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ANALYTIC REPRESENTATION OF NONELASTIC CROSS SECTIONS AND
PARTICLE-EMISSION SPECTRA FROM NUCLEON-NUCLEUS COLLISIONS
IN THE ENERGY RANGE 25 TO 400 MeV

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ABSTRACT

Analytic fits, obtained by the method of linear least squares, to the intranuclear-cascade data generated by H. W. Bertini are given. For both protons and neutrons incident on the elements C, O, Al, Cr, Cu, Ru, Ce, W, Pb, and U, analytic expressions are given for:

1. the nonelastic cross section as a function of energy;
2. the cascade neutron- and proton-emission spectra in the angular intervals $0-30^\circ$, $30-60^\circ$, $60-90^\circ$, and $90-180^\circ$;
3. the evaporation neutron- and proton-emission spectra (assumed isotropic); and
4. the cascade neutron- and proton-emission spectra integrated over all angles.

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I. INTRODUCTION

Using an intranuclear-cascade model, H. W. Bertini has generated a large amount of data on the nonelastic cross sections and the energy and angular distributions of emitted neutrons and protons when neutrons and protons in the energy range 25 to 400 MeV are incident on a variety of targets.^{1-5*} The calculations were carried out using Monte Carlo methods and the data were presented in the form of histograms which contain, of course, statistical fluctuations. In order to make this large amount of data more accessible and to remove insofar as possible the statistical fluctuations, the data have been fitted using the method of linear least squares. In this paper, the fitting procedure is discussed, and tables of the coefficients which occur in the fitted functions are given.

For both protons and neutrons in the energy range 25 to 400 MeV, incident on the elements C, O, Al, Cr, Cu, Ru, Ce, W, Pb, and U, analytic expressions are given for:

1. the nonelastic cross section as a function of energy;
2. the cascade** neutron- and proton-emission spectra in the laboratory angular intervals $0-30^\circ$, $30-60^\circ$, $60-90^\circ$, and $90-180^\circ$;
3. the evaporation** neutron- and proton-emission spectra (assumed isotropic); and
4. the cascade neutron- and proton-emission spectra integrated over all angles.

*All of the data calculated by Bertini² have been recorded on microfilm and are available on request from the Radiation Shielding Information Center of the Oak Ridge National Laboratory. The data on pion-nucleus collisions are not considered in this paper.

**See ref. 1 for a discussion of the distinction between cascade and evaporation particles.

The cascade emission spectra integrated over all angles can be obtained by summing the emission spectra in the individual angular intervals. This procedure, however, leads to functions which involve many more parameters than are necessary, so separate fits for the angle-integrated spectra are given.

II. NONELASTIC CROSS SECTION

In many ways the nonelastic cross section is the easiest part of the data to fit because the Monte Carlo calculation in this case gives an estimate of the cross section at discrete energies. Let σ_{E_i} be the cross-section value given by the Monte Carlo calculation at energy E_i and let $\sigma(E)$, the assumed analytic form of the cross section, be given by

$$\sigma(E) = \exp \left[\sum_{j=0}^{\nu} a_j \left(\frac{E}{400} \right)^j \right], \quad (1)$$

where the a_j 's are coefficients which are to be determined and ν is a parameter which must be specified. To determine the coefficients, a quantity R is defined by

$$R = \sum_{E_i} \left[\log \sigma_{E_i} - \sum_{j=0}^{\nu} a_j \left(\frac{E}{400} \right)^j \right]^2, \quad (2)$$

and it is required that R be a minimum with respect to the a_j 's. Taking the derivative of R with respect to each a_j and setting the derivative equal to zero leads to a set of linear equations for the a_j 's, which may easily be solved.

In calculating the cross-section fits, ν was in general taken to be 4. In some cases, however, this led to unphysical oscillations in the cross section. To avoid this, the derivative of σ was tested for sign changes and no more than two such changes were allowed. If $\nu = 4$ led to more than two sign changes, the fit was recalculated using $\nu = 3$, the test was again applied, and so on. In only one case - protons incident on lead - was it necessary to go to $\nu = 2$.

Figure 1 shows a comparison between the Monte Carlo cross-section values and the analytic cross section for the case of protons incident on aluminum. The points give the Monte Carlo values and the smooth curve is obtained from the fitted function. This comparison is roughly similar to the comparisons in the other cases.*

The calculated coefficients for protons and neutrons incident on all ten elements considered are given in Table 1. When these coefficients are used in Eq. 1, the cross section is given in millibarns. It should be carefully noted that the analytic expression for the cross section is valid only between E_{MIN} and E_{MAX} . If an attempt is made to use the expression outside of these limits, quite wild behavior may occur.

*Graphs comparing the analytic functions with the Monte Carlo results for every fit considered in this paper have been put on microfiche and are available on request from the Radiation Shielding Information Center of the Oak Ridge National Laboratory.

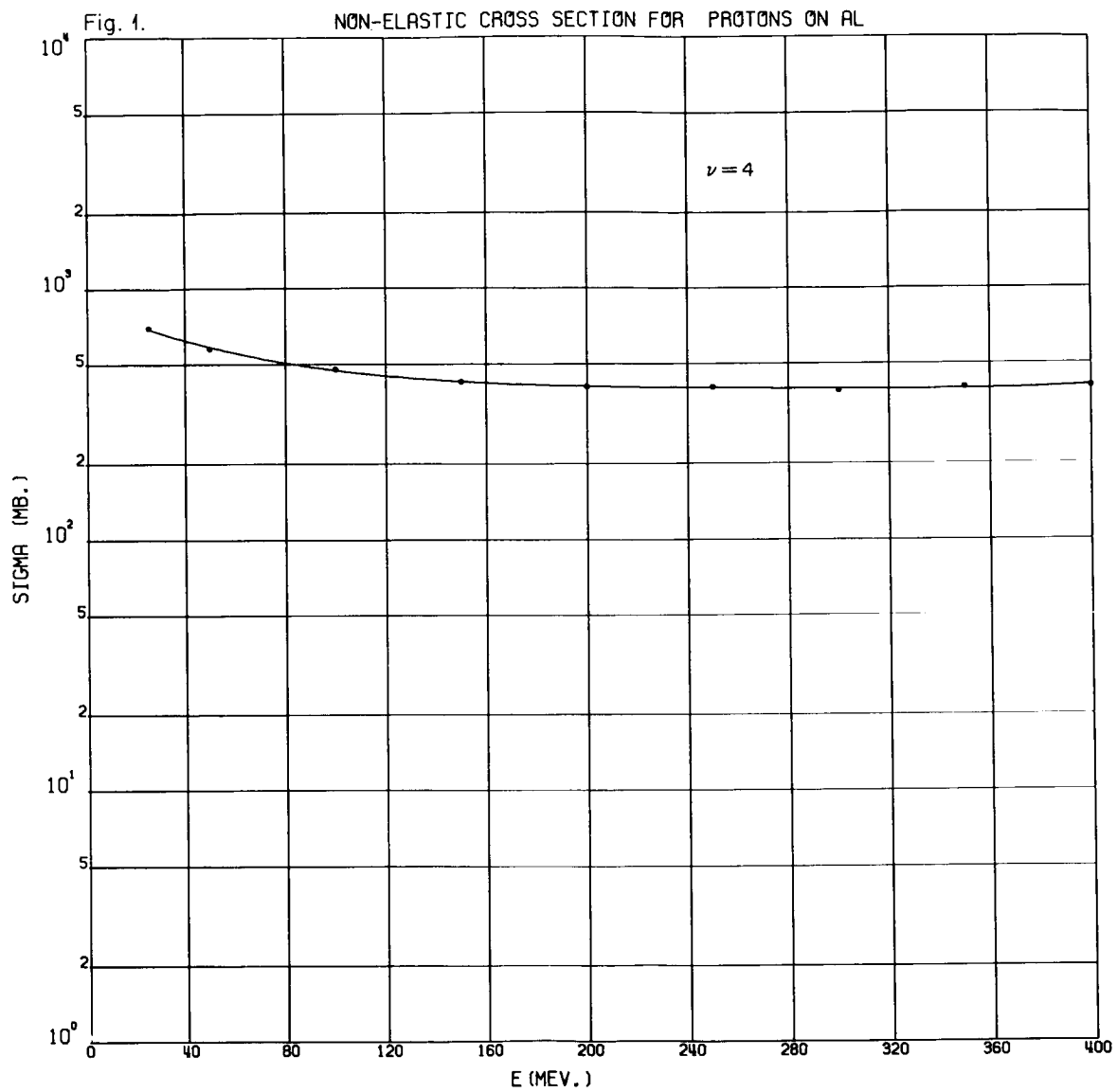


TABLE 1

NON ELASTIC CROSS SECTION

INC. PART.	ELEMENT	AD	EMAX # 400.0 (MEV)		EMIN # 25.000 (MEV)		A3	A4
			A1	A2	A1	A2		
P	C	1.240415E 01	-5.8957527E 00	1.4181531E 01	-1.5782847E 01	6.5407931E 00		
N	C	1.2382795E 01	-5.4469868E 00	1.1550725E 01	-1.1297047E 01	4.2141600E 00		
P	O	1.2491634E 01	-4.8397415E 00	1.0672125E 01	-1.1107638E 01	4.4098029E 00		
N	O	1.2517978E 01	-5.0931867E 00	1.1287781E 01	-1.1489868E 01	4.4210285E 00		
P	AL	1.2755232E 01	-4.0729099E 00	8.3844210E 00	-7.9828938E 00	2.9174227E 00		
N	AL	1.2693695E 01	-3.2955608E 00	4.8855736E 00	-2.2990761E 00	0.		
P	CR	1.3084483E 01	-3.6344494E 00	8.268571E 00	-8.5600537E 00	3.3101446E 00		
N	CR	1.2992464E 01	-2.7472568E 00	4.7781588E 00	-3.3056928E 00	7.1729518E-01		
P	CU	1.3124442E 01	-2.2431584E 00	3.1773718E 00	-1.4557472E 00	0.		
N	CU	1.3123691E 01	-3.1100930E 00	6.8323115E 00	-6.7329364E 00	2.5074524E 00		
P	RU	1.3393167E 01	-2.5932699E 00	4.9881883E 00	-4.3351257E 00	1.4487587E 00		
N	RU	1.3310216E 01	-2.2752317E 00	4.4564933E 00	-3.9346417E 00	1.3578885E 00		
P	CE	1.3576547E 01	-2.5932949E 00	5.9442778E 00	-6.2489418E 00	2.4423424E 00		
N	CE	1.3481119E 01	-2.2271577E 00	4.6824312E 00	-4.3243270E 00	1.5115106E 00		
P	W	1.3738246E 01	-2.7154819E 00	6.8485157E 00	-7.8453774E 00	3.2812133E 00		
N	W	1.3616097E 01	-1.8728119E 00	3.3837169E 00	-2.1868509E 00	3.4781330E-01		
P	PB	1.3769213E 01	-2.1353969E 00	4.4340011E 00	-4.1898265E 00	1.4975631E 00		
N	PB	1.3594525E 01	-7.8999317E-01	5.7062252E-01	0.	0.		
P	U	1.3808177E 01	-1.4907267E 00	2.0592438E 00	-9.3032273E-01	0.		
N	U	1.3753272E 01	-2.0033221E 00	4.8844039E 00	-5.3210571E 00	2.1316326E 00		

III. PARTICLE EMISSION SPECTRA

A. Cascade Neutron- and Proton-Emission Spectra

The cascade neutrons and protons emitted from nucleon-nucleus collisions have complicated energy-angle distributions with the high-energy particles emitted predominantly at the smaller angles. The Monte Carlo results presented by Bertini² give the emission spectra in the form of a histogram, with equal energy intervals, averaged over specified angular intervals. It is these spectra which have been fitted. However, for fitting purposes, it was found that equal intervals in energy were not convenient so, before the fitting was carried out, the Monte Carlo history tapes were re-analyzed. This analysis was carried out to form a histogram with unequal energy intervals but with the same number of emitted particles in each interval. In each histogram interval, the energy, such that within the interval equal numbers of particles were emitted above and below this energy, was determined, and the histogram value was assumed to be an estimate of the energy distribution at this energy.*

Let F_{E_i} be this Monte Carlo estimate of the energy distribution (number of emitted particles per MeV per steradian per collision) averaged over a specified angular interval at the energy E_i and let $F(E)$, the assumed analytic form of the distribution, be defined by

$$F(E) = \frac{1}{E_0} \exp \left[\sum_{j=0}^{\nu} a_j \left(\frac{E}{E_0} \right)^j \right], \quad (3)$$

where E_0 is the energy of the incident particle. It is to be understood

*This procedure was varied slightly in the very highest energy interval in each histogram. The complete details of the analysis procedure are given in Appendix 1.

that F_{E_i} and the function $F(E)$ depend on the type of incident particle, the energy of the incident particle, the element considered, the type of emergent particle, and on the angular interval used in carrying out the average. To determine the coefficient, R was defined by the equation,

$$R = \sum_{E_i} \left[\log(E_o F_{E_i}) - \sum_{j=0}^{\nu} a_j \left(\frac{E_i}{E_o} \right)^j \right]^2, \quad (4)$$

and was minimized with respect to the a_j 's.

In the calculations, ν was in general taken to be 5 or to be the number of histogram intervals minus 2 when there were less than seven intervals in the histogram.* In some cases, however, this large number of parameters led to excessive oscillation in the fitted distributions. To avoid this, the derivative of Eq. 3 was tested for sign changes and only two such changes were allowed. If more than two occurred, the fit was recalculated with ν reduced by 1 and the test was reapplied. This procedure was continued until a satisfactory fit was obtained or until $\nu = 2$ was reached. If $\nu = 2$ was reached, the fit was accepted without further testing.

In Figs. 2-5 the smooth curves obtained with the analytic fit are compared with the Monte Carlo histograms for the case of neutrons emitted from 400-MeV protons on aluminum in the angular intervals $0-30^\circ$, $30-60^\circ$, $60-90^\circ$, and $90-180^\circ$, respectively. The comparisons shown in these figures are similar to the comparisons in the other cases.

*See Appendix 1.

The coefficients for all of the cases considered are given in Tables 2 through 41.* At the top of each table, the type of incident particle, the element, and the type of emitted particle are given. The first column in the table gives the incident energy, E_0 , the second column gives the laboratory angular interval over which the data were averaged, and columns three through eight give the coefficients. When these coefficients are used in Eq. 3, the function F has the units number per MeV per steradian per collision. Here and throughout the tables the coefficients are given with eight significant figures. This is, of course, more than is justified by either the Monte Carlo data or the accuracy of the fits. The numbers given, however, are those which were used in calculating the smooth curves in the graphs. If the coefficients are truncated, curves different from those shown in the graphs may occur. At the top of each table, E_{MIN} is given and, in the last column of each table, E_{MAX} divided by E_0 is given. This E_{MIN} is a parameter which occurs in the calculations of Bertini and represents the energy below which no cascade particles are emitted. The quantity, E_{MAX} , gives the highest energy considered in doing the fitting - that is, it is the highest energy point fitted in a given angular interval. It must be understood that if the analytic functions are used outside of the energy interval E_{MIN} to E_{MAX} , very erratic behavior may occur. Finally, columns nine and ten give the number of particles of a given type emitted per collision in a given angular region and the sum of the energy of these particles divided by E_0 , respectively. The values in these columns are obtained using the fitted functions and the equations

*Values of χ^2 for each of the fits are given in Appendix 2.

$$\text{No. of Emitted Particles} = 2\pi[\cos \theta_1 - \cos \theta_2] \int_{E_{\text{MIN}}}^{E_{\text{MAX}}} F(E) dE \quad (5)$$

and

$$\text{Energy of Emitted Particles}/E_0 = \frac{2\pi[\cos \theta_1 - \cos \theta_2]}{E_0} \int_{E_{\text{MIN}}}^{E_{\text{MAX}}} EF(E) dE, \quad (6)$$

where θ_1 and θ_2 are the angular limits given in column two.

In those places in the tables where only three coefficients are given, the fits must be considered somewhat more approximate than when more coefficients are given. In a few cases, all of the coefficients are given to be zero. When this occurs, it means that so few particles were emitted in a given angular interval that the Monte Carlo results were not considered statistically significant and no attempt was made to obtain a fit. In these cases, the number of emitted particles is still given in column nine of the tables for comparison purposes. This number, of course, is not obtained from Eq. 5 but is taken directly from the Monte Carlo results.

B. Evaporation Neutron- and Proton-Emission Spectra

The procedure used to fit the neutron- and proton-evaporation spectra is very similar to that used in the case of the cascade spectra. The Monte Carlo results presented by Bertini give the emission spectra integrated over all angles in the form of a histogram with equal energy intervals.* The equal energy intervals were again found to be inconvenient so a histogram was constructed with unequal energy intervals determined in such a way that the probability for a particle to be emitted in each interval was the

*The evaporation particles are by assumption emitted isotropically.

same.* Within each interval, the central energy, determined by the condition that a particle within the interval be equally likely to be above and below this energy, was obtained and the histogram value was taken to be an estimate of the energy distribution at this central energy.

The analytic function, $G(E)$, used for the fitting was defined by

$$G(E) = \frac{1}{25} \exp \left[\sum_{j=0}^{\nu} a_j \left(\frac{E}{25} \right)^j \right], \quad (7)$$

and the coefficients were determined by requiring that the quantity R , defined as in Eq. 4 with E_0 replaced by 25, be a minimum. A scaling factor of 25 was used because evaporation particles with energy higher than this were not considered in the Bertini calculations. The fitting procedure was exactly the same as in the case of the cascade spectra.

In Figs. 6 and 7 the smooth curves obtained with the analytic fit are compared with the Monte Carlo histograms for neutrons and protons, respectively, emitted from 400-MeV protons on aluminum. The comparisons shown in the figures are similar to the comparisons in the other cases. In particular, the failure of the analytic curve to reproduce well the low-energy portion of the histogram in the case of evaporation protons, Fig. 7, should be noted because this is generally true of all of the fits to the evaporation proton spectra.

The coefficients for all of the cases considered are given in Tables 42 through 61.** At the top of each table the type of incident particle and the element are given. Each table contains the coefficients for both emitted

*The details of this analysis are given in Appendix 1.

**Values of χ^2 for each of the fits are given in Appendix 2.

protons and emitted neutrons. The first column in each table gives the incident energy E_0 , and columns two through seven give the coefficients which occur in Eq. 7. When these coefficients are used, $G(E)$ has units number per MeV per collision. Columns eight and nine give the number of emitted particles and the energy of the emitted particles divided by E_0 . These quantities were determined using the fitted functions and the equations

$$\text{No. of Emitted Particles} = \int_{E_{\text{MIN}}}^{E_{\text{MAX}}} G(E) dE \quad (8)$$

and

$$\text{Energy of Emitted Particles}/E_0 = \frac{1}{E_0} \int_{E_{\text{MIN}}}^{E_{\text{MAX}}} EG(E) dE, \quad (9)$$

where

E_{MAX} = the highest energy point considered in the fitting,

E_{MIN} = the lowest energy particle emitted in the Monte Carlo studies.

The values of E_{MAX} and E_{MIN} divided by E_0 are given in columns ten and eleven, respectively. As before, the analytic functions are to be used only between the energies E_{MIN} and E_{MAX} .

In those places in the tables where only three coefficients are given, the fits must be considered very approximate. In some cases, all of the coefficients are given to be zero. When this occurs, it means that so few particles of a given type were omitted that the Monte Carlo results were not considered statistically significant, and no attempt was made to obtain a fit. In these cases, the number of emitted particles is still given in column eight of the tables. This number, of course, is not obtained from Eq. 8 but is taken directly from the Monte Carlo results.

C. Cascade Neutron- and Proton-Emission Spectra Integrated Over All Angles

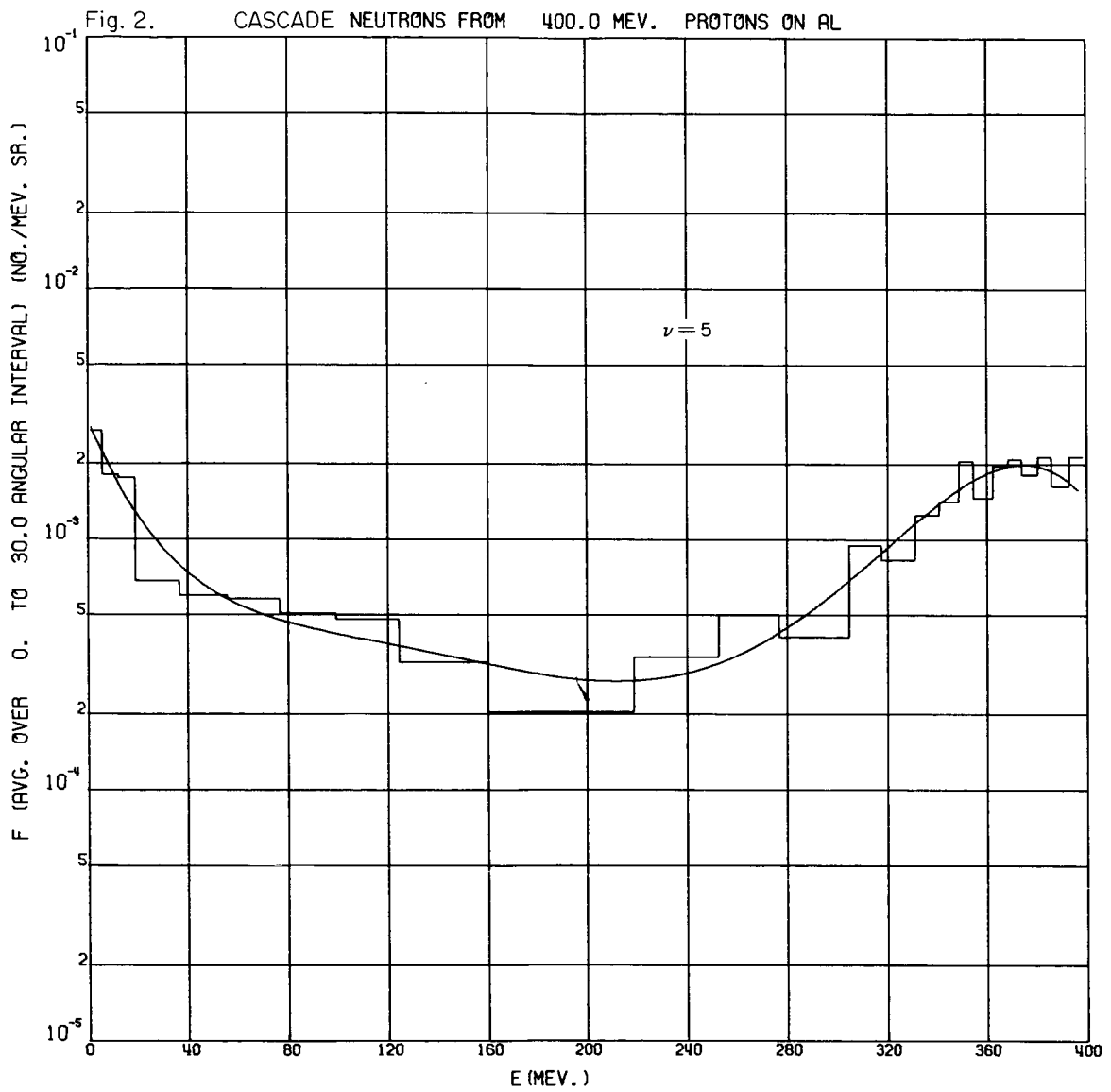
The cascade particle-emission spectra integrated over all angles can be obtained directly from the results given in section A. The spectra obtained in this manner, however, contain many more parameters than are required to obtain a reasonable fit. To avoid this, the Monte Carlo results were integrated over angles and the resulting spectra were fitted separately.

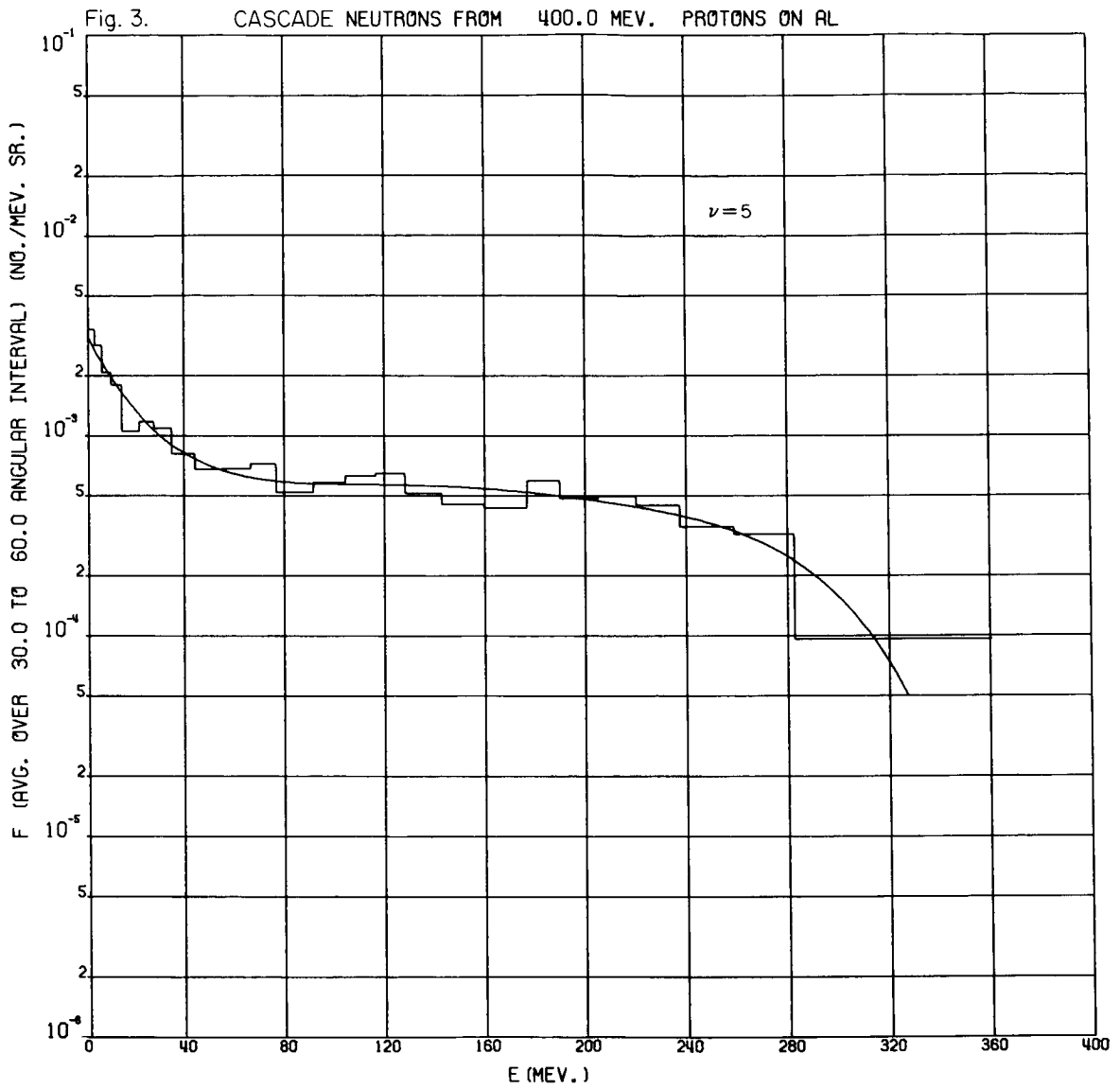
The procedure used to form the histograms from the angle-integrated Monte Carlo data and to fit the histograms was the same as described in section A.

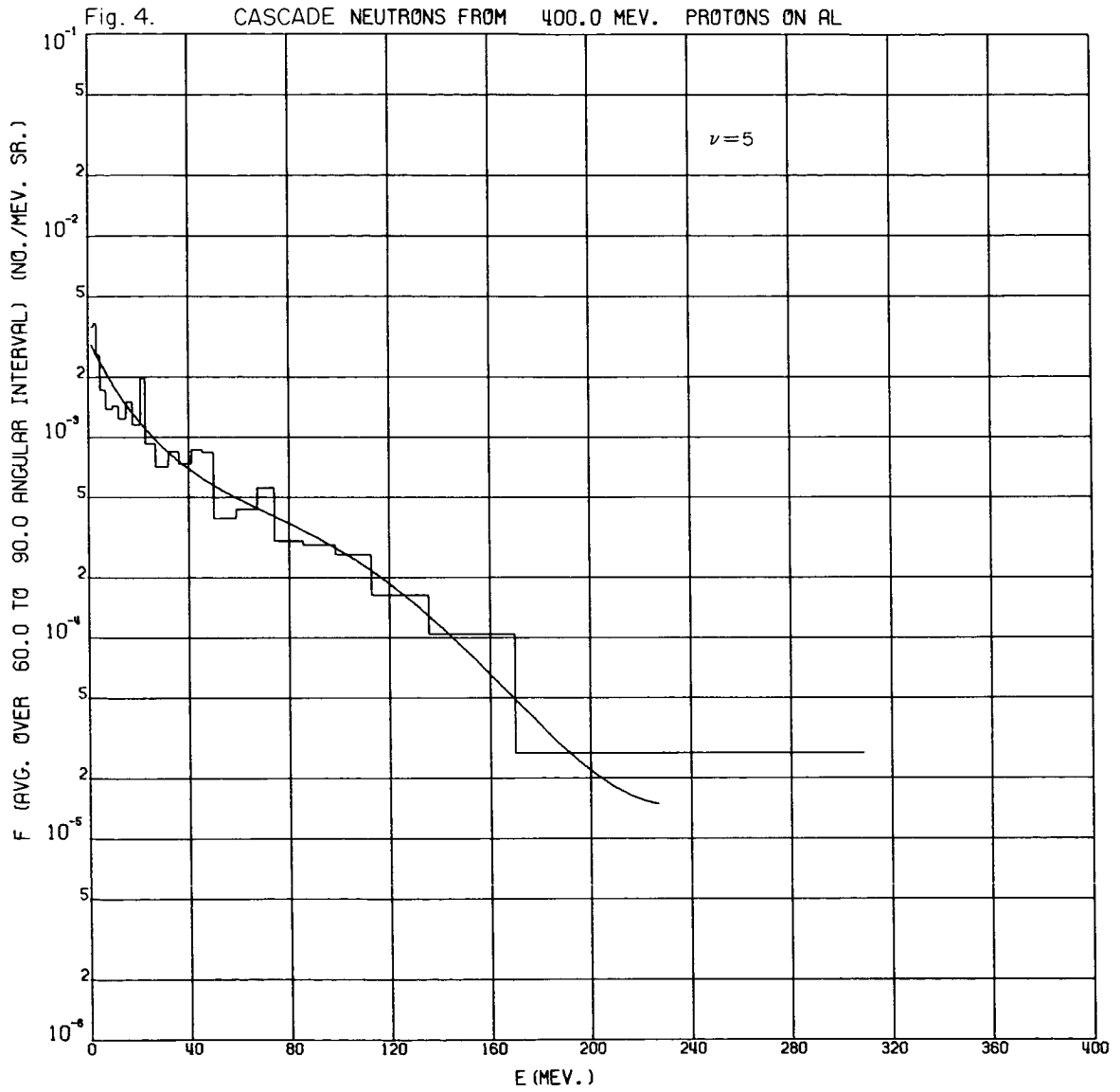
In Figs. 8 and 9 the analytic fits are compared with the Monte Carlo histograms for cascade protons and neutrons, respectively, emitted from 400-MeV protons on aluminum.

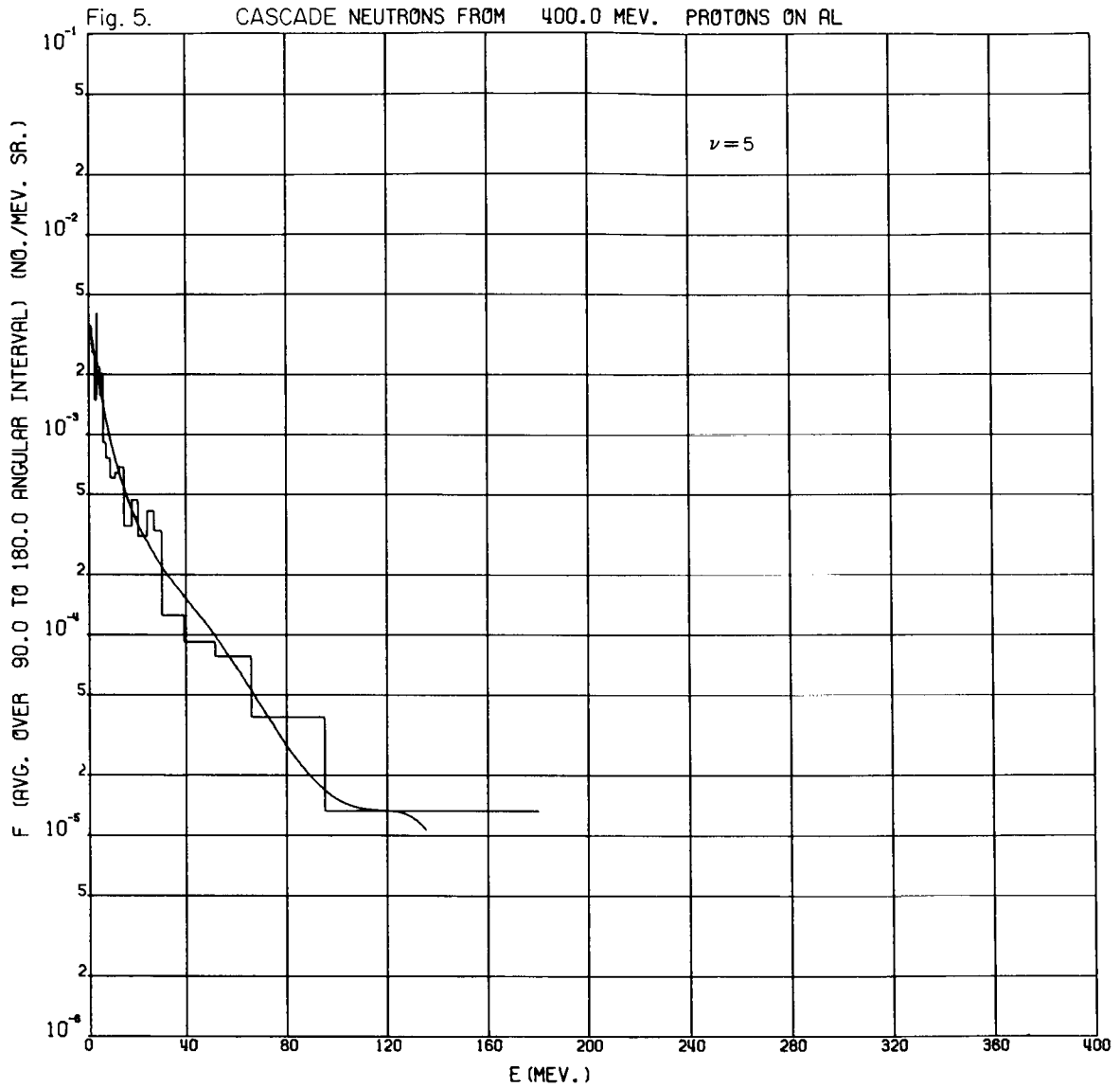
The coefficients for all of the cases considered are given in Tables 62 through 81.* These coefficients are to be used in conjunction with the function F defined in Eq. 4. When this is done, F has the units number per MeV per collision. It is important to note that in this section F is not expressed per steradian as in section A. The quantity E_{MAX}/E_0 , given in the last column in the tables, has the same meaning as before. In the case of the angle-integrated data, however, E_{MAX} is very close to E_0 , and one may with impunity take the analytic function to be valid from E_{MIN} to E_0 .

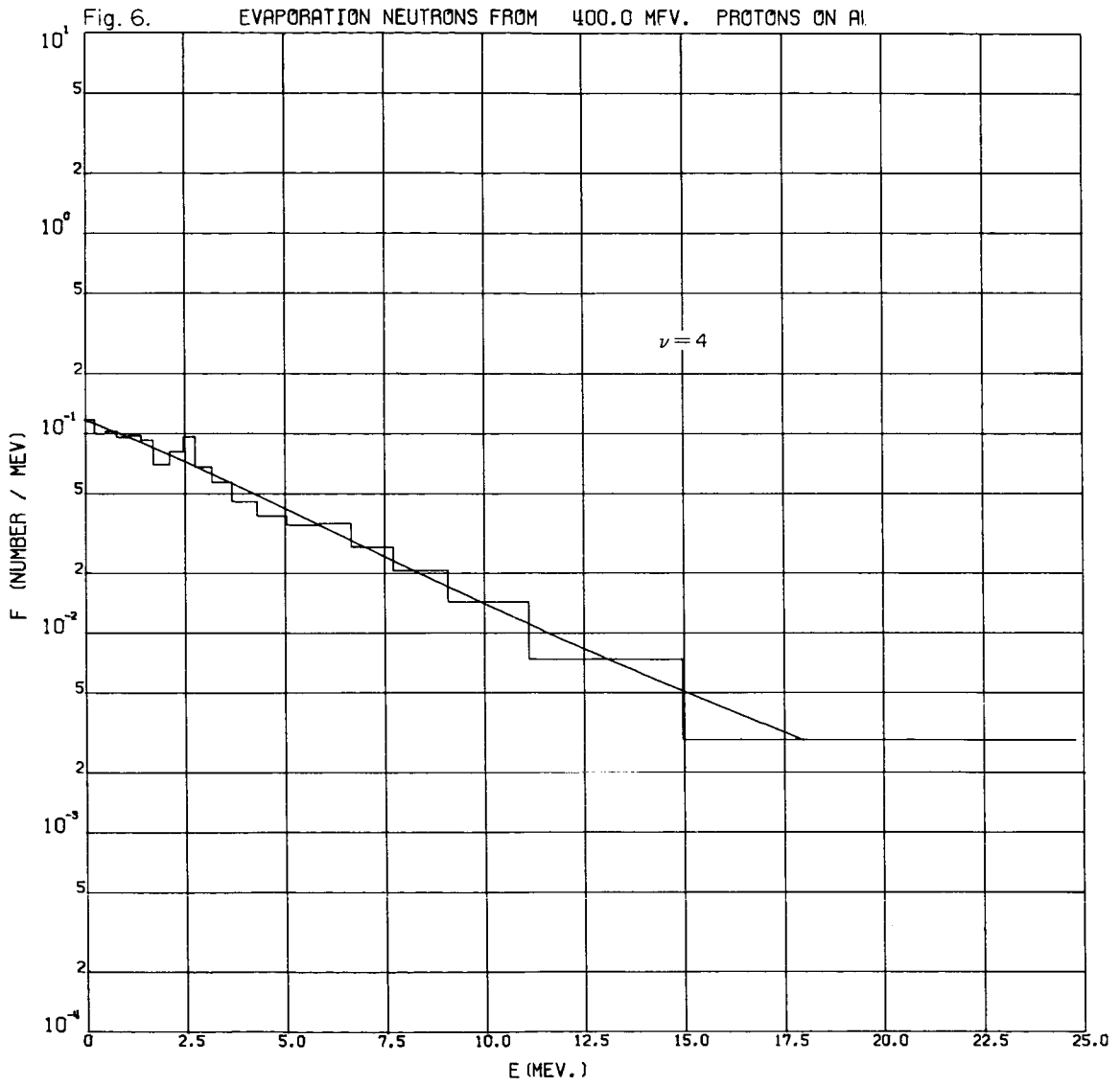
* Values of χ^2 for each of the fits are given in Appendix 2.

