.0074	-.0754	.0737		
	6	5	-.0047	-.0006	-.0037	.0374	-.0366		
	6	7	.0103	.0073	.0385	-.0640			
	7	7	-.0183	-.0130	-.0687	.1143			
	8	7	.0071	.0050	.0265	-.0440			
	8	9	-.0140	-.0086	-.0914				
	9	9	.0419	.0257	.2733				
2G 9/2 3F 7/2 1									
	1	1	-.0015	.0009	.0060	.0011	-.0001	-.0822	.1021
	2	1	-.0015	.0009	.0059	.0011	-.0001	-.0799	.0992
	2	3	-.0015	-.0025	.0016	.0034	.0345	-.0526	
	3	3	.0008	.0014	-.0009	-.0019	-.0193	.0294	
	4	3	.0029	.0050	-.0032	-.0069	-.0695	.1060	
	4	5	.0010	.0042	.0042	.0147	-.0402		
	5	5	-.0005	-.0020	-.0020	-.0069	.0188		
	6	5	-.0040	-.0160	-.0161	-.0563	.1542		
	6	7	-.0003	-.0034	-.0037	-.0308			
	7	7	.0002	.0018	.0019	.0161			
	8	7	.0032	.0370	.0406	.3371			
2G 9/2 3F 5/2 1									
	2	1	.0022	-.0013	-.0086	-.0016	.0002	.1180	-.1465
	2	3	-.0010	-.0017	.0011	.0023	.0233	-.0356	
	3	3	.0026	.0045	-.0029	-.0063	-.0630	.0960	
	4	3	-.0023	-.0039	.0025	.0054	.0545	-.0831	
	4	5	.0013	.0053	.0053	.0187	-.0512		
	5	5	-.0032	-.0128	-.0128	-.0448	.1228		
	6	5	.0018	.0074	.0074	.0260	-.0712		
	6	7	-.0006	-.0073	-.0080	-.0668			
	7	7	.0022	.0259	.0284	.2359			
2G 9/2 4P 3/2 1									
	3	3	.0023	-.0011	-.0085	-.0124	-.0410	.1320	
	4	3	.0023	-.0011	-.0083	-.0121	-.0400	.1287	
	4	5	.0008	.0011	-.0003	-.0000	-.0288		
	5	5	-.0018	-.0025	.0006	.0000	.0649		
	6	5	-.0072	-.0097	.0025	.0000	.2513		
2G 9/2 4P 1/2 1									
	4	3	-.0028	.0013	.01C0	.0145	.0482	-.1552	

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

4	5	.0007	.0009	-.0002	-.0000	-.0239		
5	5	-.0045	-.0061	.0016	.0000	.1590		

2G 7/2 1J15/2 1

4	3	.0019	-.0012	-.0206	.0671	-.0836	.0384
4	5	-.0005	-.0014	.0079	-.0117	.0059	
5	5	-.0020	-.0058	.0318	-.0472	.0239	
6	5	-.0024	-.0069	.0382	-.0567	.0288	
6	7	.0007	.0097	-.0213	.0129		
7	7	.0020	.0291	-.0639	.0389		
8	7	.0017	.0241	-.0530	.0322		
8	9	.0017	-.0279	.0248			
9	9	.0054	-.0887	.0787			
10	9	.0030	-.0490	.0435			
10	11	-.0099	.0519				
11	11	-.0480	.2514				

2G 7/2 1J13/2 1

3	3	.0013	-.0008	-.0138	.0451	-.0562	.0258
4	3	-.0005	.0003	.0048	-.0157	.0196	-.0090
4	5	-.0021	-.0061	.0336	-.0499	.0253	
5	5	-.0012	-.0034	.0189	-.0281	.0142	
6	5	.0007	.0020	-.0110	.0164	-.0083	
6	7	.0023	.0335	-.0737	.0448		
7	7	.0007	.0096	-.0210	.0128		
8	7	-.0004	-.0060	.0132	-.0081		
8	9	.0068	-.1116	.0991			
9	9	.0010	-.0163	.0144			
10	9	-.0004	.0074	-.0066			
10	11	-.0657	.3441				