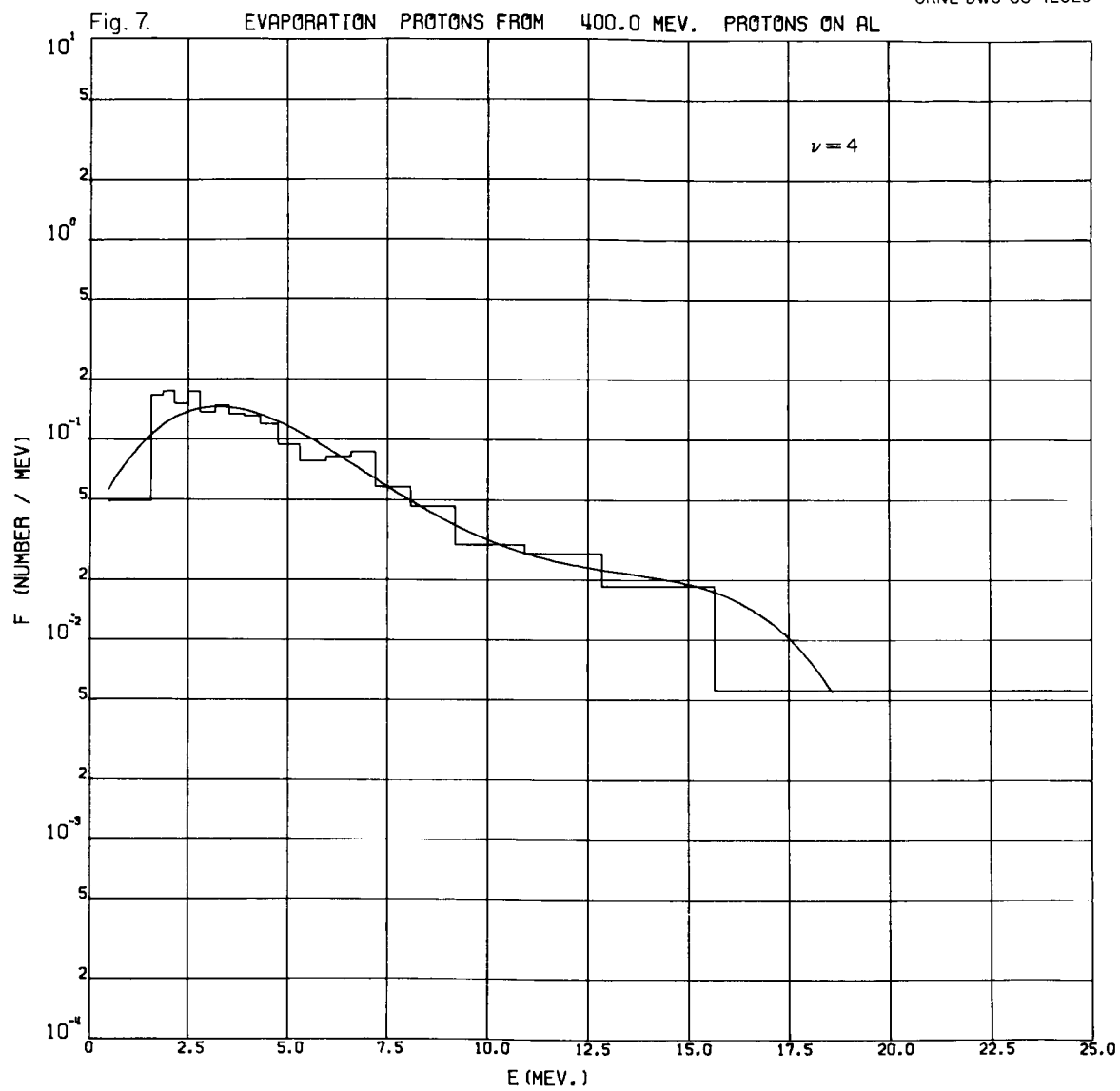


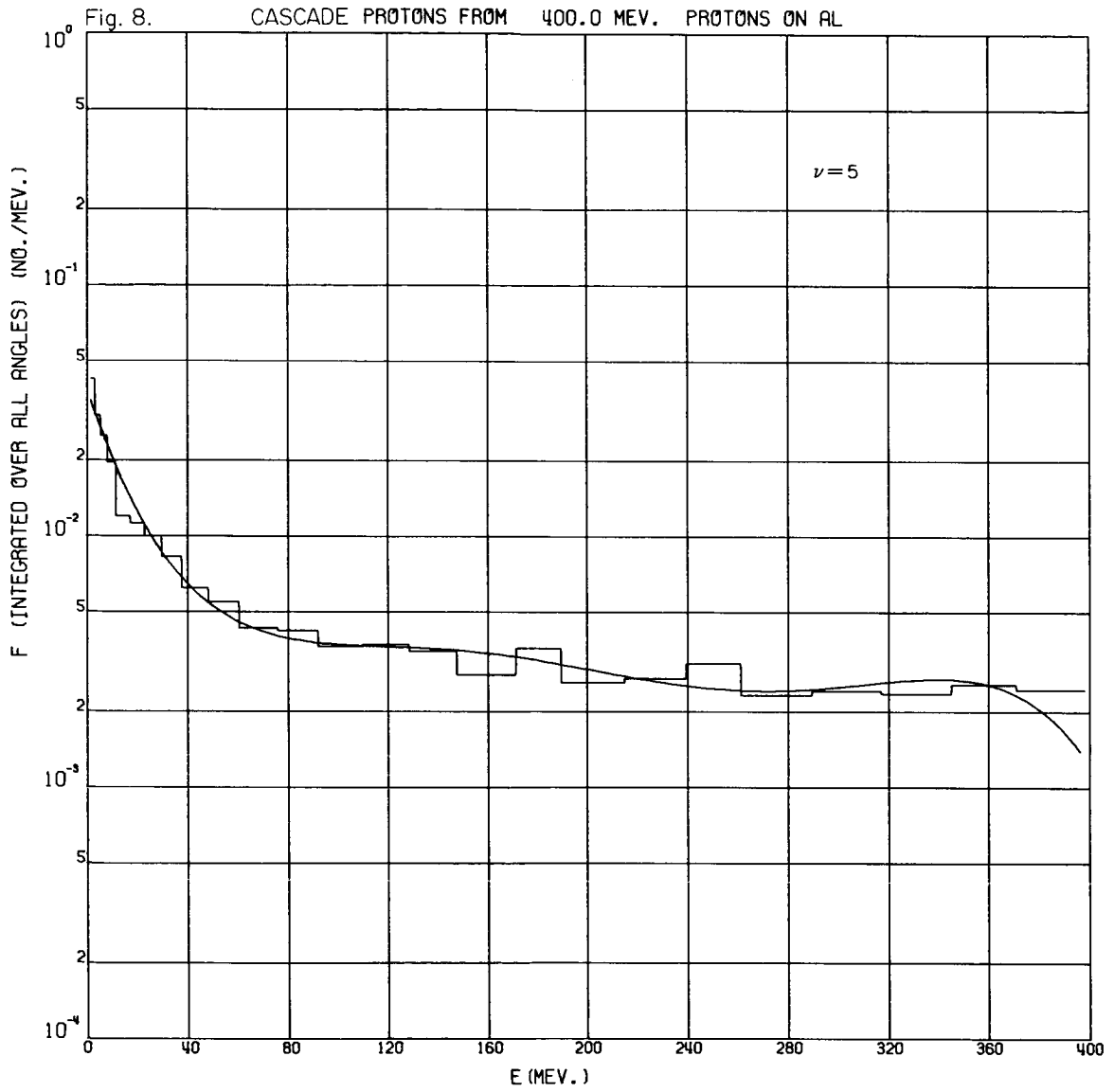












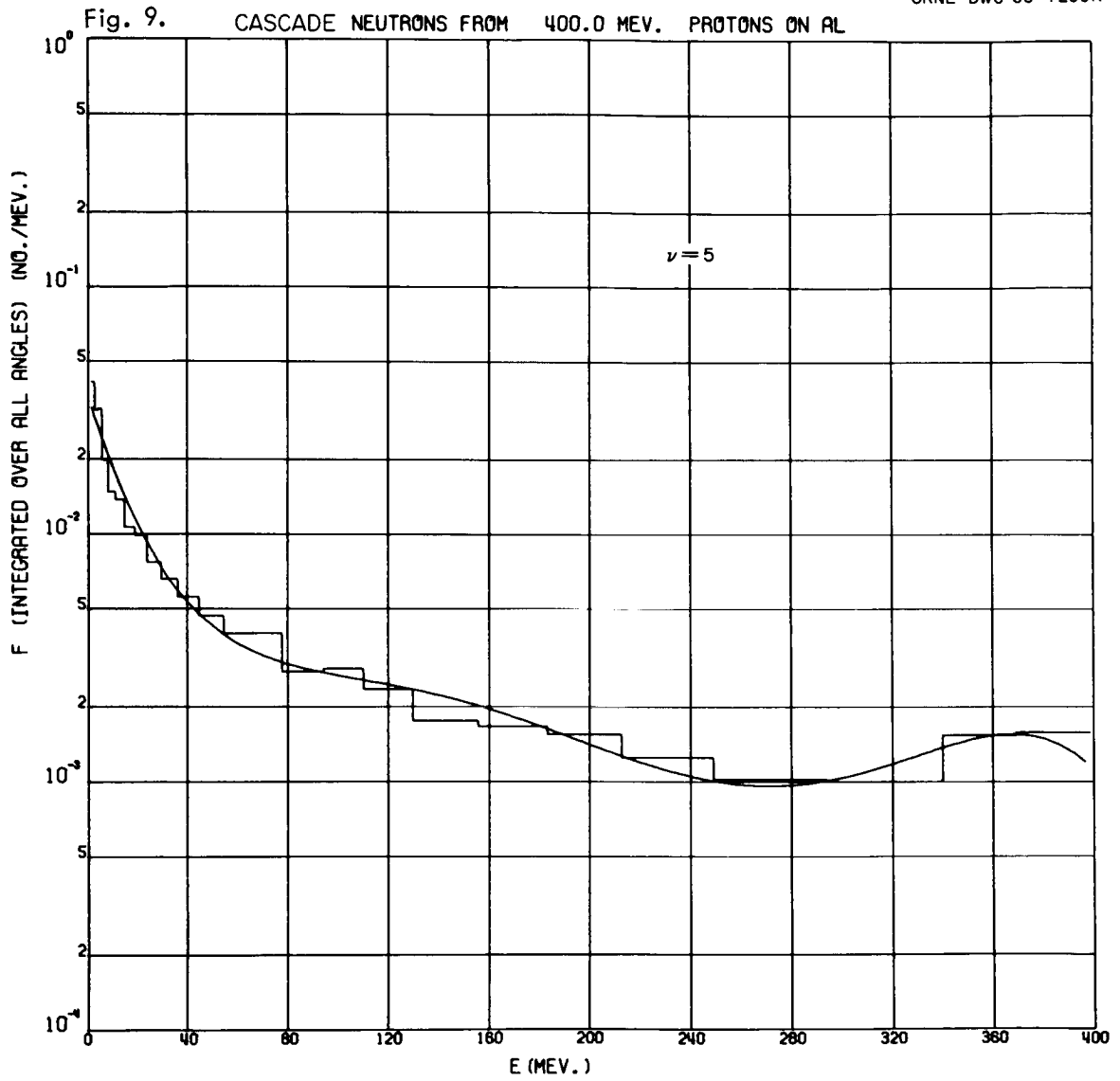


TABLE 2

PROTONS INCIDENT ON C

PROTONS EMITTED

E_{MIN} = 0.871 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	E _{MAX} /EO
25	0 - 30	-8.5691998E-01	-7.5378271E 00	4.5838436E 01	-1.3247572E 02	1.7372342E 02	-8.1701970E 01	0.216	0.1099	0.970
	30 - 60	-9.5104126E-01	-8.2395041E 00	3.7884267E 01	-9.6386168E 01	1.1412534E 02	-5.1486025E 01	0.267	0.0967	0.936
	60 - 90	-1.7687520E 00	-8.0599773E 00	1.7947550E 01	-2.26500403E 01	0.	0.	0.082	0.0179	0.669
	90 -180	-2.8071375E 00	-1.9574357E 01	2.6459595E 01	0.	0.	0.	0.013	0.0015	0.312
50	0 - 30	-4.0878630E-01	-1.1635458E 01	4.9882014E 01	-1.1650389E 02	1.4188148E 02	-6.4933754E 01	0.267	0.1483	0.979
	30 - 60	-4.6903782E-01	-9.8069066E 00	3.6827431E 01	-6.0390967E 01	4.1133675E 01	-1.2093131E 01	0.415	0.1413	0.914
	60 - 90	-1.1304217E 00	-5.5002590E 00	7.8752310E-01	1.3978356E 00	0.	0.	0.161	0.0299	0.632
	90 -180	-2.4145950E 00	-8.1987741E 00	-2.1983695E 02	2.6371110E 03	-4.6563175E 03	0.	0.039	0.0042	0.292
100	0 - 30	-7.9889131E-01	-2.1272405E 00	-1.7475918E 01	5.6968371E 01	-4.2543002E 01	5.1737797E 00	0.323	0.1996	0.981
	30 - 60	-4.2616225E-01	-1.0055266E 01	4.7709376E 01	-1.0688649E 02	1.1486048E 02	-5.0669546E 01	0.527	0.1907	0.928
	60 - 90	-7.9464953E-01	-8.5273607E 00	4.7310874E 01	-1.9649988E 02	3.0591149E 02	-1.6255996E 02	0.244	0.0415	0.640
	90 -180	-1.8096047E 00	2.1292897E 00	-3.8127007E 02	2.6328694E 03	-5.1124504E 03	0.	0.080	0.0071	0.290
150	0 - 30	-3.4806161E-01	-1.7760093E 01	7.1989421E 01	-1.4770865E 02	1.633863E 02	-7.0141693E 01	0.328	0.2170	0.983
	30 - 60	-2.6131960E-02	-1.9603422E 01	9.6519133E 01	-1.9480458E 02	1.7737479E 02	-6.4419003E 01	0.594	0.2265	0.932
	60 - 90	-8.3851960E-01	-3.7642151E-02	-6.7902844E 01	3.9609061E 02	-9.1225911E 02	6.8840545E 02	0.287	0.0481	0.562
	90 -180	-1.5232063E 00	-1.4933819E-01	-3.8439146E 02	2.9430111E 03	-6.2482513E 03	0.	0.103	0.0086	0.295
200	0 - 30	-2.6918924E-01	-1.6986113E 01	8.0539217E 01	-1.9077976E 02	2.292632E 02	-9.5895567E 01	0.382	0.2508	0.985
	30 - 60	-2.2487539E-01	-1.5410727E 01	8.960836E 01	-2.1386445E 02	2.2939384E 02	-9.6075760E 01	0.658	0.2428	0.910
	60 - 90	-6.2964461E-05	-3.6725246E 01	3.6818480E 02	-1.6230883E 03	3.0277121E 03	-2.0329974E 03	0.298	0.0472	0.540
	90 -180	-1.1313197E 00	-2.1189814E 01	-1.6595609E 01	2.3476078E 02	7.5262884E 02	-3.5312777E 03	0.100	0.0070	0.309
250	0 - 30	-1.1028087E-01	-2.0090367E 01	8.3970348E 01	-1.7319613E 02	1.8692634E 02	-7.7758076E 01	0.396	0.2665	0.986
	30 - 60	-1.9483491E-02	-1.9131129E 01	9.9594479E 01	-2.0636239E 02	1.8668733E 02	-6.4958091E 01	0.669	0.2541	0.935
	60 - 90	2.7990338E-01	-3.4169607E 01	2.6613443E 02	-9.5917417E 02	1.4902884E 03	-8.6107594E 02	0.333	0.0491	0.561
	90 -180	-6.1215410E-01	-3.7296621E 01	1.6695542E 02	-3.3219072E 02	0.	0.	0.119	0.0067	0.244
300	0 - 30	-4.8552451E-01	-1.4419783E 01	5.2389699E 01	-1.0916548E 02	1.3620370E 02	-6.5024361E 01	0.396	0.2756	0.988
	30 - 60	5.1310080E-02	-2.0609955E 01	1.1090217E 02	-2.4100266E 02	2.3658191E 02	-9.2935102E 01	0.678	0.2476	0.862
	60 - 90	-0.0379192E-01	-1.0674015E 01	4.4467753E 01	-1.2610792E 02	1.0309030E 02	0.	0.366	0.0526	0.501
	90 -180	-8.0009060E-02	-7.6631209E 01	1.1535279E 03	-9.7256211E 03	3.8277031E 04	-5.6131824E 04	0.148	0.0086	0.265
350	0 - 30	-1.6143008E-01	-2.1618661E 01	7.9937379E 01	-1.4330009E 02	1.4478094E 02	-5.9689977E 01	0.412	0.2917	0.988
	30 - 60	-2.2256807E-01	-1.7462958E 01	1.0237526E 02	-2.23956047E 02	2.5301446E 02	-1.0566499E 02	0.670	0.2510	0.864
	60 - 90	3.0363694E-01	-3.328507E 01	3.0544580E 02	-1.2369979E 03	2.0305832E 03	-1.1900295E 03	0.379	0.0498	0.486
	90 -180	-4.9926931E-01	-3.6362541E 01	1.7327459E 02	-3.717925E 02	0.	0.	0.147	0.0089	0.299
400	0 - 30	-1.1453650E-01	-2.5263432E 01	9.1412945E 02	-2.5258034E 02	2.8037346E 02	-1.1700086E 02	0.449	0.3142	0.993
	30 - 60	-2.2630990E-01	-1.64647969E 01	9.3392775E 01	-2.1468226E 02	2.2742764E 02	-9.7616613E 01	0.698	0.2656	0.847
	60 - 90	2.6174633E-01	-3.5131077E 01	3.1545530E 02	-1.2399651E 03	1.9657338E 03	-1.0950273E 03	0.347	0.0457	0.505
	90 -180	1.1778578E-02	-6.9616796E 01	8.7423337E 02	-6.2526258E 03	1.9753714E 04	-2.2224137E 04	0.156	0.0075	0.257

TABLE 3

PROTONS INCIDENT ON C

NEUTRONS EMITTED

EMIN = 0.871 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-9.5590663E-01	-4.5183991E 00	3.5607933E 00	1.1011791E 01	-1.1766952E 01	0.	0.158	0.0761	0.956
	30 - 60	-1.1009957E 00	-7.3391964E 00	1.9927313E 01	-2.4654427E 01	7.8566708E 00	0.	0.195	0.0637	0.890
	60 - 90	-2.6607164E 00	3.8974260E-01	-1.6497412E 01	1.2466906E 01	0.	0.	0.051	0.0099	0.590
	90 - 180	0.	0.	0.	0.	0.	0.	0.011		
50	0 - 30	-4.5376557E-01	-1.4243355E 01	6.5034734E 01	-1.5892631E 02	1.9618843E 02	-9.0582103E 01	0.195	0.1017	0.969
	30 - 60	-7.1038973E-01	-5.4997330E 00	-8.4245489E-01	4.3052529E 01	-7.8036438E 01	3.7565109E 01	0.301	0.0929	0.891
	60 - 90	-5.2135388E-01	-3.9443751E 01	2.8705598E 02	-9.3114734E 02	1.2940868E 03	-6.5926449E 02	0.110	0.0197	0.568
	90 - 180	-2.5743806E 00	-1.5642381E 01	1.0403616E 01	0.	0.	0.	0.025	0.0022	0.281
100	0 - 30	-6.2922381E-01	-6.7831390E 00	3.0194557E 01	-7.5321538E 01	1.0548619E 02	-5.2322251E 01	0.217	0.1198	0.970
	30 - 60	-2.9465996E-01	-1.3581448E 01	4.9387951E 01	-8.1420766E 01	5.8630629E 01	-1.7685803E 01	0.352	0.1085	0.883
	60 - 90	-6.5857021E-01	-1.4700089E 01	5.6388902E 01	-1.4918183E 02	1.3205727E 02	0.	0.166	0.0230	0.539
	90 - 180	-1.7446279E 00	-2.3535149E 01	1.60128575E 02	-6.7176456E 02	3.9444701E 03	-7.9992583E 03	0.062	0.0058	0.306
150	0 - 30	-1.3853115E-01	-1.6278360E 01	5.2977988E 01	-9.6097251E 01	1.6430623E 02	-4.5358881E 01	0.265	0.1615	0.986
	30 - 60	-5.1348392E-01	-8.1252471E 00	1.7311132E 01	-1.3253107E 01	0.	0.	0.362	0.1153	0.879
	60 - 90	-1.0566958E 00	-5.3001658E 00	-2.7886696E 00	1.1898384E 01	-2.0083162E 01	6.7105656E 00	0.183	0.0292	0.603
	90 - 180	-1.4160738E 00	-2.8080174E 01	1.8736615E 02	-7.2260351E 02	8.4137732E 02	0.	0.085	0.0068	0.304
200	0 - 30	-3.0406267E-01	-2.6501157E 01	1.2304229E 02	-2.5730821E 02	2.5955693E 02	-9.9235229E 01	0.232	0.1498	0.989
	30 - 60	-8.5083586E-01	-8.3064127E 00	1.8109577E 01	-1.1402876E 01	-6.1144775E 01	3.7223496E 01	0.323	0.1122	0.896
	60 - 90	-3.0010297E-01	-2.0896576E 01	1.0156321E 02	-2.6001504E 02	2.2351775E 02	0.	0.208	0.0281	0.501
	90 - 180	-5.0364938E-01	-4.9549641E 01	1.9437879E 02	1.2451546E 02	-1.5381715E 03	0.	0.094	0.0052	0.271
250	0 - 30	-6.4682841E-01	-1.3520266E 01	3.5704291E 01	-4.9059849E 01	5.1082735E 01	-2.4185569E 01	0.217	0.1392	0.986
	30 - 60	-2.8134897E-01	-1.6616923E 01	6.0269063E 01	-8.6758106E 01	5.1040837E 01	-1.4696904E 01	0.344	0.1091	0.851
	60 - 90	-3.5730610E-01	-1.3511689E 01	3.7010774E 01	-5.2563304E 01	0.	0.	0.241	0.0322	0.516
	90 - 180	-6.6686890E-01	-4.9333935E 01	3.7454073E 02	-1.3346156E 03	0.	0.	0.089	0.0039	0.177
300	0 - 30	-8.5030524E-01	-6.8547991E 00	5.7980288E-01	2.4177150E 01	-1.7241501E 01	0.	0.248	0.1635	0.989
	30 - 60	-5.3622465E-01	-1.0871566E 01	2.96845119E 01	-1.5461935E 01	-3.2921530E 01	2.5334938E 01	0.335	0.1019	0.787
	60 - 90	-7.7628697E-02	-2.5239391E 01	8.8691708E 01	1.5627933E 02	-1.3438702E 03	1.6093769E 03	0.222	0.0273	0.451
	90 - 180	-1.5136177E 00	4.8287525E 01	-3.0702515E 03	4.6962098E 04	-2.8612798E 05	5.9864481E 05	0.085	0.0039	0.178
350	0 - 30	-1.3793267E-02	-2.2535653E 01	6.8841825E 01	-1.0868668E 02	1.0539013E 02	-4.2222875E 01	0.222	0.1425	0.985
	30 - 60	-3.5075924E-01	-1.8548351E 01	9.0375091E 01	-1.9501941E 02	-2.0797891E 02	9.5090554E 01	0.348	0.1134	0.813
	60 - 90	-3.0694675E-02	-2.6323588E 01	1.3647552E 02	-2.1116958E 02	-3.8333657E 02	7.9059005E 02	0.236	0.0281	0.463
	90 - 180	-8.0064913E-01	-3.0825378E 01	1.0629860E 02	-1.63181854E 02	0.	0.	0.121	0.0078	0.302
400	0 - 30	-5.8170930E-01	-1.3855962E 01	3.1691721E 01	-2.3553548E 01	6.3182510E 00	0.	0.230	0.1508	0.993
	30 - 60	1.0692820E-01	-3.0223934E 01	1.8642345E 02	-5.1388386E 02	6.5017868E 02	-3.0776375E 02	0.352	0.1039	0.811
	60 - 90	-4.3722609E-01	-7.92711375E 00	-6.9500753E 01	5.7682145E 02	-1.3082308E 03	6.9553389E 02	0.219	0.0249	0.409
	90 - 180	-3.9024346E-01	-7.5185920E 01	1.8428427E 03	-2.5476637E 04	1.49553672E 05	-3.0561161E 05	0.128	0.0065	0.237

TABLE 4
NEUTRONS INCIDENT ON C
PROTONS EMITTED
EMIN = 0.871 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-6.4117976E-01	-8.6290736E 00	2.1393483E 01	-1.5314557E 01	0.	0.	0.156	0.0699	0.916
	30 - 60	-1.7182376E 00	3.0424412E 00	-3.4093238E 01	8.9384487E 01	-9.4470520E 01	3.1912042E 01	0.189	0.0627	0.886
	60 - 90	2.9518770E-01	-7.7704060E 01	7.7895681E 02	-3.6479889E 03	7.5845647E 03	-5.7158269E 03	0.065	0.0119	0.551
	90 -180	0.	0.	0.	0.	0.	0.	0.012	0.	0.
50	0 - 30	-5.6122807E-01	-7.7591252E 00	1.4648871E 01	-7.4770729E 00	0.	0.	0.193	0.0968	0.962
	30 - 60	-5.81113226E-01	-6.9960666E 00	5.2881505E 00	1.9799778E 01	-4.0799161E 01	1.8926803E 01	0.282	0.0841	0.926
	60 - 90	-1.0189220E 00	-1.4339928E 01	6.2858148E 01	-1.6046026E 02	1.2505679E 02	0.	0.124	0.0199	0.597
	90 -180	-2.6188844E 00	-2.1386651E 01	8.6126248E 01	-1.5809745E 02	0.	0.	0.026	0.0026	0.270
100	0 - 30	-4.5043561E-01	-1.1340608E 01	2.9154161E 01	-4.4473137E 01	5.3750681E 01	-2.7875702E 01	0.225	0.1295	0.984
	30 - 60	-7.0139371E-01	-6.4216444E 00	-1.4271822E 01	1.2537734E 02	-2.1024852E 02	1.0306785E 02	0.315	0.1059	0.896
	60 - 90	-4.1967847E-01	-2.0055805E 01	9.0177184E 01	-1.5949410E 02	1.3719026E 02	0.	0.188	0.0283	0.578
	90 -180	-7.2326279E-01	-7.7947981E 01	9.0112027E 02	-4.3506297E 03	6.7942827E 03	0.	0.067	0.0053	0.256
150	0 - 30	-3.3661134E-01	-2.8007717E 01	1.4889149E 02	-3.5485067E 02	3.9539030E 02	-1.6287404E 02	0.226	0.1425	0.976
	30 - 60	-3.7875932E-01	-1.6019848E 01	7.2828984E 01	-1.5433484E 02	1.5992653E 02	-6.9394302E 01	0.344	0.1091	0.839
	60 - 90	-2.4809762E-01	-4.0633004E 01	3.8801233E 02	-1.6856957E 03	3.2163233E 03	-2.2643225E 03	0.194	0.0312	0.535
	90 -180	-1.3372796E 00	-1.6490154E 01	-1.12988376E 01	-2.7322538E 01	3.7490783E 02	0.	0.085	0.0052	0.269
200	0 - 30	-2.4993150E-01	-1.8274240E 01	7.2070588E 01	-1.5592774E 02	1.7958195E 02	-7.8621203E 01	0.246	0.1514	0.983
	30 - 60	-5.9512441E-01	-1.0810527E 01	4.3260031E 01	-7.7022272E 01	5.9564553E 01	-1.9181827E 01	0.363	0.1174	0.852
	60 - 90	1.1479608E-01	-4.6371657E 01	5.0038502E 02	-2.5995629E 03	6.0330532E 03	-5.1511379E 03	0.222	0.0298	0.455
	90 -180	-1.2573084E 00	-1.92266301E 01	1.2484397E 01	-1.3842904E 01	0.	0.	0.090	0.0050	0.247
250	0 - 30	-7.8771110E-01	-1.4453869E 01	5.6066197E 01	-1.1574134E 02	1.2698621E 02	-5.2410541E 01	0.215	0.1416	0.993
	30 - 60	-5.2519155E-02	-2.4414937E 01	1.3313731E 02	-3.2080369E 02	3.5883520E 02	-1.5381467E 02	0.371	0.1150	0.851
	60 - 90	-6.6513354E-02	-3.0491963E 01	2.8895524E 02	-1.4836621E 03	3.3241898E 03	-2.7020325E 03	0.227	0.0269	0.482
	90 -180	-5.9932761E-01	-4.0606412E 01	2.0345147E 02	-4.7629328E 02	0.	0.	0.111	0.0059	0.250
300	0 - 30	-1.2159360E-01	-2.1731345E 01	7.8681130E 01	-1.4409672E 02	1.4343592E 02	-5.6490879E 01	0.246	0.1579	0.988
	30 - 60	-3.7193603E-01	-1.6553072E 01	6.3703451E 01	-1.1059728E 02	1.0029305E 02	-4.6061453E 01	0.321	0.1020	0.829
	60 - 90	-2.8208230E-01	-2.8063827E 01	2.5518559E 02	-1.2202931E 03	2.5585526E 03	-1.9154318E 03	0.212	0.0284	0.520
	90 -180	-5.4376391E-01	-7.9226521E 01	2.00098954E 03	-3.0054446E 04	2.0322205E 05	-4.9468843E 05	0.104	0.0053	0.184
350	0 - 30	4.9973676E-03	-2.5870804E 01	1.2477932E 02	-2.9986539E 02	3.3845728E 02	-1.3787044E 02	0.239	0.1526	0.993
	30 - 60	7.3580483E-02	-3.4102023E 01	2.1108432E 02	-5.8862568E 02	7.7569330E 02	-3.9378913E 02	0.341	0.1103	0.766
	60 - 90	7.0846651E-02	-3.2576236E 01	2.2428352E 02	-7.1769189E 02	7.5546959E 02	-4.0808124E 01	0.218	0.0233	0.413
	90 -180	-5.9619313E-01	-5.3074278E 01	4.9380922E 02	-1.9365708E 03	0.	0.	0.103	0.0047	0.185
400	0 - 30	-6.6414855E-01	-9.8006985E 00	2.6002760E 02	-5.7225648E 01	8.2484237E 01	-4.1018071E 01	0.234	0.1501	0.920
	30 - 60	-2.0020833E-01	-2.2868510E 01	1.2106427E 02	-2.7775533E 02	2.8624358E 02	-1.1444596E 02	0.330	0.0979	0.820
	60 - 90	1.4867976E-01	-4.2491537E 01	4.3383504E 02	-2.0681772E 03	4.2879112E 03	-3.2866829E 03	0.248	0.0299	0.448
	90 -180	-3.3305976E-01	-6.9980804E 01	8.1158859E 02	-4.3627996E 03	7.8309917E 03	0.	0.119	0.0064	0.215

TABLE 5

NEUTRONS INCIDENT ON C

NEUTRONS EMITTED

EMIN = 0.871 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-7.6493350E-01	-8.6013533E 00	4.210594E 01	-1.0521529E 02	1.3237319E 02	-6.3241627E 01	0.206	0.1032	0.960
	30 - 60	-6.8448551E-01	-1.2403641E 01	6.8768542E 01	-1.9225215E 02	2.3739658E 02	-1.0654224E 02	0.274	0.0956	0.923
	60 - 90	-2.7510834E 00	6.6206055E 00	-5.2716327E 01	1.1157715E 02	-8.6005285E 01	0.	0.078	0.0181	0.705
	90 -180	0.	0.	0.	0.	0.	0.	0.013		
50	0 - 30	-2.0778567E-01	-1.1704290E 01	3.9372058E 01	-6.8497888E 01	7.0718166E 01	-3.0879007E 01	0.291	0.1596	0.972
	30 - 60	-6.4984113E-01	-7.7406247E 00	3.0661108E 01	-6.3479368E 01	6.4041349E 01	-2.7396025E 01	0.401	0.1416	0.906
	60 - 90	-1.1523665E 00	-1.0863029E 01	5.8903286E 01	-2.4516166E 02	4.3394194E 02	-2.7706701E 02	0.141	0.0252	0.661
	90 -180	-2.4017256E 00	-8.3832544E 00	-1.7807788E 02	1.5209739E 03	-3.2495096E 03	0.	0.038	0.0040	0.292
100	0 - 30	-1.1774624E-01	-1.5545677E 01	5.4972131E 01	-9.8816444E 01	1.0278292E 02	-4.4001123E 01	0.334	0.2032	0.980
	30 - 60	-6.4101563E-01	-4.0426673E 00	-2.8640786E 01	5.4036796E 01	-9.7089226E 01	4.7576697E 01	0.531	0.1997	0.933
	60 - 90	-5.3330283E-01	-1.1318016E 01	1.7012274E 01	5.8204978E 01	-2.6157126E 02	2.2672234E 02	0.228	0.0360	0.599
	90 -180	-1.9028035E 00	-2.9879983E 00	-1.7882437E 02	1.0467939E 03	-1.7825228E 03	0.	0.076	0.0065	0.341
150	0 - 30	-2.0959782E-01	-2.2994879E 01	1.2912985E 02	-3.2612559E 02	3.7879781E 02	-1.5980101E 02	0.348	0.2237	0.984
	30 - 60	-2.3527726E-01	-1.1842771E 01	4.7225636E 01	-7.4792103E 02	4.8996539E 02	-1.3455162E 02	0.595	0.2202	0.905
	60 - 90	-1.8632898E-01	-1.8984977E 01	1.0699300E 02	-3.0976274E 02	3.6779867E 02	-1.5732480E 02	0.299	0.0480	0.551
	90 -180	-1.1363826E 00	-2.7559410E 01	9.4244428E 01	-1.5680726E 02	0.	0.	0.093	0.0069	0.346
200	0 - 30	-1.1750917E-01	-1.8730914E 01	5.3922731E 01	-7.5016534E 01	7.5080383E 01	-3.5821483E 01	0.360	0.2426	0.990
	30 - 60	-1.3369825E-02	-1.8249426E 01	8.6052132E 01	-1.5805498E 02	1.5119174E 02	-5.6470636E 01	0.632	0.2378	0.927
	60 - 90	-2.9516557E-01	-1.7265287E 01	1.2322163E 02	-4.5872537E 02	7.3127470E 02	-4.5993271E 02	0.314	0.0482	0.514
	90 -180	-8.5156131E-01	-3.8428568E 01	6.8202530E 02	-9.3092146E 03	5.9031255E 04	-1.1731995E 05	0.113	0.0070	0.260
250	0 - 30	-4.3746096E-01	-1.5260643E 01	6.2977042E 01	-1.3634289E 02	1.5884999E 02	-7.0017192E 01	0.398	0.2740	0.994
	30 - 60	-3.6453561E-02	-1.8896747E 01	9.2007339E 01	-1.7994496E 02	1.6009399E 02	-5.8968566E 01	0.646	0.2464	0.877
	60 - 90	1.2702489E-02	-2.7445977E 01	2.2016220E 02	8.3467653E 02	1.3190954E 03	-7.5253193E 02	0.313	0.0455	0.562
	90 -180	-4.7721499E-01	-2.9904421E 01	-2.1129479E 02	5.7995796E 03	-3.8008317E 04	7.5246299E 04	0.147	0.0065	0.287
300	0 - 30	-2.5286143E-01	-1.5761725E 01	4.6227803E 01	-8.0016946E 01	9.9215782E 01	-4.9810593E 01	0.393	0.2732	0.988
	30 - 60	-2.8370045E-01	-1.0464207E 01	4.1487364E 01	-5.6932179E 01	2.5039067E 01	-3.3443879E 00	0.694	0.2636	0.907
	60 - 90	9.6215317E-02	-2.6312302E 01	2.1745939E 02	-8.5171151E 02	1.3518755E 03	-7.6125124E 02	0.342	0.0459	0.523
	90 -180	-6.0772640E-01	-3.1096759E 01	8.5231426E 01	3.3234029E 01	-5.0693763E 02	0.	0.137	0.0079	0.285
350	0 - 30	-5.7709907E-02	-1.6087930E 01	3.5065401E 01	-3.2080775E 01	3.2145140E 01	-1.8840252E 01	0.426	0.2988	0.990
	30 - 60	-3.6367399E-01	-1.5652454E 01	8.7387666E 01	-1.8606756E 02	1.7589416E 02	-6.7149365E 01	0.679	0.2644	0.845
	60 - 90	-1.8106236E-01	-1.6460295E 01	1.0175429E 02	-3.0146182E 02	2.6376266E 02	0.	0.341	0.0498	0.551
	90 -180	-4.9459853E-01	-3.8331112E 01	1.6298981E 02	-3.3873454E 02	0.	0.	0.127	0.0062	0.241
400	0 - 30	-6.0341378E-01	-1.2985270E 00	-3.8113036E 01	1.1502897E 02	-9.5257529E 02	2.4351025E 01	0.461	0.3193	0.993
	30 - 60	-2.2382567E-02	-1.8473116E 01	9.3587853E 01	-1.8968690E 02	1.7588970E 02	-6.8876105E 01	0.708	0.2590	0.858
	60 - 90	1.9678671E-02	-2.19993045E 01	2.0627431E 02	-9.4960274E 02	1.7888151E 03	-1.1952493E 03	0.385	0.0535	0.505
	90 -180	-1.6666759E-01	-7.3026296E 01	1.5760147E 03	-1.9318715E 04	9.7578561E 04	-1.6699234E 05	0.159	0.0095	0.275

TABLE 6
PROTONS INCIDENT ON O
PROTONS EMITTED
EMIN = 1.107 (MEV)

EC (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-8.9713453E-01	-3.5556071E 00	1.1474259E 01	-2.7194802E 01	4.1615635E 01	-2.4018243E 01	C.212	0.1047	0.959
	30 - 60	-1.0194143E 00	-6.9693752E 00	2.8669871E 01	-6.3393306E 01	6.5324658E 01	-2.7101679E 01	C.258	0.0933	0.918
	60 - 90	-1.8389382E 00	-5.7342868E 00	5.3837956E 00	-5.6924701E 00	0.	0.	0.083	0.0200	0.792
	90 -180	0.	C.	0.	0.	0.	0.	C.011	0.	0.
50	0 - 30	-5.1201366E-01	-8.4454199E 00	2.0039212E 01	-1.2295638E 01	0.	0.	C.268	0.1476	0.976
	30 - 60	-3.4464543E-01	-1.2893503E 01	5.5040621E 01	-1.0687759E 02	9.3547047E 01	-3.3123988E 01	C.397	0.1381	0.924
	60 - 90	-1.0359991E 00	-1.0218317E 01	2.7366653E 01	-5.5765483E 01	3.5756794E 01	0.	C.142	0.0264	0.731
	90 -180	-3.1571014E 00	-5.8378803E 00	2.4171619E 01	-2.9979366E 02	6.3242534E 02	0.	C.028	0.0032	0.316
100	0 - 30	-5.6216226E-01	-6.9497889E 00	1.4598593E 01	-2.1596116E 01	3.6290433E 01	-2.2565823E 01	C.319	0.1937	0.990
	30 - 60	-4.4744009E-01	-6.9388239E 00	1.1478595E 01	-1.7014295E 01	-4.9075437E 01	2.3312429E 01	C.509	0.1840	0.934
	60 - 90	-6.9742737E-01	-5.3787529E 00	-1.3840224E 00	7.3838077E-01	0.	0.	C.252	0.0419	0.665
	90 -180	-1.5633414E 00	-1.3399351E 01	-2.2016134E 00	2.0364361E 01	0.	0.	C.087	0.0077	0.452
150	0 - 30	-1.5597067E-02	-2.0921616E 01	9.1336272E 01	-1.9247422E 02	2.0518989E 02	-8.3959885E 01	C.336	0.2083	0.989
	30 - 60	-2.2254203E-01	-1.0083141E 01	3.2720933E 01	-3.11149360E 01	-5.5077010E 00	1.0299956E 01	C.622	0.2297	0.937
	60 - 90	-1.4560036E-01	-1.7718273E 01	8.0202720E 01	-1.6694785E 02	3.5197456E 01	1.0765543E 02	C.279	0.0406	0.588
	90 -180	-6.5586129E-01	-3.4791136E 01	1.3065657E 02	-2.2004285E 02	0.	0.	C.110	0.0074	0.343
200	0 - 30	-3.1133885E-01	-1.9147306E 01	8.3457037E 01	-1.7581783E 02	1.9193664E 02	-8.0783888E 01	C.356	0.2363	0.983
	30 - 60	9.1637769E-02	-2.0371988E 01	1.0926939E 02	-2.5722138E 02	2.8180313E 02	-1.200937E 02	C.622	0.2330	0.910
	60 - 90	2.7256597E-01	-4.3953350E 01	4.8880343E 02	-2.4656364E 03	5.4088172E 03	-4.3088652E 03	C.322	0.0494	0.506
	90 -180	-9.7769244E-01	-1.3906934E 01	-1.3572293E 02	1.0532260E 03	-2.0391211E 03	0.	C.124	0.0081	0.324
250	0 - 30	-1.9929149E-02	-1.7727335E 01	6.2104620E 01	-1.1775228E 02	1.3098563E 02	-5.8028376E 01	C.371	0.2426	0.991
	30 - 60	-5.8038360E-02	-1.5478555E 01	7.3633891E 01	-1.4255057E 02	1.2375331E 02	-4.3870791E 01	C.692	0.2626	0.928
	60 - 90	-3.9990214E-01	-7.1078271E 00	9.8666327E 00	-1.6239140E 01	0.	0.	C.334	0.0521	0.602
	90 -180	-2.1370140E-01	-7.3270413E 01	1.0984120E 03	-9.0067285E 03	3.2792976E 04	-4.2648669E 04	C.133	0.0090	0.312
300	0 - 30	-2.2881851E-01	-1.1500413E 01	2.5206666E 01	-3.1460830E 01	4.5653483E 01	-2.8115219E 01	C.413	0.2728	0.989
	30 - 60	1.1026641E-01	-2.3964595E 01	1.3684299E 02	-3.1365668E 02	3.2051556E 02	-1.2605392E 02	C.687	0.2599	0.886
	60 - 90	-1.2604479E-01	-1.0110837E 01	2.1497959E 01	-3.2591625E 01	0.	0.	C.358	0.0501	0.573
	90 -180	-1.7332941E-01	-6.6041774E 01	1.0403439E 03	-9.5477870E 03	3.8617515E 04	-5.4936737E 04	C.159	0.0108	0.309
350	0 - 30	1.5658510E-01	-2.7995492E 01	1.3851962E 02	-3.11117137E 02	3.3577739E 02	-1.3357125E 02	C.403	0.2687	0.991
	30 - 60	-6.9139040E-02	-1.6942562E 01	9.7877969E 01	-2.4133234E 02	2.7981737E 02	-1.2986381E 02	C.701	0.2542	0.852
	60 - 90	1.4585218E-01	-2.7810217E 01	2.2198184E 02	-7.8658401E 02	1.1034311E 03	-5.2818751E 02	C.371	0.0545	0.582
	90 -180	1.5258041E-01	-9.9528611E 01	2.2109306E 03	-2.6469177E 04	1.4070672E 05	-2.6667022E 05	C.160	0.0089	0.233
400	0 - 30	-1.68815605E-01	-1.0863944E 01	2.8113728E 01	-5.4187182E 01	7.9706523E 01	-4.2803742E 01	C.423	0.2773	0.988
	30 - 60	-8.4054111E-02	-1.8627911E 01	1.1145847E 02	-2.6857627E 02	2.9104002E 02	-1.2335211E 02	C.705	0.2572	0.860
	60 - 90	5.1276494E-01	-3.4458278E 01	2.9605876E 02	-1.1601955E 03	1.8663165E 03	-1.0518603E 03	C.421	0.0566	0.561
	90 -180	-3.2535989E-01	-2.8485318E 01	5.7859267E 01	-4.5034923E 01	0.	0.	C.182	0.0103	0.319

TABLE 7

PROTONS INCIDENT ON O
NEUTRONS EMITTED
EMIN = 1.107 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-8.5292277E-03	-2.1798006E 01	1.1804028E 02	-3.0031340E 02	3.4989942E 02	-1.5000683E 02	0.155	0.0704	0.949
	30 - 60	-2.0616967E 00	1.1842615E 01	-9.8655550E 01	-2.7539400E 02	-3.2537649E 02	1.3503826E 02	0.177	0.0576	0.859
	60 - 90	-3.2535182E 00	1.6567541E 01	-1.4449193E 02	3.6520337E 02	-2.9985761E 02	0.	0.052	0.0117	0.651
	90 -180	0.	0.	0.	0.	0.	0.	0.011	0.	0.
50	0 - 30	-4.9437721E-01	-1.0895019E 01	3.0201001E 01	-3.5587914E 01	2.3772162E 01	-8.9205122E 00	0.181	0.0902	0.970
	30 - 60	-5.5854629E-01	-1.2704904E 01	5.8114417E 01	-1.4052949E 02	1.5790563E 02	-6.8051211E 01	0.271	0.0844	0.885
	60 - 90	-1.3595286E 00	-9.3458295E 00	2.5929741E 01	-7.0013381E 01	5.9296681E 01	0.	0.102	0.0170	0.602
	90 -180	-2.4300443E 00	-1.5983932E 01	3.6143442E 01	-6.1325904E 01	0.	0.	0.034	0.0037	0.357
100	0 - 30	-1.7596689E-01	-2.1648394E 01	1.0271789E 02	-2.3027561E 02	2.4735505E 02	-9.9349165E 01	0.214	0.1209	0.979
	30 - 60	-2.4242921E-01	-1.4639940E 01	4.9800904E 01	-6.8504721E 01	2.9711831E 01	0.	0.342	0.1086	0.928
	60 - 90	-8.5982946E-01	-7.7223181E 00	7.4976848E 00	-1.0134490E 01	0.	0.	0.182	0.0283	0.628
	90 -180	-2.3652321E 00	7.3586774E-01	-1.0692197E 02	2.7328122E 02	-1.3140287E 02	0.	0.060	0.0052	0.313
150	0 - 30	-1.7656264E-01	-1.9500002E 01	8.2535220E 01	-1.8241361E 02	2.0690729E 02	-8.8696173E 01	0.232	0.1365	0.978
	30 - 60	-2.6295519E-01	-1.6610273E 01	6.7947237E 01	-1.1683404E 02	8.0279071E 01	-1.9060012E 01	0.339	0.1037	0.883
	60 - 90	-6.7209057E-01	-7.4773695E 00	3.3280956E 00	0.	0.	0.	0.275	0.0346	0.564
	90 -180	-1.1917396E 00	-2.6185031E 01	7.1965649E 01	-9.1919129E 01	0.	0.	0.084	0.0061	0.310
200	0 - 30	-2.0731206E-01	-2.9584599E 01	1.4080446E 02	-3.1908747E 02	3.4631725E 02	-1.3977822E 02	0.240	0.1455	0.984
	30 - 60	-5.0423083E-01	-1.2781595E 01	5.4004054E 01	-1.0728800E 02	1.0133459E 02	-4.0766919E 01	0.352	0.1144	0.900
	60 - 90	-1.7410803E-01	-2.4332876E 01	1.4059808E 02	-4.5091966E 02	5.8460754E 02	-2.3420466E 02	0.203	0.0252	0.516
	90 -180	-4.5525053E-01	-7.2578375E 01	1.1302096E 03	-9.9328420E 03	4.0431756E 04	-6.0360411E 04	0.107	0.0077	0.293
250	0 - 30	2.5488870E-01	-2.5162441E 01	9.9739329E 01	-2.0269500E 02	2.1339197E 02	-8.6218512E 01	0.254	0.1532	0.988
	30 - 60	2.8642447E-01	-2.9688641E 01	1.5332066E 02	-3.5999928E 02	3.9596296E 02	-1.6960634E 02	0.357	0.1074	0.863
	60 - 90	-4.0128067E-02	-2.85223672E 01	2.0649917E 02	-7.5947067E 02	1.1551902E 03	-6.1571404E 02	0.232	0.0289	0.522
	90 -180	-1.0988893E 00	-1.0424066E 01	-1.5288217E 02	4.9786288E 02	0.	0.	0.102	0.0048	0.231
300	0 - 30	-3.9508186E-02	-2.7515191E 01	1.2519931E 02	-2.9382370E 02	3.2363535E 02	-1.2996967E 02	0.213	0.1276	0.987
	30 - 60	1.6861100E-01	-3.3844483E 01	2.1543105E 02	-5.9549283E 02	7.4011052E 02	-3.4404154E 02	0.348	0.1036	0.788
	60 - 90	1.9845390E-01	-3.2725189E 01	2.2548011E 02	-8.2486681E 02	1.3533319E 03	-8.1416608E 02	0.253	0.0338	0.598
	90 -180	-4.4835055E-01	-5.5577058E 01	6.3915262E 02	-4.3612975E 03	9.7570220E 03	0.	0.111	0.0054	0.255
350	0 - 30	-1.6269113E-01	-1.7752462E 01	5.7211024E 01	-9.4645962E 02	1.1306560E 02	-3.6434429E 01	0.243	0.1032	0.989
	30 - 60	-2.2505228E-01	-2.3788155E 01	1.4699024E 02	-4.1142827E 02	5.2669851E 02	-2.5471546E 02	0.337	0.1032	0.808
	60 - 90	3.1497885E-01	-4.0801799E 01	3.3756525E 02	-1.3859106E 03	2.53316700E 03	-1.7265162E 03	0.246	0.0292	0.520
	90 -180	-8.0805579E-02	-6.3825542E 01	5.3018924E 02	-1.8389297E 03	1.5555060E 03	0.	0.141	0.0079	0.242
400	0 - 30	-2.2714470E-01	-1.9432788E 01	7.4742755E 01	-1.4896303E 02	1.5460290E 02	-6.0904713E 01	0.239	0.1513	0.989
	30 - 60	6.2504694E-02	-2.3309942E 01	1.1525433E 02	-2.6733594E 02	2.9782607E 02	-1.3273581E 02	0.360	0.1050	0.844
	60 - 90	3.2453840E-01	-4.3096675E 01	3.5527137E 02	-1.3619902E 03	2.2003258E 03	-1.2745272E 03	0.240	0.0276	0.507
	90 -180	-2.9805743E-01	-4.5388489E 01	2.1179436E 02	-4.1265503E 02	0.	0.	0.132	0.0066	0.273

TABLE 8

NEUTRONS INCIDENT ON O

PROTONS EMITTED

EMIN = 1.107 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-6.9368706E-01	-1.1889795E 01	6.1214256E 01	-1.5645572E 02	1.8938260E 02	-8.5474805E 01	0.146	0.0681	0.943
	30 - 60	-1.4113378E 00	-5.3441822E 00	2.2463148E 01	-5.9665047E 01	6.7870530E 01	-2.9312184E 01	0.170	0.0557	0.883
	60 - 90	-1.6536790E 00	-1.4209111E 01	5.2737786E 01	-1.1807213E 02	8.5072315E 01	0.	0.054	0.0107	0.660
	90 -180	0.	0.	0.	0.	0.	0.	0.009		
50	0 - 30	1.9081776E-01	-2.357844E 01	1.0805360E 02	-2.4628193E 02	2.7142775E 02	-1.1192753E 02	0.183	0.0934	0.967
	30 - 60	-3.7214704E-01	-1.5759142E 01	6.4017279E 01	-1.3030169E 02	1.3123935E 02	-5.5096514E 01	0.276	0.0907	0.888
	60 - 90	-3.3522112E-01	-4.2857860E 01	3.3745742E 02	-1.2742621E 03	2.1538174E 03	-1.3632430E 03	0.102	0.0168	0.625
	90 -180	-2.5888389E 00	-1.5540301E 01	3.1995735E 01	-7.6806830E 01	0.	0.	0.027	0.0026	0.313
100	0 - 30	-5.0746477E-01	-9.2092179E 00	2.5526647E 01	-5.2028053E 01	7.3109661E 01	-3.8375796E 01	0.224	0.1240	0.984
	30 - 60	-1.5909018E-01	-1.5340030E 01	5.7419793E 01	-1.0606979E 02	9.5356742E 01	-3.6703878E 01	0.340	0.1027	0.880
	60 - 90	-5.5929214E-01	-1.6126559E 01	5.5824198E 01	-1.1221728E 02	7.3142962E 01	0.	0.172	0.0259	0.584
	90 -180	-1.9182795E 00	1.2961185E 00	-3.8950157E 02	2.7995092E 03	-6.9975533E 03	5.2498661E 03	0.062	0.0054	0.322
150	0 - 30	-2.2959532E-01	-9.4227208E 00	-8.3295310E-01	5.3138375E 01	-6.6675555E 01	-2.3301193E 01	0.238	0.1334	0.981
	30 - 60	-1.9514269E-01	-1.8511355E 01	7.9297884E 01	-1.4821898E 02	1.2547572E 02	-4.3903307E 01	0.348	0.1104	0.862
	60 - 90	-1.9797638E-01	-2.3079548E 01	1.2410872E 02	-3.2605948E 02	2.7389798E 02	0.	0.216	0.0299	0.541
	90 -180	-1.5621181E 00	-1.1770301E 01	9.8363736E 01	-2.4972684E 03	1.4942697E 04	-2.6148948E 04	0.087	0.0062	0.301
200	0 - 30	-1.8242301E-01	-2.0280430E 01	9.3174998E 01	-2.1724181E 02	2.4789560E 02	-1.0423070E 02	0.256	0.1580	0.986
	30 - 60	-1.7601141E-01	-1.9603541E 01	8.5669327E 01	-1.5180255E 02	1.0788098E 02	-2.6626118E 01	0.355	0.1113	0.899
	60 - 90	-1.9644316E-01	-2.5333597E 01	1.2837077E 02	-2.9684913E 02	2.1597887E 02	0.	0.204	0.0289	0.557
	90 -180	-8.8808439E-01	-7.2460052E 00	-8.9045457E 02	1.1527829E 04	-5.15121269E 04	7.6172371E 04	0.103	0.0065	0.267
250	0 - 30	8.4847522E-02	-2.5637545E 01	9.7539060E 01	-1.8690073E 02	1.9169584E 02	-7.7532694E 01	0.247	0.1576	0.991
	30 - 60	1.3871208E-01	-2.7624547E 01	1.6081736E 02	-4.3320068E 02	5.4154884E 02	-2.5701874E 02	0.369	0.1113	0.824
	60 - 90	-1.5728483E-01	-2.3338605E 01	1.2473743E 02	-2.8937727E 02	7.6600323E 01	2.14666495E 02	0.222	0.0271	0.478
	90 -180	-6.1838660E-01	-3.5918842E 01	5.9375762E 01	5.6280984E 02	-1.9016246E 03	0.	0.111	0.0067	0.281
300	0 - 30	4.2224698E-01	-3.5447894E 01	1.7310240E 02	-4.0363759E 02	4.4520063E 02	-1.8090261E 02	0.227	0.1380	0.983
	30 - 60	9.4582949E-03	-2.2749798E 01	9.8910657E 01	-1.8322243E 02	1.4853806E 02	-4.7760665E 01	0.335	0.0972	0.850
	60 - 90	9.9565679E-02	-2.9765069E 01	1.8588524E 02	-5.1376958E 02	4.5197890E 02	0.	0.261	0.0344	0.513
	90 -180	-3.8326783E-01	-7.4506753E 01	1.2161358E 03	-1.0603965E 04	3.8916068E 04	-4.9947528E 04	0.105	0.0049	0.210
350	0 - 30	-2.0392832E-01	-1.8280485E 01	7.9998271E 01	-1.9122436E 02	2.2460975E 02	-9.5397607E 01	0.245	0.1501	0.986
	30 - 60	3.0632634E-01	-3.2115985E 01	1.8614756E 02	-4.7860085E 02	5.7876321E 02	-2.7040360E 02	0.348	0.0960	0.797
	60 - 90	1.4688185E-01	-3.2589667E 01	2.4803939E 02	-9.9138347E 02	1.8190643E 03	-1.3177837E 03	0.251	0.0299	0.475
	90 -180	6.3855616E-03	-6.7058792E 01	5.1480833E 02	-1.4942395E 03	1.4683358E 03	0.	0.129	0.0058	0.210
400	0 - 30	1.0978274E-01	-3.0006627E 01	1.4166244E 02	-3.1663668E 02	3.3463283E 02	-1.3007796E 02	0.233	0.1485	0.990
	30 - 60	9.0398059E-02	-2.8303047E 01	1.5634807E 02	-3.7415756E 02	4.0247419E 02	-1.6498547E 02	0.355	0.1051	0.846
	60 - 90	-8.4167341E-02	-2.4799804E 01	1.5543489E 02	-5.1088152E 02	6.7321550E 02	-2.9916149E 02	0.239	0.0291	0.495
	90 -180	-4.7274197E-02	-7.3738891E 01	1.2702853E 03	-1.3933127E 04	7.1044873E 04	-1.3418692E 05	0.142	0.0063	0.224

TABLE 9

NEUTRONS INCIDENT ON O

NEUTRONS EMITTED

EMIN = 1.107 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-6.1088358E-01	-7.7602103E 00	2.0615191E 01	-1.4913657E 01	0.	0.	0.211	0.1043	0.966
	30 - 60	-1.6654591E 00	3.0417736E 00	-2.7565431E 01	7.5032173E 01	-8.5634125E 01	3.1915452E 01	0.252	0.0924	0.888
	60 - 90	-1.1535958E-01	-6.3670601E 01	5.3652260E 02	-2.779561E 03	3.5714341E 03	-2.2448280E 03	0.070	0.0147	0.605
	90 - 180	-3.49338457E 00	-1.3175157E 01	1.3663189E 01	0.	0.	0.	0.011	0.0016	0.399
50	0 - 30	2.8128130E-02	-2.2420924E 01	1.1755161E 02	-2.8008896E 02	3.1308317E 02	-1.3048822E 02	0.268	0.1478	0.979
	30 - 60	-3.9272470E-01	-1.2433511E 01	5.3072244E 01	-1.0299636E 02	8.6867138E 01	-2.7550867E 01	0.388	0.1366	0.913
	60 - 90	-1.3571136E 00	-4.7639773E 00	2.1571975E 00	-4.0136136E 00	0.	0.	0.152	0.0311	0.710
	90 - 180	-2.0406604E 00	-2.7626111E 01	3.4630992E 00	1.0602541E 03	-3.4020246E 03	0.	0.029	0.0029	0.273
100	0 - 30	-4.3629081E-01	-9.0266476E 00	3.3922524E 01	-8.8187236E 01	1.2508038E 02	-6.2455155E 01	0.318	0.1904	0.986
	30 - 60	-1.4712424E-01	-1.3193934E 01	5.4973000E 01	-1.0369630E 02	9.31392250E 01	-3.6329882E 01	0.521	0.1828	0.911
	60 - 90	-7.4000911E-01	-5.6257240E 00	1.4674541E-01	1.4447517E 00	0.	0.	0.239	0.0397	0.656
	90 - 180	-1.7376722E 00	2.4063726E 00	-2.3611798E 02	1.1681231E 03	-1.8567664E 03	0.	0.088	0.0067	0.337
150	0 - 30	-3.1141962E-01	-7.1680256E 00	1.0030423E 01	7.0378188E 01	-7.6375490E 01	2.2931378E 01	0.354	0.2216	0.988
	30 - 60	-4.2399874E-01	-6.3231184E 00	2.8607879E 00	5.6148657E 01	-1.1076837E 02	5.5506787E 01	0.593	0.2281	0.936
	60 - 90	8.8351893E-02	-3.7694377E 01	3.2144345E 02	-1.2142440E 03	1.9409017E 03	-1.1158989E 03	0.273	0.0451	0.598
	90 - 180	-1.4060812E 00	-1.4642536E 01	-4.7034501E 01	4.8441932E 02	-9.8082116E 02	0.	0.097	0.0081	0.333
200	0 - 30	-3.6878698E-02	-2.3212055E 01	1.1723981E 02	-2.7891572E 02	3.1643766E 02	-1.3224358E 02	0.373	0.2450	0.987
	30 - 60	1.1047834E-01	-1.8103548E 01	7.8571928E 01	-1.3051977E 02	8.4314933E 01	-1.8189628E 01	0.631	0.2277	0.934
	60 - 90	-3.0595034E-02	-2.0842894E 01	1.1228788E 02	-2.9081589E 02	2.6328218E 02	-4.7254846E 01	0.314	0.0489	0.617
	90 - 180	-1.9130357E-01	-7.1202311E 01	7.8781962E 02	-4.6710038E 03	1.2896696E 04	-1.3711366E 04	0.115	0.0074	0.327
250	0 - 30	-4.7022843E-01	-1.3626873E 01	5.9301758E 01	-1.4467086E 02	1.8583667E 02	-8.7393949E 01	0.365	0.2405	0.988
	30 - 60	-2.4649909E-01	-1.4963705E 01	6.2337167E 01	-1.8845546E 02	2.0058923E 02	-8.6880821E 01	0.646	0.2401	0.875
	60 - 90	-4.3592607E-02	-2.5836782E 01	2.3052694E 02	-9.3172120E 02	1.5273152E 03	-8.8152000E 02	0.345	0.0534	0.617
	90 - 180	-7.6048375E-01	-1.8475659E 01	-1.2729092E 01	8.1426095E 01	0.	0.	0.146	0.0087	0.331
300	0 - 30	-3.3543904E-02	-2.2624612E 01	9.0171130E 01	-1.7797164E 02	1.8893838E 02	-7.8828794E 01	0.389	0.2671	0.988
	30 - 60	-1.2896187E-01	-1.9931648E 01	1.0272533E 02	-2.1966559E 02	2.1681382E 02	-8.7054930E 01	0.699	0.2564	0.887
	60 - 90	-2.0216557E-01	-9.0065328E 00	1.9324661E 01	-3.098799E 01	0.	0.	0.366	0.0538	0.578
	90 - 180	-3.3349556E-01	-3.3974765E 01	1.9656447E 02	-1.3379497E 03	5.6646373E 03	-8.7823961E 03	0.179	0.0120	0.344
350	0 - 30	8.3728584E-02	-1.7245400E 01	6.0818585E 01	-1.1515867E 02	1.2647071E 02	-5.5175626E 01	0.420	0.2729	0.991
	30 - 60	-4.5829626E-02	-1.6963323E 01	9.4257712E 01	-2.2606672E 02	2.6193837E 02	-1.2453743E 02	0.717	0.2642	0.845
	60 - 90	4.0483670E-01	-4.0281729E 01	4.2568145E 02	-2.1166967E 03	4.6167145E 03	-3.6955092E 03	0.364	0.0500	0.485
	90 - 180	3.1626126E-01	-1.0510139E 02	2.0996991E 03	-2.1838125E 04	1.0163686E 05	-1.7147465E 05	0.166	0.0088	0.241
400	0 - 30	-3.4927635E-02	-1.9118167E 01	9.0609008E 01	-2.2414723E 02	2.7267911E 02	-1.2046795E 02	0.440	0.2966	0.985
	30 - 60	2.2215850E-01	-2.6671843E 01	1.4897504E 02	-3.2155338E 02	3.2155338E 02	-1.2485569E 02	0.690	0.2506	0.840
	60 - 90	-4.8076866E-03	1.2527887E 01	3.5753918E 01	-5.3330184E 01	0.	0.	0.377	0.0524	0.543
	90 - 180	-7.4768659E-02	-3.8884825E 01	5.9928674E 01	1.3766250E 03	-9.5997149E 03	1.7318460E 04	0.176	0.0083	0.255

TABLE 10
PROTONS INCIDENT ON AL

EO (MEV)		ANG. INT.	PROTONS EMITTED										NO. EMIT.	ENERGY EMIT./EO	EMAX /EC	
			A0	A1	A2	A3	A4	A5								
			EMIN = 1.637 (MEV)													
25	0 - 30		-2.8598950E-01	-8.3746065E 00	1.4048758E 01	-7.7066813E-01	-7.3612164E 00	0.	0.	0.	0.	0.	0.	0.177	0.0854	0.957
	30 - 60		-1.3062827E-01	-2.0436621E 01	8.9082304E 01	-1.8677197E 02	1.8140328E 02	0.	0.	0.	0.	0.	0.	0.216	0.0797	0.934
	60 - 90		-2.1765171E 00	-3.8374997E 00	9.3190541E 00	-3.1356151E 01	2.0750142E 01	0.	0.	0.	0.	0.	0.	0.068	0.0159	0.676
	90 - 180		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.010	0.	0.	0.
50	0 - 30		1.8257806E-01	-2.3063997E 01	1.2722191E 02	-3.2676317E 02	3.8231027E 02	-1.6264976E 02	0.	0.	0.	0.	0.	0.224	0.1151	0.972
	30 - 60		-3.3570733E-01	-1.1392949E 01	4.1376191E 01	-7.9280067E 01	7.7722386E 01	-3.3976044E 01	0.	0.	0.	0.	0.	0.345	0.1168	0.909
	60 - 90		-1.6329304E 00	-9.7002971E-01	-1.3644498E 01	1.5625980E 01	-8.0996298E 00	0.	0.	0.	0.	0.	0.131	0.0262	0.699	
	90 - 180		-6.1407872E-01	-1.1350533E 02	1.5982764E 03	-1.0343935E 04	2.9773711E 04	-3.1130989E 04	0.	0.	0.	0.	0.036	0.0054	0.388	
100	0 - 30		1.3209442E-01	-1.6469012E 01	6.7419427E 01	-1.2902492E 02	1.5556215E 02	-7.2359787E 01	0.	0.	0.	0.	0.	0.285	0.1599	0.976
	30 - 60		3.7192968E-02	-1.4047568E 01	4.6957476E 01	-5.9152944E 01	1.6642533E 01	6.7771571E 00	0.	0.	0.	0.	0.490	0.1677	0.908	
	60 - 90		-3.5567331E-02	-2.5465483E 01	1.3731771E 02	-3.5443089E 02	3.570803E 02	-1.0666662E 02	0.	0.	0.	0.	0.230	0.0393	0.654	
	90 - 180		-1.1021602E 00	-4.4004517E 01	4.2507898E 02	-1.9017084E 03	2.6447520E 03	0.	0.	0.	0.	0.	0.077	0.0072	0.317	
150	0 - 30		2.8568012E-01	-2.4985599E 01	1.2712754E 02	-3.0936816E 02	3.5597885E 02	-1.4990194E 02	0.	0.	0.	0.	0.	0.313	0.1844	0.985
	30 - 60		4.5654287E-02	-1.8867131E 01	8.7532312E 01	-1.6791441E 02	1.4272974E 02	-4.7886605E 01	0.	0.	0.	0.	0.565	0.2098	0.929	
	60 - 90		1.0565200E-01	-2.2287275E 01	1.3322266E 02	-4.4821100E 02	6.3286058E 02	-3.1672827E 02	0.	0.	0.	0.	0.292	0.0420	0.680	
	90 - 180		-4.4831066E-01	-5.5054606E 01	5.1695319E 02	-3.0984696E 03	1.0533085E 04	-1.5033757E 04	0.	0.	0.	0.	0.107	0.0093	0.322	
200	0 - 30		4.6217349E-01	-3.1754100E 01	1.6034585E 02	-3.7715878E 02	4.1969703E 02	-1.7295128E 02	0.	0.	0.	0.	0.	0.333	0.2080	0.984
	30 - 60		2.2302780E-01	-2.1803110E 01	1.0401002E 02	-2.0116162E 02	1.6808033E 02	-5.3071643E 01	0.	0.	0.	0.	0.611	0.2247	0.935	
	60 - 90		4.5109478E-02	-1.9698351E 01	9.7723692E 01	-2.3203816E 02	1.6724362E 02	4.2739485E 00	0.	0.	0.	0.	0.322	0.0487	0.596	
	90 - 180		-7.0727081E-01	-1.5476547E 01	-1.6355595E 02	1.3105093E 03	-2.4552212E 03	0.	0.	0.	0.	0.	0.143	0.0105	0.330	
250	0 - 30		1.6113985E-01	-1.8586426E 01	7.3592290E 01	-1.6140596E 02	1.9080227E 02	-8.5659566E 01	0.	0.	0.	0.	0.	0.347	0.2103	0.980
	30 - 60		2.1609405E-01	-1.6829088E 01	7.3962016E 01	-1.4764038E 02	1.4781355E 02	-6.5426473E 01	0.	0.	0.	0.	0.658	0.2281	0.895	
	60 - 90		3.6170024E-01	-3.2053589E 01	2.4670842E 02	-9.0965852E 02	1.4432761E 03	-8.3491192E 02	0.	0.	0.	0.	0.356	0.0535	0.569	
	90 - 180		7.1475114E-02	-6.7957774E 01	7.6900274E 02	-4.4299433E 03	1.6658509E 04	-8.7957876E 03	0.	0.	0.	0.	0.155	0.0097	0.279	
300	0 - 30		4.5720704E-01	-2.5998778E 01	1.2439626E 02	-2.8959208E 02	3.2672995E 02	-1.3723534E 02	0.	0.	0.	0.	0.	0.370	0.2220	0.989
	30 - 60		1.4550004E-01	-1.8639178E 01	9.5442330E 01	-2.1394247E 02	2.2471546E 02	-9.4556092E 01	0.	0.	0.	0.	0.660	0.2356	0.890	
	60 - 90		3.1273582E-01	-2.8012730E 01	1.9876594E 02	-6.8444590E 02	1.5058802E 03	-5.4341424E 02	0.	0.	0.	0.	0.378	0.0568	0.592	
	90 - 180		2.0530513E-01	-5.7542686E 01	4.2772115E 02	-1.5552592E 03	1.97922300E 03	0.	0.	0.	0.	0.	0.185	0.0117	0.353	
350	0 - 30		1.8098580E-01	-1.9295761E 01	8.1611531E 01	-1.8251654E 02	2.1014135E 02	-9.0568273E 01	0.	0.	0.	0.	0.	0.406	0.2581	0.989
	30 - 60		2.4279452E-01	-1.8740302E 01	9.2869942E 01	-1.9380103E 02	1.8137467E 02	-6.7187282E 01	0.	0.	0.	0.	0.697	0.2402	0.893	
	60 - 90		3.4973160E-01	-2.8982388E 01	2.4725092E 02	-1.0879400E 03	2.1153173E 03	-1.5445978E 03	0.	0.	0.	0.	0.377	0.0500	0.515	
	90 - 180		-1.3351158E-01	-3.3854347E 01	1.1546520E 02	-1.8478054E 02	0.	0.	0.	0.	0.	0.	0.193	0.0114	0.296	
400	0 - 30		2.6105281E-01	-2.6420529E 01	1.3227442E 02	-3.0973108E 02	3.4336939E 02	-1.4025499E 02	0.	0.	0.	0.	0.	0.398	0.2581	0.991
	30 - 60		4.031609E-01	-2.4677581E 01	1.2399120E 02	-2.6000383E 02	2.5092945E 02	-9.7732828E 01	0.	0.	0.	0.	0.682	0.2426	0.863	
	60 - 90		6.2189580E-01	-3.4078394E 01	2.7046140E 02	-1.0608300E 03	1.7405789E 03	-1.0138915E 03	0.	0.	0.	0.	0.389	0.0464	0.563	
	90 - 180		5.7044991E-02	-3.8967300E 01	1.3437984E 02	-2.2415266E 02	0.	0.	0.	0.	0.	0.	0.195	0.0097	0.319	

TABLE 11

PROTONS INCIDENT ON AL

NEUTRONS EMITTED

EMIN = 1.637 (MEV)

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-2.0582384E-01	-9.4997159E CC	1.6672165E 01	-4.3540535E 00	-5.8801774E 00	0.	0.146	0.0652	0.944
	30 - 60	-1.1446529E 00	-8.1214093E 00	2.0813286E C1	-3.1285133E 01	-2.3381931E 01	-9.5605812E 00	0.138	0.0466	0.892
	60 - 90	-3.3927871E 00	1.9194626E 01	-1.3880588E 02	2.8451119E 02	-1.9653423E 02	7.4603592E 00	0.045	0.0097	0.667
	90 - 180	0.	0.	0.	0.	0.	0.	0.010		
50	0 - 30	-3.6829797E-01	-6.4756619E 00	-2.1687782E CC	4.0571920E 01	-4.9442551F 01	1.5849463E 01	0.194	0.0943	0.977
	30 - 60	-2.3771082E-01	-1.4227494E 01	5.3345724E 01	-1.1171930E 02	1.2058881E 02	-5.5376545E 01	0.270	0.0817	0.880
	60 - 90	-1.5328537E 00	-4.8479594E 00	1.2556125E 00	-1.1741539E-01	-2.3087367E 01	2.3494169E 01	0.109	0.0208	0.662
	90 - 180	-2.1730779E 00	-1.4971539E 01	3.8287644E 00	0.	0.	0.	0.030	0.0030	0.302
100	0 - 30	-4.4155729E-01	-1.2675632E 01	5.3847844E 01	-1.1971100E 02	1.3364319E 02	-5.5862721E 01	0.219	0.1179	0.973
	30 - 60	-3.9076856E-01	-8.1103227E 00	3.1151018E CC	5.2021579E 01	-1.0242447E 02	5.1938397E 01	0.326	0.0986	0.920
	60 - 90	-9.6187931E-01	2.7676462E 00	-1.5835605E 02	8.8988604E C2	-1.9222920E 03	1.3921981E 03	0.180	0.0279	0.569
	90 - 180	-2.2277075E 00	1.7720895E 01	-5.1951788E 02	3.0644054E 03	-6.5632992E 03	3.8300911E 03	0.070	0.0067	0.347
150	0 - 30	-3.2264142E-01	-1.1547256E 01	4.6767039E 01	-1.2609027E 02	1.7126697E C2	-8.1753765E 01	0.222	0.1179	0.971
	30 - 60	-1.5577855E-01	-1.9350442E 01	8.2721858E 01	-1.7502570E 02	1.7931850F 02	-7.5116493E 01	0.373	0.1052	0.853
	60 - 90	4.2507200E-01	-4.2267140E 01	3.0238048E 02	-9.8716519E 02	1.3547234E C3	-6.6502997F 02	0.232	0.0327	0.567
	90 - 180	-1.2935761E 00	-1.4182680E 01	4.0630659E 00	7.2975810E-C1	0.	0.	0.108	0.0089	0.343
200	0 - 30	1.3947506E-01	-2.0028960E C1	8.7609698E 01	-2.0653109E 02	2.4300923E 02	-1.0588523F 02	0.243	0.1314	0.984
	30 - 60	2.0636015E-01	-2.0519131E 01	8.2051533E 01	-1.5738659E C2	1.4480670E 02	-5.5563720E 01	0.361	0.8691	0.891
	60 - 90	-1.9334836E-01	-1.4505193E 01	3.4930097E 01	-4.1040539E 01	0.	0.	0.252	0.0359	0.581
	90 - 180	-7.8127718E-01	-3.5103032E 01	2.5739180E 02	-1.2198912E C3	2.3378928E 03	-1.2828398E 03	0.117	0.0087	0.330
250	0 - 30	3.2436825E-01	-2.1818105E 01	8.6052881E 01	-1.8995783E C2	2.1829996E 02	-9.4100225E 01	0.247	0.1363	0.988
	30 - 60	2.8389247E-01	-2.3592044E 01	1.1299440E 02	-2.5328671E 02	2.6491850F 02	-1.0897711E C2	0.393	0.1093	0.836
	60 - 90	3.1994826E-01	-3.4141635E 01	2.5962165E 02	-9.9975438E 02	1.6614568E C3	-1.0016574E 03	0.273	0.0347	0.566
	90 - 180	-5.7347713E-01	-2.35663178E 01	-3.7731193E 00	2.9133689E 02	-7.0555840E 02	4.2424548E 02	0.147	0.0097	0.342
300	0 - 30	3.9992348E-01	-2.5993024E 01	1.1556582E 02	-2.5271907E C2	2.6718572E 02	-1.0537204E C2	0.242	0.1303	0.987
	30 - 60	2.5894607E-01	-2.3311826E 01	1.1265418E C2	-2.5781789E 02	2.9274532E 02	-1.4031184E 02	0.412	0.1150	0.800
	60 - 90	-1.9350901E-02	-1.4603470E 01	3.5047193E 01	-4.5029092E 01	0.	0.	0.292	0.0371	0.546
	90 - 180	-2.9438261E-01	-3.3994011E 01	1.1957705E 02	-2.0369549E 02	0.	0.	0.162	0.0099	0.337
350	0 - 30	5.0168191E-01	-2.7785761E 01	1.2563141E C2	-2.7754260E 02	2.9379623E 02	-1.1540391E 02	0.252	0.1376	0.993
	30 - 60	4.2089826E-01	-3.1528009E 01	1.7944133E 02	-4.4506506E 02	4.9217389E 02	-2.0344026E 02	0.410	0.1184	0.844
	60 - 90	-3.4132196E-02	-1.6777024E 01	4.0214362E 01	-3.9909900E 01	0.	0.	0.275	0.0394	0.588
	90 - 180	3.3954398E-01	-8.4557639E 01	1.2611496E 03	-1.0738830E 04	4.2881732E 04	-6.3283222E 04	0.175	0.0103	0.271
400	0 - 30	2.0202644E-01	-2.2766777E 01	1.5974684E C2	-2.7269629E 02	3.1486005E 02	-1.2989518E 02	0.247	0.1405	0.991
	30 - 60	2.8795222E-01	-2.3432551E 01	1.2093044E 02	-3.0019594E 02	3.5724812E 02	-1.6810379E 02	0.432	0.1204	0.819
	60 - 90	2.3901904E-01	-2.4639708E 01	1.2670547E 02	-3.5334507E 02	3.5485006E 02	-7.4924331E 01	0.284	0.0324	0.567
	90 - 180	6.3134015E-01	-8.8506857E 01	1.03955768E C3	-6.7522640E 03	1.9881292E 04	-2.1236545E 04	0.181	0.0085	0.338

TABLE 12

NEUTRONS INCIDENT ON AL

PROTONS EMITTED

FMIN = 1.637 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-1.0101074E 00	-2.0183207E 00	-9.1486745E 00	2.9784734E 01	-2.1074437E 01	0.	0.124	0.0562	0.936
	30 - 60	-1.4543810E 00	-7.3681781E 00	4.5853702E 01	-1.4846932E 02	2.0117830E 02	0.	0.155	0.0546	0.903
	60 - 90	-8.8608313E-01	-4.3014618E 01	3.2605579E 02	-1.1920917E 03	1.9491763E 03	-1.1804231E 03	0.041	0.0091	0.616
	90 -180	0.	0.	0.	0.	0.	0.	0.011	0.	0.
50	0 - 30	-2.8459254E-01	-1.4529031E 01	6.6032811E 01	-1.7072372E 02	2.1415155E 02	-9.7467347E 01	0.160	0.0779	0.963
	30 - 60	-4.7592729E-01	-1.3168050E 01	4.6992840E 01	-8.9748466E 01	8.5586607E 01	-3.5801442E 01	0.231	0.0709	0.898
	60 - 90	-9.7599912E-01	-1.7078488E 01	8.5143648E 01	-2.4514119E 02	2.8536993E 02	0.	0.108	0.0200	0.673
	90 -180	-1.9018070E 00	-2.8690548E 01	1.0793799E 02	-1.7379674E 02	0.	0.	0.029	0.0034	0.351
100	0 - 30	1.7701736E-01	-2.3623950E 01	1.0548611E 02	-2.4787602E 02	2.8838075E 02	-1.2494054E 02	0.186	0.0978	0.972
	30 - 60	-1.6171859E-02	-1.6330555E 01	6.021523E 01	-1.1586703E 02	1.1144453E 02	-4.5766463E 01	0.320	0.0911	0.872
	60 - 90	-6.2580582E-01	-1.6297467E 01	6.0107324E 01	-1.2939294E 02	1.2371743E 02	-6.4349703E 01	0.159	0.0257	0.581
	90 -180	-1.3667572E 00	-2.7761647E 01	1.11113114E 02	-1.9476181E 02	0.	0.	0.069	0.0069	0.373
150	0 - 30	-4.1560479E-01	-1.0816689E 01	3.3278792E 01	-6.6333832E 01	7.9868868E 01	-3.6699504E 01	0.205	0.1094	0.979
	30 - 60	4.3893870E-02	-1.8382895E 01	7.0730208E 01	1.2630571E 02	1.0285992E 02	-3.5068429E 01	0.336	0.0934	0.860
	60 - 90	7.5288665E-02	-3.0030005E 01	2.0461192E 02	-6.7763125E 02	8.9997311E 02	-4.0324109E 02	0.229	0.0313	0.595
	90 -180	-1.2513558E 00	-1.4879165E 01	-8.5604788E 01	6.8883205E 02	-1.1934088E 03	0.	0.097	0.0085	0.367
200	0 - 30	5.7175008E-02	-1.8326271E 01	5.2249283E 01	-7.5726897E 01	7.0776003E 01	-3.0261474E 01	0.214	0.1183	0.988
	30 - 60	-2.9998528E-01	-9.8477628E 00	2.2095696E 01	7.8508499E-01	-4.9307794E 01	3.2187544E 01	0.388	0.1136	0.850
	60 - 90	-5.3476663E-02	-2.555710E 01	1.4368854E 02	-3.8472291E 02	3.1831042E 02	0.	0.218	0.0279	0.526
	90 -180	-8.1700685E-02	-7.1588474E 01	1.1069412E 03	-1.2050284E 04	6.0583842E 04	-1.0684403E 05	0.113	0.0068	0.267
250	0 - 30	2.6037488E-01	-2.6140271E 01	1.2544900E 02	-3.0147884E 02	3.4410902E 02	-1.4339502E 02	0.240	0.1388	0.988
	30 - 60	1.9783008E-01	-2.6436137E 01	1.3011599E 02	-2.8456026E 02	2.8128715E 02	-1.0846471E 02	0.331	0.0903	0.829
	60 - 90	3.5616482E-01	-4.2335316E 01	3.1298815E 02	-1.0766969E 03	1.5498143E 03	-7.9752166F 02	0.232	0.0311	0.594
	90 -180	1.8307743E-01	-1.0036342E 02	-2.0334442E 03	-2.1956611E 04	1.0496811E 05	-1.8022419E 05	0.131	0.0074	0.278
300	0 - 30	-3.8667034E-02	-1.1879158E 01	2.1695972E 01	-1.0316113E 01	0.	0.	0.249	0.1327	0.990
	30 - 60	4.1800243E-01	-3.1659996E 01	1.6464808E 02	-3.6507915E 02	3.5629297E 02	-1.3090677E 02	0.372	0.1049	0.875
	60 - 90	2.2874911E-01	-3.2213708E 01	2.0513660E 02	-6.0730426E 02	7.0435652E 02	-2.3789490E 02	0.269	0.0372	0.538
	90 -180	-1.2546587E-01	-6.16468455E 01	6.1770107E 02	-3.6969780E 03	1.9900391E 04	-1.2643725E 04	0.135	0.0086	0.309
350	0 - 30	4.6452436E-01	-3.2412578E 01	1.6197461E 02	-3.8223020E 02	4.1702360E 02	-1.6588360E 02	0.217	0.1199	0.991
	30 - 60	2.9829804E-01	-2.2768291E 01	9.3355958E 01	-1.5705437E 02	9.5764961E 01	-1.7399975E 01	0.395	0.1074	0.881
	60 - 90	5.4312046E-02	-2.6034214E 01	1.4369869E 02	-3.8423441E 02	3.1837164E 02	3.1867276E 01	0.245	0.0302	0.485
	90 -180	-5.3576056E-01	-2.8651544E 01	7.6688287E 01	-1.1642713E 02	0.	0.	0.146	0.0089	0.336
400	0 - 30	2.3426382E-01	-2.5860208E 01	1.1683089E 02	-2.5444236E 02	2.6736090E 02	-1.0493021E 02	0.246	0.1406	0.989
	30 - 60	1.6786257E-01	-2.6984920E 01	1.5314470E 02	-3.9817029E 02	4.7153589E 02	-2.1068253E 02	0.357	0.0995	0.807
	60 - 90	-8.72228923E-02	-1.4849934E 01	3.5286695E 00	-2.4835117E 02	-7.5895050E 02	5.6674718E 02	0.268	0.0338	0.466
	90 -180	-2.7156593E-01	-4.8140503E 01	3.8764093E 02	-1.7641245E 03	2.4422467E 03	0.	0.140	0.0072	0.234

TABLE 13
NEUTRONS INCIDENT ON AL
NEUTRONS EMITTED
EMIN = 1.637 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-5.7707319E-01	-8.1709440E 00	3.4535948E 01	-7.9389778E 01	9.5136499E 01	-4.4456129E 01	0.195	0.0964	0.963
	30 - 60	-1.9013611E 00	4.2794459E 00	-1.9919668E 01	2.1231185E 01	3.8129631E 00	-1.2484943E 01	0.228	0.0871	0.917
	60 - 90	-1.7557441E 00	-7.3558139E 00	1.0147710E 01	-1.1515600E 01	0.	0.	0.065	0.0152	0.672
	90 -180	C.	0.	0.	0.	0.	0.	0.011		
50	0 - 30	-9.0051689E-02	-1.0204999E 01	2.6658443E 01	-3.9048591E 01	4.2330467E 01	-2.1145582E 01	0.264	0.1385	0.979
	30 - 60	-6.5118977E-01	-3.2045660E 00	-1.1076719E 01	5.5995297E 01	-7.5811190E 01	3.0786396E 01	0.363	0.1254	0.925
	60 - 90	-9.8563578E-01	-8.7733537E 00	1.6998956E 01	3.5002052E 01	2.4230866E 01	0.	0.144	0.0281	0.728
	90 -180	-2.9770484E 00	8.6312261E 00	-2.2805842E 02	1.0512320E 03	-1.5808340E 03	0.	0.036	0.0043	0.355
100	0 - 30	3.4316150E-01	-1.9693510E 01	8.6601932E 01	-1.9828947E 02	2.2915552E 02	-9.9840469E 01	0.322	0.1776	0.977
	30 - 60	3.7169487E-02	-1.7119113E 01	8.4707180E 01	-1.9585649E 02	2.2254592E 02	-9.6439669E 01	0.500	0.1750	0.919
	60 - 90	-3.4272690E-01	-1.3003436E 01	2.3765759E 01	6.0015749E 01	-2.9637925E 02	2.5933239E 02	0.242	0.0402	0.598
	90 -180	-2.8597549E-01	-5.6529332E 01	5.0233471E 02	-2.5089293E 03	5.8727013E 03	-5.0977576E 03	0.106	0.0112	0.481
150	0 - 30	2.1627834E-01	-2.2666255E 01	1.0693931E 02	-2.4785160E 02	2.8154444E 02	-1.1963790E 02	0.328	0.1955	0.985
	30 - 60	-5.7495781E-02	-1.1186121E 01	3.5493024E 01	-3.8310981E 01	4.9846715E 00	5.1527650E 00	0.610	0.2203	0.956
	60 - 90	-1.0732792E-01	-1.2498159E 01	-1.0771613E 01	3.0656132E 02	-8.8599415E 02	7.0411741E 02	0.296	0.0460	0.600
	90 -180	1.6440227E-01	-1.0873646E 02	2.0814759E 03	-1.8628422E 04	7.16114830E 04	-9.7752532E 04	0.130	0.0107	0.300
200	0 - 30	1.5824273E-01	-1.7556652E 01	7.4389020E 01	-1.71132968E 02	2.0366488E 02	-9.0334494E 01	0.367	0.2195	0.988
	30 - 60	2.8878317E-01	-2.0650241E 01	1.0189706E 02	-2.2098867E 02	2.2147333E 02	-8.7582144E 01	0.622	0.2186	0.918
	60 - 90	3.5173267E-01	-2.8662022E 01	2.0513104E 02	-7.6704046E 02	1.2995214E 03	-8.3699430E 02	0.353	0.0528	0.556
	90 -180	-4.3320860E-01	-4.1386069E 01	3.3700005E 02	-1.7518729E 03	3.9530393E 03	-3.0396313E 03	0.139	0.0098	0.315
250	0 - 30	4.4134520E-01	-2.2973303E 01	1.0377145E 02	-2.4688525E 02	2.7574974E 02	-1.1688074E 02	0.373	0.2248	0.987
	30 - 60	2.5176329E-01	-1.7645678E 01	6.7386765E 01	-8.1769092E 01	1.2398890E 01	1.4927823E 01	0.703	0.2489	0.935
	60 - 90	-2.9900004E-01	-6.2159131E 00	6.9759355E 00	-1.7313657E 01	0.	0.	0.369	0.0550	0.597
	90 -180	6.6305920E-02	-6.0466353E 01	6.0818913E 02	-3.2416041E 03	7.3832475E 03	-5.9278842E 03	0.171	0.0114	0.361
300	0 - 30	2.6677140E-01	-2.0903490E 01	8.3079005E 01	-1.6603813E 02	1.7487695E 02	-7.1918369E 01	0.363	0.2201	0.988
	30 - 60	3.3476184E-01	-1.8860836E 01	7.8034676E 01	-1.2209111E 02	7.1953430E 01	-1.3810461E 01	0.708	0.2475	0.895
	60 - 90	3.1876568E-01	-2.4009990E 01	1.5820119E 02	-5.1813205E 02	6.9745060E 02	-3.4494736E 02	0.405	0.0575	0.565
	90 -180	-1.5079239E-01	-3.0074815E 01	4.8859793E 01	-2.0111961E 01	0.	0.	0.182	0.0098	0.363
350	0 - 30	6.1368154E-02	-1.7386078E 01	7.4820860E 01	-1.8163307E 02	2.2701508E 02	-1.0373808E 02	0.407	0.2612	0.991
	30 - 60	4.0664819E-01	-2.3307583E 01	1.2497035E 02	-2.8521643E 02	2.9960864E 02	-1.2474188E 02	0.715	0.2455	0.871
	60 - 90	2.5969537E-01	-1.9891347E 01	1.2140765E 02	-3.9129099E 02	4.7821131E 02	-1.8381539E 02	0.416	0.0571	0.599
	90 -180	-1.8151628E-01	-3.1455675E 01	1.0614470E 02	-2.0111961E 01	0.	0.	0.203	0.0130	0.340
400	0 - 30	3.5626218E-01	-2.1851283E 01	9.3542482E 01	-2.0333789E 02	2.2602389E 02	-9.5274346E 01	0.428	0.2686	0.989
	30 - 60	4.0015724E-01	-2.2372738E 01	1.1714689E 02	-2.5518129E 02	2.480042CE 02	-9.3654162E 01	0.731	0.2495	0.873
	60 - 90	2.7691518E-01	-2.1625469E 01	1.6333029E 02	-5.9789737E 02	8.2250793E 02	-3.5776469E 02	0.443	0.0597	0.556
	90 -180	6.15009434E-01	-8.9091895E 01	1.04233693E 03	-6.0538517E 03	1.5198477E 04	-1.3507754E 04	0.194	0.0103	0.310

TABLE 14

PROTONS INCIDENT ON CR

PROTONS EMITTED

EMIN = 2.659 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	1.5452726E 00	-3.5984297E 01	1.50222669E 02	-3.0499210E 02	3.0110394E 02	-1.1506686E 02	0.130	0.0662	0.962
	30 - 60	-2.7445715E 00	2.0452299E 01	-1.2718860E 02	3.0693222E 02	-3.2737616E 02	1.2607095E 02	0.168	0.0648	0.911
	60 - 90	-1.1151676E 00	-1.9821390E 01	6.5767073E 01	-1.1293867E 02	6.5986944E 01	0.	0.043	0.0124	0.746
	90 - 180	0.	0.	0.	0.	0.	0.	0.011	0.	0.
50	0 - 30	-1.1825328E-01	-1.5528848E 01	6.5681466E 01	-1.5596761E 02	1.9013746E 02	-8.6931003E 01	0.187	0.1003	0.969
	30 - 60	-0.0679784E-02	-1.9851437E 01	8.9063158E 01	-1.9009391E 02	1.8739039E 02	-7.1929830E 01	0.263	0.0929	0.921
	60 - 90	-2.1644013E 00	7.1723233E 00	-6.0952233E 01	1.1899564E 02	-8.3313949E 01	5.9266497E 00	0.110	0.0250	0.733
	90 - 180	-2.1190400E 00	-1.6975124E 01	1.8263570E 01	2.2532319E-01	0.	0.	0.026	0.0038	0.411
100	0 - 30	4.8299497E-01	-2.2221245E 01	8.5348670E 01	-1.6607643E 02	1.6812257E 02	-6.7059239E 01	0.243	0.1308	0.983
	30 - 60	3.0546948E-01	-2.2220445E 01	1.0259381E 02	-2.2268770E 02	2.2611620E 02	-8.9005949E 01	0.412	0.1436	0.916
	60 - 90	-2.3011507E-01	-1.6982370E 01	5.4849338E 01	-9.9576302E 01	6.2030034E 01	0.	0.201	0.0365	0.657
	90 - 180	-7.5314332E-01	-3.2510911E 01	1.2459738E 02	-1.8664003E 02	0.	0.	0.087	0.0101	0.429
150	0 - 30	-3.5443057E-01	-5.0043293E 00	-5.0007452E 00	3.2621992E 02	-2.3131986E 01	0.	0.271	0.1443	0.977
	30 - 60	2.8346304E-01	-1.9834837E 01	7.3834930E 01	-1.0810945E 02	5.6846152E 01	-5.5974159E 00	0.497	0.1821	0.936
	60 - 90	-7.0226821E-02	-1.6875087E 01	6.3897516E 01	-1.4026984E 02	1.2502019E 02	-4.0249993E 01	0.269	0.0448	0.617
	90 - 180	-3.0557361E-01	-4.5556260E 01	3.2025433E 02	-1.1158266E 03	1.2255697E 03	0.	0.117	0.0101	0.317
200	0 - 30	2.1496235E-01	-1.7099978E 01	5.5180053E 01	-9.4106495E 01	9.5558574E 01	-4.0886101E 01	0.284	0.1580	0.992
	30 - 60	2.3527465E-01	-2.1475959E 01	1.0192464E 02	-2.0886849E 02	1.9550115E 02	-7.2234418E 01	0.545	0.1962	0.911
	60 - 90	2.9695514E-01	-2.3143235E 01	1.1121088E 02	-2.5857787E 02	1.9052859E 02	0.	0.320	0.0481	0.622
	90 - 180	-6.3099406E-01	-2.2923433E 01	3.6536137E 01	-1.5980051E 01	0.	0.	0.140	0.0119	0.396
250	0 - 30	4.2076302E-01	-1.6889706E 01	4.4292861E 01	-5.5364780E 01	4.6313909E 01	-1.9284016E 01	0.334	0.1884	0.985
	30 - 60	3.7118398E-01	-2.1854128E 01	9.7907418E 01	-1.9377314E 02	1.8235032E 02	-7.1823856E 01	0.557	0.1897	0.893
	60 - 90	-9.9360802E-02	-1.0384299E 01	1.7533614E 01	-2.2961617E 01	0.	0.	0.339	0.0490	0.629
	90 - 180	3.6093492E-01	-7.2543026E 01	9.9146512E 02	-7.8413299E 03	2.8168710E 04	-3.6816175E 04	0.172	0.0116	0.305
300	0 - 30	2.834185E-01	-1.9657684E 01	8.6612778E 01	-2.0388928E 02	2.3955788E 02	-1.0411684E 02	0.322	0.1836	0.990
	30 - 60	6.8126105E-01	-3.0168927E 01	1.6796041E 02	-4.0509585E 02	4.4354060E 02	-1.8496363E 02	0.621	0.2066	0.876
	60 - 90	6.2580634E-01	-3.8551091E 01	2.9429784E 02	-1.0646537E 03	1.6825799E 03	-9.7812716E 02	0.357	0.0537	0.594
	90 - 180	-2.2307398E-01	-2.8801517E 01	8.6782652E 01	-1.5003511E 02	0.	0.	0.187	0.0127	0.347
350	0 - 30	3.2118775E-01	-1.8148416E 01	7.0854059E 01	-1.5516606E 02	1.8092967E 02	-7.9733289E 01	0.347	0.1999	0.989
	30 - 60	6.2666073E-01	-2.8219789E 01	1.5723628E 02	-3.8121630E 02	4.2492306E 02	-1.8438743E 02	0.637	0.2033	0.857
	60 - 90	6.7399958E-01	-3.8233634E 01	2.9107120E 02	-1.0204015E 03	1.5297870E 03	-8.383275E 02	0.393	0.0579	0.601
	90 - 180	-4.5970550E-02	-3.0789341E 01	8.3117607E 01	-1.2644686E 02	0.	0.	0.203	0.0122	0.335
400	0 - 30	5.8070250E-01	-2.3930185E 01	1.0617916E 02	-2.4315041E 02	2.7736460E 02	-1.1802537E 02	0.382	0.2255	0.991
	30 - 60	7.5635732E-01	-3.0425723E 01	1.6070750E 02	-3.6044861E 02	3.6943548E 02	-1.4886447E 02	0.669	0.2184	0.873
	60 - 90	4.377258E-01	-1.7099951E 01	4.72254699E 01	-5.8042025E 01	0.	0.	0.425	0.0572	0.575
	90 - 180	4.6564260E-01	-5.8080260E 01	5.5091125E 02	-3.4932796E 03	1.1980826E 04	-1.7912212E 04	0.230	0.0129	0.266

TABLE 15
 PROTONS INCIDENT ON CR
 NEUTRONS EMITTED
 EMIN = 2.659 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-2.7765751E-01	-8.6909512E 00	9.0763104E 01	1.5470853E 01	-3.0501563E 01	1.2422530E 01	0.116	0.0567	0.968
	30 - 60	-2.06649586E 00	9.95314442E-01	-6.0119824E 00	2.1796331E 00	0.	0.	0.120	0.0435	0.871
	60 - 90	-7.6442878E 00	7.0620404E 01	-3.7183652E 02	7.5573996E 02	-5.3674456E 02	0.	0.033	0.0091	0.582
	90 - 180	0.	0.	0.	0.	0.	0.	0.007	0.	0.
50	0 - 30	-2.9755655E-01	-1.9289271E 01	7.5950341E 01	-1.6425912E 02	1.8460322E 02	-8.0217062E 01	0.165	0.0803	0.967
	30 - 60	-2.7984493E-01	-1.3266984E 01	4.9134678E 01	-1.060802E 02	9.5825638E 01	-3.6165240E 01	0.234	0.0718	0.875
	60 - 90	-1.4192946E-01	-3.8335360E 01	2.6813275E 02	-9.5595001E 02	1.5739656E 03	-9.8347660E 02	0.097	0.0201	0.622
	90 - 180	-2.2591570E 00	-1.5517903E 01	1.0598911E 01	0.	0.	0.	0.022	0.0029	0.367
100	0 - 30	5.7162060E-01	-1.9103301E 01	6.2823532E 01	-1.1213754E 02	1.1240288E 02	-4.6462823E 01	0.221	0.1017	0.970
	30 - 60	2.5722407E-01	-1.9511463E 01	7.4360859E 01	-1.2302203E 02	7.0922805E 01	-7.3159350E 00	0.311	0.0810	0.877
	60 - 90	-1.6493265E-01	-2.0184112E 01	7.0577201E 01	-1.3820698E 02	9.3885057E 01	0.	0.169	0.0281	0.653
	90 - 180	-1.2475640E 00	-2.8691936E 01	1.5297746E 02	-5.4289635E 02	6.8289635E 02	0.	0.063	0.0065	0.370
150	0 - 30	1.7912770E-01	-1.5076448E 01	4.2921783E 01	-6.1599211E 01	4.9477431E 01	-1.6542135E 01	0.232	0.1177	0.981
	30 - 60	7.2370568E-02	-1.1138594E 01	1.2094131E 01	4.4533612E 01	-1.0858761E 02	5.8903018E 01	0.378	0.1024	0.902
	60 - 90	4.8861986E-01	-3.2848921E 01	1.8511982E 02	-5.2915983E 02	6.4718234E 02	-2.7860229E 02	0.246	0.0366	0.649
	90 - 180	-7.3594741E-01	-3.3223638E 01	2.3818627E 02	-1.6228227E 03	6.5860751E 03	-1.0683061E 04	0.104	0.0089	0.295
200	0 - 30	5.6082118E-01	-2.1485088E 01	8.1292100E 01	-1.6804934E 02	1.8253195E 02	-7.616370E 01	0.257	0.1306	0.981
	30 - 60	2.8586655E-01	-1.6235627E 01	4.8802825E 01	-5.0619155E 01	-7.9578806E 00	2.1501496E 01	0.405	0.1046	0.859
	60 - 90	4.9126806E-02	-1.4027560E 01	1.2758631E 01	1.2203223E 02	-4.3460277E 02	3.6956877E 02	0.289	0.0405	0.613
	90 - 180	-2.3053623E-01	-4.7912542E 01	5.2450519E 02	-3.7517596E 03	1.2188361E 04	-1.4327137E 04	0.142	0.0109	0.326
250	0 - 30	9.583002E-01	-3.3720451E 01	1.5475378E 02	-3.4520583E 02	3.6865348E 02	-1.4682931E 02	0.249	0.1276	0.979
	30 - 60	6.0649610E-01	-2.7164629E 01	1.3636789E 02	-3.1841455E 02	3.3786014E 02	-1.3535422E 02	0.432	0.1180	0.859
	60 - 90	7.2884528E-01	-3.4267400E 01	1.9616741E 02	-5.0745955E 02	4.2197347E 02	0.	0.328	0.0411	0.511
	90 - 180	3.5862087E-01	-7.5251486E 01	9.3653623E 02	-6.2816858E 03	1.8392037E 04	-1.9287552E 04	0.155	0.0100	0.317
300	0 - 30	9.7059411E-01	-3.0781850E 01	1.4474892E 02	-3.3738429E 02	3.7267254E 02	-1.5164673E 02	0.276	0.1354	0.983
	30 - 60	7.8663655E-01	-2.7587599E 01	1.1815508E 02	-2.2432346E 02	1.9070573E 02	-6.3691546E 01	0.464	0.1220	0.858
	60 - 90	2.7341483E-01	-1.5186468E 01	2.8999771E 01	-3.0630137E 01	0.	0.	0.337	0.0418	0.605
	90 - 180	2.8514147E-01	-5.6629288E 01	4.9405861E 02	-2.1961932E 03	3.2675984E 03	0.	0.195	0.0126	0.276
350	0 - 30	4.3016739E-01	-1.5875350E 01	5.6971414E 01	-1.2281212E 02	1.3610180E 02	-5.5441406E 01	0.273	0.1281	0.990
	30 - 60	7.5181495E-01	-2.7224935E 01	1.2630008E 02	-2.7349113E 02	2.7826384E 02	-1.1249448E 02	0.473	0.1186	0.829
	60 - 90	3.3641092E-01	-1.5568641E 01	3.4781221E 01	-4.5723876E 01	0.	0.	0.358	0.0414	0.560
	90 - 180	6.7883927E-01	-7.5854433E 01	8.3138311E 02	-4.9408357E 03	1.3171053E 04	-1.2552024E 04	0.214	0.0128	0.286
400	0 - 30	6.1060531E-01	-2.7031505E 01	1.2623827E 02	-2.8710607E 02	3.0773620E 02	-1.2143198E 02	0.259	0.1312	0.988
	30 - 60	8.4737238E-01	-2.9074860E 01	1.3613319E 02	-2.9901192E 02	3.0746526E 02	-1.2621656E 02	0.454	0.1061	0.814
	60 - 90	8.8062431E-01	-4.3230293E 01	3.4740620E 02	-1.3511850E 03	2.2219944E 03	-1.3078804E 03	0.352	0.0389	0.545
	90 - 180	4.2710056E-01	-5.1164948E 01	3.9620492E 02	-2.3181035E 03	7.2430431E 03	-8.85887090E 03	0.233	0.0134	0.311

TABLE 16
NEUTRONS INCIDENT ON CR
PROTONS EMITTED
EMIN = 2.659 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-1.5735361E-01	-1.8170952E 01	8.8318526E 01	-2.2657721E 02	2.7240741E 02	-1.2012624E 02	0.096	0.0456	0.945
	30 - 60	-2.8057583E 00	1.4688352E 01	-9.5336365E 01	2.2826339E 02	-2.3989543E 02	9.0548769E 01	0.108	0.0415	0.894
	60 - 90	-1.5330271E 00	-1.2994454E 01	2.2091485E 01	-0.7942641E 01	0.	C.	0.033	0.0087	0.624
	90 - 180	0.	0.	0.	0.	0.	0.	0.006		
50	0 - 30	-5.8292726E-01	-6.5667056E 00	-4.2321960E 00	2.6050194E 01	-6.3156153E 00	-1.1400420E 01	0.116	0.0573	0.957
	30 - 60	-7.3446003E-01	-6.6959321E 00	-1.3641471E 00	5.6001448E 01	-1.1032241E 02	5.9534565E 01	0.193	0.0584	0.866
	60 - 90	7.6831940E-01	-6.0589088E 01	4.9840577E 02	-2.0748026E 03	3.9722498E 03	-2.8087208E 03	0.098	0.0197	0.575
	90 - 180	-2.4097179E 00	-1.6429000E 01	1.6905592E 01	0.	0.	0.	0.020	0.0026	0.352
100	0 - 30	2.5191098E-01	-2.0448568E 01	7.0418682E 01	-1.3383157E 02	1.3865104E 02	-5.7128333E 01	0.148	0.0696	0.976
	30 - 60	-1.8327684E-01	-1.5515783E 01	6.7112995E 01	-1.7480985E 02	2.3283802E 02	-1.2122201E 02	0.274	0.0800	0.839
	60 - 90	-5.8488843E-01	-1.2877929E 01	2.6849831E 01	-6.4788503E 01	1.2987227E 02	-1.1551233E 02	0.149	0.0241	0.550
	90 - 180	-1.1783628E 00	-3.1797703E 01	1.2524050E 02	-2.0888691E 02	0.	0.	0.056	0.0059	0.430
150	0 - 30	3.7207488E-01	-2.3798975E 01	1.0384862E 02	-2.4110716E 02	2.7398663E 02	-1.1515654E 02	0.185	0.0918	0.976
	30 - 60	3.9397614E-01	-2.8333722E 01	1.3907629E 02	-3.2533464E 02	3.5954845E 02	-1.5485169E 02	0.306	0.0883	0.848
	60 - 90	-6.0127463E-03	-2.1128967E 01	8.6978829E 01	-2.0442224E 02	1.5678279E 02	C.	0.206	0.0282	0.615
	90 - 180	2.7010666E-01	-8.9129887E 01	1.0541264E 03	-6.6786482E 03	1.9914122E 04	-2.2101462E 04	0.092	0.0088	0.413
200	0 - 30	4.4973305E-01	-2.3418706E 01	9.0791750E 01	-1.8303585E 02	1.9051497E 02	-7.6864935E 01	0.210	0.1047	0.981
	30 - 60	3.3261808E-01	-2.3131682E 01	8.4881227E 01	-1.4200593E 02	1.0368338E 02	-3.6099325E 01	0.310	0.0835	0.859
	60 - 90	2.8306189E-01	-3.2435217E 01	1.8175068E 02	-4.5891198E 02	4.0756097E 02	-5.9968621E 01	0.233	0.0343	0.567
	90 - 180	6.1888767E-02	-6.6539170E 01	5.5514133E 02	-2.1148765E 03	2.6304951E 03	0.	0.111	0.0084	0.299
250	0 - 30	5.0108340E-01	-2.4979776E 01	1.0930523E 02	-2.4748784E 02	2.7163359E 02	-1.1014422E 02	0.222	0.1128	0.987
	30 - 60	3.8656300E-01	-2.5596125E 01	1.1170992E 02	-2.2416598E 02	2.0956132E 02	-7.9013959E 01	0.346	0.0952	0.873
	60 - 90	2.0084301E-01	-2.5717838E 01	1.2368747E 02	-2.4160585E 02	-2.7793099E 00	2.3863886E 02	0.259	0.0345	0.538
	90 - 180	-2.8840993E-01	-3.6041268E 01	1.6935864E 02	-5.3926368E 02	7.3729324E 02	0.	0.143	0.0095	0.268
300	0 - 30	6.4054654E-01	-2.8644342E 01	1.4016191E 02	-3.4250112E 02	3.8749330E 02	-1.5872715E 02	0.208	0.0977	0.984
	30 - 60	5.4841480E-01	-2.8509549E 01	1.3703885E 02	-3.0968395E 02	3.3130364E 02	-1.4201358E 02	0.363	0.0918	0.819
	60 - 90	3.1367198E-01	-2.6934169E 01	1.2102839E 02	-2.5925047E 02	1.8114795E 02	0.	0.269	0.0360	0.564
	90 - 180	9.0782923E-02	-4.4133595E 01	1.1075430E 02	1.0856933E 03	-7.5037231E 03	1.1742676E 04	0.160	0.0094	0.296
350	0 - 30	5.6581203E-01	-2.5807977E 01	1.1003678E 02	-2.3978667E 02	2.5067573E 02	-9.6234335E 01	0.221	0.1118	0.989
	30 - 60	6.5617315E-01	-3.0792235E 01	1.5377791E 02	-3.4708977E 02	3.5390543E 02	-1.3764893E 02	0.390	0.0991	0.851
	60 - 90	3.6862449E-01	-3.0050442E 01	1.8325218E 02	-5.7738847E 02	7.5463268E 02	-3.5453200E 02	0.277	0.0331	0.521
	90 - 180	3.8063850E-01	-7.4180407E 01	8.4607420E 02	-5.4595460E 03	1.6894808E 04	-2.1468175E 04	0.163	0.0090	0.234
400	0 - 30	6.2957234E-01	-2.9347301E 01	1.4141078E 02	-3.2306304E 02	3.4367213E 02	-1.3465724E 02	0.232	0.1115	0.984
	30 - 60	5.8761643E-01	-2.9074821E 01	1.5025637E 02	-3.5830922E 02	3.8845579E 02	-1.6079391E 02	0.396	0.0976	0.837
	60 - 90	1.3594065E-01	-1.5019926E 01	2.8059510E 01	-2.7432730E 01	0.	C.	0.308	0.0389	0.604
	90 - 180	1.3029325E-01	-4.5446298E 01	2.2929264E 02	-5.1732702E 02	0.	0.	0.181	0.0098	0.264