2G 7/2 2H11/2 1

2	1	.0021	-.0071	.0041	.0033	.0458	-.1292	.0917
2	3	-.0016	.0017	.0011	.0076	-.0285	.0223	
3	3	-.0042	.0045	.0030	.0200	-.0746	.0584	
4	3	-.0038	.0042	.0027	.0184	-.0683	.0535	
4	5	.0042	.0006	.0033	-.0337	.0330		
5	5	.0092	.0012	.0072	-.0728	.0712		
6	5	.0064	.0009	.0050	-.0511	.0500		
6	7	-.0075	-.0053	-.0282	.0469			
7	7	-.0180	-.0128	-.0675	.1122			
8	7	-.0089	-.0064	-.0336	.0558			
8	9	.0110	.0068	.0721				
9	9	.0414	.0254	.2703				

2G 7/2 2H 9/2 1

1	1	.0013	-.0044	.0026	.0021	.0283	-.0798	.0567
2	1	-.0008	.0027	-.0016	-.0013	-.0175	.0493	-.0350
2	3	-.0042	.0045	.0030	.0200	-.0745	.0583	
3	3	-.0012	.0013	.0008	.0056	-.0208	.0163	
4	3	.0016	-.0018	-.0011	-.0078	.0289	-.0226	
4	5	.0100	.0013	.0079	-.0798	.0780		
5	5	.0013	.0002	.0011	-.0107	.0104		
6	5	-.0022	-.0003	-.0017	.0175	-.0171		
6	7	-.0220	-.0156	-.0823	.1369			
7	7	-.0014	-.0010	-.0054	.0089			
8	7	.0018	.0013	.0066	-.0110			
8	9	.0560	.0343	.3655				

2G 7/2 3F 7/2 1

0	1	-.0029	.0018	.0114	.0022	-.0003	-.1561	.1938
1	1	-.0021	.0013	.0081	.0015	-.0002	-.1112	.1381
2	1	-.0009	.0005	.0035	.0007	-.0001	-.0482	.0598
2	3	.0024	.0041	-.0026	-.0057	-.0572	.0872	
3	3	.0029	.0049	-.0031	-.0069	-.0690	.1051	
4	3	.0015	.0025	-.0016	-.0034	-.0345	.0526	
4	5	-.0021	-.0084	-.0084	-.0296	.0810		

STRUCTURE AMPLITUDES FOR (α,d) REACTIONS

			5	5	-.0033	-.0132	-.0132	-.0464	.1271
			6	5	-.0013	-.0054	-.0054	-.0190	.0521
			6	7	.0009	.0100	.0110	.0912	
			7	7	.0023	.0264	.0289	.2403	

2G 7/2   3F 5/2 1

1	1	.0013	-.0008	-.0053	-.0010	.0001	.0722 -.0897
2	1	.0008	-.0005	-.0031	-.0006	.0001	.0417 -.0518
2	3	.0028	.0047	-.0030	-.0066	-.0660	.1007
3	3	-.0007	-.0012	.0008	.0016	.0165	-.0252
4	3	-.0008	-.0014	.0009	.0019	.0193	-.0294
4	5	-.0037	-.0151	-.0151	-.0529	.1449	
5	5	.0004	.0015	.0015	.0054	-.0148	
6	5	.0004	.0016	.0016	.0055	-.0151	
6	7	.0030	.0347	.0380	.3161		

2G 7/2   4P 3/2 1

2	3	.0036	-.0017	-.0132	-.0191	-.0635	.2044
3	3	.0021	-.0010	-.0076	-.0111	-.0367	.1180
4	3	.0005	-.0002	-.0019	-.0027	-.0091	.0293
4	5	-.0036	-.0049	.0012	.0000	.1265	
5	5	-.0052	-.0071	.0018	.0000	.1836	

2G 7/2   4P 1/2 1

3	3	-.0018	.0008	.0066	.0096	.0318	-.1022
4	3	-.0003	.0001	.0011	.0016	.0054	-.0173
4	5	-.0061	-.0083	.0021	.0000	.2139	

3D 5/2   1J15/2 1

5	5	.0032	-.0030	-.0304	.0772	-.0528
6	5	-.0024	.0023	.0231	-.0585	.0401
6	7	-.0013	-.0024	.0153	-.0141	
7	7	-.0035	-.0065	.0423	-.0390	
8	7	.0071	.0132	-.0853	.0787	
8	9	.0010	.0072	-.0153		
9	9	.0029	.0198	-.0421		
10	9	-.0150	-.1028	.2190		