TABLE 17
NEUTRONS INCIDENT ON CR
NEUTRONS EMITTED
EMIN = 2.659 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-5.8066802E-01	-4.5573267E 00	2.4741586E 00	1.4544753E 01	-1.5258448E 01	0.	0.174	0.0865	0.944
	30 - 60	-1.7616962E 00	-1.9246403E 00	2.4003217E 01	-9.7544837E 01	1.3568906E 02	-6.3568489E 01	0.182	0.0717	0.919
	60 - 90	-2.6492935E 00	1.5497328E 00	-1.6052060E 01	1.2101227E 01	0.	0.	0.053	0.0144	0.691
	90 - 180	0.	0.	0.	0.	0.	0.	0.009	0.	0.
50	0 - 30	6.3077230E-01	-2.4617060E 01	1.1317509E 02	-2.5042234E 02	2.6929615E 02	-1.1119821E 02	0.227	0.1130	0.967
	30 - 60	-1.2482615E 00	8.8040507E 00	-8.4659340E 01	2.4480141E 02	-2.8997753E 02	1.1794481E 02	0.322	0.1091	0.897
	60 - 90	-9.0933735E-01	-9.2948872E 00	7.1992456E 00	3.6513273E 01	-1.1966420E 02	8.9122419E 01	0.127	0.0277	0.729
	90 - 180	-1.4482940E 00	-2.9861659E 01	9.2003157E 01	-1.7512479E 02	0.	0.	0.021	0.0024	0.278
100	0 - 30	1.5587573E-01	-1.3551349E 01	4.0346295E 01	-6.4497265E 01	6.7296453E 01	-3.1335544E 01	0.291	0.1554	0.978
	30 - 60	1.9919530E-01	-1.5080237E 01	4.9841900E 01	-6.6039973E 01	2.7769316E 01	0.	0.487	0.1694	0.924
	60 - 90	1.3037307E-01	-1.9689965E 01	5.0381662E 01	1.3900458E 01	-2.3577634E 02	2.1500240E 02	0.246	0.0451	0.662
	90 - 180	-1.5444052E 00	-4.9908093E 00	-1.3575526E 02	6.362362E 02	-8.1884179E 02	0.	0.081	0.0085	0.415
150	0 - 30	1.5101161E-01	-1.2882939E 01	4.2498230E 01	-9.3027178E 01	1.2771426E 02	-6.1157817E 01	0.320	0.1743	0.978
	30 - 60	1.2397005E-01	-1.4368670E 01	5.0516070E 01	-7.1720091E 01	3.9028174E 01	-8.3288397E 00	0.541	0.1852	0.917
	60 - 90	2.4629176E-01	-1.7607639E 01	4.6109388E 01	-4.8129727E 01	-5.1721770E 01	7.8327155E 01	0.319	0.0496	0.676
	90 - 180	-5.1926619E-01	-2.8230665E 01	9.4015415E 01	-2.4960440E 02	5.3004546E 02	-6.6160159E 02	0.129	0.0115	0.401
200	0 - 30	6.9121674E-01	-2.2240673E 01	9.2269149E 01	-2.1416759E 02	2.5533030E 02	-1.1336680E 02	0.344	0.1910	0.983
	30 - 60	6.0904624E-01	-2.2118521E 01	9.7275559E 01	-1.8510893E 02	1.5774660E 02	-5.3095340E 01	0.635	0.2096	0.917
	60 - 90	1.1138568E-01	-1.6597785E 01	6.3600565E 01	-9.6023854E 01	-5.1364228E 01	1.2860794E 02	0.364	0.0597	0.609
	90 - 180	-7.1456908E-01	-1.5782729E 01	5.8611135E 00	5.3852831E 00	-3.4390391E 01	0.	0.165	0.0128	0.304
250	0 - 30	8.5542264E-01	-2.6046117E 01	1.2075091E 02	-2.7138859E 02	2.9100359E 02	-1.1583177E 02	0.384	0.2080	0.984
	30 - 60	4.3562323E-01	-1.7902329E 01	6.9960188E 01	-1.0855949E 02	6.8440187E 01	-1.9045535E 01	0.664	0.2142	0.875
	60 - 90	2.5156952E-01	-1.2896738E 01	2.3173618E 01	-2.4129640E 01	0.	0.	0.391	0.0554	0.645
	90 - 180	-3.0702206E-01	-2.8527794E 01	1.2221586E 02	-4.7407150E 02	6.9691090E 02	0.	0.176	0.0123	0.325
300	0 - 30	1.0230681E 00	-2.8445671E 01	1.2178992E 02	-2.5774711E 02	2.7101856E 02	-1.0830137E 02	0.406	0.2279	0.986
	30 - 60	5.8980060E-01	-2.0175977E 01	8.7923418E 01	-1.7168109E 02	1.5579857E 02	-5.7868845E 01	0.685	0.2192	0.894
	60 - 90	9.6464602E-01	-3.7038489E 01	2.5378569E 02	-2.2480356E 02	1.1364337E 03	-5.6285954E 02	0.463	0.0658	0.658
	90 - 180	-1.6069567E-01	-3.7322420E 01	1.6069565E 02	2.9929057E 02	-3.13047577E 03	5.3699461E 03	0.231	0.0161	0.323
350	0 - 30	7.3324091E-01	-2.4643102E 01	1.0491310E 02	-2.2435216E 02	2.4959926E 02	-9.7960734E 01	0.391	0.2229	0.989
	30 - 60	7.1838893E-01	-2.5421413E 01	1.1949085E 02	-2.3549406E 02	2.0810431E 02	-7.3266010E 01	0.717	0.2372	0.905
	60 - 90	5.5770568E-01	-2.3356467E 01	1.2924908E 02	-3.4119288E 02	2.9699453E 02	-3.1218362E 01	0.469	0.0663	0.587
	90 - 180	3.8115660E-01	-3.7453262E 01	1.2280410E 02	-1.7533163E 02	0.	0.	0.262	0.0160	0.371
400	0 - 30	6.7075146E-01	-2.2250598E 01	9.0529056E 01	-1.9782467E 02	2.2422844E 02	-9.6184626E 01	0.402	0.2314	0.988
	30 - 60	7.7578098E-01	-2.2026189E 01	9.7265564E 01	-1.8654909E 02	1.6396625E 02	-5.9999604E 01	0.771	0.2371	0.874
	60 - 90	8.9817721E-01	-2.7459947E 01	1.2330500E 02	-1.6420862E 02	-2.4011244E 02	4.2811620E 02	0.514	0.0666	0.540
	90 - 180	5.8989452E-01	-6.5259975E 01	8.1161757E 02	-5.8394967E 03	1.8043650E 04	-1.9631398E 04	0.256	0.0143	0.326

TABLE 18

PROTONS INCIDENT ON CU

PROTONS EMITTED

EMIN = 3.067 (MEV)

EO (MEV)	ANG. (INT.)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-1.3488671E 00	3.1931240E 00	-2.1244123E 01	1.6089305E 01	3.4685633E 01	-3.5841663E 01	0.1118	0.0576	0.939
	30 - 60	2.2065046E-01	-2.5233272E 01	9.9827087E 01	-2.6265824E 02	2.0436021E 02	-8.3583009E 01	0.128	0.0521	0.889
	60 - 90	1.4976106E 01	-3.0963021E 02	2.0819760E 03	-6.8644062E 03	1.0909020E 04	-6.6728398E 03	0.038	0.0100	0.555
	90 -180	0.	0.	0.	0.	0.	0.	0.010		
50	0 - 30	4.1368129E-01	-2.7295052E 01	1.3400275E 02	-3.1460485E 02	3.4398770E 02	-1.3871365E 02	0.159	0.0848	0.970
	30 - 60	-4.0472838E-01	-1.3024471E 01	4.1074075E 01	-5.4157940E 01	2.2307253E 01	0.	0.247	0.0913	0.944
	60 - 90	-1.1390586E 00	-1.0650387E 01	2.193648E 01	-2.1530083E 01	-3.8033892E 01	4.9121166E 01	0.094	0.0207	0.670
	90 -180	1.4606195E-01	-7.4375386E 01	5.5822082E 02	-1.9917486E 03	2.4362334E 03	0.	0.028	0.0037	0.339
100	0 - 30	7.2655213E-01	-2.3591904E 01	8.6815436E 01	-1.6898926E 02	1.7578960E 02	-7.2582874E 01	0.227	0.1160	0.980
	30 - 60	-3.2486289E-01	-9.5803260E 00	2.5986727E 01	-2.6848255E 01	4.6767544E 00	1.6969478E 00	0.394	0.1376	0.920
	60 - 90	-5.7289639E-02	-2.1865757E 01	1.0115529E 02	-2.6492504E 02	2.8719109E 02	-1.0210253E 02	0.188	0.0315	0.594
	90 -180	-1.9416571E 00	-3.2149717E 00	-5.8338067E 01	9.0360991E 01	0.	0.	0.068	0.0066	0.337
150	0 - 30	6.677608E-01	-2.6160819E 01	1.1162930E 02	-2.5216448E 02	2.8825130E 02	-1.2424321E 02	0.254	0.1385	0.977
	30 - 60	1.779983E-01	-1.5140369E 01	4.5810125E 01	-5.1540948E 01	9.7951536E 00	7.7955397E 00	0.457	0.1398	0.917
	60 - 90	6.2731994E-01	-4.3613225E 01	3.3112862E 02	-1.1940288E 03	1.8611147E 03	-1.0430331E 03	0.243	0.0391	0.625
	90 -180	-1.4014856E 00	1.0499867E 01	-4.6553293E 02	2.7626243E 03	-5.8228478E 03	3.4513606E 03	0.108	0.0099	0.356
200	0 - 30	5.1278002E-01	-2.7096423E 01	1.1410661E 02	-2.3244048E 02	2.3778623E 02	-9.4074355E 01	0.272	0.1571	0.988
	30 - 60	3.3423876E-01	-2.1675647E 01	1.0105586E 02	-2.1206959E 02	2.0797503E 02	-8.1610081E 01	0.513	0.1738	0.899
	60 - 90	1.2118982E-01	-2.1448161E 01	1.0687951E 02	-2.8094480E 02	3.1211556E 02	-1.2629508E 02	0.304	0.0506	0.605
	90 -180	-3.0973827E-01	-6.1778693E 01	9.0778457E 02	-7.5683696E 03	2.8802740E 04	-4.0374720E 04	0.119	0.0099	0.284
250	0 - 30	2.4845048E-01	-2.2171747E 01	1.0012188E 02	-2.2413533E 02	2.4753789E 02	-1.0281365E 02	0.300	0.1739	0.988
	30 - 60	5.6521796E-01	-2.2714437E 01	9.1911503E 01	-1.5471295E 02	1.0935642E 02	-2.8123664E 01	0.563	0.1873	0.932
	60 - 90	5.2091441E-01	-3.1336704E 01	2.2374716E 02	-2.3580269E 02	1.4092098E 03	-8.8925214E 02	0.351	0.0531	0.572
	90 -180	2.5547186E-01	-5.9331903E 01	4.9941425E 02	-2.2015628E 03	4.2097400E 03	-2.7964497E 03	0.169	0.0136	0.379
300	0 - 30	9.4655678E-02	-1.0703607E 01	1.2990231E 01	9.6260965E 00	-1.2799049E 01	0.	0.317	0.1756	0.985
	30 - 60	6.0006753E-01	-2.7323360E 01	1.4385033E 02	-3.3242839E 02	3.5195103E 02	-1.4423251E 02	0.586	0.1913	0.884
	60 - 90	-2.0375768E-02	-1.0895106E 01	1.8459943E 01	-2.098020E 01	0.	0.	0.349	0.0523	0.661
	90 -180	6.0156028E-02	-3.3383055E 01	9.9695884E 01	-1.2523477E 02	0.	0.	0.207	0.0149	0.368
350	0 - 30	6.1067865E-01	-2.7374503E 01	1.2578099E 02	-2.8196124E 02	3.0776526E 02	-1.2627406E 02	0.347	0.2019	0.988
	30 - 60	4.6147369E-01	-1.9097733E 01	7.2578909E 01	-1.0700291E 02	5.8671850E 01	-1.0932258E 01	0.632	0.2041	0.881
	60 - 90	6.5703601E-01	-2.9694126E 01	1.5880884E 02	-3.6134450E 02	2.0248324E 02	9.0845271E 01	0.389	0.0534	0.560
	90 -180	-6.6964946E-03	-3.4248984E 01	1.1366835E 02	-1.5846845E 02	0.	0.	0.203	0.0148	0.382
400	0 - 30	7.0640174E-01	-2.5897883E 01	1.1099095E 02	-2.4076857E 02	2.6250380E 02	-1.0845691E 02	0.372	0.2171	0.991
	30 - 60	7.1910504E-01	-2.9101168E 01	1.5965826E 02	-3.8437275E 02	4.2677909E 02	-1.8447783E 02	0.639	0.2009	0.846
	60 - 90	7.6174445E-01	-3.6820306E 01	2.6599633E 02	-9.2280123E 02	1.3074238E 03	-6.5550369E 02	0.403	0.0535	0.560
	90 -180	4.9326953E-01	-5.0906150E 01	2.3449824E 02	3.0432703E 02	-5.8743979E 03	1.1262807E 04	0.225	0.0126	0.293

TABLE 19
 PROTONS INCIDENT ON CU
 NEUTRONS EMITTED
 EMIN = 3.067 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-6.1173595E-01	-2.8809900E 00	-1.0360796E 01	3.5260487E 01	-2.5277880E 01	0.	0.123	0.0584	0.932
	30 - 60	-4.2050318E 00	2.7784949E 01	-1.2810184E 02	2.5437012E 02	-2.3612246E 02	8.0864960E 01	0.116	0.0449	0.890
	60 - 90	-2.9483084E 00	3.4148154E 00	-2.5304280E 01	1.9328873E 01	0.	0.	0.033	0.0085	0.632
	90 - 180	0.	0.	0.	0.	0.	0.	0.006	0.	0.
50	0 - 30	-2.7164728E-01	-9.3204960E 00	3.9894727E 01	-1.1890616E 02	1.6918085E 02	-8.3955921E 01	0.173	0.0809	0.960
	30 - 60	-9.5314598E-02	-2.0314266E 01	1.0028773E 02	-2.5123880E 02	2.9217598E 02	-1.3048675E 02	0.207	0.0651	0.853
	60 - 90	-1.8960196E 00	4.6978666E-01	-2.0193925E 01	1.5381882E 01	0.	0.	0.085	0.0171	0.626
	90 - 180	-5.0513217E 00	7.0288674E 01	-8.6700486E 02	4.3005270E 03	-1.0515563E 04	1.0401764E 04	0.025	0.0032	0.305
100	0 - 30	3.2079363E-01	-1.6927844E 01	5.0247579E 01	-6.1620724E 01	7.9796898E 01	-3.3793289E 01	0.190	0.0900	0.978
	30 - 60	5.4485788E-02	-1.3560082E 01	2.9236157E 01	3.0894584E-01	-5.8735537E 01	3.8529793E 01	0.333	0.0995	0.857
	60 - 90	-4.2013450E-01	-9.7464311E 00	3.8102990E 00	1.0519545E 01	-1.5585745E 01	0.	0.187	0.0305	0.654
	90 - 180	2.9986165E-01	-7.0873562E 01	5.5634608E 02	-1.9817977E 03	2.3692995E 03	0.	0.078	0.0084	0.356
150	0 - 30	9.1190269E-01	-3.1070364E 01	1.3924491E 02	-2.9399098E 02	2.9349745E 02	-1.0989197E 02	0.230	0.1127	0.990
	30 - 60	5.6295652E-01	-2.5361219E 01	1.1685347E 02	-2.5603581E 02	2.6044734E 02	-1.0395659E 02	0.372	0.1015	0.863
	60 - 90	3.8184240E-01	-2.7107701E 01	1.4758902E 02	-4.5378988E 02	6.1851401E 02	-3.0579369E 02	0.260	0.0392	0.637
	90 - 180	-1.1293014E 00	1.8112390E 01	-7.9451826E 02	7.0465443E 03	-2.5427604E 04	3.1740361E 04	0.143	0.0119	0.314
200	0 - 30	4.1757646E-01	-1.8108074E 01	5.8034753E 01	-1.0295066E 02	1.0593913E 02	-4.4275633E 01	0.269	0.1424	0.984
	30 - 60	4.9115531E-01	-2.2511429E 01	9.9658619E 01	-2.1261401E 02	2.1192562E 02	-8.4489361E 01	0.405	0.1068	0.864
	60 - 90	4.9374272E-01	-2.6624641E 01	1.2455976E 02	-3.2359603E 02	3.7719475E 02	-1.8056754E 02	0.285	0.0381	0.578
	90 - 180	-3.9794803E-01	-3.3702666E 01	2.7546304E 02	-2.1046590E 03	7.6352202E 03	-9.8733152E 03	0.143	0.0112	0.324
250	0 - 30	1.0059568E 00	-3.3213668E 01	1.7397618E 02	-4.2777454E 02	4.7618178E 02	-1.9149372E 02	0.273	0.1331	0.984
	30 - 60	5.2496970E-01	-1.8250685E 01	4.9426470E 01	-3.0098717E 01	-4.8380865E 01	4.2622399E 01	0.434	0.1083	0.861
	60 - 90	7.3406652E-01	-3.2024700E 01	2.026003E 02	-7.3274141E 02	1.1667715E 03	-6.6541601E 02	0.328	0.0404	0.644
	90 - 180	-1.3797856E-01	-2.6712657E 01	4.6113322E 01	-3.0914851E 01	0.	0.	0.189	0.0139	0.443
300	0 - 30	5.8621535E-01	-1.8362671E 01	5.6091041E 01	-9.3828056E 01	8.9943966E 01	-3.5153972E 01	0.276	0.1353	0.989
	30 - 60	7.4824074E-01	-2.2673824E 01	7.3280580E 01	-7.4326468E 01	-1.8980908E 01	4.6461694E 01	0.479	0.1221	0.864
	60 - 90	7.4464168E-01	-2.9178156E 01	1.3345949E 02	-3.037780E 02	2.2726645E 02	0.	0.343	0.0411	0.602
	90 - 180	-2.8345624E-02	-2.9065090E 01	6.7837021E 01	-8.1875918E 01	0.	0.	0.206	0.0136	0.351
350	0 - 30	1.0098100E 00	-3.0510132E 01	1.3019026E 02	-2.7208341E 02	2.7216488E 02	-1.0159649E 02	0.249	0.1153	0.991
	30 - 60	1.1641764E 00	-3.7138013E 01	2.9594363E 02	-5.2608532E 02	6.0896935E 02	-2.6442505E 02	0.483	0.1125	0.853
	60 - 90	9.2962074E-01	-3.7300713E 01	2.4342332E 02	-7.8898956E 02	1.0971653E 03	-5.4661912E 02	0.394	0.0502	0.621
	90 - 180	3.7958268E-01	-4.8591602E 01	4.2625219E 02	-2.6288602E 03	7.7178642E 03	-8.3531449E 03	0.240	0.0150	0.297
400	0 - 30	9.2330636E-01	-2.8166355E 01	1.3236246E 02	-3.1062166E 02	3.4110732E 02	-1.3692570E 02	0.262	0.1151	0.978
	30 - 60	1.2190453E 00	-3.7838238E 01	1.30181928E 02	-5.3750967E 02	6.1975483E 02	-2.6730518E 02	0.515	0.1216	0.839
	60 - 90	5.9368417E-01	-1.7560343E 01	4.2260739E 01	-5.5302257E 01	0.	0.	0.414	0.0454	0.550
	90 - 180	8.7091255E-01	-8.0331661E 01	9.9277264E 02	-6.8074542E 03	2.0607338E 04	-2.2491213E 04	0.240	0.0129	0.325

TABLE 20
NEUTRONS INCIDENT ON CU
PROTONS EMITTED
EMIN = 3.067 (MEV)

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	1.3532142E 00	-2.6939242E 01	6.7272731E 01	-6.650245E 01	2.2000565E 01	C.	0.084	0.0409	0.948
	30 - 60	-5.2790028E 00	2.9522931E 01	-8.3849083E 01	4.2968050E 01	8.5582662E 01	-7.7690097E 01	0.095	0.0368	0.858
	60 - 90	9.9002553E 00	-2.2372647E 02	1.45114337E 03	-4.6338047E 03	7.1972231E 03	-4.3584574E 03	0.007	0.0068	0.553
	90 - 180	0.	0.	0.	0.	C.	C.			
50	0 - 30	-9.8630962E-01	-1.8262411E-01	-2.7963697E 01	6.441501E 01	-3.8197661E 01	0.	0.113	0.0538	0.960
	30 - 60	4.3489242E-01	-3.1728678E 01	1.5622631E 02	-3.9023780E 02	4.7094154E 02	-2.1896202E 02	0.172	0.0580	0.831
	60 - 90	-1.6601372E 00	6.5917935E 00	1.6888820E 01	-4.0168706E 01	C.	0.	0.073	0.0138	0.592
	90 - 180	-2.2553749E 00	-1.5403751E 01	4.0635822E 00	2.4070659E 01	C.	0.	0.019	0.0024	0.289
100	0 - 30	-7.2282522E-02	-1.3777312E 01	2.7320846E 01	-2.2651380E 01	1.6203343E 01	-8.6162765E 00	0.151	0.0754	0.972
	30 - 60	1.2638391E-01	-1.9366615E 01	7.3010514E 01	-1.6782213E 02	2.1435227E 02	-1.1225605E 02	0.247	0.0707	0.832
	60 - 90	-1.2195559E 00	-3.3515974E 00	-1.1651108E 01	9.3123417E 00	C.	0.	0.134	0.0217	0.565
	90 - 180	-5.6233466E-01	-4.8099096E 01	2.8740225E 02	-8.9102373E 02	9.8040725E 02	0.	0.056	0.0058	0.374
150	0 - 30	5.5954937E-01	-2.9026522E 01	1.3748025E 02	-3.2614617E 02	3.6347677E 02	-1.4834555E 02	0.164	0.0782	0.977
	30 - 60	1.1634761E-01	-2.0556177E 01	8.8147329E 01	-1.8507025E 02	1.8266443E 02	-7.1640365E 01	0.303	0.0866	0.874
	60 - 90	-7.2346392E-01	-9.1951180E 00	9.9823470E 00	-7.2255576E 00	0.	0.	0.180	0.0309	0.622
	90 - 180	-1.3943916E 00	3.9406772E 00	-3.66119394E 02	1.8898326E 03	-2.7904924E 03	0.	0.086	0.0071	0.377
200	0 - 30	1.4001813E-01	-1.9335659E 01	7.8776911E 01	-1.7291878E 02	1.8718113E 02	-7.4900374E 01	0.188	0.0932	0.981
	30 - 60	3.6810243E-01	-2.7368943E 01	1.2734511E 02	-2.7858747E 02	2.8635228E 02	-7.1592930E 02	0.307	0.0869	0.878
	60 - 90	8.1786127E-02	-1.9199414E 01	5.2321001E 01	-6.3067430E 01	0.	0.	0.229	0.0305	0.555
	90 - 180	-1.3948592E 00	1.9948946E 01	-8.0409610E 02	6.4695064E 03	-2.0980150E 04	2.3717722E 04	0.116	0.0091	0.329
250	0 - 30	4.9789999E-01	-2.7811740E 01	1.2300713E 02	-2.6763910E 02	2.7894093E 02	-1.0843589E 02	0.182	0.0873	0.976
	30 - 60	2.4494063E-01	-2.0511518E 01	7.6592429E 01	-1.4129391E 02	1.3371756E 02	-5.7176908E 01	0.337	0.0924	0.858
	60 - 90	2.8062013E-01	-2.7436169E 01	1.4091076E 02	-4.0470437E 02	5.2806780E 02	-2.8136032E 02	0.240	0.0307	0.560
	90 - 180	-2.0011615E-01	-3.8537544E 01	2.11399082E 02	-7.2543760E 02	8.3030987E 02	0.	0.148	0.0105	0.316
300	0 - 30	6.5670556E-01	-2.1081896E 01	5.2183551E 01	-5.3279397E 01	2.1006083E 01	0.	0.199	0.0887	0.983
	30 - 60	5.1990954E-01	-2.7549660E 01	1.2227873E 02	-2.4584593E 02	2.2462186E 02	-7.9316085E 01	0.366	0.1013	0.883
	60 - 90	8.1037116E-01	-5.1209613E 01	4.00673515E 02	-1.5765684E 03	2.7307961E 03	-1.7369619E 03	0.251	0.0329	0.565
	90 - 180	2.6359961E-01	-7.2968727E 01	8.7090291E 01	-5.3812938E 03	1.4356703E 04	-1.3656582E 04	0.156	0.0109	0.342
350	0 - 30	7.9645181E-01	-3.1987430E 01	1.5994863E 02	-3.8413910E 02	4.2238110E 02	-1.6843822E 02	0.213	0.0982	0.985
	30 - 60	3.3463018E-01	-2.1493856E 01	8.9311053E 01	-1.8932901E 02	1.9739335E 02	-8.4255830E 01	0.357	0.0901	0.842
	60 - 90	7.7632446E-01	-4.8967048E 01	3.7847825E 02	-1.4195547E 03	2.3462088E 03	-1.4158703E 03	0.258	0.0319	0.574
	90 - 180	4.5697033E-01	-6.4739792E 01	5.6403254E 02	-2.7210946E 03	5.9833226E 03	-4.9585912E 03	0.184	0.0115	0.323
400	0 - 30	8.3715719E-01	-3.4047553E 01	1.7344349E 02	-4.1947173E 02	4.6290157E 02	-1.8520143E 02	0.214	0.1005	0.990
	30 - 60	6.9206715E-01	-3.2792533E 01	1.7056226E 02	-4.1555592E 02	6.7147670E 02	-2.0588725E 02	0.369	0.0928	0.829
	60 - 90	4.0598761E-01	-3.0801294E 01	1.8379703E 02	-5.6840211E 02	7.1936552E 02	-2.9901462E 02	0.276	0.0334	0.567
	90 - 180	3.4606754E-01	-6.1525788E 01	6.95111079E 02	-5.4344032E 03	2.1002062E 04	-3.0932263E 04	0.190	0.0106	0.274

TABLE 21
NEUTRONS INCIDENT ON CU
NEUTRONS EMITTED
EMIN = 3.067 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	2.5312708E-01	-1.2319763E 01	2.9580331E 01	-3.7993723E 01	3.5594714E 01	-1.7872629E 01	0.160	0.0827	0.958
	30 - 60	1.6683175E 00	-3.9459106E 01	1.6620053E 02	3.4138786E 02	3.3097858E 02	-1.2315847E 02	C.056	0.0716	0.909
	60 - 90	-6.4899372E 00	5.0041478E 01	-2.1272669E 02	3.3256693E 02	-1.8121659E 02	0.	C.007	0.0164	0.743
	90 -180	0.	0.	0.	0.	0.	0.			
50	0 - 30	-4.6597156E-01	-6.4564809E 00	1.7372334E 01	-3.7439838E 01	5.6280950E 01	-3.1373026E 01	0.224	0.1187	0.971
	30 - 60	-2.3784066E-01	-8.8856865E 00	1.8989025E 01	-2.1725055E 01	1.7067877E 01	-1.1086592E 01	0.314	0.1081	0.908
	60 - 90	-1.8206576E 00	1.1645213E 01	-1.4478345E 02	5.253131E 02	-8.2099780E 02	0.133	0.0305	0.0305	0.695
	90 -180	-1.8136755E 00	-1.3663154E 01	-2.1126017E 01	6.6296251E 01	0.	0.027	0.0034	0.0034	0.364
100	0 - 30	5.6087179E-01	-1.6497801E 01	5.3798710E 01	-9.8984588E 01	1.0646897E 02	-4.7068233E 01	0.290	0.1444	0.978
	30 - 60	-3.2148817E-02	-1.0243630E 01	2.9235139E 01	-4.1025949E 01	2.9856994E 01	-1.3073668E 01	0.468	0.1569	0.935
	60 - 90	-4.6206484E-01	-7.9708701E 00	7.7876540E 00	-6.5070503E 00	0.	0.	0.246	0.0463	0.626
	90 -180	-6.0098909E-01	-6.3054425E 01	8.7642109E 02	-6.6257207E 03	1.7853869E 04	-1.8976049E 04	0.083	0.0094	0.364
150	0 - 30	3.4077308E-01	-1.3967299E 01	5.3685819E 01	-1.3131544E 02	4.6919927E 02	-7.9634006E 01	0.320	0.1645	0.983
	30 - 60	-2.7438317E-01	-1.4519607E 01	5.0382487E 01	-7.3948515E 01	4.1041057E 01	-8.1937095E 00	0.579	0.1956	0.919
	60 - 90	-6.2780457E-02	-1.1951346E 01	1.5969214E 01	-4.1737238E 01	-1.8756732E 02	1.5810164E 02	0.294	0.0478	0.649
	90 -180	-5.6164552E-01	-1.9005975E 01	1.2063908E 01	6.1276769E 01	-1.1726855E 02	0.	C.154	0.0142	0.367
200	0 - 30	6.0223435E-01	-1.7454718E 01	5.1715255E 01	-8.9628297E 01	1.0014400E 02	-4.6585888E 01	0.334	0.1793	0.988
	30 - 60	1.0006027E 00	-2.8852049E 01	1.4009872E 02	-2.9471386E 02	2.7436441E 02	-9.6218421E 01	0.660	0.2072	0.940
	60 - 90	5.9029630E-01	-2.4287561E 01	1.0922901E 02	-2.4049661E 02	1.6815130E 02	0.	0.370	0.0534	0.590
	90 -180	9.9060751E-02	-5.0422155E 01	5.1339413E 02	-3.3666049E 03	1.0542982E 04	-1.2514756E 04	0.175	0.0141	0.334
250	0 - 30	5.8983095E-01	-1.9413982E 01	8.5123550E 01	-2.0770359E 02	2.5085058E 02	-1.1077657E 02	0.358	0.1911	0.988
	30 - 60	5.8549123E-01	-1.9611520E 01	7.9206191E 01	-1.3458324E 02	9.7365357E 01	-2.7584000E 01	0.668	0.2159	0.918
	60 - 90	6.5891655E-01	-2.2278197E 01	1.1382968E 02	-3.1853748E 02	3.1708975E 02	-7.2724037E 01	0.443	0.0576	0.612
	90 -180	5.8800012E-01	-6.9574291E 01	6.9066383E 02	-3.3582514E 03	7.0016971E 03	-5.2213466E 03	0.214	0.0177	0.372
300	0 - 30	8.3677772E-01	-2.2971758E 01	9.1361097E 01	-1.9297043E 02	2.1309353E 02	-9.0428107E 01	0.393	0.2145	0.986
	30 - 60	7.6187531E-01	-1.9875182E 01	7.4930744E 01	-1.1121102E 02	5.9185389E 01	-8.6205559E 00	C.736	0.2248	0.912
	60 - 90	8.6621815E-01	-3.2696895E 01	2.1835802E 02	-7.5010459E 02	1.1438477E 03	-6.5463186E 02	0.447	0.0615	0.581
	90 -180	1.7604946E-01	-3.29555390E 01	7.8082134E 01	4.1621848E 02	-3.3247645E 03	5.3473464E 03	0.231	0.0149	0.335
350	0 - 30	5.9017733E-01	-1.8466023E 01	7.4252537E 01	-1.7364413E 02	2.0950732E 02	-9.2238275E 01	0.378	0.2061	0.988
	30 - 60	7.9427943E-01	-2.3087515E 01	1.0890137E 02	-2.2606731E 02	2.1578055E 02	-8.2214373E 01	C.787	0.2525	0.893
	60 - 90	9.6257588E-01	-3.5303434E 01	2.5491614E 02	-9.0466037E 02	1.4042577E 03	-8.1090915E 02	C.499	0.0688	0.569
	90 -180	8.2204702E-01	-6.6672498E 01	7.1795434E 02	-4.5438877E 03	1.3597382E 04	-1.5475004E 04	0.284	0.0181	0.308
400	0 - 30	1.2545789E 00	-3.6891614E 01	1.8626565E 02	-4.3303021E 02	4.7029554E 02	-1.8921186E 02	0.425	0.2356	0.986
	30 - 60	9.7206962E-01	-2.6036901E 01	1.2239320E 02	-2.5408720E 02	2.4302136E 02	-9.3004457E 01	C.765	0.2303	0.883
	60 - 90	9.8041312E-01	-3.1495106E 01	2.0140214E 02	-6.5077688E 02	8.9002285E 02	-4.3767837E 02	0.522	0.0677	0.614
	90 -180	5.1981599E-01	-5.1587113E 01	4.7337137E 02	-2.6056709E 03	6.1792511E 03	-5.0595671E 03	C.284	0.0178	0.315

TABLE 22
PROTONS INCIDENT ON RU
PROTONS EMITTED
EMIN = 4.240 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-1.4765646E 00	-2.0689921E 00	2.4178422E 00	2.9741883E 00	-4.2844244E 00	0.	0.106	0.0584	0.949
	30 - 60	1.4101285E 00	-2.7748529E 01	6.8335296E 01	7.2590533E 01	2.6138605E 01	0.	C.107	0.0478	0.959
	60 - 90	-5.7147588E 00	3.7938815E 01	-1.7530335E 02	-3.0476646E 02	-1.9325527E 02	0.	C.033	0.0103	0.662
	90 - 180	0.	0.	0.	0.	0.	0.	0.007	0.	0.
50	0 - 30	7.4105078E-01	-2.9480605E 01	1.3059028E 02	-2.8620017E 02	3.0450617E 02	-1.2280161E 02	0.143	0.0785	0.974
	30 - 60	-1.2287852E 00	3.5438525E 00	-6.1289362E 01	1.9547295E 02	-2.4037545E 02	9.9326185E 01	C.200	0.0737	0.931
	60 - 90	3.7082142E-01	-3.8616236E 01	2.0125945E 02	-5.2493353E 02	6.0158228E 02	-2.4941557E 02	C.080	0.0195	0.783
	90 - 180	-2.1697916E 00	-1.7133039E 01	1.7189618E 01	0.	0.	0.	0.016	0.0027	0.402
100	0 - 30	-5.3218498E-02	-1.0357255E 01	2.6598661E 01	-6.1889731E 01	9.2291615E 01	-4.8380544E 01	C.196	0.1009	0.980
	30 - 60	4.9499100E-01	-2.4882116E 01	1.0657680E 02	-2.1718391E 02	2.1045918E 02	-8.1863724E 01	C.317	0.1052	0.889
	60 - 90	-1.0178019E 00	1.6595787E 00	-1.1953465E 02	6.0239486E 02	-1.1597671E 03	7.4440572E 02	0.155	0.0297	0.578
	90 - 180	5.6186230E-01	-6.8059418E 01	4.5091472E 02	-1.3994930E 03	1.4561839E 03	0.	0.064	0.0073	0.349
150	0 - 30	4.6087021E-01	-2.4913253E 01	1.1387749E 02	-2.6686748E 02	3.6297959E 02	-1.2736081E 02	0.217	0.1175	0.978
	30 - 60	5.2929587E-01	-2.5529301E 01	1.1133201E 02	-2.1760422E 02	1.9628442E 02	-7.0104805E 01	0.410	0.1413	0.918
	60 - 90	1.6125558E-01	-2.4624152E 01	1.0917183E 02	-2.4738336E 02	2.1975838E 02	-5.6838364E 01	0.212	0.0371	0.696
	90 - 180	5.2191018E-02	-4.6232711E 01	2.9694993E 02	-1.3557586E 03	3.4736248E 03	-3.7492261E 03	0.109	0.0105	0.384
200	0 - 30	4.6688794E-01	-2.3836076E 01	1.0477548E 02	-2.3598860E 02	2.6194408E 02	-1.0836297E 02	0.280	0.1629	0.986
	30 - 60	2.685273E-01	-2.0527680E 01	1.0294571E 02	-2.3946313E 02	2.6296563E 02	-1.1452652E 02	0.500	0.1671	0.871
	60 - 90	5.1407389E-01	-4.5438846E 01	4.0744774E 02	-1.7013916E 03	3.1416471E 03	-2.1564281E 03	0.257	0.0421	0.528
	90 - 180	-2.2286873E-01	-3.7455303E 01	1.5488447E 02	-2.8246474E 02	0.	0.	0.115	0.0095	0.300
250	0 - 30	6.4082631E-01	-2.7366924E 01	1.3143901E 02	-3.0991736E 02	3.4711637E 02	-1.4344729E 02	0.273	0.1476	0.977
	30 - 60	8.9128081E-01	-2.9483570E 01	1.3359844E 02	-2.6738637E 02	2.4515885E 02	-8.8085506E 01	0.525	0.1682	0.905
	60 - 90	9.8985482E-01	-3.8643700E 01	2.2744236E 02	-6.6269221E 02	8.3967185E 02	-3.8483659E 02	C.327	0.0460	0.602
	90 - 180	5.7076389E-01	-6.3772116E 01	4.9884706E 02	-2.0941125E 03	3.7189637E 03	-1.9961527E 03	0.154	0.0115	0.313
300	0 - 30	5.5984438E-01	-2.4219666E 01	1.1076953E 02	-2.6632203E 02	2.9648966E 02	-1.2440131E 02	0.297	0.1650	0.974
	30 - 60	7.1435202E-01	-2.7627713E 01	1.2234827E 02	-2.2410204E 02	1.7490666E 02	-4.9678870E 01	0.552	0.1858	0.910
	60 - 90	6.2178694E-01	-3.4106123E 01	2.2771716E 02	-7.4816875E 02	1.0658955E 03	-5.5370595E 02	C.334	0.0506	0.600
	90 - 180	-2.4620664E-01	-2.3695269E 01	3.8573799E 01	-2.3227257E 01	0.	0.	0.190	0.0150	0.365
350	0 - 30	9.0644634E-01	-2.6289219E 01	1.0832562E 02	-2.3264171E 02	2.5196274E 02	-1.0328855E 02	0.316	0.1669	0.983
	30 - 60	7.3457963E-01	-2.9315258E 01	1.5504937E 02	-3.7165652E 02	4.1893212E 02	-1.8480827E 02	0.569	0.1817	0.850
	60 - 90	7.5468335E-01	-2.9619356E 01	1.2784520E 02	-1.4726619E 02	-2.8967643E 02	4.6416470E 02	0.379	0.0532	0.546
	90 - 180	1.3302788E-01	-2.9401987E 01	7.3837118E 01	-1.0225468E 02	0.	0.	0.230	0.0155	0.328
400	0 - 30	4.6897016E-01	-1.3996519E 01	2.3322769E 01	-3.8954386E 00	-6.6665929E 00	0.	0.324	0.1698	0.983
	30 - 60	6.3916603E-01	-2.3773174E 01	1.0212391E 02	-1.8975549E 02	1.3493727E 02	-3.8112985E 01	0.599	0.1882	0.874
	60 - 90	4.6024700E-01	-1.5776976E 01	3.5660821E 01	-4.1619179E 01	0.	0.	0.406	0.0525	0.580
	90 - 180	9.1451278E-01	-7.7785571E 01	8.4584196E 02	-5.2635471E 03	1.5181242E 04	-1.6205216E 04	0.221	0.0135	0.322

TABLE 23
PROTONS INCIDENT ON RU
NEUTRONS EMITTED
EMIN = 4.240 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-1.7929442E 00	6.4806446E 00	-3.3142318E 01	5.2596244E 01	-2.7396497E 01	0.	0.095	0.0470	0.925
	30 - 60	7.4688126E 00	-1.0646427E 02	4.4206161E 02	-8.7435303E 02	8.1224612E 02	-2.8790331E 02	0.100	0.0395	0.893
	60 - 90	8.6063025E 00	-1.3594730E 02	5.7969041E 02	-1.1579190E 03	1.0322374E 03	-3.2240269E 02	0.029	0.0089	0.661
	90 -180	0.	C.	0.	0.	0.	0.	0.004		
50	0 - 30	-5.2387521E-01	-6.0039984E 00	1.3421837E 01	-3.1529708E 01	4.9164996E 01	-2.7035043E 01	0.145	0.0697	0.962
	30 - 60	-1.3633734E 00	-3.2784555E-01	-1.2413094E 01	2.5692939E 01	-1.7271673E 01	0.	0.181	0.0639	0.898
	60 - 90	-5.4438720E-01	-2.1804290E 01	1.0539258E 02	-2.9241546E 02	3.36885240E 02	-1.2708959E 02	0.079	0.0177	0.622
	90 -180	1.2091825E 01	-3.4170185E 02	2.6159950E 03	-8.6242982E 03	1.0056423E 04	0.	0.017	0.0025	0.300
100	0 - 30	3.6695106E-01	-1.3845533E 01	4.1408420E 01	-9.0633994E 01	1.1589350E 02	-5.5208741E 01	0.196	0.0904	0.976
	30 - 60	1.1020838E-01	-1.2762489E 01	1.4718428E 01	3.7110738E 01	-9.11565373E 01	4.9067897E 01	0.285	0.0889	0.907
	60 - 90	2.6883438E-02	-1.9618194E 01	5.5443748E 01	-8.6970431E 01	4.2175282E 01	0.	0.156	0.0265	0.606
	90 -180	-1.0954947E 00	-1.6315933E 01	1.7476572E 01	-1.2335246E 01	0.	0.	0.084	0.0104	0.451
150	0 - 30	9.6251079E-01	-2.7435611E 01	1.2447349E 02	-2.9426032E 02	3.3168691E 02	-1.3721474E 02	0.224	0.1058	0.980
	30 - 60	2.8956296E-01	-1.2734320E 01	9.1245110E 00	7.7072089E 01	-1.7190970E 02	9.5948261E 01	0.352	0.0935	0.842
	60 - 90	-1.1406838E-01	-1.2545851E 01	2.0794441E 01	-1.7294843E 01	0.	0.	0.249	0.0448	0.677
	90 -180	-1.3771189E-01	-3.5508715E 01	1.1589213E 02	-1.7322127E 00	-4.9374173E 02	0.	0.121	0.0127	0.355
200	0 - 30	6.4878184E-01	-2.1288649E 01	8.9279257E 01	-1.9568519E 02	2.0805250E 02	-8.1827208E 01	0.263	0.1279	0.978
	30 - 60	7.4800397E-01	-2.7695565E 01	1.1672949E 02	-2.1116169E 02	1.6139416E 02	-4.4810375E 01	0.401	0.1154	0.908
	60 - 90	9.8087288E-02	-1.5087757E 01	3.2819381E 01	-3.6192414E 01	0.	0.	0.268	0.0389	0.526
	90 -180	-9.4446954E-02	-3.3647558E 01	9.5617177E 01	-1.0314227E 02	-3.2734063E 01	0.	0.134	0.0114	0.368
250	0 - 30	1.2484402E 00	-3.3458355E 01	1.5148471E 02	-3.3328189E 02	3.4732901E 02	-1.3492098E 02	0.241	0.1051	0.976
	30 - 60	8.3794149E-01	-2.2745280E 01	8.444557E 01	-1.3915366E 02	9.0366021E 02	-1.7484218E 02	0.474	0.1182	0.855
	60 - 90	1.3332616E 00	-5.5248550E 01	4.2645994E 02	-1.5293877E 02	2.5732896E 03	-1.3274984E 03	0.331	0.0469	0.634
	90 -180	-5.0313187E-01	7.1049365E 00	-7.5511517E 02	7.1809654E 03	-2.5732712E 04	3.0973724E 04	0.187	0.0147	0.303
300	0 - 30	1.0701498E 00	-2.7127813E 01	1.0976256E 02	-2.3456568E 02	2.4790709E 02	-9.832747E 01	0.245	0.1050	0.980
	30 - 60	1.0124992E 00	-2.8878748E 01	1.4022809E 02	-3.4726481E 02	4.2355953E 02	-2.0579321E 02	0.479	0.1151	0.783
	60 - 90	8.7668872E-01	-3.4993658E 01	2.2955250E 02	-7.9244437E 02	1.1760052E 03	-6.1309047E 02	0.352	0.0441	0.533
	90 -180	8.2548120E-01	-5.8262586E 01	4.4683624E 02	-1.8914279E 03	3.1276718E 03	-1.1124316E 03	0.244	0.0166	0.322
350	0 - 30	1.1566636E 00	-3.2923619E 01	1.6222445E 02	-3.8730357E 02	4.2914777E 02	-1.7409181E 02	0.271	0.1222	0.977
	30 - 60	9.1781342E-01	-2.4249600E 01	8.5525194E 01	-1.2623559E 02	6.9217595E 02	-1.0886109E 02	0.487	0.1164	0.808
	60 - 90	1.1696320E 00	-4.1780894E 01	2.9526650E 02	-1.0690333E 03	1.7014178E 03	-9.7465420E 02	0.406	0.0520	0.612
	90 -180	5.3769013E-01	-3.84449932E 01	1.3399592E 02	-2.2347027E 02	0.	0.	0.259	0.0161	0.332
400	0 - 30	1.0322371E 00	-2.2763161E 01	7.373869CE 01	-1.1723358E 02	9.2054316E 02	-2.7073466E 01	0.295	0.1304	0.987
	30 - 60	1.1155976E 00	-2.8832731E 01	1.3474912E 02	-3.0716163E 02	3.3033549E 02	-1.4116771E 02	0.521	0.1131	0.790
	60 - 90	9.3519374E-01	-2.4235312E 01	7.3256418E 01	-8.9541661E 01	0.	0.	0.437	0.0503	0.509
	90 -180	5.9111416E-01	-4.2425990E 01	1.7176860E 02	-2.9165224E 02	0.	0.	0.269	0.0173	0.328

TABLE 24
NEUTRONS INCIDENT ON RU
PROTONS EMITTED
EMIN = 4.240 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-1.5960793E 00	1.1246962E 01	-8.8272253E 01	1.9379592E 02	-1.6271631E 02	4.3739436E 01	0.067	0.0340	0.927
	30 - 60	4.0786258E 00	-5.4876460E 01	1.5317343E 02	-1.8044806E 02	7.2873334E 01	0.	0.076	0.0311	0.930
	60 - 90	-3.9839921E 00	2.4626270E 01	-1.5682670E 02	3.0953481E 02	-2.0044385E 02	0.	0.026	0.0088	0.718
	90 - 180	0.	0.	0.	0.	0.	0.	0.003		
50	0 - 30	-2.5586933E-01	-1.7163711E 01	7.2593328E 01	-1.8274401E 02	2.2459720E 02	-1.0014742E 02	0.087	0.0438	0.959
	30 - 60	-4.1460785E-01	-1.4236159E 01	4.1774998E 01	-6.3919801E 01	4.7210862E 01	-1.5756715E 01	0.152	0.0540	0.899
	60 - 90	-3.3216938E 00	2.2378239E 01	-1.55884553E 02	3.3834244E 02	-2.5304760E 02	0.	0.057	0.0129	0.611
	90 - 180	-2.7362280E 00	-9.8567908E 00	-2.2678703E 00	0.	0.	0.	0.016	0.0026	0.378
100	0 - 30	6.0843625E-02	-1.1619183E 01	7.2186972E 00	2.6697908E 01	-3.2803755E 01	8.4609816E 00	0.135	0.0630	0.980
	30 - 60	-4.4916992E-01	-8.4196397E 00	-8.7798133E 00	9.0670248E 01	-1.4210289E 02	6.4692314E 01	0.214	0.0684	0.899
	60 - 90	-1.2847207E 00	2.4846121E 00	-4.7123531E 01	-1.4502745E 02	1.0323336E 03	-1.2511739E 03	0.121	0.0199	0.518
	90 - 180	-1.2695575E 00	-1.9615060E 01	1.9267539E 01	0.	0.	0.	0.053	0.0064	0.484
150	0 - 30	7.1737896E-01	-2.6075466E 01	8.9369737E 01	-1.6483533E 02	1.6654183E 02	-6.7883564E 01	0.155	0.0730	0.978
	30 - 60	2.7194839E-01	-2.3649397E 01	1.0116784E 02	-2.2447048E 02	2.4123183E 02	-1.0153545E 02	0.250	0.0702	0.864
	60 - 90	-6.6148872E-01	-8.2032169E 00	6.2328859E-01	1.7958188E 00	0.	0.	0.164	0.0259	0.702
	90 - 180	-5.3148143E 00	1.8438021E 02	-3.4207036E 03	2.6039563E 04	-8.9405652E 04	1.1282243E 05	0.076	0.0070	0.274
200	0 - 30	4.9878961E-01	-2.8734735E 01	1.3138972E 02	-3.0145977E 02	3.2754325E 02	-1.3090968E 02	0.155	0.0757	0.978
	30 - 60	6.0298114E-01	-3.0372083E 01	1.3970898E 02	-2.9661551E 02	2.8389554E 02	-1.0347786E 02	0.280	0.0721	0.867
	60 - 90	8.3629128E-01	-5.4230429E 01	4.2808527E 02	-1.5620494E 03	2.4645932E 03	-1.4003581E 03	0.207	0.0318	0.593
	90 - 180	5.2800760E-01	-7.5222824E 01	6.9045582E 02	-3.2584140E 03	6.5638303E 03	-4.5293500E 03	0.109	0.0086	0.294
250	0 - 30	3.9064591E-01	-1.9089918E 01	4.9603614E 01	-5.0399867E 01	1.8154214E 01	0.	0.177	0.0780	0.971
	30 - 60	4.6370508E-02	-1.3426261E 01	3.0210224E 01	-2.3526691E 01	0.	0.	0.330	0.0877	0.815
	60 - 90	8.5695212E-01	-4.6210848E 01	2.8723480E 02	-8.0991508E 02	9.2128420E 02	-3.3181604E 02	0.232	0.0322	0.546
	90 - 180	-4.9374365E-02	-3.9773897E 01	1.7928518E 02	-3.5890407E 02	0.	0.	0.140	0.0106	0.329
300	0 - 30	3.8939646E-01	-2.2405792E 01	9.7173440E 01	-2.2551301E 02	2.5333741E 02	-1.0466372E 02	0.189	0.0872	0.984
	30 - 60	5.9130020E-01	-2.9630698E 01	1.5950728E 02	-4.1042460E 02	4.7629300E 02	-2.0596050E 02	0.332	0.0788	0.842
	60 - 90	2.1918175E-02	-1.6652026E 01	3.8890395E 01	-4.3337416E 01	0.	0.	0.244	0.0330	0.552
	90 - 180	7.2781224E-01	-8.6686590E 01	9.9427583E 02	-5.6713650E 03	1.4218092E 04	-1.2935475E 04	0.162	0.0120	0.297
350	0 - 30	3.1435280E-01	-2.2165255E 01	8.7964598E 01	-1.8828347E 02	2.0296705E 02	-8.2402507E 01	0.173	0.0793	0.971
	30 - 60	6.4377317E-01	-2.8823011E 01	1.5288609E 02	-4.1895025E 02	5.5073211E 02	-2.7723578E 02	0.354	0.0842	0.795
	60 - 90	8.6222626E-01	-4.4792308E 01	3.6834549E 02	-1.6231244E 03	3.23444859E 03	-2.3725591E 03	0.278	0.0318	0.505
	90 - 180	4.1289440E-01	-5.9335407E 01	5.9039091E 02	-3.6365651E 03	1.3255202E 04	-1.0686531E 04	0.185	0.0118	0.298
400	0 - 30	4.2939723E-01	-1.56449391E 01	4.4021723E 01	-7.9073344E 01	8.48469635E 01	-3.6246066E 01	0.203	0.0805	0.995
	30 - 60	7.2098808E-01	-2.9327886E 01	1.3303916E 02	-2.8455226E 02	2.8592330E 02	-1.1319904E 02	0.380	0.0973	0.853
	60 - 90	8.0599101E-01	-3.6914620E 01	2.2473249E 02	-6.7690526E 02	8.6274401E 02	-3.7455824E 02	0.327	0.0420	0.534
	90 - 180	3.0641443E-01	-4.1153270E 01	1.3213277E 02	-1.6535709E 02	0.	0.	0.190	0.0110	0.285

TABLE 25
NEUTRONS INCIDENT ON RU
NEUTRONS EMITTED
EMIN = 4.240 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EC	EMAX /EC
25	0 - 30	2.5273282E 00	-4.2259969E 01	1.6802170E 02	-3.2666011E 02	3.1194527E 02	-1.1722316E 02	0.130	0.0692	0.964
	30 - 60	6.9675559E 00	5.5610366E 01	-2.2179697E 02	3.9213042E 02	-3.1997653E 02	9.6095740E 01	0.135	0.0601	0.926
	60 - 90	-7.0218161E 00	4.3749014E 01	-1.5671033E 02	2.0771155E 02	-9.7878596E 01	0.	0.039	0.0127	0.701
	90 - 180	0.	0.	0.	0.	0.	0.	0.006		
50	0 - 30	1.9098774E 00	-4.0997507E 01	1.7089377E 02	-3.3291683E 02	3.1434785E 02	-1.1562987E 02	0.190	0.1031	0.970
	30 - 60	6.9599353E-01	-1.2561326E 00	-2.9514471E 01	1.1365152E 02	-1.5218045E 02	6.5651572E 01	0.271	0.0975	0.903
	60 - 90	-1.5266774E 00	6.4869197E-01	-4.2356724E 01	1.3282991E 02	-1.8559172E 02	9.5231253E 01	0.108	0.0280	0.761
	90 - 180	-2.4036534E 00	-1.2970503E 01	2.4218177E 01	-4.7117568E 01	0.	0.	0.021	0.0035	0.332
100	0 - 30	-7.8369741E-02	-9.1306390E 00	1.4350281E 01	-1.1089764E 01	2.0414767E 01	-1.6189532E 01	0.233	0.1233	0.974
	30 - 60	4.1617613E-01	-3.2018152E 00	-1.1112704E 01	6.1216983E 01	-8.8926570E 01	3.7136115E 01	0.430	0.1418	0.902
	60 - 90	6.8798581E-01	-3.0453672E 01	1.3153256E 02	-2.6307433E 02	1.6705938E 02	0.	0.220	0.0414	0.693
	90 - 180	5.8093851E 00	-2.7574602E 02	3.4165118E 03	-2.0137505E 04	5.4841228E 04	-5.6035342E 04	0.075	0.0082	0.364
150	0 - 30	4.0633935E-01	-1.5546002E 01	4.4201755E 01	-6.7305251E 01	6.3567209E 01	-2.6255302E 01	0.275	0.1449	0.982
	30 - 60	3.3310311E-01	-1.3952902E 01	4.2018541E 01	-4.6693560E 01	7.8913335E 00	5.9548076E 00	0.539	0.1764	0.936
	60 - 90	-1.0013753E-01	-8.7535430E 00	1.3057586E 01	-1.9222941E 01	0.	0.	0.325	0.0546	0.662
	90 - 180	-8.8879291E-01	-4.3818765E 00	-2.9853618E 02	2.3899133E 03	-6.9458106E 03	6.7982342E 03	0.121	0.0130	0.384
200	0 - 30	9.3982298E-01	-2.5714418E 01	1.1532557E 02	-2.6391442E 02	2.9489689E 02	-1.2318907E 02	0.320	0.1634	0.977
	30 - 60	6.5946174E-01	-1.8424497E 01	6.2601542E 01	-8.5034994E 01	4.0450999E 01	-4.4228510E 00	0.620	0.2029	0.935
	60 - 90	4.1886973E-02	-9.2398356E 00	-2.9876790E 00	1.0157998E 02	-2.82255418E 02	2.1505350E 02	0.358	0.0572	0.640
	90 - 180	4.3188037E-02	-3.1679410E 01	1.0347016E 02	-1.5717162E 02	0.	0.	0.182	0.0167	0.393
250	0 - 30	6.3301100E-01	-1.9317024E 01	7.6500828E 01	-1.6155178E 02	1.7612309E 02	-7.3631274E 01	0.335	0.1711	0.989
	30 - 60	8.7051595E-01	-2.3054328E 01	9.8499948E 01	-1.9187007E 02	1.7904742E 02	-7.1226274E 01	0.667	0.2052	0.877
	60 - 90	6.3032997E-01	-2.14443639E 01	7.4152968E 01	-8.2810389E 01	-1.1258409E 02	1.7197684E 02	0.407	0.0613	0.608
	90 - 180	2.9253819E-01	-3.5434305E 01	1.3757220E 02	-2.1940624E 02	0.	0.	0.238	0.0214	0.382
300	0 - 30	9.3738822E-01	-2.9052210E 01	1.4071627E 02	-3.3006456E 02	3.6735621E 02	-1.5144784E 02	0.345	0.1829	0.979
	30 - 60	1.0823098E 00	-2.7308162E 01	1.2662096E 02	-2.5825661E 02	2.3900628E 02	-8.6174891E 01	0.747	0.2334	0.877
	60 - 90	1.1805762E 00	-5.0869353E 01	4.4295995E 02	-1.7757494E 03	3.1105709E 03	-1.9967831E 03	0.425	0.0629	0.537
	90 - 180	9.5848835E-01	-7.2345784E 01	7.1227202E 02	-3.8258263E 03	9.2665012E 03	-8.1839030E 03	0.233	0.0171	0.381
350	0 - 30	1.0230643E 00	-2.4625415E 01	1.0942812E 02	-2.5239877E 02	2.8274593E 02	-1.1704259E 02	0.393	0.2032	0.988
	30 - 60	1.0573552E 00	-2.7916636E 01	1.3048908E 02	-2.9033008E 02	2.8614135E 02	-1.0991031E 02	0.729	0.2222	0.899
	60 - 90	1.2165422E 00	-3.7914490E 01	2.4507143E 02	-7.4551629E 02	9.3933481E 02	-4.0930502E 02	0.516	0.0714	0.585
	90 - 180	5.0712603E-01	-3.8234335E 01	1.3472784E 02	-1.9162578E 02	0.	0.	0.270	0.0196	0.347
400	0 - 30	1.3756511E 00	-3.6665017E 01	1.4509864E 02	-3.4111577E 02	3.7977304E 02	-1.5554468E 02	0.417	0.2075	0.986
	30 - 60	1.1568852E 00	-2.9048010E 01	1.3764002E 02	-2.8123255E 02	2.5856348E 02	-9.3579741E 01	0.775	0.2292	0.865
	60 - 90	1.1529723E 00	-3.0020326E 01	1.5383265E 02	-2.7947997E 02	2.9573037E 02	0.	0.527	0.0626	0.569
	90 - 180	1.2122306E 00	-8.7555254E 01	1.1033118E 03	-6.8738098E 03	1.84668614E 04	-1.7794705E 04	0.310	0.0211	0.343

TABLE 26
PROTONS INCIDENT ON CE

PROTONS EMITTED

EMIN = 5.181 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	6.0113603E 00	-7.4217511E 01	2.5677825E 02	-4.2965434E 02	3.5767198E 02	-1.2066540E 02	0.079	0.0443	0.948
	30 - 60	3.6982352E 00	9.8290883E 00	-3.8510343E 01	5.1619759E 01	-2.4828481E 01	0.	0.086	0.0399	0.914
	60 - 90	3.7736757E 01	-5.2116376E 02	2.5537017E 03	-6.1501018E 03	7.2667074E 03	-3.3856947E 03	0.016	0.0056	0.613
	90 - 180	0.	0.	0.	0.	0.	0.	0.006		
50	0 - 30	1.7599268E 00	-4.0027666E 01	1.6061816E 02	-3.3242823E 02	3.5077209E 02	-1.4464419E 02	0.111	0.0612	0.956
	30 - 60	1.3783665E 00	-3.5680065E 01	1.3153924E 02	-2.2688606E 02	1.7689408E 02	-5.2122573E 01	0.150	0.0548	0.920
	60 - 90	1.2804057E 00	-5.9500681E 01	3.6285862E 02	-1.6686108E 03	1.3919988E 03	-6.5561973E 02	0.065	0.0170	0.768
	90 - 180	-4.8555391E 00	2.1049206E 01	-1.2428962E 02	1.6043054E 02	0.	0.	0.018	0.0036	0.405
100	0 - 30	-9.6026446E-01	-5.5548520E-01	-1.5365703E 01	2.2968504E 01	1.0475673E 01	-1.8542577E 01	0.160	0.0830	0.974
	30 - 60	2.4887715E-01	-2.3127542E 01	9.9582236E 01	-2.6854574E 02	2.0688291E 02	-8.0263324E 01	0.267	0.0952	0.917
	60 - 90	2.1810833E-01	-2.6500261E 01	9.8361814E 01	-1.7420071E 02	1.0275072E 02	0.	0.142	0.0293	0.687
	90 - 180	-2.0416898E 00	-2.1315373E-01	-7.6909925E 01	1.3055940E 02	0.	0.	0.056	0.0069	0.379
150	0 - 30	6.0821003E-01	-2.9241308E 01	1.2396322E 02	-2.6292932E 02	2.7885668E 02	-1.1322791E 02	0.185	0.1029	0.974
	30 - 60	3.0330257E-01	-2.2775547E 01	8.8725621E 01	-1.4277391E 02	9.0625168E 01	-1.8069565E 01	0.339	0.1163	0.919
	60 - 90	6.9827160E-01	-4.0949993E 01	2.5150897E 02	-7.6211626E 02	1.0261104E 03	-5.0889599E 02	0.191	0.0337	0.607
	90 - 180	-8.2959433E-01	-2.5252385E 01	6.4545667E 01	-7.9937640E 01	0.	0.	0.080	0.0092	0.409
200	0 - 30	8.3070508E-01	-3.2003444E 01	1.3402128E 02	-2.7108509E 02	2.7168014E 02	-1.0487399E 02	0.215	0.1188	0.976
	30 - 60	9.1530885E-01	-3.3821076E 01	1.7148286E 02	-3.9602559E 02	4.2217159E 02	-1.7329523E 02	0.399	0.1226	0.879
	60 - 90	1.3624928E-01	-1.8869598E 01	4.7955788E 01	-3.1802222E 01	-3.5452188E 02	3.6152599E 02	0.238	0.0370	0.564
	90 - 180	-1.3787507E-01	-3.9959694E 01	2.6382743E 02	-1.3046937E 03	3.4811480E 03	-3.7717189E 03	0.124	0.0121	0.375
250	0 - 30	4.1730881E-01	-2.3151273E 01	9.6803242E 01	-2.1479519E 02	2.3802761E 02	-9.8226326E 01	0.242	0.1382	0.987
	30 - 60	6.3226891E-01	-2.6931486E 01	1.2470504E 02	-2.7522651E 02	2.9341460E 02	-1.2479417E 02	0.421	0.1338	0.884
	60 - 90	8.7744216E-01	-4.4645671E 01	3.4424525E 02	-1.3076627E 03	2.2219715E 03	-1.3969655E 03	0.288	0.0442	0.563
	90 - 180	-5.9220458E-01	-1.5395866E 01	-1.1775671E 02	8.4906942E 02	-1.3818382E 03	0.	0.136	0.0127	0.370
300	0 - 30	4.9946880E-01	-2.1049142E 01	6.1521025E 01	-8.5977042E 01	7.0990841E 01	-2.6687558E 01	0.268	0.1525	0.985
	30 - 60	8.0315435E-01	-3.3952706E 01	2.0538779E 02	-5.5682306E 02	6.8407959E 02	-3.1394253E 02	0.511	0.1614	0.839
	60 - 90	7.9363487E-01	-3.7999924E 01	2.3265545E 02	-6.4663116E 02	7.2426955E 02	-2.6259266E 02	0.324	0.0512	0.593
	90 - 180	4.4640577E-01	-4.7928995E 01	2.4642876E 02	-5.8560238E 02	-1.08553112E 00	9.1134535E 02	0.173	0.0122	0.309
350	0 - 30	1.0934351E 00	-3.2854370E 01	1.4978709E 02	-3.2139902E 02	3.2629017E 02	-1.2384779E 02	0.291	0.1497	0.990
	30 - 60	9.5077038E-01	-2.9635603E 01	1.3941130E 02	-3.0025336E 02	3.0677361E 02	-1.2665336E 02	0.533	0.1551	0.853
	60 - 90	8.3273870E-01	-4.1277010E 01	2.8021463E 02	-8.3814526E 02	9.6507782E 02	-3.3623454E 02	0.324	0.0460	0.566
	90 - 180	-4.3718808E-02	-2.5962799E 01	4.6938397E 01	-4.6711333E 01	0.	0.	0.201	0.0146	0.363
400	0 - 30	6.7693198E-01	-2.2931630E 01	9.5245302E 01	-2.1399169E 02	2.4325078E 02	-1.0335197E 02	0.315	0.1711	0.986
	30 - 60	6.7249889E-01	-2.5436282E 01	1.2676602E 02	-3.0064233E 02	3.4586648E 02	-1.6062786E 02	0.532	0.1550	0.814
	60 - 90	1.3226788E 00	-5.9919931E 01	5.2526968E 02	-2.1576321E 03	3.9531738E 03	-2.6727577E 03	0.360	0.0507	0.549
	90 - 180	4.2903304E-01	-4.1384281E 01	1.5733615E 02	-2.2410040E 02	0.	0.	0.231	0.0183	0.369

TABLE 27
 PROTONS INCIDENT ON CE
 NEUTRONS EMITTED
 EMIN = 5.181 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	2.6422611E 00	-2.7930706E 01	5.5388944E 01	-3.8864760E 01	5.2198653E 00	0.	0.092	0.0490	0.964
	30 - 60	3.2761260E 00	-4.4513258E 01	1.2166521E 02	1.3834332E 02	4.3041643E 01	1.0442397E 01	0.081	0.0351	0.886
	60 - 90	3.3476613E 00	-4.7005885E 01	9.0554312E 01	-5.9342511E 01	0.	0.	0.017	0.0063	0.694
	90 - 180	0.	0.	0.	0.	0.	0.	0.004	0.	0.
50	0 - 30	6.3244240E-01	-2.3099217E 01	1.0576608E 02	-2.5286416E 02	2.8910952E 02	-1.2310247E 02	0.142	0.0691	0.963
	30 - 60	-1.3538818E 00	2.6622119E 00	-3.8592531E 01	9.7286788E 01	-9.1243879E 01	2.3235454E 01	0.168	0.0598	0.876
	60 - 90	-1.7314577E 00	2.4263839E 00	-5.8462307E 01	1.3464438E 02	-9.8247020E 01	0.	0.063	0.0154	0.715
	90 - 180	-1.2657289E 00	-1.9935063E 01	1.4709745E 01	1.3181210E 01	0.	0.	0.019	0.0035	0.400
100	0 - 30	1.4482452E 00	-3.2462578E 01	1.3090964E 02	-2.5804050E 02	2.4476150E 02	-8.8176079E 01	0.185	0.0851	0.975
	30 - 60	-3.7538783E-02	-6.6033874E 00	-2.6780160E 01	1.4697495E 02	-2.2086732E 02	1.0374105E 02	0.271	0.0771	0.875
	60 - 90	-4.065873E-01	-9.9596745E 00	8.0761495E 00	-4.9491512E 00	0.	0.	0.162	0.0299	0.630
	90 - 180	-1.3775517E 00	-1.2482442E 01	1.5951403E 01	-1.2313017E 02	2.3000294E 02	0.	0.069	0.0085	0.399
150	0 - 30	1.1438576E 00	-3.0591196E 01	1.3892449E 02	-3.1725601E 02	3.4728844E 02	-1.4155912E 02	0.228	0.1104	0.976
	30 - 60	4.8106862E-01	-1.6862116E 01	4.6676059E 01	-5.9355294E 01	2.6234393E 01	-1.8229651E 00	0.341	0.0917	0.905
	60 - 90	1.3640538E 00	-4.6934289E 01	2.8959444E 02	-9.1969179E 02	1.33366953E 03	-7.3480956E 02	0.242	0.0371	0.599
	90 - 180	-1.127787E 00	2.0330194E 01	-6.8270515E 02	4.53012225E 03	-1.1977956E 04	1.1081987E 04	0.172	0.0126	0.365
200	0 - 30	1.3361579E 00	-3.7455453E 01	1.8692509E 02	-4.3982924E 02	4.7625250E 02	-1.8908597E 02	0.233	0.1103	0.977
	30 - 60	9.200847E-01	-2.1843078E 01	6.7156450E 01	-8.737272E 01	3.6550687E 01	-1.5743089E-01	0.430	0.1105	0.908
	60 - 90	1.2190719E 00	-4.5402354E 01	1.341133E 02	-1.0771379E 03	1.6435232E 03	-9.2339404E 02	0.307	0.0459	0.612
	90 - 180	1.3058769E-01	-3.2512520E 01	9.32278034E 01	-1.2944978E 02	0.	0.	0.156	0.0136	0.369
250	0 - 30	1.3147882E 00	-3.0542532E 01	1.2895162E 02	-2.6955042E 02	2.6966635E 02	-1.0078240E 02	0.266	0.1189	0.986
	30 - 60	1.0401678E 00	-2.6909558E 01	1.0652665E 02	-1.9573993E 02	1.5762825E 02	-4.7074384E 01	0.435	0.1052	0.860
	60 - 90	3.5021130E-01	-1.3572960E 01	2.1345150E 01	-1.9472656E 01	0.	0.	0.354	0.0515	0.652
	90 - 180	2.5673598E-02	-2.3561873E 01	2.8851214E 01	-1.3468584E 01	0.	0.	0.206	0.0168	0.439
300	0 - 30	1.2752383E 00	-2.7893124E 01	9.9370108E 01	-1.8220284E 02	1.7292015E 02	-6.4948370E 01	0.248	0.1020	0.980
	30 - 60	7.2668166E-01	-1.4723132E 01	3.0038078E 01	-2.1830861E 01	0.	0.	0.514	0.1244	0.896
	60 - 90	6.0785533E-01	-1.6802240E 01	3.3335594E 01	-3.4286430E 01	0.	0.	0.383	0.0490	0.576
	90 - 180	4.3246998E-01	-3.2066001E 01	7.7999375E 01	-9.9080712E 01	0.	0.	0.239	0.0166	0.340
350	0 - 30	1.2223515E 00	-3.1154217E 01	1.4769016E 02	-3.4918210E 02	3.8460864E 02	-1.5458075E 02	0.270	0.1187	0.985
	30 - 60	9.9139327E-01	-2.5241509E 01	1.0116814E 02	-1.9021278E 02	1.617813E 02	-5.3883845E 01	0.504	0.1221	0.832
	60 - 90	9.1217700E-01	-1.9698091E 01	4.4067715E 01	-4.5081804E 01	0.	0.	0.457	0.0547	0.579
	90 - 180	2.9593026E-01	-2.4062144E 01	1.8998739E 01	1.3843450E 01	0.	0.	0.280	0.0192	0.392
400	0 - 30	1.3630073E 00	-3.1266451E 01	1.3907780E 02	-3.0917480E 02	3.2505327E 02	-1.2600712E 02	0.296	0.1283	0.990
	30 - 60	1.0477817E 00	-2.3545513E 01	8.6247996E 01	-1.4856417E 02	1.1016488E 02	-3.0265211E 01	0.525	0.1150	0.835
	60 - 90	8.0947614E-01	-1.8158773E 01	3.6053769E 01	-3.5999067E 01	0.	0.	0.445	0.0521	0.615
	90 - 180	4.5324562E-01	-3.0428507E 01	6.9654730E 01	-8.1817890E 01	0.	0.	0.290	0.0193	0.354

TABLE 28

NEUTRONS INCIDENT ON CE

PROTONS EMITTED

EMIN = 5.181 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-3.0021257E 00	3.2439671E 00	-7.0256616E 00	4.2678785E 00	0.	0.	0.043	0.0240	0.923
	30 - 60	-5.9582425E 00	2.9934945E 01	-8.2696425E 01	5.2285323E 01	5.8957628E 01	-6.1082928E 01	0.058	0.0259	0.854
	60 - 90	4.3565727E 00	-6.2500209E 01	1.5088612E 02	-1.2395547E 02	0.	0.	0.017	0.0060	0.639
	90 -180	0.	0.	0.	0.	0.	0.	0.003	0.	0.
50	0 - 30	1.5879026E 00	-3.9487038E 01	1.4881239E 02	-2.8705073E 02	2.8029748E 02	-1.0739750E 02	0.070	0.0364	0.860
	30 - 60	-7.3209599E-02	-1.9659474E 01	5.8087187E 01	-7.9141810E 01	3.6499801E 01	0.	0.104	0.0358	0.872
	60 - 90	-2.5855516E 00	9.3378667E 00	-9.3297652E 01	2.3779434E 02	-2.1955602E 02	3.1059450E 01	0.053	0.0136	0.635
	90 -180	8.5673971E 00	-2.1080945E 02	1.1164868E 03	-1.9560760E 03	0.	0.	0.012	0.0021	0.311
100	0 - 30	7.8956310E-01	-3.9237305E 01	1.8840895E 02	-4.3360634E 02	4.6507655E 02	-1.8411654E 02	0.094	0.0481	0.974
	30 - 60	1.6433803E-01	-2.4986264E 01	9.4063731E 01	-1.6124249E 02	1.2182781E 02	-3.4890167E 01	0.177	0.0580	0.915
	60 - 90	1.7286889E-01	-2.9683154E 01	1.2243154E 02	-2.5102338E 02	1.7374234E 02	0.	0.106	0.0190	0.579
	90 -180	3.3599266E 00	-1.9400937E 02	2.1310980E 03	-1.1188965E 04	2.7034745E 04	-2.4351296E 04	0.037	0.0052	0.384
150	0 - 30	1.9847455E-01	-2.2537058E 01	9.4323037E 01	-2.1532599E 02	2.4050772E 02	-9.9023683E 01	0.130	0.0640	0.978
	30 - 60	3.7947136E-01	-2.4150816E 01	7.2962964E 01	-8.4616354E 01	2.7994122E 01	5.7917023E-01	0.216	0.0625	0.818
	60 - 90	-3.7719859E-01	-1.6604042E 01	5.9131777E 01	-1.7159160E 02	2.5663913E 02	-1.5403278E 02	0.149	0.0254	0.640
	90 -180	-8.7030832E-01	-2.1306277E 01	-1.2909068E 02	2.2754972E 03	-1.0102647E 04	1.3651212E 04	0.070	0.0070	0.292
200	0 - 30	3.3544710E-01	-1.9086377E 01	3.9433142E 01	-2.6867343E 01	4.3990988E 00	0.	0.134	0.0611	0.981
	30 - 60	9.6367525E-02	-1.7127222E 01	4.0879059E 01	-1.2341995E 01	-5.9750267E 01	4.3626374E 01	0.262	0.0717	0.902
	60 - 90	5.2994393E-01	-3.2218034E 01	1.3597348E 02	-2.7972903E 02	1.9642317E 02	0.	0.181	0.0257	0.570
	90 -180	1.0194089E 00	-9.3995564E 01	1.0953319E 03	-7.5647171E 03	2.6080017E 04	-3.4344509E 04	0.111	0.0101	0.321
250	0 - 30	6.3773174E-01	-2.5771857E 01	9.0792838E 01	-1.7678219E 02	1.8201184E 02	-7.2292227E 01	0.153	0.0705	0.975
	30 - 60	3.4476091E-01	-2.4308799E 01	1.0247774E 02	-2.1989869E 02	2.4047161E 02	-1.1302673E 02	0.272	0.0691	0.783
	60 - 90	3.2562250E-01	-2.1627818E 01	5.2922958E 01	-5.1445130E 01	0.	0.	0.229	0.0328	0.609
	90 -180	2.5952016E-01	-5.6707847E 01	4.1716142E 02	-1.6596786E 03	2.3187742E 03	0.	0.119	0.0090	0.289
300	0 - 30	8.0436530E-01	-3.2269409E 01	1.1982303E 02	-2.0125591E 02	1.5741646E 02	-4.5387532E 01	0.153	0.0710	0.984
	30 - 60	8.9747542E-01	-3.9419599E 01	2.1599238E 02	-5.3970360E 02	6.1100506E 02	-2.5978221E 02	0.306	0.0777	0.827
	60 - 90	6.8519710E-01	-4.2370833E 01	2.9492775E 02	-1.0364879E 03	1.6167885E 03	-9.4019305E 02	0.224	0.0291	0.548
	90 -180	6.7873953E-01	-7.9678642E 01	9.7462441E 02	-6.8610914E 03	2.2497125E 03	-2.7236448E 04	0.153	0.0117	0.318
350	0 - 30	7.5108650E-02	-1.3119647E 01	3.6027434E 01	-7.1007540E 01	8.3100722E 01	-3.6251272E 01	0.179	0.0802	0.988
	30 - 60	6.4548094E-01	-2.9208957E 01	1.3174727E 02	-2.9420328E 02	3.1901183E 02	-1.3829678E 02	0.312	0.0769	0.820
	60 - 90	2.5930306E-01	-2.0050428E 01	5.3154441E 01	-5.9471238E 01	0.	0.	0.261	0.0350	0.551
	90 -180	-2.0387481E-03	-3.5169387E 01	1.1606850E 02	-1.7804677E 02	0.	0.	0.162	0.0115	0.324
400	0 - 30	6.3459483E-01	-2.7278446E 01	1.0706682E 02	-2.0332146E 02	1.8644943E 02	-6.4728109E 01	0.174	0.0759	0.976
	30 - 60	8.6408494E-01	-3.7043050E 01	2.0169472E 02	-5.0062202E 02	5.5646496E 02	-2.3209952E 02	0.322	0.0713	0.772
	60 - 90	1.0294834E 00	-5.0061908E 01	4.1327224E 02	-1.8010710E 03	3.6332874E 03	-2.7615591E 03	0.277	0.0317	0.486
	90 -180	4.5629978E-02	-3.5827269E 01	1.2616316E 02	-2.5310896E 02	0.	0.	0.167	0.0102	0.281

TABLE 29
NEUTRONS INCIDENT ON CE
NEUTRONS EMITTED
EMIN = 5.181 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	ND. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	2.1017783E 00	-2.7628773E 01	7.2673366E 01	-9.1371818E 01	6.3203489E 01	-2.2364663E 01	0.114	0.0631	0.956
	30 - 60	-8.327274E 00	7.5940493E 01	-3.2795368E 02	6.4458079E 02	-5.9455373E 02	2.0599400E 02	0.129	0.0595	0.958
	60 - 90	1.0585515E 00	-2.3184605E 01	2.9220966E 01	-1.2648078E 01	0.	0.	0.027	0.0099	0.764
	90 -180	0.	0.	0.	0.	0.	0.	0.006		
50	0 - 30	1.4405953E 00	-3.0691611E 01	1.3313121E 02	-2.9048401E 02	3.0565874E 02	-1.2152210E 02	0.182	0.0942	0.981
	30 - 60	1.0672618E 00	-2.9111654E 01	1.2875522E 02	-2.5959991E 02	2.5010362E 02	-9.2113034E 01	0.260	0.0976	0.919
	60 - 90	7.1338685E-01	-2.8792667E 01	9.6978306E 01	-1.5905841E 02	8.7334307E 01	0.	0.103	0.0263	0.713
	90 -180	-9.5351014E 00	1.1601506E 02	-7.8292157E 02	2.0946051E 03	-2.0584519E 03	0.	0.021	0.0039	0.447
100	0 - 30	7.3489372E-01	-2.4466050E 01	1.0275529E 02	-2.1570316E 02	2.230699E 02	-8.8527828E 01	0.214	0.1100	0.979
	30 - 60	3.0103998E-01	-1.6910368E 01	7.2597457E 01	-1.5147250E 02	1.4463327E 02	-5.3318794E 01	0.436	0.1526	0.925
	60 - 90	-5.1990128E-01	1.6046606E 00	-9.2446201E 01	3.7254725E 02	-6.1566798E 02	3.5398341E 02	0.228	0.0427	0.682
	90 -180	-1.5228443E 00	-1.1934189E 01	-3.5765575E-01	1.1768257E 01	0.	0.	0.064	0.0088	0.398
150	0 - 30	9.2258563E-01	-2.5780573E 01	1.1366652E 02	-2.5310370E 02	2.7443140E 02	-1.1191402E 02	0.264	0.1321	0.973
	30 - 60	9.0186901E-01	-2.2373350E 01	8.0529921E 01	-1.2226505E 02	7.3124325E 01	-1.3958153E 01	0.532	0.1728	0.941
	60 - 90	1.0688935E 00	-3.1856565E 01	1.3918687E 02	-2.8207143E 02	1.8541240E 02	0.	0.309	0.0511	0.683
	90 -180	-9.3517888E-01	-5.3917075E 00	-9.7826846E 01	3.6838961E 02	-3.9995120E 02	0.	0.135	0.0144	0.413
200	0 - 30	9.8287122E-01	-2.4567283E 01	1.0411557E 02	-2.2891006E 02	2.4744818E 02	-1.0049297E 02	0.288	0.1391	0.980
	30 - 60	7.3668045E-01	-1.7476715E 01	5.9822079E 01	-9.6894212E 02	7.4307142E 01	-2.5447271E 01	0.608	0.1882	0.929
	60 - 90	1.8771789E-01	-8.8362535E 01	-4.1807609E 01	3.4149126E 02	-7.5280360E 02	5.0486701E 02	0.369	0.0636	0.647
	90 -180	-5.7312388E-02	-2.3872544E 01	4.2804232E 01	-5.0597063E 01	0.	0.	0.180	0.0160	0.382
250	0 - 30	1.1397392E 00	-2.0875514E 01	7.2935165E 01	-1.4156668E 02	1.4773053E 02	-6.0535523E 01	0.354	0.1611	0.986
	30 - 60	8.2908286E-01	-1.9346473E 01	6.6603212E 01	-9.0581146E 01	4.0990027E 01	-3.7249286E 00	0.660	0.1996	0.891
	60 - 90	1.4673328E 00	-4.6000602E 01	3.0849220E 02	-9.7946608E 02	1.3422084E 03	-6.7209868E 02	0.426	0.0615	0.601
	90 -180	-1.0919471E-01	-1.8204431E 01	1.4539204E 01	-2.2925609E 01	0.	0.	0.234	0.0192	0.360
300	0 - 30	1.1664407E 00	-3.0287192E 01	1.5189936E 02	-2.7210398E 02	4.2578692E 02	-1.7861793E 02	0.337	0.1635	0.975
	30 - 60	1.4185334E 00	-3.1412199E 01	1.5565107E 02	-3.6436691E 02	4.0029323E 02	-1.6998463E 02	0.726	0.2063	0.875
	60 - 90	1.2909271E 00	-4.0373060E 01	2.9387574E 02	-1.0607481E 03	1.6615563E 03	-9.4323663E 02	0.483	0.0677	0.624
	90 -180	1.1150564E 00	-6.6074516E 01	6.1222218E 02	-3.3502235E 03	8.5421516E 03	-8.0353631E 03	0.267	0.0200	0.344
350	0 - 30	1.0395121E 00	-1.9656211E 01	7.3422889E 01	-1.5634919E 02	1.7394751E 02	-7.3402320E 01	0.391	0.1827	0.986
	30 - 60	1.3888644E 00	-3.1868034E 01	1.5536040E 02	-3.8240959E 02	3.4781168E 02	-1.3821189E 02	0.751	0.2131	0.858
	60 - 90	1.1781114E 00	-2.7802493E 01	1.2831804E 02	-2.893971E 02	1.8636452E 02	2.0948694E 01	0.559	0.0757	0.615
	90 -180	1.1970184E 00	-7.5224983E 01	8.4429048E 02	-5.0513496E 03	1.3427296E 04	-1.2865202E 04	0.310	0.0239	0.355
400	0 - 30	1.2360738E 00	-2.5757236E 01	1.0898182E 02	-2.3843972E 02	2.5708289E 02	-1.0401752E 02	0.398	0.1926	0.985
	30 - 60	1.1038353E 00	-2.1702642E 01	8.4063267E 01	-1.3752669E 02	8.7604176E 01	-1.8101138E 01	0.791	0.2132	0.868
	60 - 90	1.2730341E 00	-3.3219278E 01	1.9714136E 02	-6.0061538E 02	7.7867412E 02	-3.6605216E 02	0.570	0.0772	0.600
	90 -180	8.9953865E-01	-4.4863242E 01	2.8104006E 02	-1.2870947E 03	2.9174203E 03	-2.4505023E 03	0.352	0.0245	0.397

TABLE 30

PROTONS INCIDENT ON W

PROTONS EMITTED

EMIN = 6.202 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	4.3251221E-01	-1.6682482E 01	3.3276304E 01	-2.0806139E 01	0.	0.	0.063	0.0364	0.950
	30 - 60	-4.6057491E 00	1.9645219E 01	-7.0166290E 01	1.0470031E 02	-6.2464888E 01	0.8330374E 00	0.066	0.0330	0.914
	60 - 90	1.0747110E 01	-1.0720988E 02	2.5851332E 02	-2.1061915E 02	0.	5.0.	0.016	0.0060	0.597
	90 -180	0.	0.	0.	0.	0.	0.	0.003		
50	0 - 30	-6.6170136E-02	-1.2732196E 01	2.2466159E 01	-2.5032200E 01	3.6803645E 01	-2.4265574E 01	0.099	0.0562	0.964
	30 - 60	-4.4046115E-01	-1.8968559E 01	8.5870632E 01	-1.8729075E 02	1.8637798E 02	-7.1237014E 01	0.147	0.0591	0.931
	60 - 90	-1.0381167E 00	-6.1732048E 00	4.0481982E-01	1.3369178E 00	0.	0.	0.050	0.0145	0.785
	90 -180	-2.9627435E 00	-8.1894256E 00	-1.3718430E 00	0.	0.	0.	0.012	0.0026	0.423
100	0 - 30	1.7687965E-01	-2.3006030E 01	9.5058423E 01	-2.1316202E 02	2.4346250E 02	-1.0496836E 02	0.139	0.0792	0.978
	30 - 60	-2.3897234E-01	-1.3727323E 01	3.2489569E 01	-2.8030162E 01	1.1048138E 01	-9.6807388E 00	0.225	0.0809	0.875
	60 - 90	-4.4543163E-01	-1.29960C1E 01	1.7968069E 01	-1.1695980E 01	0.	0.	0.122	0.0264	0.712
	90 -180	-9.4634978E-01	-1.8092904E 01	-3.3866647E 01	2.9433070E 02	-4.2333503E 02	0.	0.049	0.0071	0.428
150	0 - 30	-1.3500909E-01	-1.0028037E 01	-7.5052047E 00	8.7348783E 01	-1.1915450E 02	4.8427451E 01	0.173	0.0959	0.984
	30 - 60	9.3047826E-01	-3.7549291E 01	1.8022695E 02	-3.9109825E 02	3.9444185E 02	-1.5409757E 02	0.291	0.1022	0.893
	60 - 90	-2.2318435E-01	-1.4715307E 01	2.9991231E 01	-2.9925517E 01	0.	0.	0.170	0.0311	0.665
	90 -180	-2.2432940E-01	-6.0107466E 01	7.6561046E 02	-5.6520116E 03	1.8131204E 04	-2.0431644E 04	0.073	0.0082	0.378
200	0 - 30	6.9655218E-01	-3.1655213E 01	1.3517638E 02	-2.7819641E 02	2.7995555E 02	-1.0736703E 02	0.186	0.1043	0.980
	30 - 60	6.5772209E-01	-2.8539638E 01	1.2240936E 02	-2.2247145E 02	1.6949901E 02	-4.4944000E 01	0.363	0.1200	0.937
	60 - 90	-3.3449075E-01	-5.8845310E 00	-6.8405772E 01	4.4225426E 02	-9.8325368E 02	7.0737885E 02	0.207	0.0318	0.541
	90 -180	-1.3063524E 00	1.3160647E 01	-5.3320470E 02	3.1556606E 03	-5.5893639E 03	0.	0.099	0.0097	0.310
250	0 - 30	1.2602820E 00	-3.7575529E 01	1.6040236E 02	-3.2136184E 02	3.1085139E 02	-1.1483504E 02	0.220	0.1136	0.970
	30 - 60	2.8756387E-01	-2.5073871E 01	1.1826796E 02	-2.4919133E 02	2.4209960E 02	-9.2482369E 01	0.374	0.1267	0.867
	60 - 90	1.2091039E 00	-4.7262985E 01	2.7978093E 02	-7.4272279E 02	7.9360574E 02	-2.6803606E 02	0.273	0.0429	0.594
	90 -180	1.8453790E 00	-1.3555061E 02	2.0309539E 03	-1.6344905E 04	6.2651478E 04	-9.0142788E 04	0.144	0.0124	0.287
300	0 - 30	7.1188356E-01	-2.6381523E 01	1.0693382E 02	-2.2743877E 02	2.4441197E 02	-9.9423865E 01	0.233	0.1251	0.983
	30 - 60	7.9571993E-01	-3.3251505E 01	1.7105528E 02	-3.9699145E 02	4.2689505E 02	-1.7692894E 02	0.427	0.1378	0.859
	60 - 90	9.4024013E-01	-4.6342349E 01	3.8644073E 02	-1.6277020E 03	3.0794584E 03	-2.1410476E 03	0.291	0.0429	0.531
	90 -180	8.9888499E-01	-5.9495782E 01	5.7619181E 01	3.7312213E 03	-2.2690589E 04	3.6978193E 04	0.154	0.0118	0.280
350	0 - 30	6.0968772E-01	-2.7363707E 01	1.2735089E 02	-1.38295184E 02	2.9573637E 02	-1.1414041E 02	0.258	0.1397	0.985
	30 - 60	2.7280179E-01	-1.9387720E 01	8.0372705E 01	-1.385494E 02	9.8893331E 01	-2.7042583E 01	0.477	0.1505	0.855
	60 - 90	8.3761628E-01	-3.9754622E 01	2.8029656E 02	-9.9082426E 02	1.5891765E 03	-9.5216266E 02	0.331	0.0528	0.575
	90 -180	5.0881640E-01	-4.8099940E 01	1.9573705E 02	-3.1713835E 02	0.	0.	0.163	0.0113	0.329
400	0 - 30	2.2094496E-01	-1.0983365E 01	2.7688375E 00	3.5529504E 01	-3.3038844E 01	4.6660489E 00	0.265	0.1439	0.980
	30 - 60	9.4235919E-01	-3.1634920E 01	1.5323840E 02	-3.3192714E 02	3.3260801E 02	-1.3053042E 02	0.514	0.1565	0.861
	60 - 90	1.2703741E 00	-5.2702012E 01	4.0452279E 02	-1.44995980E 03	2.4495915E 03	-1.4581896E 03	0.324	0.0426	0.570
	90 -180	2.8978065E-01	-4.0921943E 01	2.8420075E 02	-1.5113815E 03	3.9202255E 03	-3.7589790E 03	0.214	0.0156	0.310

TABLE 31

PROTONS INCIDENT ON W

NEUTRONS EMITTED

EMIN = 6.202 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-3.4776883E 00	2.2401021E 01	-8.9002147E 01	1.3669044E 02	-7.1869303E 01	0.	0.085	0.0469	0.931
	30 - 60	7.1041804E 00	-7.0718577E 01	1.8500957E C2	-2.0961916E 02	8.3782903E 01	0.	0.070	0.0332	0.925
	60 - 90	-7.2311540E-01	-1.2352355E 01	6.6083935E 00	0.	0.	0.	0.014	0.0055	0.789
	90 -180	0.	0.	0.	0.	0.	0.	0.004		
50	0 - 30	-6.9210917E-01	-6.3781297E 00	2.3680899E 01	-6.8780497E 01	9.9320822E 01	-5.0469726E 01	0.123	0.0618	0.974
	30 - 60	-2.2688619E-01	-1.3021685E 01	3.353323E 01	-4.1826843E 01	1.6314531E 01	0.	0.148	0.0545	0.936
	60 - 90	-1.2692564E 00	-5.2413734E 00	-6.2156242E 00	6.3465768E 00	0.	0.	0.060	0.0156	0.729
	90 -180	-1.0924619E 00	-2.1574934E 01	1.8582188E 01	0.	0.	0.	0.013	0.0024	0.376
100	0 - 30	9.9770123E-01	-2.4357895E 01	8.6695510E 01	-1.6622753E 02	1.6767794E 02	-6.7140345E 01	0.167	0.0783	0.975
	30 - 60	-1.5617504E-02	-8.1796117E 00	-1.4268529E 00	5.0550531E 01	-8.4099361E 01	3.7190779E 01	0.271	0.0781	0.863
	60 - 90	9.0537443E-01	-3.5991826E 01	1.6463834E 02	-3.5766355E 02	2.5276910E 02	0.	0.142	0.0258	0.636
	90 -180	-4.0140530E 00	6.4675424E 01	-7.8279967E 02	3.4324801E 03	-6.6335368E 03	4.6934530E 03	0.060	0.0090	0.463
150	0 - 30	1.3502862E 00	-2.9864205E 01	1.1767385E 02	-2.3745158E 02	2.3894563E 02	-9.2568756E 01	0.207	0.0936	0.977
	30 - 60	4.338516E 00	-3.6317486E 01	1.7574799E 02	-3.9849140E 02	4.0431741E 02	-1.5206225E 02	0.360	0.0960	0.888
	60 - 90	-2.5442654E-01	-1.0303110E 01	1.1521618E 01	-1.054426E 01	0.	0.	0.207	0.0362	0.637
	90 -180	-9.1243416E-01	-1.3884377E 01	-1.6486955E 00	1.9774807E 01	0.	0.	0.106	0.0125	0.406
200	0 - 30	1.5131292E 00	-3.3340565E 01	1.3748485E 02	-2.7835695E 02	2.7341882E 02	-1.0208870E 02	0.243	0.1105	0.981
	30 - 60	9.3522842E-01	-2.2811581E 01	7.3062351E 01	-9.1282393E 02	2.2103468E 01	1.4002006E 01	0.409	0.1060	0.886
	60 - 90	8.1533315E-01	-2.7747033E 01	1.1511680E 02	-2.2429518E 02	1.0068170E 02	6.0657806E 01	0.289	0.0433	0.570
	90 -180	1.2535669E 00	-7.6119497E 01	6.9145004E 02	-3.3702413E 03	7.3473971E 03	-5.7438725E 03	0.165	0.0156	0.346
250	0 - 30	1.1768149E 00	-2.7153427E 01	1.2171672E 02	-2.9321893E 02	3.3800851E 02	-1.4222150E 02	0.269	0.1239	0.989
	30 - 60	8.0396653E-01	-2.1364577E 01	7.3684433E 01	-1.1500616E 02	6.9829645E 01	-1.2771389E 01	0.421	0.1037	0.841
	60 - 90	1.2755301E 00	-4.6972873E 01	3.5896469E 02	-1.4096144E 03	2.4812603E 03	-1.6033534E 03	0.320	0.0452	0.559
	90 -180	4.4644145E-01	-3.4494455E 01	1.3275625E 02	-2.5980946E 02	0.	0.	0.220	0.0185	0.326
300	0 - 30	6.1599538E-01	-1.4317718E 01	3.2049660E 01	-2.924191E 01	1.0082499E 01	0.	0.272	0.1194	0.981
	30 - 60	1.5945521E 00	-3.5606026E 01	1.6315007E 02	-3.5798998E 02	3.6542525E 02	-1.4539503E 02	0.473	0.1026	0.816
	60 - 90	1.7883153E 00	-5.3737056E 01	3.3159377E 02	-9.908593E 02	1.3012761E 03	-6.1267685E 02	0.359	0.0453	0.543
	90 -180	7.1913720E-01	-4.6293867E 01	3.6744714E 02	-2.0316681E 03	4.6431707E 03	-3.2905784E 03	0.246	0.0174	0.298
350	0 - 30	1.5754379E 00	-3.8607080E 01	1.9574718E 02	-4.6535195E 02	5.0020431E 02	-1.9480285E 02	0.270	0.1143	0.978
	30 - 60	1.2668183E 00	-2.6844617E 01	9.8434887E 01	-1.7596627E 02	1.5744789E 02	-6.4211217E 01	0.512	0.1150	0.799
	60 - 90	1.0726556E 00	-2.8237581E 01	1.2374286E 02	-2.8391186E 02	1.9359539E 02	5.0065570E 01	0.413	0.0499	0.532
	90 -180	5.8041680E-01	-2.59948007E 01	6.6035342E 01	-8.8406174E 01	0.	0.	0.288	0.0187	0.247
400	0 - 30	1.6489757E 00	-3.4493382E 01	1.5586546E 02	-3.5505890E 02	3.8363739E 02	-1.5346009E 02	0.280	0.1048	0.963
	30 - 60	1.0109729E 00	-1.9831053E 01	5.6794278E 01	-5.2632340E 01	-2.9086203E 01	4.1014571E 01	0.535	0.1105	0.813
	60 - 90	8.9534745E-01	-1.7512385E 01	3.5429271E 01	-3.7736184E 01	0.	0.	0.491	0.0587	0.553
	90 -180	1.6317485E 00	-1.0503507E 02	1.5827750E 03	-1.2227434E 04	4.1239017E 04	-4.9914916E 04	0.296	0.0193	0.291