3D 5/2   1J13/2 1

4	5	.0048	-.0045	-.0457	.1157	-.0792
5	5	-.0023	.0021	.0215	-.0546	.0374
6	5	.0005	-.0005	-.0048	.0121	-.0083
6	7	-.0061	-.0115	.0740	-.0684	
7	7	.0057	.0107	-.0690	.0637	
8	7	-.0013	-.0024	.0153	-.0142	
8	9	.0058	.0399	-.0850		
9	9	-.0108	-.0740	.1577		

3D 5/2   2H11/2 1

3	3	.0006	-.0082	.0030	-.0027	.0831	-.1047
4	3	-.0005	.0067	-.0024	.0022	-.0683	.0860
4	5	-.0011	.0032	.0019	.0167	-.0326	
5	5	-.0018	.0055	.0033	.0286	-.0560	
6	5	.0044	-.0132	-.0079	-.0688	.1346	
6	7	.0017	-.0016	.0011	-.0269		
7	7	.0030	-.0028	.0018	-.0460		
8	7	-.0193	.0181	-.0121	.3011		

3D 5/2   2H 9/2 1

2	3	.0010	-.0128	.0046	-.0042	.1300	-.1637
3	3	-.0005	.0069	-.0025	.0023	-.0701	.0883
4	3	.0002	-.0020	.0007	-.0007	.0202	-.0255
4	5	-.0036	.0108	.0064	.0562	-.1100	
5	5	.0037	-.0111	-.0066	-.0577	.1130	
6	5	-.0011	.0032	.0019	.0167	-.0328	
6	7	.0071	-.0066	.0044	-.1106		
7	7	-.0139	.0130	-.0087	.2170		

3D 5/2   3F 7/2 1

| 1 | 1 | -.0022 | .0001 | -.0007 | .0129 | .0085 | .0499 -.1488 |

STRUCTURE AMPLITUDES FOR (a,d) REACTIONS

	2	1	.0023	-.0001	.0008	-.0134	-.0088	-.0519	.1546
	2	3	.0016	.0014	.0061	.0017	.0115	-.0668	
	3	3	.0010	.0009	.0038	.0011	.0072	-.0417	
	4	3	-.0042	-.0038	-.0162	-.0046	-.0308	.1787	
	4	5	-.0011	-.0008	-.0059	-.0059	-.0401		
	5	5	-.0007	-.0005	-.0036	-.0036	-.0245		
	6	5	.0091	.0063	.0475	.0474	.3245		

3D 5/2 3F 5/2 1

	0	1	-.0041	.0001	-.0014	.0241	.0159	.0934	-.2783
	1	1	.0030	-.0001	.0010	-.0173	-.0114	-.0670	.1996
	2	1	-.0013	.0000	-.0004	.0073	.0048	.0282	-.0841
	2	3	.0029	.0026	.0111	.0031	.0212	-.1227	
	3	3	-.0037	-.0034	-.0144	-.0040	-.0273	.1584	
	4	3	.0016	.0014	.0062	.0017	.0118	-.0681	
	4	5	-.0029	-.0020	-.0154	-.0153	-.1050		
	5	5	.0065	.0045	.0341	.0340	.2327		

3D 5/2 4P 3/2 1

	1	1	-.0011	-.0028	-.0028	-.0080	.0060	-.0000	.1685
	2	1	-.0013	-.0033	-.0033	-.0094	.0071	-.0000	.1994
	2	3	-.0001	-.0011	-.0015	-.0080	-.0096	-.0554	
	3	3	.0001	.0009	.0012	.0063	.0076	.0438	
	4	3	.0008	.0060	.0078	.0425	.0507	.2936	

3D 5/2 4P 1/2 1

	2	1	.0014	.0035	.0036	.0101	-.0076	.0000	-.2132
	2	3	-.0001	-.0011	-.0014	-.0075	-.0089	-.0518	
	3	3	.0005	.0040	.0052	.0283	.0338	.1957	

3D 3/2 1J15/2 1

	6	5	-.0041	.0038	.0388	-.0984	.0673
	6	7	.0008	.0014	-.0091	.0084	
	7	7	.0049	.0091	-.0587	.0542	
	8	7	.0050	.0093	-.0598	.0552	
	8	9	-.0015	-.0102	.0218		
	9	9	-.0100	-.0685	.1460		

3D 3/2 1J13/2 1

	5	5	-.0028	.0026	.0264	-.0668	.0458
	6	5	.0005	-.0005	-.0048	.0123	-.0084
	6	7	.0060	.0113	-.0729	.0673	
	7	7	.0028	.0052	-.0335	.0310	
	8	7	-.0005	-.0010	.0065	-.0060	
	8	9	-.0137	-.0939	.2001		