TABLE 32

NEUTRONS INCIDENT ON W

PROTONS EMITTED

EMIN = 6.202 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-1.0640559E 01	1.0007243E 02	-4.1589057E 02	7.6361327E 02	-6.4073492E 02	1.992389E 02	0.040	0.0216	0.927
	30 - 60	1.6846901E 01	-2.1156327E 02	8.7123113E 02	-1.7152753E 03	1.6072077E 03	-5.7782776E 02	0.052	0.0247	0.909
	60 - 90	-1.2523553E 00	-9.9061015E 00	3.5046738E 00	0.	0.	0.	0.012	0.0046	0.700
	90 -180	0.	0.	0.	0.	0.	0.	0.003		
50	0 - 30	2.6707088E 00	-5.2482269E 01	1.8273351E 02	-3.1290807E 02	2.7433572E 02	-9.7883655E 01	0.051	0.0285	0.954
	30 - 60	1.0202521E 00	-3.2619158E 01	9.9898852E 01	-1.3037777E 02	5.7480661E 01	0.	0.085	0.0319	0.897
	60 - 90	5.8622911E 00	-1.1642137E 02	5.6723557E 02	-1.3464236E 03	1.52256776E 03	-6.7368121E 02	0.040	0.0111	0.681
	90 -180	2.9292512E 00	-1.1352764E 02	5.6703152E 02	-9.4083183E 02	0.	0.	0.011	0.0023	0.348
100	0 - 30	1.2717459E 00	-4.1457149E 01	1.8194772E 02	-3.9776186E 02	4.1944208E 02	-1.6649128E 02	0.089	0.0446	0.959
	30 - 60	-1.0168041E 00	-2.1904716E 00	-4.1478224E 01	1.6953475E 02	-2.3073047E 02	1.0146797E 02	0.163	0.0550	0.899
	60 - 90	-8.3761728E-01	-1.7370498E 01	8.9069083E 01	-2.5186404E 02	2.2277080E 02	0.	0.093	0.0178	0.533
	90 -180	-4.3771258E 00	5.8082029E 01	-6.5267293E 02	2.3995648E 03	-2.9480635E 03	0.	0.040	0.0059	0.419
150	0 - 30	2.0508855E-01	-2.4808111E 01	1.0855224E 02	-2.6629449E 02	3.1671139E 02	-1.37460131E 02	0.098	0.0458	0.963
	30 - 60	2.3119588E-01	-2.1857509E 01	6.2641926E 01	-6.5863536E 02	5.5210082E 00	1.4226924E 01	0.192	0.0558	0.868
	60 - 90	-3.2446072E-01	-1.44428396E 01	-1.4431760E 01	2.7534638E 02	-6.8948150E 02	4.9888548E 02	0.133	0.0237	0.598
	90 -180	-1.1010077E 00	-4.4330944E 00	-3.0317549E 02	1.9106084E 03	-4.0226678E 03	2.5589570E 03	0.063	0.0075	0.378
200	0 - 30	8.7120979E-01	-3.0440976E 01	1.2077679E 02	-2.5697455E 02	2.7205172E 02	-1.0822909E 02	0.126	0.0555	0.972
	30 - 60	4.5254654E-01	-3.1052360E 01	1.3777345E 02	-2.8973133E 02	2.8676555E 02	-1.1125105E 02	0.211	0.0621	0.865
	60 - 90	-2.777582E-01	-1.0791227E 01	-4.5125989E 01	4.0315930E 02	-9.4157096E 02	6.7973791E 02	0.177	0.0287	0.556
	90 -180	-5.9202178E-01	-2.5715181E 01	5.3270468E 01	-4.6565502E 01	0.	0.	0.095	0.0098	0.389
250	0 - 30	9.0058198E-03	-1.3764291E 01	7.4603541E 00	5.4187527E 01	-8.8831817E 01	3.9983169E 01	0.125	0.0572	0.964
	30 - 60	2.1670784E-01	-2.0942532E 01	6.9986411E 01	-1.0159564E 02	6.5942238E 01	-2.3436432E 01	0.264	0.0707	0.759
	60 - 90	-1.1174493E-01	-1.1178853E 01	-5.0481535E 01	3.8402760E 02	-8.1548915E 02	5.4154636E 02	0.186	0.0254	0.534
	90 -180	-1.0206126E-01	-3.6003143E 01	1.0029360E 02	-1.1131681E 02	0.	0.	0.106	0.0089	0.351
300	0 - 30	4.1346378E-01	-2.2541184E 01	8.3427292E 01	-1.7306015E 02	1.8503984E 02	-7.4955449E 01	0.147	0.0640	0.961
	30 - 60	7.0672147E-01	-2.9432548E 01	1.1667841E 02	-2.2397318E 02	2.1044520E 02	-8.2964449E 01	0.272	0.0675	0.825
	60 - 90	4.2375621E-01	-3.5232435E 01	2.6236566E 02	-1.1258897E 03	2.1864806E 03	-1.5373594E 03	0.211	0.0295	0.585
	90 -180	-6.8297191E-01	-1.56558299E 00	-4.9696389E 02	4.1708125E 03	-9.9036640E 03	0.	0.133	0.0104	0.287
350	0 - 30	8.9796336E-01	-3.44585417E 01	1.6826277E 02	-4.0285118E 02	4.4168658E 02	-1.7551115E 02	0.155	0.0659	0.972
	30 - 60	3.5650145E-01	-1.9950362E 01	3.8193007E 01	5.9386882E 01	-2.2622854E 02	1.5175910E 02	0.283	0.0675	0.729
	60 - 90	9.6944907E-01	-5.3792423E 01	4.0807263E 02	-1.3574515E 03	1.4848725E 03	0.	0.207	0.0229	0.381
	90 -180	9.3512661E-01	-7.8435737E 01	1.0934803E 03	-1.0535432E 04	4.9689144E 04	-8.6205735E 04	0.187	0.0126	0.352
400	0 - 30	3.2614828E-01	-2.0307960E 01	6.5939369E 01	-1.1701855E 02	1.0386754E 02	-3.3578326E 01	0.140	0.0567	0.980
	30 - 60	2.4059357E-01	-2.5711105E 01	1.2159031E 02	-2.9605848E 02	3.6124887E 02	-1.7817606E 02	0.266	0.0689	0.776
	60 - 90	6.3288844E-01	-3.1140772E 01	1.1035211E 02	-1.3428958E 02	0.	0.	0.251	0.0347	0.516
	90 -180	-4.3411598E-02	-4.0924007E 01	2.2501360E 02	-5.7783378E 02	0.	0.	0.147	0.0101	0.281

TABLE 33
NEUTRONS INCIDENT ON W
NEUTRONS EMITTED
EMIN = 6.202 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	1.2561156E 00	-1.7460043E 01	3.6206217E 01	-2.8808922E 01	5.8830982E 00	0.	0.118	0.0590	0.947
	30 - 60	-1.3879189E 01	1.2731322E 02	-5.0511419E 02	9.3535458E 02	-8.2565893E 02	2.7815407E 02	0.024	0.0569	0.930
	60 - 90	-1.1707350E 00	-1.1979289E 01	3.1584772E 01	6.4230382E 01	4.3079134E 01	0.	0.003	0.0092	0.742
	90 -180	0.	0.	0.	0.	0.	0.			
50	0 - 30	2.7680767E 00	-4.5710482E 01	1.8757934E 02	-3.8028846E 02	3.7684343E 02	-1.4373691E 02	0.169	0.0933	0.981
	30 - 60	1.0930534E 00	-2.8624431E 01	1.1142010E 02	-2.0651121E 02	1.7642300E 02	-5.8871754E 01	0.226	0.0892	0.928
	60 - 90	-2.3688044E-01	-1.9649258E 01	6.1419208E 01	-1.0024555E 02	5.4502571E 01	0.	0.082	0.0244	0.817
	90 -180	2.2694547E 01	-4.7187229E 02	3.0226100E 03	-8.2626035E 03	7.9938539E 03	0.	0.019	0.0039	0.352
100	0 - 30	1.0457585E 00	-2.6331479E 01	1.1743585E 02	-2.7534213E 02	3.1126208E 02	-1.3030967E 02	0.210	0.1053	0.974
	30 - 60	3.2359810E-01	-1.4888687E 01	4.9605078E 01	-8.6317288E 01	7.4711725E 01	-2.8221852E 01	0.384	0.1339	0.927
	60 - 90	-5.7661713E-01	-5.6743073E 00	-1.9004734E 00	1.2878401E 00	0.	0.	0.195	0.0409	0.737
	90 -180	-1.5161063E 00	-2.4678418E 01	3.8325759E 02	-3.2809226E 03	1.0624524E 04	-1.1455055E 04	0.064	0.0095	0.454
150	0 - 30	1.1330768E 00	-2.2778367E 01	7.5512773E 01	-1.4082043E 02	1.4683820E 02	-6.1411408E 01	0.259	0.1271	0.976
	30 - 60	5.0782958E-01	-1.4190312E 01	3.2964182E 01	-2.9556083E 01	-1.4574627E 01	1.1102903E 01	0.484	0.1602	0.934
	60 - 90	3.8947661E-01	-1.9478146E 01	7.9106776E 01	-1.7222582E 02	1.1744217E 02	0.	0.292	0.0525	0.680
	90 -180	1.8861343E-01	-3.6095720E 01	1.3757493E 02	-2.7428532E 02	1.4304243E 02	0.	0.118	0.0132	0.357
200	0 - 30	7.3280673E-01	-2.2160391E 01	9.1096975E 01	-1.9634345E 02	2.1246744E 02	-8.7168319E 01	0.276	0.1420	0.980
	30 - 60	7.3141322E-01	-1.8094819E 01	6.094270E 01	-8.4680182E 01	4.4600778E 01	-6.3491532E 00	0.579	0.1867	0.919
	60 - 90	8.6396589E-01	-2.4639471E 01	9.9790013E 01	-1.6749124E 02	-2.7641937E 01	1.6630040E 02	0.374	0.0583	0.597
	90 -180	4.9697465E-01	-5.1040989E 01	4.1624094E 02	-1.8201469E 03	2.5518095E 03	0.	0.160	0.0144	0.336
250	0 - 30	1.5108986E 00	-3.4554479E 01	1.5122996E 02	-3.2562396E 02	3.44079960E 02	-1.3476880E 02	0.308	0.1562	0.986
	30 - 60	7.3331776E-01	-1.8272351E 01	7.0119638E 01	-1.2499288E 02	1.0066517E 02	-3.3267703E 01	0.623	0.1879	0.899
	60 - 90	1.2844138E 00	-3.2337103E 01	1.3188092E 02	-1.7313258E 02	-1.3991802E 02	2.8580633E 02	0.442	0.0698	0.574
	90 -180	9.0181481E-02	-2.69222527E 01	7.4677094E 01	-1.0098062E 02	0.	0.	0.214	0.0208	0.359
300	0 - 30	1.3619796E 00	-2.1605570E 01	7.5688381E 01	-1.6692332E 02	1.9669546E 02	-8.6289307E 01	0.365	0.1627	0.985
	30 - 60	7.8914673E-01	-1.4170550E 01	2.2759445E 01	3.5903902E 01	-1.1055072E 02	6.1022290E 01	0.672	0.1936	0.876
	60 - 90	1.5317987E 00	-3.9464412E 01	2.2536741E 02	-6.5163862E 02	8.4111046E 02	-4.2211921E 02	0.476	0.0638	0.550
	90 -180	5.2459306E-01	-2.9079612E 01	6.6582837E 01	-7.7023080E 01	0.	0.	0.285	0.0230	0.392
350	0 - 30	1.4127626E 00	-2.6531706E 01	8.7847410E 01	-1.4076767E 02	1.1630843E 02	-3.8501889E 01	0.373	0.1844	0.987
	30 - 60	1.0862118E 00	-2.5644658E 01	1.1579100E 02	-2.4267961E 02	2.4307220E 02	-1.0024550E 02	0.698	0.2051	0.853
	60 - 90	1.3208344E 00	-3.9032926E 01	2.8735578E 02	-1.1088086E 03	1.9526395E 03	-1.3027308E 03	0.504	0.0691	0.542
	90 -180	1.1479639E 00	-6.1306108E 01	6.2652228E 02	-4.0019417E 03	1.15444551E 04	-1.2045657E 04	0.314	0.0221	0.337
400	0 - 30	1.4444595E 00	-2.5867632E 01	1.1202346E 02	-2.6658808E 02	3.0724024E 02	-1.2930570E 02	0.399	0.1803	0.985
	30 - 60	1.1508290E 00	-2.43442748E 01	1.0838317E 02	-2.2071775E 02	2.6068147E 02	-7.8105025E 01	0.775	0.2156	0.860
	60 - 90	1.4059785E 00	-3.6265185E 01	2.1436103E 02	-6.0635669E 02	6.9870073E 02	-2.7040018E 02	0.569	0.0777	0.556
	90 -180	1.1760048E 00	-5.4378027E 01	4.5390587E 02	-2.6455966E 03	7.3893223E 03	-7.5815753E 03	0.359	0.0241	0.332

TABLE 34

PROTONS INCIDENT ON PB

PROTONS EMITTED

EMIN = 6.683 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-1.1451081E 00	-1.7134619E 00	-1.4580875E 01	3.9003150E 01	-2.5210467E 01	0.	0.059	0.0352	0.963
	30 - 60	-5.7601622E 00	4.0687629E 01	-1.5703657E 02	2.4606919E 02	-1.6374735E 02	0.	0.066	0.0322	0.894
	60 - 90	1.5108439E 00	-3.9495086E 01	9.2450157E 01	-7.3866481E 01	0.	3.3599648E 01	0.016	0.0066	0.666
	90 - 180	0.	0.	0.	0.	0.	0.	0.003		
50	0 - 30	3.2957742E 00	-6.2524956E 01	2.5339335E 02	-4.9127818E 02	4.6509627E 02	-1.7064960E 02	0.098	0.0617	0.983
	30 - 60	3.8828984E-01	-2.8013040E 01	1.0804745E 02	-1.9557219E 02	1.6291734E 02	-5.3194308E 01	0.123	0.0511	0.922
	60 - 90	-4.0761093E 00	2.7126124E 01	-1.6593865E 02	3.4339631E 02	-2.4052031E 02	0.	0.045	0.0137	0.709
	90 - 180	-5.1016073E 00	1.4065960E 01	-6.3568102E 01	4.8190868E 01	0.	0.	0.013	0.0028	0.404
100	0 - 30	6.8427656E-01	-3.1077577E 01	1.0840282E 02	-1.8055668E 02	1.5772076E 02	-5.6980478E 01	0.125	0.0747	0.973
	30 - 60	-1.8309795E-01	-1.7911851E 01	6.4554786E 01	-1.1313705E 02	9.7068378E 01	-3.5964971E 01	0.210	0.0785	0.918
	60 - 90	1.2809359E 00	-4.3929937E 00	-4.7435915E 00	3.4810953E 00	0.	0.	0.109	0.0237	0.734
	90 - 180	5.8010343E-01	-4.6983684E 01	1.5238919E 02	-2.0887544E 02	5.0344160E 01	0.	0.047	0.0068	0.467
150	0 - 30	6.9160305E-02	-2.1218440E 01	8.1071872E 01	-1.7274088E 02	1.9695500E 02	-8.6239431E 01	0.157	0.0908	0.979
	30 - 60	7.3997805E-02	-1.8347580E 01	5.6376718E 01	-7.1462948E 01	3.2995566E 01	-4.9669870E 00	0.258	0.0872	0.902
	60 - 90	1.5413978E-01	-2.3102664E 01	8.4183255E 01	-1.5431192E 02	9.44018484E 01	0.	0.173	0.0337	0.695
	90 - 180	-2.0084361E 00	1.6864871E 01	-4.16332496E 02	2.3745579E 03	-5.563636783E 03	4.5127277E 03	0.079	0.0104	0.441
200	0 - 30	-3.2329160E-01	-1.4485771E 01	6.0717062E 01	-1.3569612E 02	1.5416993E 02	-6.6038037E 01	0.195	0.1060	0.971
	30 - 60	2.9217706E-01	-2.5601680E 01	1.1402279E 02	-2.2442321E 02	2.9125611E 02	-7.0006353E 01	0.339	0.1231	0.886
	60 - 90	-6.5369861E-01	-5.9303893E 00	-1.7560151E 00	1.4158754E 00	0.	0.	0.207	0.0363	0.640
	90 - 180	-3.4199788E-01	-3.6365457E 01	1.9674806E 02	-5.3622002E 02	0.	0.	0.089	0.0080	0.249
250	0 - 30	2.5933695E-01	-2.3264419E 01	1.1146448E 02	-2.6073917E 02	2.8754841E 02	-1.1661456E 02	0.224	0.1224	0.982
	30 - 60	8.8437248E-01	-3.4382321E 01	1.7532494E 02	-4.1154162E 02	4.4475298E 02	-1.8250714E 02	0.366	0.1143	0.873
	60 - 90	-1.3799953E-01	-1.2407233E 01	3.9578821E 00	1.6593957E 02	-5.3894986E 02	4.5182477E 02	0.241	0.0387	0.568
	90 - 180	2.5295756E 00	-1.7870386E 02	2.7236141E 03	-1.9649454E 04	6.3297266E 04	-7.4825106E 04	0.129	0.0109	0.288
300	0 - 30	5.4679874E-01	-2.3363228E 01	7.6216195E 01	-1.3331284E 02	1.3432241E 02	-5.5224487E 01	0.238	0.1381	0.974
	30 - 60	7.6490358E-01	-5.1445795E 01	1.7118122E 02	-4.3465732E 02	5.1792476E 02	-2.3788854E 02	0.439	0.1356	0.823
	60 - 90	7.3840953E-01	-3.7383538E 01	2.6007188E 02	-9.8541347E 02	1.7765977E 03	-1.2380037E 03	0.276	0.0415	0.512
	90 - 180	1.4684350E-01	-2.6138328E 01	-2.16711459E 01	1.0441772E 03	-5.1604033E 03	7.7188351E 03	0.149	0.0121	0.299
350	0 - 30	7.0299370E-01	-2.5244415E 01	1.0953698E 02	-2.5001016E 02	2.7928987E 02	-1.1561468E 02	0.242	0.1241	0.977
	30 - 60	7.190660E-01	-3.2427016E 01	1.8366761E 02	-4.7431999E 02	5.7031599E 02	-2.6459805E 02	0.445	0.1345	0.787
	60 - 90	7.6440348E-01	-3.3104225E 01	1.7665725E 02	-4.0800259E 02	1.7801279E 02	2.3373434E 02	0.296	0.0393	0.501
	90 - 180	5.0727451E-01	-4.9098970E 01	1.9821882E 02	-3.1140359E 02	0.	0.	0.151	0.0109	0.376
400	0 - 30	2.4026158E-01	-1.6344018E 01	4.2205427E 01	-4.1027841E 01	1.4718706E 01	0.	0.278	0.1565	0.987
	30 - 60	4.7173855E-01	-2.2465908E 01	9.9716101E 01	-2.1094423E 02	1.1553224E 02	-9.0157862E 01	0.450	0.1354	0.838
	60 - 90	9.9922980E-01	-4.6838933E 01	4.1938421E 02	-1.8877665E 03	3.8393795E 03	-2.8916157E 03	0.346	0.0487	0.492
	90 - 180	6.8767933E-01	-5.8374629E 01	3.7366892E 02	-1.6399022E 02	-7.8491865E 03	1.9077198E 04	0.196	0.0137	0.315

TABLE 35
 PROTONS INCIDENT ON PB
 NEUTRONS EMITTED
 EMIN = 6.683 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	4.0725437E-01	-5.8022029E 00	-1.0533833E 01	3.7521563E 01	-2.4868672E 01	0.	0.085	0.0487	0.955
	30 - 60	1.4019235E 01	-1.5217121E 02	5.4243790E 02	-9.4834322E 02	8.1078674E 02	-2.7499037E 02	0.062	0.0301	0.864
	60 - 90	1.2272530E 01	-1.2510919E 02	3.1430534E 02	-2.6182054E 02	0.	0.	0.013	0.0053	0.633
	90 -180	0.	0.	0.	0.	0.	0.	0.002		
50	0 - 30	7.9933301E-01	-2.2913391E 01	8.9312960E 01	-1.8601107E 02	1.9359959E 02	-7.7877247E 01	0.118	0.0593	0.976
	30 - 60	-3.3257026E 00	2.5501933E 01	-1.3426525E 02	2.8560417E 02	-2.7853526E 02	9.9551351E 01	0.135	0.0489	0.898
	60 - 90	-2.6205351E-01	-3.3418599E 01	2.0527480E 02	-6.7422742E 02	1.0070077E 03	-5.5793809E 02	0.052	0.0147	0.701
	90 -180	6.1802613E 00	-1.7071665E 02	1.0570070E 03	-2.8360651E 03	2.6383489E 03	0.	0.017	0.0037	0.422
100	0 - 30	6.8179250E-01	-1.8114619E 01	5.3051667E 01	-8.7352983E 01	8.3540295E 01	-3.3948942E 01	0.168	0.0787	0.980
	30 - 60	2.1226387E-01	-1.1180477E 01	1.0683186E 01	2.8848799E 01	-6.2906126E 01	2.7509357E 01	0.250	0.0697	0.822
	60 - 90	1.3019972E 00	-4.3749170E 01	2.1911440E 02	-5.5105336E 02	6.0332056E 02	-2.3450386E 02	0.140	0.0277	0.656
	90 -180	4.1005353E 00	-1.9742678E 02	2.2877671E 03	-1.2859682E 04	3.3657963E 04	-3.3192801E 04	0.067	0.0100	0.417
150	0 - 30	7.9726428E-01	-2.1320437E 01	7.9756775E 01	-1.7761283E 02	2.0484826E 02	-8.8525673E 01	0.191	0.0895	0.986
	30 - 60	1.1209570E 00	-2.7505319E 01	1.1542457E 02	-2.6902221E 02	2.5458518E 02	-1.0127132E 02	0.345	0.0913	0.870
	60 - 90	2.5498018E-01	-1.4249484E 01	-1.3617687E 02	1.7587033E 02	-4.8147696E 02	3.5795460E 02	0.227	0.0378	0.582
	90 -180	2.6989105E 00	-1.4014051E 02	1.6055746E 03	-9.5773733E 03	2.7014756E 04	-2.8774047E 04	0.100	0.0113	0.354
200	0 - 30	1.4958551E 00	-3.1367754E 01	1.2293830E 02	-2.5314130E 02	2.5989403E 02	-1.01366485E 02	0.214	0.0927	0.975
	30 - 60	6.8800700E-01	-1.7196120E 01	4.2339115E 01	-3.1540608E 01	-2.4548121E 01	2.6335203E 01	0.391	0.1002	0.918
	60 - 90	3.6217102E-01	-1.4897483E 01	2.9191870E 01	-3.1595717E 01	0.	0.	0.298	0.0466	0.613
	90 -180	-5.6304802E-02	-2.7237566E 01	6.0208465E 01	-8.4079278E 01	0.	0.	0.132	0.0121	0.336
250	0 - 30	1.3195184E 00	-2.9491956E 01	1.2300712E 02	-2.6759863E 02	2.8594151E 02	-1.495838E 02	0.243	0.1061	0.980
	30 - 60	8.0136107E-01	-1.8823834E 01	4.5447795E 01	-6.4031457E 00	-9.5767907E 01	7.2643787E 01	0.430	0.1036	0.796
	60 - 90	1.0264843E 00	-2.7330292E 01	8.8985970E 01	-1.0838061E 02	0.	0.	0.345	0.0494	0.497
	90 -180	2.3715299E-01	-2.2408276E 01	-5.1351682E 01	6.3058762E 02	-1.1851386E 03	0.	0.223	0.0218	0.371
300	0 - 30	9.7587036E-01	-2.0942149E 01	6.2552153E 01	-8.6807806E 01	5.3742030E 01	-1.0239789E 01	0.237	0.0942	0.973
	30 - 60	1.413119E 00	-2.4996807E 01	1.1155885E 02	-2.6472603E 02	3.0642338E 02	-1.4191258E 02	0.518	0.1164	0.793
	60 - 90	5.9860232E-01	-1.5564193E 01	2.85711539E 01	-2.7197601E 01	0.	0.	0.395	0.0564	0.632
	90 -180	4.0357006E-01	-2.6285787E 01	4.0167269E 01	-3.6028196E 01	0.	0.	0.251	0.0190	0.348
350	0 - 30	1.1189197E 00	-2.0880739E 01	5.3577672E 01	-5.9431006E 01	2.5246817E 01	0.	0.261	0.1056	0.976
	30 - 60	1.312558E 00	-2.6250551E 01	9.3480351E 01	-1.4569907E 02	9.2435199E 01	-2.2487652E 01	0.552	0.1249	0.818
	60 - 90	1.5937710E 00	-4.3738254E 01	2.5524007E 02	-8.0100075E 02	1.1761103E 03	-6.5464599E 02	0.410	0.0506	0.554
	90 -180	1.6890471E 00	-8.9007294E 01	9.9764379E 02	-6.0713899E 03	1.68255399E 04	-1.7144788E 04	0.289	0.0211	0.328
400	0 - 30	1.1466458E 00	-2.2907023E 01	7.7650568E 01	-1.2811286E 02	9.9029382E 01	-2.7193370E 01	0.286	0.1162	0.987
	30 - 60	1.6171627E 00	-3.5165217E 01	1.7736574E 02	-4.3725553E 02	4.95655347E 02	-2.1440150E 02	0.557	0.1077	0.786
	60 - 90	2.0056513E 00	-6.1230189E 01	4.6017233E 02	-1.6401157E 03	2.5092715E 03	-1.3729333E 03	0.442	0.0486	0.543
	90 -180	1.52441338E 00	-7.7264805E 01	7.7641888E 02	-3.6475396E 03	5.4582046E 03	0.	0.343	0.0233	0.253

TABLE 36
NEUTRONS INCIDENT ON Pb
PROTONS EMITTED
EMIN = 6.683 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-9.7678212E-01	-1.1807823E 01	2.3692458E 01	-1.4652036E 01	0.	0.	0.035	0.0205	0.935
	30 - 60	2.5614212E 01	-2.6548055E 02	9.2676344E 02	-1.5409223E 03	0.	0.	0.038	0.0196	0.924
	60 - 90	-1.5566246E 00	-9.7517226E 00	3.6369180E 00	0.	1.2222178E 03	0.7361918E 02	0.008	0.0029	0.568
	90 - 180	0.	0.	0.	0.	0.	0.	0.002	0.	0.
50	0 - 30	1.9488961E 00	-4.3097500E 01	1.6065289E 02	-3.0781685E 02	2.9703510E 02	-1.1181227E 02	0.057	0.0312	0.961
	30 - 60	-1.9956298E-01	-2.2456751E 01	7.7368675E 01	-1.2668304E 02	9.4199101E 01	-2.8423781E 01	0.086	0.0345	0.906
	60 - 90	-1.1603991E 00	-1.1913638E 01	1.0850500E 01	-4.6180569E 00	0.	0.	0.032	0.0088	0.688
	90 - 180	-1.7324585E 00	-2.1033785E 01	2.2860216E 01	0.	0.	0.	0.009	0.0019	0.448
100	0 - 30	-1.2808635E 00	-7.3564218E 00	1.8657570E 01	-4.2842497E 01	6.1557543E 01	-3.0570057E 01	0.082	0.0456	0.970
	30 - 60	-1.5139045E-01	-2.0140863E 01	6.3199336E 01	-9.1196867E 01	5.5085036E 01	-1.1995168E 01	0.136	0.0457	0.914
	60 - 90	1.1348833E 00	-6.9637740E 01	5.4130573E 02	-2.0721574E 03	3.6387853E 03	-2.3939021E 03	0.072	0.0142	0.543
	90 - 180	-9.7360803E 00	2.2200350E 02	-2.5123326E 03	1.2151719E 04	-2.6946236E 04	2.2308716E 04	0.034	0.0051	0.391
150	0 - 30	-8.7261386E-01	-9.3120182E 00	2.5616899E 01	-7.2194788E 01	1.0820752E 02	-5.3345072E 01	0.086	0.0436	0.975
	30 - 60	2.2794951E-01	-2.3054452E 01	7.4636257E 01	-1.0454212E 02	4.9221279E 01	0.	0.176	0.0506	0.862
	60 - 90	-4.1098092E-01	-1.3936423E 01	2.3858012E 01	-2.4311204E 01	0.	0.	0.129	0.0218	0.624
	90 - 180	-1.7425843E 00	6.0475397E 00	-2.9252880E 02	1.36663342E 03	-1.8868813E 03	0.	0.069	0.0071	0.372
200	0 - 30	6.9261776E-01	-3.2573797E 01	1.4762669E 02	-3.3054080E 02	3.5015298E 02	-1.3764715E 02	0.117	0.0522	0.951
	30 - 60	7.8203207E-02	-2.0000653E 01	6.1106219E 01	-7.3586969E 01	2.0217310E 01	7.6625385E 03	0.218	0.0633	0.865
	60 - 90	-3.4118974E-02	-2.5977657E 01	1.5062963E 02	-6.1058931E 02	1.2848044E 03	-1.0468771E 03	0.153	0.0250	0.511
	90 - 180	-8.3206489E-01	-1.7195761E 01	9.2250108E 00	-1.6367856E 00	0.	0.	0.099	0.0096	0.330
250	0 - 30	4.6933842E-01	-2.4785592E 01	7.5868567E 01	-9.6202980E 01	4.4167119E 01	0.	0.129	0.0595	0.966
	30 - 60	9.1052818E-01	-3.9294986E 01	2.1212279E 02	-5.6682934E 02	7.0292479E 02	-3.2383509E 02	0.233	0.0611	0.818
	60 - 90	8.6603965E-01	-4.0079848E 01	2.2846749E 02	-7.6142923E 02	1.3369829E 03	-9.8047408E 02	0.202	0.0286	0.501
	90 - 180	4.0726957E-01	-4.3482325E 01	-4.6750677E 01	2.1111102E 03	-6.3754283E 03	0.	0.106	0.0083	0.242
300	0 - 30	9.3811101E-01	-3.2656195E 01	1.1833052E 02	-2.2249926E 02	2.1598084E 02	-8.1806275E 01	0.127	0.0549	0.960
	30 - 60	7.5544546E-01	-3.3738330E 01	1.6093336E 02	-3.7209958E 02	4.0397503E 02	-1.6992850E 02	0.252	0.0607	0.812
	60 - 90	2.735077E-02	-1.8971013E 01	4.7744752E 01	-4.9885027E 01	0.	0.	0.207	0.0315	0.598
	90 - 180	-1.6543970E 00	4.4970436E 01	-1.4683876E 03	1.3588999E 04	-5.4280712E 04	7.8107160E 04	0.095	0.0066	0.246
350	0 - 30	8.2967867E-01	-3.0579995E 01	1.0763803E 02	-1.8095158E 02	1.4803814E 02	-4.6262363E 01	0.136	0.0565	0.977
	30 - 60	5.5746691E-01	-2.9358597E 01	1.3387515E 02	-3.0032694E 02	3.2080601E 02	-1.3479501E 02	0.268	0.0664	0.825
	60 - 90	2.2371759E-01	-1.8662592E 01	3.8699673E 01	-3.3570274E 01	0.	0.	0.239	0.0332	0.570
	90 - 180	1.4092577E-01	-3.6420521E 01	1.3082480E 02	-2.0620287E 02	0.	0.	0.171	0.0137	0.375
400	0 - 30	6.9445120E-01	-3.4395778E 01	1.6145128E 02	-3.6937593E 02	3.9106310E 02	-1.5093394E 02	0.129	0.0560	0.964
	30 - 60	9.6776015E-01	-4.1646404E 01	2.6708887E 02	-8.1334401E 02	1.1150999E 03	-5.5970041E 02	0.310	0.0724	0.771
	60 - 90	1.3735899E-01	-1.6655352E 01	3.7398708E 01	-4.1051912E 01	0.	0.	0.258	0.0341	0.508
	90 - 180	4.7802817E-02	-2.9273205E 01	9.9030526E 01	-1.5571476E 03	1.0121147E 04	-1.8219816E 04	0.175	0.0128	0.322

TABLE 37

NEUTRONS INCIDENT ON P8

NEUTRONS EMITTED

EMIN = 6.683 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	6.2402574E-02	3.8895660E 00	-6.0086411E 01	1.3988491E 02	-1.1281901E 02	2.5281590E 01	0.110	0.0639	0.963
	30 - 60	-1.2064361E 01	7.6940194E 01	-2.1849675E 02	2.7121923E 02	-1.3372778E 02	8.8066119E 00	0.103	0.0527	0.908
	60 - 90	-2.5520385E 01	1.7063206E 02	-4.6154696E 02	5.0890836E 02	-2.0042416E 02	0.	0.071	0.0087	0.800
	90 -180	0.	0.	0.	0.	0.	0.	0.003	0.	0.
50	0 - 30	2.1560036E 00	-3.9222129E 01	1.6641102E 02	-3.5236889E 02	3.6391910E 02	-1.4398577E 02	0.161	0.0874	0.976
	30 - 60	-1.9275976E-01	-9.2311827E 00	1.6119147E 01	-5.9492502E 00	-1.0314827E 01	3.9448859E 00	0.223	0.0890	0.929
	60 - 90	-3.3854981E 00	3.4566964E 01	-2.5663020E 02	7.2182599E 02	-9.1490599E 02	4.2622644E 02	0.077	0.0220	0.733
	90 -180	2.8505014E 00	-8.2045799E 01	2.9524135E 02	-3.6245030E 02	0.	0.	0.014	0.0033	0.402
100	0 - 30	1.1768054E 00	-2.9775003E 01	1.3123502E 02	-2.8806182E 02	3.0550175E 02	-1.2218034E 02	0.209	0.1090	0.980
	30 - 60	1.0949893E-01	-9.1720088E 00	5.3872656E 00	4.4243686E 01	-8.6407715E 01	4.1631382E 01	0.368	0.1282	0.919
	60 - 90	-6.4376920E-01	-5.0747533E 00	-8.7381455E-01	-2.7946127E 00	0.	0.	0.195	0.0412	0.705
	90 -180	-1.0605123E 00	-1.5047358E 01	7.7643149E 00	0.	0.	0.	0.063	0.0091	0.416
150	0 - 30	7.6231806E-01	-1.9982064E 01	8.2252734E 01	-1.9658360E 02	2.3674727E 02	-1.0547119E 02	0.248	0.1210	0.969
	30 - 60	6.9248800E-01	-1.7250385E 01	6.0340945E 01	-1.6681697E 02	9.0565068E 01	-3.1811038E 01	0.506	0.1645	0.949
	60 - 90	5.5915472E-01	-2.5242538E 01	1.1745011E 02	-2.6221746E 02	1.8454642E 02	0.	0.266	0.0487	0.655
	90 -180	1.7888421E 00	-9.4172027E 01	9.0673218E 02	-4.7374042E 03	1.1710936E 04	-1.0957320E 04	0.121	0.0139	0.372
200	0 - 30	3.3902091E-01	-8.2491982E 00	-3.4074174E 00	5.4060621E 01	-7.0802060E 01	2.6922266E 01	0.280	0.1323	0.983
	30 - 60	8.9010597E-01	-2.3676694E 01	1.0428271E 02	-2.1650451E 02	2.0758241E 02	-7.7314388E 01	0.550	0.1772	0.938
	60 - 90	1.1842121E 00	-3.1644998E 01	1.5380807E 02	-3.9460950E 02	4.4032866E 02	-1.7417061E 02	0.369	0.0603	0.631
	90 -180	-7.9877999E-02	-2.2334627E 01	2.7621869E 01	-3.7953895E 00	0.	0.	0.165	0.0169	0.389
250	0 - 30	1.4394431E 00	-2.4640796E 01	8.0534667E 01	-1.4599849E 02	1.4978539E 02	-6.2978162E 01	0.308	0.1330	0.971
	30 - 60	8.4301335E-01	-1.9013409E 01	8.3519982E 01	-1.9465525E 02	2.2243908E 02	-1.0084478E 02	0.645	0.1899	0.867
	60 - 90	3.2330989E-01	-1.0485643E 01	1.7994031E 01	-2.2881611E 01	0.	0.	0.441	0.0719	0.625
	90 -180	3.6141497E-01	-2.6097981E 01	4.7173575E 01	-3.0138864E 01	0.	0.	0.245	0.0228	0.372
300	0 - 30	1.0987095E 00	-2.0960795E 01	7.5913139E 01	-1.6200968E 02	1.8520843E 02	-8.0670779E 01	0.330	0.1521	0.981
	30 - 60	1.1865121E 00	-2.4773143E 01	9.7952441E 01	-1.7385610E 02	1.3986435E 02	-4.5267699E 01	0.685	0.2032	0.855
	60 - 90	9.0180131E-01	-2.0045869E 01	2.7550907E 01	3.0129825E 02	-1.2451488E 03	1.2058252E 03	0.467	0.0647	0.498
	90 -180	2.0689189E-01	-2.5077299E 01	4.5677220E 01	2.9001653E 01	-2.1286572E 02	0.	0.250	0.0222	0.361
350	0 - 30	1.2876332E 00	-2.5180212E 01	1.1338067E 02	-2.7563365E 02	3.22236229E 02	-1.3798552E 02	0.358	0.1592	0.973
	30 - 60	1.2016843E 00	-2.3106041E 01	8.9309708E 01	-1.4883254E 02	1.0057819E 02	-2.3792538E 01	0.740	0.2011	0.853
	60 - 90	1.4830713E 00	-3.8080040E 01	2.2021292E 02	-6.1713355E 02	7.2809483E 02	-3.0048822E 02	0.526	0.0741	0.544
	90 -180	1.1442903E 00	-5.2044690E 01	3.2994390E 02	-1.1100824E 03	1.2789626E 03	0.	0.326	0.0254	0.342
400	0 - 30	1.1302693E 00	-1.7721771E 01	5.0449929E 01	-9.6226724E 01	1.1495402E 02	-5.3778380E 01	0.373	0.1678	0.985
	30 - 60	1.4306796E 00	-2.7734029E 01	1.2969246E 02	-3.0489472E 02	3.5226201E 02	-1.6218381E 02	0.784	0.2096	0.825
	60 - 90	9.6423495E-01	-1.7904201E 01	4.5429820E 01	-5.3465325E 01	0.	0.	0.573	0.0778	0.560
	90 -180	7.6458994E-01	-3.3351790E 01	1.5045699E 02	-5.0874075E 02	6.3663517E 02	0.	0.384	0.0291	0.358

TABLE 38

PROTONS INCIDENT ON U

PROTONS EMITTED

EMIN = 7.251 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	-3.4224322E 00	1.5065994E 01	-6.0877940E 01	9.2852675E 01	-4.7598261E 01	0.	0.050	0.0299	0.954
	30 - 60	3.5325264E 00	-4.0533612E 01	9.1903573E 01	-8.9913712E 01	2.95534733E 01	0.	0.057	0.0301	0.927
	60 - 90	-2.0017099E 01	1.1093457E 02	-2.4586111E 02	1.6651463E 02	0.	0.	0.009	0.0036	0.595
	90 - 180	0.	0.	0.	0.	0.	0.	0.002		
50	0 - 30	-1.3857595E 00	-5.3524004E-01	-1.7418131E 01	2.9244751E 01	8.8606932E 00	-2.2207312E 01	0.086	0.0498	0.961
	30 - 60	-3.2416921E 00	2.1411864E 01	-1.3108172E 02	3.1164152E 02	-3.2084793E 02	1.1795114E 02	0.114	0.0507	0.921
	60 - 90	4.0621256E 01	-7.1717614E 02	4.5408455E 03	-1.3867228E 04	2.0412694E 04	-1.1637561E 04	0.043	0.0124	0.568
	90 - 180	-1.6016047E 00	-1.9156599E 01	1.8807983E 01	0.	0.	0.	0.010	0.0024	0.432
100	0 - 30	1.0282341E 00	-3.6016003E 01	1.5308403E 02	-3.2496732E 02	3.3984568E 02	-1.3551834E 02	0.119	0.0673	0.972
	30 - 60	-2.7759484E-01	-1.7236594E 01	4.9605717E 01	-4.7506310E 01	6.3753697E-01	9.2970262E 00	0.195	0.0763	0.905
	60 - 90	3.1090101E-02	-2.4323134E 01	7.8424038E 01	1.2250010E 02	6.3900501E 01	0.	0.102	0.0238	0.669
	90 - 180	-2.4978839E-01	-4.6254408E 01	1.9875061E 02	-3.6424494E 02	1.4071626E 02	0.	0.032	0.0053	0.418
150	0 - 30	3.2284166E-01	-3.2253464E 01	1.7133810E 02	-4.4042743E 02	5.1823314E 02	-2.1997983E 02	0.140	0.0824	0.978
	30 - 60	3.7221517E-01	-2.469978E 01	8.7970593E 01	1.2848777E 02	7.1824987E 01	-1.0911522E 01	0.265	0.0973	0.942
	60 - 90	-2.1549242E-01	-1.5384377E 01	1.4530184E 01	1.2388961E 02	-4.0115694E 02	3.1282796E 02	0.151	0.0284	0.598
	90 - 180	-3.9530195E 00	1.03884542E 02	-1.8743771E 03	1.25996416E 04	-3.9448426E 04	4.3198236E 04	0.067	0.0085	0.315
200	0 - 30	1.6477891E-03	-2.0426129E 01	7.7171798E 01	-1.7174094E 02	2.0446573E 02	-9.1508286E 01	0.149	0.0849	0.975
	30 - 60	4.1784687E-01	-2.6000611E 01	1.0892345E 02	-2.0817358E 02	1.8761915E 02	-6.8756844E 01	0.310	0.1071	0.897
	60 - 90	8.0271442E-02	-2.3661450E 01	1.0221758E 02	-2.1817318E 02	1.5386066E 02	0.	0.190	0.0346	0.609
	90 - 180	7.8125319E-02	-7.0400236E 01	9.1169614E 02	-6.6587263E 03	2.1773686E 04	-2.5486839E 04	0.085	0.0095	0.362
250	0 - 30	-2.3951470E-01	-9.5715355E 00	7.0937330E 00	1.6659914E 01	-1.5228487E 01	0.	0.184	0.0988	0.974
	30 - 60	2.1196727E-01	-2.0854577E-01	8.3562984E 01	-1.5007558E 02	1.2697253E 02	-4.6187000E 01	0.367	0.1247	0.879
	60 - 90	6.1667154E-01	-4.1142134E 01	3.0149415E 02	-1.0535119E 03	1.5655217E 03	-8.3232011E 02	0.222	0.0355	0.605
	90 - 180	7.0012644E-01	-6.0133346E 01	4.6813222E 02	-3.0050067E 03	1.0579492E 04	-1.3767999E 04	0.119	0.0109	0.368
300	0 - 30	6.7180297E-01	-2.7096058E 01	1.1508184E 02	-2.5037419E 02	2.6987139E 02	-1.0971871E 02	0.212	0.1105	0.974
	30 - 60	7.5249596E-01	-3.4032208E 01	1.7875973E 02	-4.2049757E 02	4.6213751E 02	-1.9906110E 02	0.405	0.1320	0.848
	60 - 90	-9.2879906E-02	-1.2915275E 01	2.6483017E 01	-3.0153931E 01	0.	0.	0.254	0.0397	0.534
	90 - 180	-3.0130252E-01	-3.3329314E 01	4.8473604E 02	-6.3548481E 03	3.5333755E 04	-6.6844877E 04	0.150	0.0124	0.276
350	0 - 30	2.8585563E-01	-1.9932744E 01	6.5745581E 01	-1.1184375E 02	1.0501380E 02	-4.0250309E 01	0.212	0.1140	0.984
	30 - 60	5.3836948E-01	-2.3656353E 01	9.2979215E 01	-1.5459395E 02	1.0825362E 02	-2.8952428E 01	0.417	0.1271	0.862
	60 - 90	6.2059972E-02	-1.4842406E 01	4.2791442E 01	-6.0842630E 01	0.	0.	0.291	0.0430	0.488
	90 - 180	7.2402851E-01	-4.7155739E 01	2.0775974E 02	-3.4820286E 02	0.	0.	0.213	0.0179	0.329
400	0 - 30	3.6831947E-01	-1.7924292E 01	6.5023859E 01	-1.5067689E 02	1.8591244E 02	-8.4105051E 01	0.224	0.1135	0.970
	30 - 60	3.4416318E-01	-2.6729544E 01	1.5937731E 02	-4.4487329E 02	5.7941805E 02	-2.8676495E 02	0.439	0.1405	0.799
	60 - 90	2.2647830E-01	-1.5345143E 01	4.0886653E 01	-5.3922957E 01	0.	0.	0.330	0.0475	0.523
	90 - 180	1.2197425E 00	-7.6906093E 01	6.0796760E 02	-2.29486640E 03	2.8069727E 03	0.	0.188	0.0122	0.284

TABLE 39

PROTONS INCIDENT ON U

NEUTRONS EMITTED

EMIN = 7.251 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	1.666575E-01	-1.6189859E 02	5.5100380E 02	-9.1535387E 02	7.4465536E 02	-2.3910699E 02	0.073	0.0420	0.944
	30 - 60	-5.0865701E-01	1.0325591E 00	-5.3010364E 01	1.4256827E C2	-1.4904867E 02	5.4253402E 01	0.063	0.0319	0.927
	60 - 90	-1.8081104E 01	9.1649710E 01	-1.8887313E 02	1.1784934E 02	0.	0.	0.012	0.0051	0.673
	90 -180	0.	0.	0.	0.	0.	0.	0.		
50	0 - 30	7.3485515E-01	-1.2348180E 00	-1.9211206E 01	5.1257415E 01	-3.9594842E 01	7.0571554E C0	0.119	0.0635	0.976
	30 - 60	-1.4730064E-01	-1.7647864E 01	7.6348611E 01	-1.8603032E 02	2.1630307E 02	-9.8165785E 01	0.129	0.0475	0.862
	60 - 90	5.1463022E 00	-1.2297047E 02	8.907321E 02	-2.6212144E 03	3.9211982E 03	-2.1724496E 03	0.055	0.0156	0.688
	90 -180	-1.1109630E 00	-1.9791600E 01	1.1532626E 01	0.	0.	0.	0.010	0.0020	0.470
100	0 - 30	9.7282491E-03	-6.1624764E 00	-9.0158522E 00	4.6294494E 01	-4.4261203E 01	1.1396198E 01	0.171	0.0822	0.865
	30 - 60	6.5733910E-01	-1.7039526E 01	3.2038268E 01	-2.5851365E 00	-4.9199293E 01	3.1647319E C1	0.251	0.0762	0.869
	60 - 90	2.8216848E-01	-2.1349270E 01	7.4900768E 01	-1.5423045E 02	1.0380156E 02	0.	0.142	0.0276	0.627
	90 -180	-9.7807310E-01	-2.1096496E 01	6.5656530E 01	-2.0542216E 02	2.4268154E 02	0.	0.052	0.0078	0.389
150	0 - 30	1.2554424E 00	-3.1725585E 01	1.4143068E 02	-3.2237464E 02	3.5313464E 02	-1.4407853E 02	0.186	0.0885	0.973
	30 - 60	8.7968123E-01	-2.5580091E 01	1.1204937E 01	-2.5119106E 02	2.6320936E 02	1.0713226E 02	0.316	0.0839	0.872
	60 - 90	1.0564522E-01	-1.3388491E 01	9.4934578E 00	8.1180317E 01	-2.6481898E 02	2.1918637E 02	0.216	0.0387	0.598
	90 -180	-6.7333556E-01	-1.4598074E 01	-2.9828317E 00	1.5893084E 01	0.	0.	0.108	0.0128	0.437
200	0 - 30	1.4436507E 00	-3.1788436E 01	1.3402600E 02	-2.8758544E 02	3.0024037E 02	-1.1837814E 02	0.217	0.0947	0.984
	30 - 60	7.1647514E-01	-1.9017390E 01	6.7579044E 01	-1.3568675E 02	1.3839189E 02	-5.9517875E 01	0.385	0.0982	0.872
	60 - 90	9.9541867E-01	-3.0774928E 01	1.4002505E 02	-3.4629955E 02	3.6248296E 02	-1.2310378E 02	0.279	0.0441	0.641
	90 -180	-6.1603389E-01	-9.5832944E 00	-7.6090075E 01	3.7642648E 02	-5.0549064E 02	0.	0.155	0.0171	0.396
250	0 - 30	1.5207041E 00	-3.2846759E 01	1.3220651E 02	-2.6506193E 02	2.5910762E 02	-9.6150258E 01	0.238	0.1063	0.985
	30 - 60	6.7636043E-01	-1.2551880E 01	-2.2767427E 00	1.1912207E 02	-2.2777846E 02	1.1966800E 02	0.442	0.1071	0.876
	60 - 90	1.4384723E 00	-3.8828357E 01	1.9615625E 02	-5.0784838E 02	5.4897085E 02	-1.9468283E 02	0.332	0.0452	0.621
	90 -180	1.3725533E 00	-7.2633815E 01	5.3992245E 02	-1.4920138E 03	-1.1147642E 03	6.4439222E 03	0.190	0.0167	0.309
300	0 - 30	8.8629663E-01	-1.5612480E 01	2.5903817E 02	-1.2577037E 02	0.	0.	0.226	0.0856	0.979
	30 - 60	1.3506272E 00	-2.9429737E 01	1.2459402E 02	-2.4503340E 02	2.0801478E 02	-6.3366604E 01	0.498	0.1149	0.855
	60 - 90	4.8349836E-01	-1.2928565E 01	5.8074582E-01	1.2617075E 02	-3.5643844E 02	2.8231705E 02	0.384	0.0558	0.567
	90 -180	1.1024846E 00	-5.6477979E 01	3.6697986E C2	-1.2045704E 03	1.3703541E 03	0.	0.250	0.0225	0.374
350	0 - 30	9.3113351E-01	-1.3591417E 01	2.0169535E 01	-8.3688002E 00	0.	0.	0.277	0.1043	0.974
	30 - 60	1.3735578E 00	-3.1690567E 01	1.3926852E 02	-2.8702534E 02	2.6758301E 02	-9.4728541E C1	0.498	0.1176	0.838
	60 - 90	1.0877660E 00	-2.0158040E 01	4.1161937E 01	3.7425610E 01	0.	0.	0.475	0.0603	0.611
	90 -180	8.3813391E-01	-3.9546486E 01	2.5027271E 02	-1.8259737E 02	-6.9068612E 02	1.4778816E C3	0.287	0.0223	0.355
400	0 - 30	1.6712826E 00	-3.5347829E 01	1.6232271E 02	-3.6922815E 02	3.9009038E 02	-1.5030233E 02	0.285	0.1170	0.974
	30 - 60	1.6369052E 00	-3.6643405E 01	1.9258709E 02	-4.9139866E 02	5.7564641E 02	-2.5342489E 02	0.566	0.1206	0.786
	60 - 90	1.7210026E 00	-4.6345307E 01	3.0533497E 02	-1.0374144E 03	1.5914727E 03	-9.0298138E 02	0.488	0.0616	0.581
	90 -180	9.5210930E-01	-4.3484472E 01	2.4023769E 02	-8.7647153E 02	1.1602745E 03	0.	0.319	0.0223	0.323

TABLE 40
NEUTRONS INCIDENT ON U
PROTONS EMITTED
EMIN = 7.251 (MEV)

EO (MEV)	ANG. INT.	AD	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	2.6942388E 01	-3.0327580E 02	1.1770418E 03	-2.2064458E 03	2.0099233E 03	-7.1375452E 02	0.027	0.0166	0.913
	30 - 60	8.7062402E 00	-8.4708253E 01	2.1659163E 02	-2.3757868E 02	9.1567703E 01	0.	0.035	0.0179	0.896
	60 - 90	-2.4620501E 00	-6.3438269E 00	1.9816527E 00	0.	0.	0.	0.009	0.0036	0.648
	90 - 180	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0 - 30	2.5475893E 00	-5.0347536E 01	1.7976265E 02	-3.3188809E 02	3.2116906E 02	-1.2550241E 02	0.049	0.0279	0.949
	30 - 60	-2.2621602E 00	1.0494527E 01	-8.7004560E 01	2.2704146E 02	-2.4924050E 02	9.5090773E 01	0.090	0.0353	0.890
	60 - 90	6.6969118E-01	-4.4387832E 01	1.9807988E 02	-4.2402865E 02	3.1085463E 02	0.	0.027	0.0070	0.573
	90 - 180	-6.2736586E-01	-2.9634089E 01	3.9104414E 01	0.	0.	0.	0.008	0.0017	0.406
100	0 - 30	-4.7086610E-01	-8.7141206E 00	-2.0888550E 01	1.1891204E 02	-1.5416916E 02	6.4021830E 01	0.080	0.0423	0.973
	30 - 60	-1.4822736E-02	-2.0508622E 01	6.0988320E 01	-8.5621340E 01	5.0483570E 01	-1.1176903E 01	0.123	0.0386	0.863
	60 - 90	2.2672318E 00	-7.6991462E 01	4.6979688E 02	-1.3962279E 03	1.8948940E 03	-9.5314454E 02	0.076	0.0160	0.633
	90 - 180	-1.7684370E-01	-3.2284178E 01	2.0863622E 01	2.6282858E 02	-5.3709167E 02	0.	0.034	0.0048	0.424
150	0 - 30	-2.6842891E-01	-2.1036003E 01	9.1905318E 01	-2.2470127E 02	2.5951374E 02	-1.0751270E 02	0.078	0.0386	0.977
	30 - 60	-1.4675122E-01	-1.4942069E 01	1.4471452E 01	7.2645576E 01	-1.6981122E 02	9.3724509E 01	0.161	0.0458	0.867
	60 - 90	1.8315006E-01	-2.3818296E 01	4.3367800E 01	6.1118201E 01	-2.8411422E 02	2.1122239E 02	0.113	0.0193	0.591
	90 - 180	-6.3049239E-01	-4.8625126E 01	4.5419909E 02	-2.8709554E 03	8.9621735E 03	-1.0407670E 04	0.052	0.0070	0.383
200	0 - 30	9.2555468E-01	-3.2303900E 01	1.1091303E 02	-1.8775142E 02	1.5975001E 02	-5.3066959E 01	0.104	0.0470	0.967
	30 - 60	-2.3681237E-02	-1.8358716E 01	5.9283947E 01	-1.1203371E 02	1.2158395E 02	-5.9341139E 01	0.195	0.0542	0.828
	60 - 90	3.1173774E-01	-3.6368751E 01	2.1968275E 02	-7.6692026E 02	1.2944692E 03	-8.3749803E 02	0.132	0.0220	0.584
	90 - 180	1.1841065E-01	-4.0291070E 01	1.2710272E 02	-1.1577714E 02	-2.2293157E 02	0.	0.084	0.0078	0.355
250	0 - 30	1.7345811E-01	-1.9924541E 01	4.0668649E 01	-2.9071947E 01	6.5729098E 00	0.	0.100	0.0460	0.967
	30 - 60	-2.7083858E-01	-1.6618444E 01	5.3108882E 01	-7.2956158E 01	3.4566491E 01	-3.2657896E 00	0.212	0.0611	0.849
	60 - 90	9.8440645E-01	-5.2039773E 01	3.5319762E 02	-1.1880996E 03	1.7697295E 03	-9.5692888E 02	0.165	0.0245	0.633
	90 - 180	-8.6648962E-01	9.7276393E 00	-1.11645419E 03	1.3472850E 04	-5.7501799E 04	8.2258841E 04	0.088	0.0085	0.269
300	0 - 30	7.5828484E-01	-3.3613507E 01	1.5193708E 02	-3.3086097E 02	3.4051911E 02	-1.3108750E 02	0.134	0.0574	0.977
	30 - 60	9.1251696E-01	-4.1580726E 01	2.2327608E 02	-5.7555157E 02	6.9317178E 02	-3.1662722E 02	0.226	0.0570	0.792
	60 - 90	1.1163566E 00	-5.6690778E 01	3.9940017E 02	-1.4345407E 03	2.4337864E 03	-1.5650429E 03	0.188	0.0297	0.578
	90 - 180	1.9036823E 00	-1.3510720E 02	1.7783653E 03	-1.2643046E 04	4.3376057E 04	-5.6646318E 04	0.118	0.0094	0.286
350	0 - 30	6.4938526E-01	-2.6311164E 01	7.7622963E 01	-9.5548910E 01	4.2875031E 01	0.	0.130	0.0538	0.968
	30 - 60	4.5815697E-01	-2.6280640E 01	1.1240848E 02	-2.4366556E 02	2.6467374E 02	-1.1880617E 02	0.277	0.0724	0.809
	60 - 90	7.8688268E-01	-4.7212864E 01	3.1965095E 02	-1.0705295E 03	1.6256094E 03	-9.1993009E 02	0.203	0.0299	0.524
	90 - 180	6.1265010E-01	-5.1888496E 01	2.4178247E 02	-4.2760645E 02	0.	0.	0.161	0.0128	0.351
400	0 - 30	9.7055912E-01	-3.1478221E 01	1.4295139E 02	-3.3707272E 02	3.7708499E 02	-1.5534316E 02	0.153	0.0549	0.970
	30 - 60	5.4477940E-01	-3.2797033E 01	1.7414428E 02	-4.6052904E 02	5.7360423E 02	-2.7253700E 02	0.245	0.0581	0.786
	60 - 90	9.0890369E-01	-4.2567176E 01	2.6646358E 02	-7.8263396E 02	7.5674117E 02	0.	0.234	0.0258	0.425
	90 - 180	2.3383767E 00	-1.4427004E 02	1.7891815E 03	-1.1781611E 04	3.9814862E 04	-5.6475177E 04	0.174	0.0112	0.293

TABLE 41

NEUTRONS INCIDENT ON U

NEUTRONS EMITTED

EMIN = 7.251 (MEV)

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 30	6.0929362E-01	-1.2264279E 01	2.2226986E 01	-1.3483432E 01	0.	0.	0.099	0.0583	0.956
	30 - 60	1.1969196E 01	-1.4128187E 02	5.4789211E 02	-1.0236913E 03	9.1486306E 02	-3.1699025E 02	0.093	0.0468	0.900
	60 - 90	-2.2094032E 01	2.1301358E 02	-5.5885637E 02	1.4729670E 03	-9.2677609E 02	0.	0.021	0.0085	0.639
	90 - 180	0.	0.	0.	0.	0.	0.	0.004	0.	0.
50	0 - 30	-8.5414448E-02	-1.0361911E 01	2.0588737E 01	-1.2187054E 01	0.	0.	0.147	0.0821	0.974
	30 - 60	-2.3924349E 00	1.6576337E 01	-8.6000677E 01	1.7261264E 02	-1.5203493E 02	4.5219718E 01	0.220	0.0874	0.909
	60 - 90	4.4203261E 00	-9.1491930E 01	4.6311373E 02	-1.0937642E 03	1.1589178E 03	-4.4954885E 02	0.076	0.0224	0.753
	90 - 180	-4.5520169E 00	4.3641329E 00	-1.6841329E 00	-2.6611466E 01	0.	0.	0.010	0.0021	0.371
100	0 - 30	6.7480785E-01	-1.7988714E 01	5.8861122E 01	-1.1287625E 02	1.2360746E 02	-5.4526116E 01	0.201	0.1013	0.965
	30 - 60	5.7425461E-02	-9.6828547E 00	1.8802631E 01	-9.0695055E 00	-1.3694666E 01	9.0140276E 00	0.354	0.1223	0.945
	60 - 90	1.6245839E-01	-1.9148515E 01	7.3349862E 01	-1.5311694E 02	1.0219324E 02	0.	0.184	0.0399	0.698
	90 - 180	-1.3374373E-01	-3.2162273E 01	9.6994183E 01	-1.2793883E 02	1.3896929E 01	0.	0.064	0.0107	0.490
150	0 - 30	1.0112180E 00	-2.2034141E 01	8.2554370E 01	-1.7127857E 01	1.8466429E 02	-7.6628191E 01	0.250	0.1222	0.982
	30 - 60	6.7966421E-01	-1.9088127E 01	7.2936761E 01	-1.5020881E 02	1.5867964E 02	-8.3027041E 01	0.467	0.1552	0.865
	60 - 90	1.0002326E 00	-3.2219093E 01	1.6730056E 02	-4.6299471E 02	5.8398504E 02	-2.7942724E 02	0.280	0.0539	0.651
	90 - 180	4.0159475E 00	-1.7098400E 02	1.8184581E 03	-9.4512023E 03	2.2723242E 04	-2.0566017E 04	0.116	0.0138	0.363
200	0 - 30	9.0031638E-01	-1.7820673E 01	5.3224639E 01	-9.1653216E 01	9.5579182E 01	-4.1867765E 01	0.291	0.1377	0.979
	30 - 60	1.0960428E 00	-2.6132163E 01	1.2063278E 02	-2.6190478E 02	2.8414102E 02	-1.0437589E 02	0.567	0.1762	0.902
	60 - 90	9.9786390E-01	-2.9541965E 01	1.6181545E 02	-4.8339719E 02	6.3820482E 02	-3.1161155E 02	0.360	0.0595	0.596
	90 - 180	-1.5261890E 00	3.8717480E 01	-9.0410018E 02	6.6536114E 03	-2.1311112E 04	2.4049801E 04	0.163	0.0163	0.315
250	0 - 30	8.5295453E-01	-1.7728745E 01	6.3945317E 01	-1.4117546E 02	1.64664973E 02	-7.1809742E 01	0.308	0.1459	0.982
	30 - 60	1.0960428E 00	-2.1300166E 01	7.1060627E 01	-9.9036552E 01	5.1571282E 01	-8.3303981E 00	0.633	0.1874	0.906
	60 - 90	4.0759584E-01	-7.5200050E 00	-5.5456203E 01	3.8123690E 02	-8.4469202E 02	5.9711632E 02	0.410	0.0628	0.619
	90 - 180	7.8451163E-02	-1.9363673E 01	-5.4614003E 01	8.2046037E 02	-2.8522002E 03	3.0945889E 03	0.226	0.0228	0.396
300	0 - 30	1.1866389E 00	-2.5690537E 01	1.1544259E 02	-2.7953608E 02	3.2339315E 02	-1.3635500E 02	0.297	0.1347	0.972
	30 - 60	1.4236664E 00	-2.8329783E 01	1.2604362E 02	-2.7022782E 02	2.8441295E 02	-1.2176043E 02	0.693	0.1902	0.811
	60 - 90	5.4413210E-01	-7.9829600E 00	-6.6199443E 01	4.9230357E 02	-1.1482936E 03	8.4134198E 02	0.466	0.0674	0.549
	90 - 180	5.1663075E-01	-2.5705507E 01	3.2434588E 01	0.	0.	0.	0.279	0.0226	0.349
350	0 - 30	1.2811462E 00	-2.4893455E 01	9.44131299E 01	-1.9332175E 02	2.0436947E 02	-8.2665695E 01	0.327	0.1496	0.979
	30 - 60	1.3068999E 00	-2.9435959E 01	1.5616895E 02	-4.0154670E 02	4.8576800E 02	-2.2502487E 02	0.722	0.2057	0.825
	60 - 90	1.4290112E 00	-3.5186608E 01	1.9735121E 02	-5.5966303E 02	7.0159231E 02	-3.5571214E 02	0.520	0.0712	0.530
	90 - 180	1.4371147E 00	-8.1415563E 01	9.8097469E 02	-6.3897560E 03	1.8485442E 04	-1.9276309E 04	0.291	0.0231	0.343
400	0 - 30	1.6237543E 00	-2.9206132E 01	1.2653684E 02	-2.8246222E 02	3.0617153E 02	-1.2419007E 02	0.383	0.1619	0.979
	30 - 60	1.4829515E 00	-2.4799417E 01	8.8622020E 01	-1.2512137E 02	5.2127030E 01	3.66017925E 00	0.813	0.2057	0.867
	60 - 90	1.6882799E 00	-4.5325062E 01	3.1891394E 02	-1.0717140E 03	1.5312270E 03	-7.8510983E 02	0.566	0.0745	0.551
	90 - 180	1.2341125E 00	-6.0220155E 01	6.1451812E 02	-3.6261284E 03	9.3408258E 03	-8.5518589E 03	0.379	0.0293	0.385

TABLE 42

PROTONS INCIDENT CN C

EVAPORATION PROTONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	-1.7665023E-01	1.9784448E 01	-1.3631252E 02	2.9413785E 02	-2.2302343E 02	0.	0.511	0.0977	0.600	.02000
50	1.1187131E-01	2.0099547E 01	-1.6193010E 02	3.7788103E 02	-2.9247251E 02	0.	0.536	0.0481	0.308	.00800
100	5.8175708E-01	5.7253217E 00	-4.9846593E 01	8.8016456E 01	-5.1256281E 01	0.	0.621	0.0332	0.196	.00300
150	4.8010466E-01	6.9170979E 00	-6.44121004E 01	1.3949273E 02	-1.0168429E 02	0.	0.589	0.0207	0.117	.00133
200	3.2819529E-01	9.5615515E 00	-8.2306476E 01	1.7345104E 02	-1.1827250E 02	0.	0.536	0.0141	0.091	.00100
250	2.1418621E-01	1.0791259E 01	-7.90344482E 01	1.4924050E 02	-9.3744648E 01	0.	0.542	0.0112	0.073	.00080
300	2.6525635E-01	8.1994368E 00	-6.1905887E 01	1.0910053E 02	-6.2735503E 01	0.	0.528	0.0095	0.066	.00067
350	2.7695023E-01	7.3764408E 00	-6.2463142E 01	1.2598795E 02	-9.3294126E 01	1.45038223E 01	0.508	0.0080	0.053	.00057
400	7.1502990E-01	1.5837506E 00	-4.3443711E 01	9.7052161E 01	-6.5908559E 01	0.	0.495	0.0065	0.048	.00075

EVAPORATION NEUTRONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	-1.7084774E 00	-3.0033536E 00	-1.7565494E 01	1.2998843E 00	0.	0.	0.026	0.0028	0.362	0.
50	-3.7019185E-01	6.8445691E 00	-1.0428715E 02	3.0859527E 02	-2.9670465E 02	0.	0.166	0.0125	0.267	0.
100	3.6855887E-02	-5.3007162E-01	-1.8756035E 01	3.2034419E 01	-1.7616382E 01	0.	0.274	0.0138	0.187	0.
150	-7.3663350E-02	1.8031002E 00	-2.6332529E 01	3.8353200E 01	-1.8295744E 01	0.	0.281	0.0094	0.131	0.
200	1.3754758E-01	1.5996731E 00	-3.5776055E 01	6.6861364E 01	-2.3467425E 01	-2.0036324E 01	0.321	0.0085	0.095	0.
250	4.2091762E-01	-3.6665405E 00	-1.0469125E 00	0.	0.	0.	0.360	0.0073	0.077	0.
300	5.4976999E-02	1.6952129E 00	-2.7510598E 01	4.6108505E 01	-2.6087677E 01	0.	0.322	0.0055	0.064	0.
350	3.8282088E-01	-6.0150818E 00	3.9990309E 01	-1.9592347E 02	3.3573923E 02	-1.8670717E 02	0.347	0.0051	0.056	0.
400	6.1954360E-01	-7.0275240E 00	9.2791519E 00	-1.0493163E 01	3.2702505E 00	0.	0.351	0.0044	0.049	0.

TABLE 43

NEUTRONS INCIDENT ON C

EVAPORATION PROTONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	-2.0933771E 00	2.3949177E 01	-2.2971366E 02	7.3544592E 02	-8.6838619E 02	0.	0.052	0.0076	0.400	0.2400
50	-1.1881700E 00	2.2811769E 01	-1.6721593E 02	3.7176582E 02	-2.7866948E 02	0.	0.185	0.0166	0.311	0.00400
100	-5.6908966E-01	9.8493507E 00	-6.2354025E 01	1.0494019E 02	-6.0967619E 01	0.	0.283	0.0155	0.186	0.00200
150	-4.4581472E-01	1.1189678E 01	-8.0364894E 01	1.4782015E 02	-8.7001396E 01	0.	0.301	0.0116	0.134	0.00133
200	-2.0524486E-01	4.2265224E 00	-3.6996751E 01	6.1265577E 01	-3.4474522E 01	0.	0.295	0.0082	0.096	0.00100
250	-4.4019881E-01	1.0142749E 01	-6.8934933E 01	1.2944848E 02	-8.3982382E 01	0.	0.318	0.0070	0.070	0.00080
300	3.6103042E-01	-3.4721846E 00	-8.4163294E-01	0.	0.	0.	0.350	0.0065	0.068	0.00067
350	2.4273425E-02	1.9321319E 00	-2.9764600E 01	4.8861973E 01	-2.44973383E 01	0.	0.307	0.0049	0.059	0.00057
400	-1.5644946E-01	8.0563154E 00	-6.2060765E 01	1.1519237E 02	-7.0477501E 01	0.	0.354	0.0049	0.048	0.00050

EVAPORATION NEUTRONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	7.8762104E-01	-1.8217565E 00	-2.8352380E 01	8.3979918E 01	-8.4128336E 01	0.	0.432	0.0674	0.580	0.
50	1.0432416E 00	-1.8919397E 00	-3.5215605E 01	9.4840403E 01	-7.9789233E 01	0.	0.501	0.0371	0.311	0.
100	1.2221899E 00	-5.3297641E 00	-1.2983157E 01	4.8681056E 01	-4.3381068E 01	0.	0.575	0.0247	0.174	0.
150	1.0515802E 00	-5.2120447E 00	-5.6235737E-01	1.7842222E 00	0.	0.	0.550	0.0173	0.136	0.
200	9.4004532E-01	-2.3888061E 00	-1.8911103E 01	5.0100905E 01	-3.8936170E 01	0.	0.574	0.0142	0.093	0.
250	7.2872317E-01	1.0504770E 00	-3.0321454E 01	5.5724763E 01	-3.1575150E 01	0.	0.570	0.0119	0.081	0.
300	8.3942825E-01	-2.1595664E 00	-1.9452649E 01	4.5282066E 01	-3.2638470E 01	0.	0.497	0.0076	0.059	0.
350	8.1834837E-01	-4.6513615E 00	1.6029375E-01	1.5173577E 00	-2.2644639E 00	0.	0.482	0.0067	0.053	0.
400	8.1654729E-01	-4.1020567E 00	7.9494126E 00	-5.9381403E 01	1.2802326E 02	-8.5245538E 01	0.521	0.0066	0.047	0.

TABLE 44
PROTONS INCIDENT ON O
EVAPORATION PROTONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	9.6334361E-01	9.9146618E 00	-1.0523080E 02	2.4680844E 02	-1.9953217E 02	0.	0.621	0.0984	0.557	.03200
50	1.4758974E 00	4.1028947E 00	-7.3289177E 01	1.9147520E 02	-1.6651467E 02	C.	0.833	0.0714	0.295	.01600
100	8.2709187E-01	1.2198191E 01	-1.0814119E 02	2.4355908E 02	-1.7881919E 02	0.	0.804	0.0395	0.168	.00600
150	5.457846E-01	1.1636199E 01	-7.9148512E 01	1.4001018E 02	-8.3662416E 01	C.	0.783	0.0260	0.120	.00200
200	4.1982737E-01	1.39C3041E 01	-1.0168770E 02	2.0802919E 02	-1.4253889E 02	0.	0.732	0.0187	0.087	.00150
250	8.4293069E-01	8.9507437E 00	-7.6101794E 01	1.5076411E 02	-9.8143836E 01	0.	0.8C2	0.0162	0.072	.00200
300	5.7174653E-01	9.1469522E 00	-6.4612271E 01	1.0860492E 02	-6.1199836E 01	0.	0.7C1	0.0120	0.062	.00167
350	5.3244512E-01	1.0778804E 01	-8.8474562E 01	1.8615246E 02	-1.2956245E 02	0.	0.665	0.0097	0.050	.00114
400	6.9292945E-01	6.5912960E 00	-5.8281488E 01	1.1094864E 02	-6.8875653E 01	C.	0.705	0.0095	0.048	.00075

EVAPORATION NEUTRONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	-6.1744422E-01	-9.1877148E 00	1.5401618E 01	-2.4117253E 01	0.	0.	0.072	0.0095	0.518	C.
50	5.5868242E-01	-7.4623075E 00	-1.1032827E 01	5.5938845E 01	-4.5602256E 01	-4.0189452E C1	0.226	0.0146	0.275	0.
100	5.2761961E-01	-6.3202937E 00	1.2347810E 01	-4.6328253E 01	6.9417344E 01	-3.6714237E C1	0.311	0.0134	0.175	C.
150	6.2585030E-01	-9.2189248E 00	5.3731743E 01	-2.2219731E 02	3.6290025E 02	-2.0166646E C2	0.357	0.0113	0.125	0.
200	3.8642766E-01	3.5231972E-01	-3.3592056E 01	7.9250589E 01	-7.2662278E 01	2.1068662E 01	0.360	0.0086	0.094	C.
250	5.4917346E-01	-2.4338321E 00	-1.3004563E 01	2.0909412E 01	-8.9623711E 00	0.	0.387	0.0077	0.086	0.
300	6.9260356E-01	-4.2605489E 00	2.8992114E 00	-4.3089228E 01	1.2340151E 02	-1.0508963E C2	0.409	0.0060	0.055	C.
350	6.2602482E-01	-8.2077882E 00	3.8013049E 01	-1.1844161E 02	1.4376367E 02	-5.9436992E C1	0.397	0.0057	0.054	0.
400	7.2262291E-01	-4.5666789E 00	-5.7321007E 00	2.1087595E 01	-1.6914146E 01	0.	0.435	0.0057	0.049	0.

TABLE 45

NEUTRONS INCIDENT ON O

EVAPORATION PROTONS EMITTED

ED (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	-1.0862353E 00	3.3364874E 01	-3.8332787E 02	1.3596419E 03	-1.6317417E 03	0.	0.118	0.0160	0.415	.03200
50	6.7630128E-01	1.1435757E 01	-1.7740504E 02	6.2671441E 02	-8.5353818E 02	3.2651933E 02	0.358	0.0272	0.263	.01600
100	3.0221389E-01	8.2680466E 00	-7.9950830E 01	1.8633055E 02	-1.4962140E 02	0.	0.416	0.0202	0.157	.00700
150	-6.2423524E-01	2.5598791E 01	-1.6994152E 02	3.5603031E 02	-2.5256669E 02	0.	0.433	0.0139	0.108	.00200
200	3.2660696E-01	7.5287172E 00	-6.8268889E 01	1.4197641E 02	-1.0067843E 02	0.	0.466	0.0112	0.085	.00150
250	2.3707217E-01	7.3926082E 00	-5.6500604E 01	1.0216745E 02	-6.4250866E 01	0.	0.495	0.0101	0.071	.00080
300	-6.7317564E-03	1.5296299E 01	-1.1221500E 02	2.2868733E 02	-1.5274907E 02	0.	0.496	0.0084	0.060	.00067
350	3.5759053E-01	8.9999050E 00	-7.6229625E 01	1.5380654E 02	-9.8953607E 01	0.	0.556	0.0090	0.056	.00086
400	2.6729991E-01	8.7104572E 00	-6.7080129E 01	1.2370165E 02	-7.4015628E 01	0.	0.531	0.0074	0.049	.00075

EVAPORATION NEUTRONS EMITTED

ED (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	1.1789429E 00	-3.5809811E 00	-2.1363791E 01	8.1697184E 01	-1.1352151E 02	0.	0.547	0.0742	0.505	0.
50	1.5215784E 00	-7.1463574E 00	4.8249859E-01	0.	0.	0.	0.643	0.0434	0.304	0.
100	1.1836736E 00	-7.5658643E-02	-3.8024469E 01	8.6943150E 01	-6.2130945E 01	0.	0.680	0.0281	0.172	0.
150	1.0846697E 00	-2.9571024E-01	-3.14405981E 01	6.6007598E 01	-4.3161119E 01	0.	0.655	0.0193	0.123	0.
200	1.1301591E 00	-4.8166948E 00	3.7697518E-02	9.4514141E-01	-4.7478042E 00	0.	0.602	0.0129	0.082	0.
250	1.1381268E 00	-5.7520690E 00	2.2620855E 01	-1.3268153E 02	2.7599409E 02	-1.8803916E 02	0.624	0.0112	0.069	0.
300	1.0356153E 00	-5.1749459E 00	1.4185983E 01	-8.6725351E 01	1.7895248E 02	-1.1918165E 02	0.574	0.0087	0.058	0.
350	9.4056585E-01	-2.6648282E 00	-8.3095640E 00	1.3394388E 01	-6.9495408E 00	0.	0.607	0.0087	0.055	0.
400	9.7738028E-01	-4.6856712E 00	1.1291211E 01	-6.4467779E 01	1.1867138E 02	-6.8464105E 01	0.587	0.0073	0.049	0.

TABLE 46

PROTONS INCIDENT ON AL

EVAPORATION PROTONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	-1.6439358E 00	7.3233149E 01	-6.0039155E 02	1.8148050E 03	-1.9539403E 03	0.	0.549	0.0837	0.407	0.04800
50	-1.0207356E 00	5.4829475E 01	-3.8946252E 02	9.8531168E 02	-8.7019916E 02	0.	0.807	0.0712	0.255	0.02200
100	4.3604028E-02	3.0419367E 01	-2.0118767E 02	4.3204636E 02	-3.1756648E 02	0.	0.966	0.0465	0.153	0.00900
150	-3.1109351E-02	2.9154686E 01	-1.7866441E 02	3.5219663E 02	-2.3245151E 02	0.	1.033	0.0373	0.116	0.00600
200	3.7204177E-02	2.5424778E 01	-1.5401392E 02	3.0138553E 02	-2.0157256E 02	0.	0.988	0.0263	0.084	0.00350
250	6.4057857E-02	2.4483812E 01	-1.4332480E 02	2.6748242E 02	-1.6786420E 02	0.	1.045	0.0239	0.073	0.00320
300	4.0095028E-01	1.7945763E 01	-1.0331816E 02	1.7805551E 02	-1.0448563E 02	0.	1.051	0.0194	0.061	0.00267
350	2.4619127E-01	2.0067921E 01	-1.2006985E 02	2.2228972E 02	-1.3916204E 02	0.	0.989	0.0159	0.052	0.00200
400	-1.0220292E-01	2.5135558E 01	-1.4211537E 02	2.6008143E 02	-1.6007186E 02	0.	1.027	0.0151	0.046	0.00125

EVAPORATION NEUTRONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	1.4324994E 00	1.3190309E 01	-5.8212761E 02	4.0532078E 03	-9.1724969E 03	0.	0.355	0.0199	0.227	0.
50	1.2754591E 00	-2.1402368E 00	-4.8553957E 01	1.4860894E 02	-2.0788442E 02	0.	0.479	0.0235	0.187	0.
100	1.2717622E 00	-4.0859271E 00	-2.0870245E 01	6.7005758E 01	-7.4974271E 01	0.	0.562	0.0188	0.134	0.
150	9.3813576E-01	4.2038499E 00	-7.6231385E 01	1.9407449E 02	-1.5693451E 02	0.	0.566	0.0145	0.104	0.
200	1.0659685E 00	2.4486448E-01	-5.1984472E 01	1.4203885E 02	-1.1975083E 02	0.	0.558	0.0108	0.080	0.
250	1.0246835E 00	-4.1464291E 00	-2.8276821E 00	0.	0.	0.	0.538	0.0087	0.064	0.
300	1.3576820E 00	-1.0578617E 01	8.1072084E 01	-4.6592035E 02	1.0286981E 03	-7.5801758E 02	0.615	0.0080	0.052	0.
350	1.0051489E 00	-3.7613749E 00	1.24405027E 01	-1.4653177E 02	3.9311022E 02	-3.1497716E 02	0.561	0.0068	0.046	0.
400	1.0839580E 00	-4.3652641E 00	-5.4889070E 00	9.9737985E 00	-5.3655269E 00	0.	0.562	0.0060	0.045	0.

TABLE 47

NEUTRONS INCIDENT ON AL

EVAPORATION PROTONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NC. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	-3.9019403E 00	9.6853601E 01	-7.9831110E 02	2.5044624E 03	-2.8148908E 03	0.	0.143	0.0218	0.385	.05600
50	-9.0085951E-01	3.2899400E 01	-2.2891150E 02	5.4237933E 02	-4.6384029E 02	0.	0.371	0.0326	0.257	.02000
100	-4.0100040E-01	3.2786720E 01	-2.2889183E 02	5.2229307E 02	-4.0113287E 02	0.	0.646	0.0316	0.152	.00800
150	1.8578959E-01	1.9044265E 01	-1.2252411E 02	2.3392985E 02	-1.5021742E 02	0.	0.744	0.0260	0.117	.00533
200	2.9614825E-01	1.7362847E 01	-1.1295929E 02	2.1521545E 02	-1.3766602E 02	0.	0.779	0.0209	0.089	.00400
250	-5.3306215E-01	3.1031613E 01	-1.8297032E 02	3.5893839E 02	-2.3789963E 02	0.	0.799	0.0179	0.069	.00280
300	1.8269388E-02	1.9906910E 01	-1.1521385E 02	2.0676831E 02	-1.2640377E 02	0.	0.815	0.0152	0.060	.00233
350	-2.1208929E-01	2.3161281E 01	-1.3018526E 02	2.3386390E 02	-1.4288376E 02	0.	0.824	0.0131	0.051	.00086
400	1.3832450E-01	1.9284759E 01	-1.1720111E 02	2.1587963E 02	-1.3328370E 02	0.	0.820	0.0116	0.046	.00200

EVAPORATION NEUTRONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NC. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	1.6917799E 00	6.5907245E 00	-1.9302377E 02	8.3451935E 02	-1.2502896E 03	0.	0.732	0.0638	0.354	0.
50	1.7440848E 00	-1.1696942E 00	-7.0545984E 01	2.9286327E 02	-4.9331310E 02	1.8665925E 02	0.802	0.0429	0.217	0.
100	1.4888434E 00	-4.7837160E 00	-7.9397140E 00	1.4502808E 01	-1.4055288E 01	0.	0.713	0.0245	0.144	0.
150	1.3095796E 00	-2.4637569E-01	-3.8441615E 01	8.4558259E 01	-6.4584253E 01	0.	0.696	0.0161	0.097	0.
200	1.3927587E 00	-4.0573995E 00	-1.2370832E 01	3.6580766E 01	-4.2959823E 01	0.	0.697	0.0126	0.071	0.
250	1.3259341E 00	-3.2994035E 00	-2.2058445E 01	5.4395161E 01	-4.2682753E 01	0.	0.639	0.0094	0.063	0.
300	1.2955996E 00	-1.7436531E 00	-3.2502775E 01	8.5713969E 01	-6.9946869E 01	0.	0.687	0.0091	0.054	0.
350	1.1968677E 00	-1.6340977E 00	-2.4432818E 01	5.1484982E 01	-3.5655437E 01	0.	0.660	0.0075	0.047	0.
400	1.1567780E 00	-2.8783035E 00	-1.6032048E 01	4.6103030E 01	-4.6819891E 01	0.	0.639	0.0066	0.038	0.

TABLE 48

PROTONS INCIDENT ON CR

EVAPORATION PROTONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NC. EMIT./EO	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	-3.5376731E 01	6.6012295E 02	-4.2416543E 03	1.1573319E 04	-1.1567208E 04	0.	0.459	0.0901	0.375	.11600
50	-7.0379031E 00	1.4500221E 02	-8.4098060E 02	1.9399175E 03	-1.6096226E 03	C.	0.678	0.0726	0.239	.05600
100	-4.3542302E 00	8.7945346E 01	-4.4187458E 02	8.6537938E 02	-6.1439635E 02	0.	0.911	0.0535	0.142	.02600
150	-4.5072791E 00	8.7285463E 01	-4.2111548E 02	7.7886760E 02	-5.0742279E 02	0.	0.982	0.0417	0.108	.01733
200	-3.8278151E 00	7.5409546E 01	-3.5220464E 02	6.2212231E 02	-3.8447309E 02	0.	1.057	0.0345	0.086	.01150
250	-3.6911293E 00	7.0321047E 01	-3.1925085E 02	5.4984311E 02	-3.3286431E 02	0.	1.039	0.0278	0.069	.00880
300	-3.8949145E 00	6.9619491E 01	-2.9983394E 02	4.8802038E 02	-2.7789267E 02	0.	1.100	0.0253	0.061	.00633
350	-4.2619463E 00	7.8882732E 01	-3.5952438E 02	6.2901176E 02	-3.8665979E 02	0.	1.132	0.0219	0.049	.00571
400	-3.2964053E 00	5.9725372E 01	-2.5056194E 02	3.9222037E 02	-2.1363590E 02	0.	1.089	0.0194	0.048	.00450

EVAPORATION NEUTRONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NC. EMIT./EO	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	1.5844341E 00	1.8815075E 01	-4.3665720E 02	2.3344373E 03	-4.3161645E 03	0.	0.665	0.0482	0.271	C.
50	1.9957690E 00	5.2011132E 00	-1.8561600E 02	8.2631122E 02	-1.2167220E 03	0.	0.968	0.0440	0.184	0.
100	2.0019836E 00	5.2059840E 00	-1.1655519E 02	3.9698010E 02	-4.6074042E 02	0.	1.325	0.0387	0.115	0.
150	1.9864897E 00	8.6098877E 00	-1.3922987E 02	4.3130167E 02	-4.4695907E 02	0.	1.452	0.0287	0.080	0.
200	2.0973514E 00	2.1027092E 00	-6.3863119E 01	1.7209830E 02	-1.6726536E 02	0.	1.535	0.0246	0.064	0.
250	2.1065199E 00	2.6577843E 00	-7.6379431E 01	2.2253736E 02	-2.1098242E 02	0.	1.573	0.0216	0.055	0.
300	2.1544609E 00	2.9593478E 00	-7.6218579E 01	2.1394668E 02	-1.9816712E 02	0.	1.662	0.0187	0.046	0.
350	2.1999341E 00	1.0275823E 00	-5.2985444E 01	1.4007683E 02	-1.2582696E 02	0.	1.758	0.0178	0.041	0.
400	2.2101687E 00	-1.6081371E-01	-4.2555249E 01	1.0923925E 02	-9.5402976E 01	0.	1.738	0.0156	0.036	0.

TABLE 49

 NEUTRONS INCIDENT ON CR
 EVAPORATION PROTONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	-2.7882890E 01	5.0176693E 02	-3.2406920E 03	8.8468282E 03	-8.8072442E 03	0.	0.109	0.0223	0.385	.11600
50	-8.6951826E 00	1.5863250E 02	-9.2334843E 02	2.1617270E 03	-1.8226990E 03	0.	0.315	0.0342	0.242	.05400
100	-4.4093525E 00	7.6418142E 01	-3.5944634E 02	6.3585907E 02	-4.0065373E 02	0.	0.510	0.0306	0.154	.02700
150	-4.9767537E 00	8.5095074E 01	-4.0236107E 02	7.2833716E 02	-4.6393192E 02	0.	0.621	0.0264	0.109	.01533
200	-3.0320734E 00	5.8568309E 01	-2.7612241E 02	4.9174812E 02	-3.1094564E 02	0.	0.716	0.0232	0.083	.01100
250	-5.9124247E 00	9.6537629E 01	-4.4365121E 02	7.8662063E 02	-4.8834192E 02	0.	0.713	0.0190	0.068	.00800
300	-4.6316239E 00	7.7679406E 01	-3.4386544E 02	5.7742795E 02	-3.3824737E 02	0.	0.807	0.0183	0.060	.00667
350	-4.4313908E 00	7.5250779E 01	-3.3285691E 02	5.5645202E 02	-3.2523935E 02	0.	0.807	0.0153	0.050	.00514
400	-3.7973908E 00	6.5794274E 01	-2.8662977E 02	4.7246261E 02	-2.7426463E 02	0.	0.858	0.0145	0.044	.00450

EVAPORATION NEUTRONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	1.9667978E 00	1.9364906E 01	-4.1766366E 02	2.1350129E 03	-3.9474890E 03	0.	1.004	0.0712	0.268	0.
50	2.4516952E 00	1.4645818E-01	-1.2304959E 02	5.8832709E 02	-9.6101402E 02	0.	1.403	0.0635	0.180	0.
100	2.3564187E 00	6.0401834E-01	-6.8129750E 01	2.1623667E 02	-2.6152133E 02	0.	1.649	0.0454	0.111	0.
150	2.2406671E 00	5.3933738E 00	-1.0199601E 02	3.0089891E 02	-3.0550686E 02	0.	1.802	0.0365	0.082	0.
200	2.2452389E 00	5.6837361E 00	-1.0104380E 02	2.8536176E 02	-2.6418191E 02	0.	1.509	0.0313	0.068	0.
250	2.3739347E 00	1.0928679E 00	-6.0784647E 01	1.6741457E 02	-1.5622153E 02	0.	1.928	0.0252	0.054	0.
300	2.3026755E 00	2.9166155E 00	-6.7659422E 01	1.7521054E 02	-1.5157037E 02	0.	2.035	0.0238	0.048	0.
350	2.1854683E 00	5.4681674E 00	-9.2777265E 01	2.5327009E 02	-2.2431069E 02	0.	1.916	0.0194	0.041	0.
400	2.2548354E 00	3.1300926E 00	-6.7667834E 01	1.7077886E 02	-1.3767989E 02	0.	2.037	0.0193	0.039	0.

TABLE 50

PROTONS INCIDENT ON CU

EVAPORATION PROTONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT./EO	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	-4.9675204E 01	7.7314265E 02	-4.3222474E 03	1.0397434E 04	-9.2723010E 03	0.	0.157	0.0352	0.385	.15200
50	-2.3117170E 01	3.5756684E 02	-1.8911667E 03	4.2131465E 03	-3.4321916E 03	0.	0.374	0.0455	0.237	.07200
100	-1.5387217E 01	2.1216269E 02	-9.4784192E 02	1.7289555E 03	-1.1365298E 03	0.	0.550	0.0364	0.146	.03200
150	-9.9942253E 00	1.4370842E 02	-6.3637916E 02	1.1371647E 03	-7.2985830E 02	0.	0.684	0.0316	0.104	.02133
200	-6.8233321E 00	1.0004753E 02	-4.2321615E 02	6.9933463E 02	-4.0880107E 02	0.	0.725	0.0260	0.087	.01550
250	-6.7513185E 00	9.6539608E 01	-3.9775248E 02	6.4126059E 02	-3.6664444E 02	0.	0.770	0.0223	0.070	.01120
300	-6.8656984E 00	9.7070216E 01	-3.9460995E 02	6.2705147E 02	-3.5153399E 02	0.	0.623	0.0205	0.061	.00900
350	-6.1272749E 00	8.6331861E 01	-3.4131241E 02	5.2398182E 02	-2.8446972E 02	0.	0.861	0.0183	0.053	.00686
400	-6.6034419E 00	9.7043320E 01	-4.0130430E 02	6.4532291E 02	-3.6421136E 02	0.	0.897	0.0167	0.046	.00700

EVAPORATION NEUTRONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT./EO	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	1.9857351E 00	2.7575704E 01	-5.9603149E 02	3.4394888E 03	-7.1488045E 03	0.	1.074	0.0713	0.236	0.
50	2.5538344E 00	5.1628163E 00	-1.9098155E 02	8.8019359E 02	-1.4076671E 03	0.	1.610	0.0676	0.166	0.
100	2.5910434E 00	4.6483201E 00	-1.2937070E 02	4.8060315E 02	-6.1875606E 02	0.	2.092	0.0543	0.103	0.
150	2.4838005E 00	7.7206953E 00	-1.3765743E 02	4.6354744E 02	-5.2936167E 02	0.	2.325	0.0458	0.076	0.
200	2.5376026E 00	5.4306313E 00	-1.1111809E 02	3.5913946E 02	-3.9056785E 02	0.	2.395	0.0368	0.060	0.
250	2.5542580E 00	4.0728090E 00	-8.4775645E 01	2.4214539E 02	-2.3603839E 02	0.	2.534	0.0329	0.052	0.
300	2.6265153E 00	1.2527819E 00	-5.7425091E 01	1.5658506E 02	-1.4851586E 02	0.	2.608	0.0292	0.045	0.
350	2.5472263E 00	4.6942990E 00	-8.6489305E 01	2.4078168E 02	-2.2437801E 02	0.	2.664	0.0260	0.039	0.
400	2.5614058E 00	4.0492235E 00	-7.9746203E 01	2.2349057E 02	-2.1025074E 02	0.	2.724	0.0238	0.034	0.

TABLE 51

NEUTRONS INCIDENT ON CU

EVAPORATION PROTONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NC. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	2.9659685E 01	-4.3639829E 02	1.9708589E 03	-2.9003251E 03	0.	0.	0.028	0.0065	0.330	.14800
50	-2.2945012E 01	3.2912774E 02	-1.7287578E 03	4.0377237E 03	-4.2175441E 03	1.4660449E 03	0.106	0.0130	0.248	.07400
100	-1.4123995E 01	1.9177495E 02	-8.8464098E 02	1.6664046E 03	-1.1317097E 03	0.	0.254	0.0169	0.142	.03400
150	-8.1961973E 00	1.1024311E 02	-4.7504755E 02	8.1529969E 02	-5.0449741E 02	0.	0.361	0.0168	0.106	.02267
200	-4.3815536E 00	5.9432184E 01	-2.3643626E 02	3.6152858E 02	-2.0007593E 02	0.	0.471	0.0174	0.089	.01550
250	-3.8253782E 00	5.8449984E 01	-2.4245265E 02	3.8199736E 02	-2.1727540E 02	0.	0.559	0.0158	0.069	.01240
300	-2.4943347E 00	4.0366569E 01	-1.5439083E 02	2.1014693E 02	-1.0059256E 02	0.	0.581	0.0140	0.063	.01033
350	-7.2988017E 00	9.8525565E 01	-3.9858786E 02	6.3083012E 02	-3.5303634E 02	0.	0.615	0.0130	0.052	.00800
400	-6.3523226E 00	9.0111238E 01	-3.7269166E 02	6.0025153E 02	-3.4251334E 02	0.	0.644	0.0117	0.044	.00725

EVAPORATION NEUTRONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NC. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	2.8913011E 00	-4.1408310E 00	-1.5030364E 02	1.0282147E 03	-2.5619134E 03	0.	1.496	0.0965	0.255	0.
50	2.6388906E 00	8.0542897E 00	-2.0983360E 02	9.5288366E 02	-1.5368568E 03	0.	1.977	0.0860	0.166	0.
100	2.7132336E 00	6.3260214E 00	-1.4834275E 02	5.4639313E 02	-6.8594260E 02	0.	2.433	0.0631	0.105	0.
150	2.7170255E 00	3.3509730E 00	-8.6510235E 01	2.5573754E 02	-2.6883916E 02	0.	2.659	0.0516	0.079	0.
200	2.6794629E 00	4.5113907E 00	-9.1877604E 01	2.6564495E 02	-2.5794629E 02	0.	2.835	0.0455	0.065	0.
250	2.6448305E 00	4.3490781E 00	-8.2768340E 01	2.2981024E 02	-2.1674344E 02	0.	2.909	0.0392	0.053	0.
300	2.6317146E 00	4.7554910E 00	-8.4689819E 01	2.2482195E 02	-1.9708941E 02	0.	2.922	0.0336	0.047	0.
350	2.5925761E 00	5.2473329E 00	-8.6298956E 01	2.3310521E 02	-2.1172292E 02	0.	2.937	0.0293	0.039	0.
400	2.6323993E 00	3.9889008E 00	-7.7234649E 01	2.1459304E 02	-2.0177135E 02	0.	2.969	0.0262	0.034	0.

TABLE 52

PROTONS INCIDENT ON RU

EVAPORATION PROTONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	-7.5269198E 00	4.3522318E 01	-7.9577010E 01	0.	0.	0.	0.029	0.0090	0.467	.22800
50	-7.2317255E 01	8.8136337E 02	-3.8596501E 03	7.2861559E 03	-5.0955935E 03	0.	0.209	0.0301	0.237	.11000
100	-3.4651727E 01	3.9758557E 02	-1.5756316E 03	2.6562319E 03	-1.6531736E 03	0.	0.540	0.0426	0.143	.05500
150	-2.2473193E 01	2.4563324E 02	-8.9374223E 02	1.3625590E 03	-7.6409025E 02	0.	0.743	0.0409	0.107	.03533
200	-2.8669166E 01	3.0988330E 02	-1.1573861E 03	1.8263044E 03	-1.0581959E 03	0.	0.458	0.0188	0.079	.02500
250	-2.5435488E 01	2.6957182E 02	-9.5058028E 02	1.3994437E 03	-7.4724972E 02	0.	1.022	0.0356	0.070	.01920
300	-1.6118188E 01	1.7530018E 02	-6.0571507E 02	8.6349210E 02	-4.4823834E 02	0.	1.115	0.0321	0.059	.01633
350	-2.6713205E 01	2.7657425E 02	-9.4905528E 02	1.3558027E 03	-6.9951124E 02	0.	1.208	0.0308	0.052	.01314
400	-1.6144794E 01	1.7366309E 02	-5.9108793E 02	8.2973135E 02	-4.2243205E 02	0.	1.280	0.0284	0.046	.01200

EVAPORATION NEUTRONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	3.0525060E 00	-7.2727084E 00	-7.24466775E 00	-1.9155426E 03	1.8390502E 04	-5.0169178E 04	1.533	0.0845	0.212	0.
50	2.6617128E 00	1.9597206E 01	-3.9846973E 02	2.0072102E 03	-3.6535755E 03	0.	2.188	0.0826	0.140	0.
100	2.8259473E 00	1.1677912E 01	-2.2308431E 02	9.1310260E 02	-1.3218269E 03	0.	2.829	0.0662	0.090	0.
150	2.8425347E 00	8.3896005E 00	-1.6194956E 02	5.9735819E 02	-7.5525340E 02	0.	3.070	0.0553	0.070	0.
200	2.3736110E 00	1.0073930E 01	-1.8031490E 02	6.5855752E 02	-8.1747791E 02	0.	1.972	0.0264	0.052	0.
250	2.8074173E 00	9.5352968E 00	-1.5156362E 02	4.8675818E 02	-5.1781061E 02	0.	3.390	0.0409	0.048	0.
300	2.8675613E 00	5.6215121E 00	-1.0329867E 02	3.1473008E 02	-3.3210708E 02	0.	3.482	0.0360	0.041	0.
350	2.8643509E 00	7.4762704E 00	-1.1977518E 02	3.5784419E 02	-3.5671020E 02	0.	3.669	0.0335	0.036	0.
400	2.8435175E 00	7.5070844E 00	-1.1569407E 02	3.4626184E 02	-3.5311760E 02	0.	3.721	0.0300	0.031	0.