3D 3/2 2H11/2 1

	4	3	-.0008	.0105	-.0038	.0034	-.1071	.1349
	4	5	.0007	-.0020	-.0012	-.0106	.0208	
	5	5	.0032	-.0096	-.0057	-.0500	.0978	
	6	5	.0030	-.0088	-.0053	-.0459	.0897	
	6	7	-.0026	.0024	-.0016	.0404		
	7	7	-.0131	.0122	-.0082	.2036		

3D 3/2 2H 9/2 1

	3	3	-.0005	.0070	-.0025	.0023	-.0712	.0897
	4	3	.0001	-.0019	.0007	-.0006	.0189	-.0238
	4	5	.0039	-.0115	-.0069	-.0601	.1176	
	5	5	.0015	-.0043	-.0026	-.0225	.0441	
	6	5	-.0004	.0013	.0008	.0067	-.0131	
	6	7	-.0177	.0166	-.0111	.2758		

3D 3/2 3F 7/2 1

	2	1	.0031	-.0001	.0010	-.0179	-.0117	-.0692	.2061
	2	3	-.0012	-.0011	-.0045	-.0013	-.0086	.0501	
	3	3	-.0034	-.0031	-.0131	-.0037	-.0250	.1446	
	4	3	-.0026	-.0023	-.0098	-.0028	-.0186	.1078	
	4	5	.0019	.0013	.0097	.0097	.0664		
	5	5	.0063	.0043	.0329	.0328	.2248		

3D 3/2 3F 5/2 1

STRUCTURE AMPLITUDES FOR (α,d) REACTIONS

				1	1	.0019	-.0001	.0006	-.0108	-.0071	-.0418	.1245
				2	1	-.0009	.0000	-.0003	.0055	.0036	.0212	-.0631
				2	3	-.0039	-.0035	-.0148	-.0042	-.0282	.1636	
				3	3	-.0008	-.0007	-.0029	-.0008	-.0056	.0323	
				4	3	.0006	.0005	.0022	.0006	.0042	-.0241	
				4	5	.0083	.0057	.0435	.0434	.2971		
3D 3/2	4P 3/2	1										
				0	1	-.0020	-.0051	-.0051	-.0146	.0110	-.0000	.3077
				1	1	-.0014	-.0037	-.0038	-.0106	.0080	-.0000	.2247
				2	1	-.0006	-.0014	-.0015	-.0041	.0031	-.0000	.0870
				2	3	.0003	.0026	.0034	.0184	.0219	.1269	
				3	3	.0006	.0044	.0057	.0310	.0370	.2144	
3D 3/2	4P 1/2	1										
				1	1	.0008	.0021	.0021	.0059	-.0045	.0000	-.1256
				2	1	.0003	.0007	.0007	.0021	-.0016	.0000	-.0435
				2	3	.0007	.0052	.0067	.0367	.0438	.2537	
4S 1/2	1J15/2	1										
				7	7	-.0056	-.0031	.0610	-.0724			
				8	7	.0082	.0046	-.0892	.1059			
4S 1/2	1J13/2	1										
				6	7	-.0082	-.0046	.0892	-.1059			
				7	7	.0060	.0034	-.0652	.0774			
4S 1/2	2H11/2	1										
				5	5	-.0014	.0110	.0035	.0353	-.1207		
				6	5	.0020	-.0163	-.0052	-.0523	.1791		
4S 1/2	2H 9/2	1										
				4	5	-.0020	.0163	.0052	.0523	-.1791		
				5	5	.0015	-.0120	-.0039	-.0386	.1323		
4S 1/2	3F 7/2	1										
				3	3	.0027	.0003	.0053	-.0117	-.0053	-.1533	
				4	3	-.0042	-.0004	-.0080	.0179	.0081	.2342	
4S 1/2	3F 5/2	1										
				2	3	.0042	.0004	.0080	-.0179	-.0081	-.2342	
				3	3	-.0031	-.0003	-.0061	.0136	.0061	.1771	
4S 1/2	4P 3/2	1										
				1	1	-.0010	-.0011	-.0049	-.0062	-.0263	-.0310	-.1538
				2	1	.0017	.0018	.0084	.0108	.0455	.0536	.2665
4S 1/2	4P 1/2	1										
				0	1	-.0017	-.0018	-.0084	-.0108	-.0455	-.0536	-.2665
				1	1	.0014	.0015	.0069	.0088	.0372	.0438	.2176