TABLE 53

NEUTRONS INCIDENT ON RU

EVAPORATION PROTONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NC. EMIT.	ENERGY EMIT./EO	EMAX /EO	EPIN /EO
25	0.	0.	0.	0.	0.	0.	0.005			
50	-7.0733058E 01	6.8898607E 02	-2.1951146E 03	1.8636712E 03	2.3435482E 03	-3.4302425E 03	0.075	0.0119	0.277	.11000
100	-2.6157808E 01	2.8044862E 02	-1.0444683E 03	1.6308201E 03	-9.3500072E 02	0.	0.275	0.0223	0.156	.05400
150	-1.6988633E 01	1.8391897E 02	-6.6244395E 02	9.8707032E 02	-5.4081692E 02	0.	0.455	0.0249	0.109	.03467
200	-3.2776645E 01	3.4999144E 02	-1.2871489E 03	1.9957059E 03	-1.1277275E 03	0.	0.592	0.0250	0.082	.02450
250	-2.9073637E 01	3.0953925E 02	-1.1152690E 03	1.6807768E 03	-9.1832345E 02	0.	0.752	0.0258	0.068	.02000
300	-1.7855258E 01	1.8971046E 02	-6.5496140E 02	9.2519870E 02	-4.6868411E 02	0.	0.807	0.0238	0.063	.01600
350	-1.9833319E 01	2.0989987E 02	-7.2422876E 02	1.0294071E 03	-5.2775512E 02	0.	0.927	0.0230	0.052	.01343
400	-2.2194033E 01	2.2695452E 02	-7.6633773E 02	1.0715018E 03	-5.3996155E 02	0.	0.963	0.0218	0.047	.01075

EVAPORATION NEUTRONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	3.1541465E 00	2.8627990E 00	-4.3532155E 02	3.6635349E 03	-1.0485023E 04	0.	1.672	0.0867	0.204	0.
50	2.9300821E 00	1.5259417E 01	-3.9165962E 02	2.1762488E 03	-4.2222475E 03	0.	2.412	0.0878	0.137	0.
100	2.9488901E 00	1.2188303E 01	-2.3405232E 02	9.8581944E 02	-1.4648063E 03	0.	3.211	0.0750	0.089	0.
150	2.9493605E 00	8.7747096E 00	-1.5800854E 02	5.5598205E 02	-6.7845615E 02	0.	3.505	0.0632	0.071	0.
200	2.8789031E 00	1.1260189E 01	-1.7954416E 02	6.2390069E 02	-7.3097761E 02	0.	3.601	0.0512	0.055	0.
250	2.9033279E 00	8.6362542E 00	-1.3642185E 02	4.3116639E 02	-4.6264914E 02	0.	3.775	0.0459	0.048	0.
300	2.8910144E 00	8.2370871E 00	-1.3055320E 02	4.0592394E 02	-4.2833902E 02	0.	3.733	0.0382	0.040	0.
350	2.9980666E 00	4.8547969E 00	-9.6202799E 01	2.8404613E 02	-2.8327266E 02	0.	3.904	0.0354	0.036	0.
400	2.9135063E 00	8.1129110E 00	-1.2689176E 02	3.8520848E 02	-3.8408046E 02	0.	3.969	0.0326	0.032	0.

TABLE 54

PROTONS INCIDENT ON CE

EVAPORATION PROTONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	0.	0.	0.	0.	0.	0.	0.007	0.0107	0.271	.13800
50	3.7657012E 02	-5.3321521E 03	2.9387633E 04	-7.9044582E 04	1.0388946E 05	-5.3520811E 04	0.059	0.0107	0.271	.13800
100	-2.2623480E 02	2.4444744E 03	-1.0206986E 04	2.0628039E 04	-2.0144269E 04	7.5296519E 03	0.292	0.0271	0.145	.06800
150	-5.3353414E 01	5.0430000E 02	-1.6877252E 03	2.4242128E 03	-1.2848655E 03	0.	0.519	0.0329	0.109	.04467
200	-6.2525994E 01	5.7805882E 02	-1.8941960E 03	2.6628042E 03	-1.3755091E 03	0.	0.648	0.0316	0.086	.03300
250	-6.1714183E 01	5.6333246E 02	-1.8181742E 03	2.5181213E 03	-1.2807661E 03	0.	0.816	0.0325	0.070	.02560
300	-4.1412666E 01	3.7225699E 02	-1.1653141E 03	1.5596572E 03	-7.7072533E 02	0.	0.816	0.0269	0.059	.02133
350	-2.5081037E 01	2.1907724E 02	-6.4057909E 02	7.8604337E 02	-3.5529622E 02	0.	0.933	0.0267	0.053	.01829
400	-3.8521428E 01	3.4942757E 02	-1.0918223E 03	1.4476817E 03	-7.0247912E 02	0.	0.968	0.0243	0.046	.01600

EVAPORATION NEUTRONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	3.2044576E 00	2.7458481E 01	-1.0856170E 03	9.2737185E 03	-2.6837685E 04	0.	1.996	0.0909	0.179	0.
50	3.1585100E 00	1.5219732E 01	-4.4828854E 02	2.8299515E 03	-6.4407834E 03	0.	2.687	0.0870	0.120	0.
100	3.1790588E 00	1.3818399E 01	-2.8158175E 02	1.2740735E 03	-2.0260518E 03	0.	3.771	0.0812	0.082	0.
150	3.2028433E 00	1.2549147E 01	-2.2868623E 02	9.1180173E 02	-1.2712402E 03	0.	4.256	0.0674	0.062	0.
200	3.2720391E 00	8.6226702E 00	-1.6242996E 02	5.8908485E 02	-7.6132932E 02	0.	4.600	0.0587	0.050	0.
250	3.2781932E 00	9.9408014E 00	-1.6927927E 02	5.8805813E 02	-7.1076514E 02	0.	4.934	0.0522	0.042	0.
300	3.2796901E 00	8.8514972E 00	-1.5212299E 02	5.2548364E 02	-6.3862758E 02	0.	5.046	0.0462	0.035	0.
350	3.2625891E 00	1.0294757E 01	-1.5512649E 02	4.9977903E 02	-5.5391678E 02	0.	5.440	0.0450	0.032	0.
400	3.2969814E 00	9.2696462E 00	-1.4533782E 02	4.6916279E 02	-5.1473179E 02	0.	5.596	0.0419	0.029	0.

TABLE 55

NEUTRONS INCIDENT ON CE

EVAPORATION PROTONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT./EO	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	0.	0.	0.	0.	0.	0.	0.001	0.0028	0.207	.13400
50	2.1740742E 02	-1.9976245E 03	6.0155720E 03	-5.995974E 03	0.	0.	0.017	0.0131	0.152	.06800
100	3.8335473E 01	-7.7112190E 02	5.1144563E 03	-1.5234314E 04	2.1057564E 04	-1.1035496E 04	0.138	0.0197	0.114	.04467
150	-4.5646085E 01	4.2650259E 02	-1.4164251E 03	2.0068970E 03	-1.0446277E 03	0.	0.446	0.0220	0.090	.03300
200	-4.8868138E 01	4.4705563E 02	-1.4444931E 03	1.9879121E 03	-1.0014068E 03	0.	0.530	0.0208	0.072	.02640
250	-3.1714452E 01	2.8631138E 02	-8.9577134E 02	1.1882661E 03	-5.8117644E 02	0.	0.653	0.0217	0.060	.02167
300	-4.3411407E 01	3.9410366E 02	-1.2523741E 03	1.6968004E 03	-8.4380945E 02	0.	0.697	0.0201	0.054	.01829
350	-2.6242432E 01	2.3203109E 02	-6.9916623E 02	8.8803153E 02	-4.1474299E 02	0.	0.780	0.0200	0.048	.01625
400	-2.3273913E 01	2.0490519E 02	-6.0679213E 02	7.5344392E 02	-3.4322545E 02	0.				

EVAPORATION NEUTRONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT./EO	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	2.9966639E 00	3.3249170E 01	-1.0407676E 03	8.1948493E 03	-2.2663639E 04	0.	2.633	0.1010	0.185	0.
50	3.1089026E 00	2.0997414E 01	-5.232999E 02	3.0888390E 03	-6.4275915E 03	0.	2.823	0.0926	0.123	0.
100	3.2430771E 00	1.4094902E 01	-2.9666950E 02	1.3578097E 03	-2.1438701E 03	0.	3.903	0.0829	0.082	0.
150	3.2191451E 00	1.3686793E 01	-2.4323708E 02	9.7419548E 02	-1.3533181E 03	0.	4.420	0.0702	0.062	0.
200	3.2754875E 00	1.1631232E 01	-1.9021466E 02	6.7876388E 02	-8.5397809E 02	0.	4.991	0.0638	0.050	0.
250	3.2729941E 00	1.3169579E 01	-2.1017644E 02	7.5223666E 02	-9.0822258E 02	0.	5.192	0.0554	0.042	0.
300	3.4031079E 00	7.4014494E 00	-1.3812768E 02	4.7576872E 02	-5.7583990E 02	0.	5.525	0.0509	0.036	0.
350	3.2889969E 00	1.1715178E 01	-1.7794406E 02	6.1143639E 02	-7.1792129E 02	0.	5.650	0.0463	0.031	0.
400	3.3688856E 00	9.4714221E 00	-1.5054907E 02	4.9227051E 02	-5.4262121E 02	0.	5.957	0.0444	0.029	0.

TABLE 56

PROTONS INCIDENT ON W

EVAPORATION PROTONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	0.	0.	0.	0.	0.	0.	0.000			
50	0.	0.	0.	0.	0.	0.	0.005			
100	-2.3119109E 01	1.3064969E 02	-2.4328938E 02	1.3299800E 02	0.	0.	0.049	0.0052	0.158	.08000
150	-1.1317624E 02	9.0852723E 02	-2.6690353E 03	3.4066237E 03	-1.6112521E 03	0.	0.161	0.0117	0.117	.05267
200	-1.0065792E 02	8.7706413E 02	-2.9290166E 03	4.6982121E 03	-3.6254599E 03	1.0614290E 03	0.246	0.0136	0.091	.03950
250	-6.8685760E 01	5.2160360E 02	-1.4159911E 03	1.6456544E 03	-7.0205971E 02	0.	0.399	0.0182	0.080	.03120
300	-6.5280901E 01	5.2874087E 02	-1.5310646E 03	1.9094119E 03	-8.7893132E 02	0.	0.502	0.0185	0.063	.02600
350	-2.7844820E 01	2.0448201E 02	-5.1584206E 02	5.4622706E 02	-2.1376345E 02	0.	0.528	0.0173	0.057	.02257
400	-7.7435012E 01	6.1280153E 02	-1.7427697E 03	2.1429320E 03	-9.7232471E 02	0.	0.609	0.0176	0.048	.01950

EVAPORATION NEUTRONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	3.0675145E 00	4.2152854E 01	-1.2880856E 03	1.0959354E 04	-3.3942744E 04	0.	2.306	0.1074	0.166	0.
50	3.4324880E 00	2.5437491E 01	-6.8916742E 02	4.6156554E 03	-1.0893565E 04	0.	3.655	0.1091	0.111	0.
100	3.5286268E 00	1.9992037E 01	-4.1287127E 02	2.1075015E 03	-3.7691263E 03	0.	5.269	0.1026	0.073	0.
150	3.6100138E 00	1.5203587E 01	-2.8405361E 02	1.2227574E 03	-1.8487902E 03	0.	6.163	0.0902	0.056	0.
200	3.6453809E 00	1.3766805E 01	-2.5204891E 02	1.0459383E 03	-1.4975038E 03	0.	6.702	0.0798	0.046	0.
250	3.6220217E 00	1.3805656E 01	-2.2976714E 02	8.8057147E 02	-1.1577644E 03	0.	7.122	0.0724	0.039	0.
300	3.6424013E 00	1.3126278E 01	-2.0324691E 02	7.2139606E 02	-8.8011320E 02	0.	7.698	0.0685	0.034	0.
350	3.6758503E 00	1.1096578E 01	-1.7682312E 02	5.9302818E 02	-6.7857367E 02	0.	7.661	0.0592	0.031	0.
400	3.6952607E 00	1.0813543E 01	-1.7205721E 02	6.0348555E 02	-7.2834679E 02	0.	8.198	0.0581	0.027	0.

TABLE 57
NEUTRONS INCIDENT ON W
EVAPORATION PROTONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NC. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.002	0.	0.	0.
100	-1.7096681E 01	1.6851961E 02	-7.0295768E 02	1.3008838E 03	-9.0829519E 02	0.	0.023	0.0023	0.144	.07900
150	-3.3593615E 01	2.3631837E 02	-6.0588818E 02	6.5475898E 02	-2.6345163E 02	0.	0.084	0.0062	0.124	.05200
200	-6.2786712E 01	4.6847506E 02	-1.2623928E 03	1.4527563E 03	-6.1523560E 02	0.	0.154	0.0085	0.091	.03850
250	4.6691357E 00	-2.7224497E 01	5.6627203E 01	-4.6273121E 01	0.	0.	0.228	0.0101	0.072	.03120
300	-5.8397483E 01	4.6087494E 02	-1.3056860E 03	1.5886544E 03	-7.1159083E 02	0.	0.344	0.0130	0.065	.02567
350	-3.3889707E 01	2.5287593E 02	-6.6500684E 02	7.4358846E 02	-3.0789281E 02	0.	0.385	0.0126	0.056	.02229
400	-2.8584154E 01	2.2299658E 02	-6.1318657E 02	7.2652164E 02	-3.2440678E 02	0.	0.441	0.0125	0.047	.01975

EVAPORATION NEUTRONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	3.5134344E 00	1.3898268E 01	-7.2207999E 02	6.3834121E 03	-2.0976799E 04	0.	2.429	0.1074	0.165	0.
50	3.4176294E 00	2.8394133E 01	-7.6051304E 02	5.1563055E 03	-1.2140028E 04	0.	3.688	0.1100	0.112	0.
100	3.5179132E 00	2.2311577E 01	-4.6540250E 02	2.4369773E 03	-4.3967782E 03	0.	5.219	0.1000	0.071	0.
150	3.6213078E 00	1.6628326E 01	-3.1311188E 02	1.3798660E 03	-2.1102660E 03	0.	6.199	0.0892	0.056	0.
200	3.6773955E 00	1.2559799E 01	-2.3387481E 02	9.6094753E 02	-1.4029317E 03	0.	6.701	0.0775	0.044	0.
250	3.6652058E 00	1.2822291E 01	-2.2030432E 02	8.4074824E 02	-1.1088112E 03	0.	7.141	0.0710	0.039	0.
300	3.6305520E 00	1.4657795E 01	-2.2833041E 02	8.3843049E 02	-1.0524510E 03	0.	7.592	0.0659	0.034	0.
350	3.6691659E 00	1.2134437E 01	-1.8248017E 02	6.1405035E 02	-7.2021042E 02	0.	7.566	0.0613	0.030	0.
400	3.7029440E 00	1.0523348E 01	-1.7385241E 02	6.1349145E 02	-7.4384080E 02	0.	7.925	0.0547	0.027	0.

TABLE 58

PROTONS INCIDENT CN PB

EVAPORATION PROTONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT./EO	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	0.	0.	0.	0.	0.	0.	0.001			
50	-1.3711765E 03	1.2946918E 04	-4.5710899E 04	7.1504509E 04	-4.1881641E 04	0.	0.015	0.0029	0.246	.16800
100	-1.3609039E 02	1.0175802E 03	-2.7809583E 03	3.2901660E 03	-1.4414660E 03	0.	0.100	0.0110	0.174	.08400
150	-8.5169865E 01	6.4294238E 02	-1.7622457E 03	2.0853569E 03	-9.1386017E 02	0.	0.180	0.0136	0.122	.05733
200	-5.4110975E 01	3.9777873E 02	-1.0505860E 03	1.1832822E 03	-4.8913377E 02	0.	0.215	0.0127	0.103	.04250
250	-5.0852124E 01	3.7466013E 02	-9.9291002E 02	1.1369817E 03	-4.8625818E 02	0.	0.311	0.0147	0.077	.03440
300	-5.7242143E 01	4.1014312E 02	-1.0574064E 03	1.1750641E 03	-4.8424078E 02	0.	0.341	0.0137	0.066	.02800
350	-6.1224138E 01	4.3654385E 02	-1.1217234E 03	1.2506202E 03	-5.2043632E 02	0.	0.437	0.0151	0.056	.02400
400	-8.3452998E 01	5.9939075E 02	-1.5487619E 03	1.7239174E 03	-7.0675387E 02	0.	0.447	0.0136	0.051	.02100

EVAPORATION NEUTRONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT./EO	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	2.9378020E 00	5.8906598E 01	-1.7626696E 03	1.5335379E 04	-4.6842980E 04	0.	2.267	0.1026	0.161	0.
50	3.4570837E 00	2.8692964E 01	-8.2105231E 02	5.8477333E 03	-1.4413917E 04	0.	3.585	0.1019	0.107	0.
100	3.6194634E 00	2.2547532E 01	-5.0166274E 02	2.7991292E 03	-5.4462482E 03	0.	5.407	0.0976	0.067	0.
150	3.6987732E 00	1.5843163E 01	-3.0105286E 02	1.3330392E 03	-2.1101434E 03	0.	6.539	0.0913	0.053	0.
200	3.7171359E 00	1.4997119E 01	-2.704759E 02	1.1328021E 03	-1.6605819E 03	0.	7.143	0.0815	0.044	0.
250	3.7550434E 00	1.4445592E 01	-2.4013982E 02	9.3834850E 02	-1.2858240E 03	0.	8.018	0.0781	0.037	0.
300	3.7311352E 00	1.5275893E 01	-2.3904502E 02	8.9032321E 02	-1.1274794E 03	0.	8.350	0.0719	0.033	0.
350	3.8415043E 00	1.2368239E 01	-1.9647659E 02	7.2012740E 02	-9.2091757E 02	0.	9.048	0.0679	0.029	0.
400	3.8021692E 00	1.1750008E 01	-1.7901431E 02	6.1154094E 02	-7.2555524E 02	0.	9.170	0.0631	0.027	0.

TABLE 59
NEUTRONS INCIDENT ON PB
EVAPCRATIC PROTONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT./EO	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.C01	0.	0.	0.
100	0.	0.	0.	0.	0.	0.	0.C11	0.	0.	0.
150	5.0780764E 02	-5.7947150E 03	2.5836639E 04	-5.6417723E 04	6.0385227E 04	-2.5393668E 04	0.052	0.0039	0.109	.05600
200	-1.9905606E 01	1.1946939E 02	-2.5853931E 02	2.2688091E 02	-7.4103563E 01	0.	0.C98	0.0059	0.095	.04300
250	-9.1900645E 01	6.8581577E 02	-1.8674347E 03	2.1945566E 03	-9.4957191E 02	0.	0.152	0.0072	0.078	.03360
300	-1.0308935E 02	7.6568695E 02	-2.1362725E 03	2.7518337E 03	-1.5770275E 03	2.7774290E 02	0.221	0.0089	0.064	.02833
350	-2.5613391E 01	1.8616326E 02	-4.8674992E 02	5.4507381E 02	-2.2907448E 02	0.	0.225	0.0078	0.057	.02429
400	-1.9602885E 01	1.2862435E 02	-2.8585383E 02	2.5333643E 02	-7.9256836E 01	0.	0.304	0.0092	0.053	.02125

EVAPCRATIC NEUTRONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT./EO	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	2.9723778E 00	5.8657100E 01	-1.8139470E 03	1.6337594E 04	-5.1780274E 04	0.	2.267	0.1009	0.158	0.
50	3.5121378E 00	2.3284840E 01	-6.7650490E 02	4.5806785E 03	-1.1107540E 04	0.	3.587	0.1002	0.105	0.
100	3.6251206E 00	2.1301080E 01	-4.7329406E 02	2.6058481E 03	-5.0325491E 03	0.	5.416	0.0986	0.069	0.
150	3.6806562E 00	1.8618286E 01	-3.4806576E 02	1.5764505E 03	-2.4817675E 03	0.	6.629	0.0928	0.053	0.
200	3.7939343E 00	1.4363550E 01	-2.8069074E 02	1.2561543E 03	-1.9654183E 03	0.	7.319	0.0816	0.042	0.
250	3.7987469E 00	1.2458959E 01	-2.1851509E 02	8.2519442E 02	-1.0806002E 03	0.	7.870	0.0761	0.038	0.
300	3.8210463E 00	1.4304831E 01	-2.3977674E 02	9.4487758E 02	-1.2728438E 03	0.	8.779	0.0747	0.032	0.
350	3.8161251E 00	1.2658853E 01	-2.0236730E 02	7.3971817E 02	-9.4335840E 02	0.	8.920	0.0667	0.029	0.
400	3.7744666E 00	1.4691887E 01	-2.1368746E 02	7.5630246E 02	-9.2270831E 02	0.	9.455	0.0646	0.026	0.

TABLE 60

PROTONS INCIDENT CN U

EVAPORATION PROTONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	0.	0.	0.	0.	0.	0.	0.			
50	0.	0.	0.	0.	0.	0.	0.			
100	0.	0.	0.	0.	0.	0.	0.006			
150	-2.7578067E 02	1.8068463E 03	-3.7010932E 03	9.5651590E 02	4.7565060E 03	-3.8873919E 03	0.026	0.0020	0.107	0.06133
200	1.0065780E 02	-1.4233505E 03	7.1420103E 03	-1.6707430E 04	1.8582960E 04	-7.9626369E 03	0.075	0.0047	0.089	0.04650
250	-1.3158842E 02	9.7999889E 02	-2.7890466E 03	3.7680055E 03	-2.4122612E 03	5.7396808E 02	0.127	0.0063	0.080	0.03720
300	-1.9255137E 01	1.2543425E 02	-2.8584177E 02	2.7032495E 02	-9.7557505E 01	0.	0.198	0.0081	0.065	0.03067
350	-5.8280035E 01	4.3791785E 02	-1.1836663E 03	1.3771886E 03	-5.9221550E 02	0.	0.290	0.0101	0.057	0.02600
400	-9.8909494E 01	7.1973163E 02	-1.8970991E 03	2.1639815E 03	-9.1134353E 02	0.	0.370	0.0114	0.050	0.02250

EVAPORATION NEUTRONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	3.5007513E 00	5.3132376E 01	-1.9105265E 03	1.9025862E 04	-6.6471927E 04	0.	3.115	0.1267	0.146	0.
50	3.7188374E 00	3.2669244E 01	-9.4732857E 02	7.2300001E 03	-1.9593821E 04	0.	4.629	0.1234	0.097	0.
100	3.8636857E 00	2.1297696E 01	-4.7468935E 02	2.5850831E 03	-4.9758109E 03	0.	6.700	0.1183	0.066	0.
150	3.9235744E 00	1.9531817E 01	-3.8264597E 02	1.8450858E 03	-3.0963205E 03	0.	8.200	0.1113	0.051	0.
200	3.9844076E 00	1.7425777E 01	-3.1546830E 02	1.3884365E 03	-2.1276136E 03	0.	9.387	0.1040	0.042	0.
250	3.9898951E 00	1.6083425E 01	-2.7152781E 02	1.1003697E 03	-1.5524273E 03	0.	10.003	0.0941	0.036	0.
300	4.0780976E 00	1.2726178E 01	-2.1827243E 02	8.3543438E 02	-1.1203063E 03	0.	10.744	0.0879	0.032	0.
350	4.027371E 00	1.4277285E 01	-2.2198715E 02	8.2294489E 02	-1.0655192E 03	0.	11.278	0.0830	0.028	0.
400	3.9931996E 00	1.4757638E 01	-2.1946744E 02	7.7742577E 02	-9.4344144E 02	0.	11.359	0.0757	0.026	0.

TABLE 61

NEUTRONS INCIDENT CN U

EVAPORATION PROTONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	0.	0.	0.	0.	0.	0.	0.			
50	0.	0.	0.	0.	0.	0.	0.			
100	0.	0.	0.	0.	0.	0.	0.004			
150	0.	0.	0.	0.	0.	0.	0.015			
200	-8.6914828E 00	3.2632529E 01	-3.7857407E 01	0.	0.	0.	0.038	0.0023	0.088	0.04600
250	-1.6099185E 02	1.1905695E 03	-3.2568437E 03	3.8891439E 03	-1.7201608E 03	0.	0.080	0.0040	0.073	0.03680
300	-6.4157624E 01	4.6600651E 02	-1.2303388E 03	1.3965551E 03	-5.8539549E 02	0.	0.147	0.0059	0.065	0.03000
350	3.5428787E 00	-1.0035709E 01	2.9874240E 00	0.	0.	0.	0.180	0.0064	0.061	0.02600
400	-6.2910305E 01	4.3087685E 02	-1.0558579E 03	1.1034742E 03	-4.2329208E 02	0.	0.288	0.0089	0.053	0.02225

EVAPORATION NEUTRONS EMITTED

EO (MEV)	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO	EMIN /EO
25	3.4631583E 00	5.3602099E 01	-1.8550389E 03	1.7844125E 04	-6.0344093E 04	0.	3.111	0.1285	0.149	0.
50	3.7397222E 00	2.8931448E 01	-8.1601199E 02	5.7039493E 03	-1.4350260E 04	0.	4.585	0.1217	0.100	0.
100	3.8448678E 00	2.5510136E 01	-5.6524701E 02	3.1978036E 03	-6.3096097E 03	0.	6.739	0.1164	0.065	0.
150	3.9643408E 00	1.9088761E 01	-3.8978139E 02	1.9388162E 03	-3.3900752E 03	0.	8.155	0.1068	0.049	0.
200	3.9979265E 00	1.8219616E 01	-3.4400443E 02	1.5602014E 03	-2.4435257E 03	0.	9.072	0.0963	0.041	0.
250	4.0184302E 00	1.6289106E 01	-2.8524232E 02	1.2006081E 03	-1.7673309E 03	0.	9.563	0.0911	0.035	0.
300	4.0765713E 00	1.4224808E 01	-2.3899131E 02	9.3074192E 02	-1.2624387E 03	0.	10.946	0.0890	0.031	0.
350	4.0799025E 00	1.3253978E 01	-2.2329773E 02	8.5411333E 02	-1.1310064E 03	0.	11.045	0.0791	0.027	0.
400	4.0643120E 00	1.3554414E 01	-2.0881027E 02	7.5018381E 02	-9.3492527E 02	0.	11.769	0.0775	0.025	0.

TABLE 62

PROTONS INCIDENT CN C
EMIN # 0.871 (MEV)

PROTONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0 - 180		8.5077502E-01	-1.3212123E 01	6.9744731E 01	-1.8731745E 02	2.2761184E 02	-1.00667446E 02	0.580	0.2293	0.974
50 0 - 180		1.3176582E 00	-1.2289855E 01	5.1912121E 01	-1.2378439E 02	1.4300177E 02	-6.2120109E 01	0.873	0.3241	0.979
100 0 - 180		1.4835766E 00	-9.8202068E 00	3.3810258E 01	-7.5503798E 01	8.8102342E 01	-3.9021731E 01	1.177	0.4449	0.983
150 0 - 180		1.7957962E 00	-1.6294460E 01	7.0958279E 01	-1.5621816E 02	1.6277481E 02	-6.3710849E 01	1.296	0.4965	0.985
200 0 - 180		1.8806226E 00	-1.7802666E 01	8.7155209E 01	-2.0484616E 02	2.1845728E 02	-8.5344875E 01	1.437	0.5519	0.987
250 0 - 180		2.1864005E 00	-2.3948359E 01	1.2057345E 02	-2.8185381E 02	2.9864126E 02	-1.1615715E 02	1.491	0.5719	0.986
300 0 - 180		2.2325014E 00	-2.1965004E 01	1.0575813E 02	-2.4482252E 02	2.6080911E 02	-1.0268676E 02	1.578	0.5853	0.988
350 0 - 180		2.1596958E 00	-1.9685663E 01	9.0723077E 01	-2.0418797E 02	2.1192482E 02	-8.1122259E 01	1.608	0.6048	0.988
400 0 - 180		2.2729750E 00	-2.2951311E 01	1.0967489E 02	-2.4847389E 02	2.5892790E 02	-9.9789666E 01	1.637	0.6291	0.993

NEUTRONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0 - 180		3.6646510E-01	-6.1276124E 00	1.2830151E 01	-2.1048165E 01	2.5788607E 01	-1.4769441E 01	0.413	0.1521	0.956
50 0 - 180		1.1963385E 00	-1.4084122E 01	6.1655711E 01	-1.5254037E 02	1.8010552E 02	-7.9201282E 01	0.633	0.2165	0.969
100 0 - 180		1.5912687E 00	-1.6450129E 01	6.8393416E 01	-1.5822879E 02	1.7442475E 02	-7.1236912E 01	0.801	0.2623	0.970
150 0 - 180		1.6195507E 00	-1.5292451E 01	5.5472265E 01	-1.1776917E 02	1.2480377E 02	-4.9551805E 01	0.876	0.3061	0.986
200 0 - 180		1.8990041E 00	-2.3549383E 01	1.0255241E 02	-2.2164745E 02	2.2446643E 02	-8.4465308E 01	0.855	0.2939	0.989
250 0 - 180		1.9458347E 00	-2.1287812E 01	8.2995706E 01	-1.6780253E 02	1.6406162E 02	-6.0880752E 01	0.890	0.2870	0.986
300 0 - 180		1.9309468E 00	-2.3863145E 01	1.1235427E 02	-2.6366356E 02	2.8175566E 02	-1.0920066E 02	0.886	0.2976	0.989
350 0 - 180		1.9123875E 00	-1.7417345E 01	4.8098335E 01	-5.9111020E 01	2.6231597E 01	0.	0.923	0.2907	0.985
400 0 - 180		2.0832132E 00	-2.2459878E 01	8.7220527E 01	-1.7058913E 02	1.5381026E 02	-5.0188009E 01	0.935	0.2909	0.993

TABLE 63

NEUTRONS INCIDENT ON C

EMIN # 0.871 (MEV)

PROTONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0 - 180		6.3879918E-01	-1.16322667E 01	6.1106633E 01	-1.8579578E 02	2.5667729E 02	-1.2729611E 02	0.420	0.1471	0.917
50 0 - 180		1.0514362E 00	-8.7390893E 00	2.64006887E 01	-6.9863339E 01	9.5568873E 01	-4.6547045E 01	0.619	0.2054	0.963
100 0 - 180		1.5544686E 00	-1.4982067E 01	4.9278550E 01	-9.1401166E 01	8.7994570E 01	-3.3670345E 01	0.794	0.2706	0.984
150 0 - 180		1.7477183E 00	-2.2004878E 01	1.0763407E 02	-2.6275304E 02	2.9430469E 02	-1.2071964E 02	0.844	0.2885	0.976
200 0 - 180		1.8056439E 00	-1.9420854E 01	8.6481911E 01	-2.0650736E 02	2.3045571E 02	-9.44071699E 01	0.900	0.2955	0.983
250 0 - 180		1.9115806E 00	-1.7335598E 01	4.8598961E 01	-6.1334863E 01	2.7909490E 01	0.	0.918	0.2900	0.993
300 0 - 180		1.8910446E 00	-2.0312262E 01	7.5106176E 01	-1.4644950E 02	1.3939485E 02	-5.0177654E 01	0.876	0.2917	0.988
350 0 - 180		1.9812979E 00	-1.9104650E 01	5.3355684E 01	-6.5215783E 01	2.8795457E 01	0.	0.904	0.2903	0.993
400 0 - 180		1.8955539E 00	-1.5653124E 01	3.9200392E 01	-4.7557139E 01	2.2073417E 01	0.	0.924	0.2832	0.990

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NEUTRONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0 - 180		6.4987518E-01	-9.2441963E 00	4.7220611E 01	-1.3675431E 02	1.7999482E 02	-8.5473866E 01	0.564	0.2171	0.964
50 0 - 180		1.2060275E 00	-1.0178925E 01	3.5402357E 01	-7.5117560E 01	8.3485591E 01	-3.6249574E 01	0.859	0.3282	0.972
100 0 - 180		1.5932997E 00	-1.2070468E 01	3.9642700E 01	-7.2661155E 01	7.0364777E 01	-2.7643990E 01	1.154	0.4390	0.980
150 0 - 180		1.9723459E 00	-2.0490403E 01	1.0401333E 02	-2.5653343E 02	2.8942295E 02	-1.1981719E 02	1.329	0.4983	0.984
200 0 - 180		2.0259154E 00	-1.8681913E 01	8.0957105E 01	-1.7715261E 02	1.8622985E 02	-7.4254697E 01	1.422	0.5399	0.990
250 0 - 180		2.1607233E 00	-2.2092114E 01	1.0095085E 02	-2.1871792E 02	2.2044607E 02	-8.3227739E 01	1.487	0.5735	0.994
300 0 - 180		2.1493860E 00	-1.9795305E 01	9.1504624E 01	-2.1291865E 02	2.3270836E 02	-9.4402988E 01	1.554	0.5847	0.988
350 0 - 180		2.0467743E 00	-1.9012332E 01	8.4640456E 01	-1.7925537E 02	1.7444684E 02	-6.27025370E 01	1.573	0.6220	0.990
400 0 - 180		2.2182243E 00	-1.8775260E 01	7.8315976E 01	-1.6168694E 02	1.5690703E 02	-5.6661327E 01	1.688	0.6389	0.993

TABLE 64

PROTONS INCIDENT CN O

EMIN # 1.107 (MEV)

PROTONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0 - 180		5.1940916E-01	-5.6538203E 00	1.7872021E 01	-4.0551412E 01	4.82444547E 01	-2.2541367E 01	0.558	0.2207	0.964
50 0 - 180		1.3933220E 00	-1.5418724E 01	7.2964620E 01	-1.7881906E 02	2.0519257E 02	-8.7544439E 01	0.834	0.3173	0.976
100 0 - 180		1.6309114E 00	-1.0598116E 01	2.7194615E 01	-3.9360317E 01	3.3165391E 01	-1.2797120E 01	1.158	0.4286	0.990
150 0 - 180		2.0949226E 00	-1.9667266E 01	8.5317802E 01	-1.8483914E 02	1.9042811E 02	-7.4263287E 01	1.357	0.4989	0.989
200 0 - 180		2.0847156E 00	-1.9064667E 01	8.2780111E 01	-1.8240315E 02	1.9167783E 02	-7.5639440E 01	1.409	0.5225	0.983
250 0 - 180		2.1502271E 00	-2.0165693E 01	9.2144287E 01	-2.0525753E 02	2.1235723E 02	-8.1760366E 01	1.515	0.5639	0.991
300 0 - 180		2.3170251E 00	-2.3898318E 01	1.1805800E 02	-2.7556117E 02	2.9450844E 02	-1.1621883E 02	1.605	0.5985	0.989
350 0 - 180		2.3271640E 00	-2.2754520E 01	1.1149143E 02	-2.5981533E 02	2.7643110E 02	-1.0841470E 02	1.654	0.5975	0.991
400 0 - 180		2.4064620E 00	-2.1878310E 01	1.0175131E 02	-2.2925723E 02	2.3660252E 02	-8.9921418E 01	1.723	0.6040	0.988

NEUTRONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0 - 180		2.6909420E-01	-3.6507871E 00	1.8051414E 00	-6.1091654E 00	2.21445306E 01	-1.8156418E 01	0.386	0.1381	0.949
50 0 - 180		1.1631063E 00	-1.3017977E 01	4.9645382E 01	-1.1250236E 02	1.2632240E 02	-5.4052040E 01	0.585	0.1989	0.970
100 0 - 180		1.5885382E 00	-1.5460302E 01	5.6003007E 01	-1.1625136E 02	1.2137791E 02	-4.8601199E 01	0.787	0.2606	0.979
150 0 - 180		1.8127917E 00	-1.9541803E 01	8.5540043E 01	-1.9926444E 02	2.1774206E 02	-8.7662079E 01	0.866	0.2807	0.978
200 0 - 180		1.9598951E 00	-2.2248508E 01	9.9467366E 01	-2.3246264E 02	2.5478460E 02	-1.0272747E 02	0.905	0.2998	0.986
250 0 - 180		2.1887438E 00	-2.4463282E 01	1.0175239E 02	-2.2060598E 02	2.2848818E 02	-8.8256394E 01	0.946	0.2997	0.988
300 0 - 180		2.2431032E 00	-2.7429371E 01	1.2731944E 02	-2.8855346E 02	2.9788221E 02	-1.1249198E 02	0.928	0.2735	0.987
350 0 - 180		2.0599844E 00	-1.8461766E 01	5.0730962E 01	-6.1618260E 01	2.6933998E 01	0.	0.968	0.2952	0.989
400 0 - 180		2.3082407E 00	-2.7060500E 01	1.1871798E 02	-2.5938661E 02	2.6144699E 02	-9.6494474E 01	0.981	0.2986	0.989

TABLE 65

NEUTRONS INCIDENT CN 0

EMIN # 1.107 (MEV)

PROTONS EMITTED

ED (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./ED	EMAX /ED
25 0 - 180		2.9622789E-01	-6.6790352E 00	2.6438981E 01	-7.4505143E 01	9.9078405E 01	-4.8285823E 01	0.376	0.1359	0.948
50 0 - 180		1.3819819E 00	-1.7608610E 01	7.3001834E 01	-1.6118909E 02	1.7090977E 02	-6.8575843E 01	0.585	0.2041	0.967
100 0 - 180		1.6764893E 00	-1.6886684E 01	6.4960636E 01	-1.4408749E 02	1.5921437E 02	-6.6651922E 01	0.794	0.2622	0.984
150 0 - 180		1.8219232E 00	-1.6498262E 01	5.3204576E 01	-9.2543178E 01	7.9609054E 01	-2.6421624E 01	0.886	0.2802	0.981
200 0 - 180		2.0613128E 00	-2.5733154E 01	1.2223326E 02	-2.8273726E 02	2.9742528E 02	-1.1404770E 02	0.914	0.3053	0.986
250 0 - 180		2.1531146E 00	-2.4630902E 01	1.0834142E 02	-2.4608050E 02	2.6299540E 02	-1.0381884E 02	0.952	0.3063	0.991
300 0 - 180		2.2376810E 00	-2.7065745E 01	1.2718323E 02	-3.0414279E 02	3.3576086E 02	-1.3548786E 02	0.917	0.2725	0.983
350 0 - 180		2.3676406E 00	-2.8498378E 01	1.3196865E 02	-3.0221621E 02	3.1517901E 02	-1.1945342E 02	0.976	0.2857	0.986
400 0 - 180		2.0981545E 00	-1.8951838E 01	5.3892475E 01	-6.9755411E 01	3.2683364E 01	0.	0.963	0.2854	0.990

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NEUTRONS EMITTED

ED (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./ED	EMAX /ED
25 0 - 180		5.3902081E-01	-8.1764692E 00	3.8298208E 01	-1.0201728E 02	1.2936699E 02	-6.1763802E 01	0.542	0.2131	0.966
50 0 - 180		1.4270945E 00	-1.6388428E 01	7.8659311E 01	-1.9182772E 02	2.1872112E 02	-9.3045220E 01	0.830	0.3144	0.979
100 0 - 180		1.8107195E 00	-1.5568222E 01	6.5559716E 01	-1.5202255E 02	1.7062517E 02	-7.1741689E 01	1.161	0.4217	0.986
150 0 - 180		1.7470213E 00	-1.2823897E 01	4.0737661E 01	-6.8825524E 01	6.1615241E 01	-2.3038821E 01	1.305	0.5031	0.988
200 0 - 180		2.2218403E 00	-2.3212835E 01	1.1027531E 02	-2.4895190E 02	2.5870550E 02	-9.9731075E 01	1.429	0.5315	0.987
250 0 - 180		2.1113048E 00	-2.0033781E 01	9.9264572E 01	-2.4188397E 02	2.7084790E 02	-1.1158366E 02	1.502	0.5470	0.988
300 0 - 180		2.3142540E 00	-2.1645142E 01	9.6693232E 01	-2.0941869E 02	2.1172866E 02	-8.0057123E 01	1.622	0.5966	0.988
350 0 - 180		2.3517213E 00	-2.1609014E 01	9.5023314E 01	-2.0019053E 02	1.9612685E 02	-7.2079955E 01	1.668	0.6008	0.991
400 0 - 180		2.0803674E 00	-1.0969076E 01	2.0050749E 01	-1.1510012E 01	0.	0.	1.701	0.6135	0.985

TABLE 66

PROTONS INCIDENT ON AL

EMIN # 1.637 (MEV)

PROTONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0 - 180		1.5701524E 00	-2.2731294E 01	1.0632819E 02	-2.4756306E 02	2.6971120E 02	-1.1664054E 02	0.468	0.1848	0.967
50 0 - 180		1.1006405E 00	-8.6997917E 00	3.3082370E 01	-8.9465053E 01	1.1844078E 02	-5.7116708E 01	0.726	0.2629	0.972
100 0 - 180		1.9992527E 00	-1.8626104E 01	8.0655761E 01	-1.8902231E 02	2.1319261E 02	-9.0184774E 01	1.065	0.3662	0.976
150 0 - 180		2.2424504E 00	-2.3207630E 01	1.1011585E 02	-2.5689810E 02	2.7855399E 02	-1.1239120E 02	1.263	0.4426	0.985
200 0 - 180		2.4394701E 00	-2.6780777E 01	1.3386653E 02	-3.1946234E 02	3.4953146E 02	-1.4118658E 02	1.391	0.4860	0.984
250 0 - 180		2.4350781E 00	-2.2605825E 01	1.0319003E 02	-2.3803108E 02	2.5902389E 02	-1.0542919E 02	1.530	0.5160	0.981
300 0 - 180		2.5683880E 00	-2.6023834E 01	1.2699013E 02	-2.9857276E 02	3.2315159E 02	-1.2560909E 02	1.586	0.5256	0.989
350 0 - 180		2.5576099E 00	-2.3246923E 01	1.0431757E 02	-2.3180269E 02	2.3892895E 02	-9.1161010E 01	1.678	0.5842	0.989
400 0 - 180		2.7461777E 00	-2.8681599E 01	1.3424366E 02	-2.9732541E 02	3.0343690E 02	-1.1511883E 02	1.664	0.5554	0.991

NEUTRONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0 - 180		9.1093216E-01	-1.3070356E 01	4.4623537E 01	-9.3328805E 01	1.0232294E 02	-4.4979404E 01	0.340	0.1259	0.962
50 0 - 180		1.2493887E 00	-9.6690089E 00	1.9663062E 01	-2.7410243E 01	2.7884960E 01	-1.3964418E 01	0.602	0.2019	0.979
100 0 - 180		1.6394980E 00	-1.4183721E 01	4.6672741E 01	-9.0489986E 01	8.8442409E 01	-3.3375292E 01	0.793	0.2533	0.973
150 0 - 180		2.1467393E 00	-2.1748714E 01	9.6515359E 01	-2.3155871E 02	2.5997894E 02	-1.0731072E 02	0.933	0.2694	0.971
200 0 - 180		2.2192312E 00	-2.2262872E 01	9.4302622E 01	-2.2052400E 02	2.4658465E 02	-1.0218118E 02	0.965	0.2776	0.984
250 0 - 180		2.4183285E 00	-2.4381478E 01	1.0246655E 02	-2.2830622E 02	2.4022712E 02	-9.3614579E 01	1.061	0.2959	0.988
300 0 - 180		2.5253210E 00	-2.7440449E 01	1.2521129E 02	-2.8285324E 02	2.9184465E 02	-1.1052355E 02	1.112	0.3006	0.987
350 0 - 180		2.3642398E 00	-2.0280829E 01	5.8687278E 01	-7.5060593E 01	3.3746075E 01	0.	1.104	0.3004	0.993
400 0 - 180		2.6839617E 00	-3.0789708E 01	1.4553006E 02	-3.3627917E 02	3.5134779E 02	-1.3329962E 02	1.151	0.3096	0.991

TABLE 67

NEUTRONS INCIDENT ON AL

EMIN # 1.637 (MEV)

PROTONS EMITTED

ED (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./ED	EMAX /ED
25 0 - 180		4.5205516E-01	-1.0266937E 01	5.0829949E 01	-1.4645929E 02	1.8940212E 02	-8.84446407E 01	0.328	0.1207	0.951
50 0 - 180		1.2158000E 00	-1.2911887E 01	4.6975874E 01	-1.1102312E 02	1.3187653E 02	-5.8981883E 01	0.523	0.1727	0.965
100 0 - 180		1.8525023E 00	-2.0901045E 01	9.3089749E 01	-2.2743089E 02	2.6286190E 02	-1.1213697E 02	0.723	0.2240	0.972
150 0 - 180		2.0024011E 00	-1.8257439E 01	6.5515092E 01	-1.3373533E 02	1.3298314E 02	-4.9709728E 01	0.865	0.2460	0.979
200 0 - 180		2.1110191E 00	-2.0912197E 01	8.3177500E 01	-1.7786679E 02	1.8244975E 02	-7.0407794E 01	0.933	0.2723	0.988
250 0 - 180		2.4133210E 00	-3.0391702E 01	1.4907527E 02	-3.5723649E 02	3.8688141E 02	-1.5211303E 02	0.923	0.2656	0.988
300 0 - 180		2.4968649E 00	-3.1259468E 01	1.5803281E 02	-3.7898422E 02	4.0514587E 02	-1.5669569E 02	1.021	0.2873	0.990
350 0 - 180		2.4427483E 00	-2.8568180E 01	1.3551700E 02	-3.1768526E 02	3.3693816E 02	-1.2588794E 02	0.995	0.2677	0.991
400 0 - 180		2.3294391E 00	-2.5601149E 01	1.1402456E 02	-2.5935023E 02	2.7200299E 02	-1.0445104E 02	1.001	0.2811	0.989

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NEUTRONS EMITTED

ED (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./ED	EMAX /ED
25 0 - 180		2.2526217E-01	-2.0458678E 00	1.7313560E 00	-1.2136083E 01	2.8570171E 01	-1.9048152E 01	0.492	0.1990	0.963
50 0 - 180		1.2870458E 00	-7.7564542E 00	1.2854360E 01	-1.6040723E 01	2.1198236E 01	-1.3263309E 01	0.798	0.2952	0.979
100 0 - 180		2.1540715E 00	-2.0958568E 01	9.7854849E 01	-2.3770322E 02	2.7192054E 02	-1.1550579E 02	1.159	0.4005	0.977
150 0 - 180		2.2221104E 00	-1.9707160E 01	8.4803104E 01	-1.8889047E 02	2.0151699E 02	-8.1307319E 01	1.358	0.4696	0.985
200 0 - 180		2.3805827E 00	-2.2194574E 01	1.0348789E 02	-2.4267110E 02	2.6472239E 02	-1.0689390E 02	1.483	0.5072	0.988
250 0 - 180		2.4325032E 00	-2.1935679E 01	9.7797387E 01	-2.1065459E 02	2.0913284E 02	-7.7376383E 01	1.617	0.5479	0.987
300 0 - 180		2.6054446E 00	-2.4314392E 01	1.0799081E 02	-2.3180286E 02	2.3199501E 02	-8.7440126E 01	1.663	0.5425	0.988
350 0 - 180		2.5582397E 00	-2.2877346E 01	1.0663006E 02	-2.4920526E 02	2.7098966E 02	-1.0912039E 02	1.740	0.5802	0.991
400 0 - 180		2.6360905E 00	-2.3877167E 01	1.1181148E 02	-2.5690148E 02	2.7162258E 02	-1.0597574E 02	1.805	0.5926	0.989

TABLE 68

PROTONS INCIDENT ON CR

EMIN # 2.659 (MEV)

PROTONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0 - 180		9.3896375E-01	-1.0796797E 01	3.1368030E 01	-6.2274776E 01	7.0854827E 01	-3.3147606E 01	0.350	0.1470	0.962
50 0 - 180		1.5852754E 00	-1.8743344E 01	8.3721126E 01	-2.0058744E 02	2.2770191E 02	-9.6359335E 01	0.584	0.2231	0.973
100 0 - 180		2.1887087E 00	-2.1405631E 01	8.4762266E 01	-1.7664775E 02	1.7983294E 02	-7.0383858E 01	0.925	0.3184	0.983
150 0 - 180		2.3556166E 00	-2.3357262E 01	1.0291622E 02	-2.3096488E 02	2.4633146E 02	-9.9251399E 01	1.138	0.3757	0.977
200 0 - 180		2.4198634E 00	-2.2354812E 01	9.1857691E 01	-1.8914235E 02	1.8554480E 02	-6.9716347E 01	1.284	0.4146	0.992
250 0 - 180		2.5727778E 00	-2.2849043E 01	8.7858227E 01	-1.6810699E 02	1.5340873E 02	-5.3558535E 01	1.414	0.4533	0.985
300 0 - 180		2.7297419E 00	-2.8090160E 01	1.3574170E 02	-3.1510156E 02	3.3389339E 02	-1.3057192E 02	1.491	0.4599	0.990
350 0 - 180		2.8019136E 00	-2.8127192E 01	1.3551859E 02	-3.1392797E 02	3.3177759E 02	-1.2931034E 02	1.603	0.4868	0.989
400 0 - 180		3.0062118E 00	-3.1989476E 01	1.5745541E 02	-3.6594675E 02	3.8738762E 02	-1.5118418E 02	1.712	0.5215	0.991

NEUTRONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0 - 180		2.6018752E-01	-5.9717942E 00	1.4955847E 01	-3.1358071E 01	3.4545115E 01	-1.5170283E 01	0.276	0.1119	0.968
50 0 - 180		1.4886449E 00	-1.5618525E 01	6.2514184E 01	-1.5028271E 02	1.7485595E 02	-7.6030079E 01	0.518	0.1769	0.967
100 0 - 180		2.1797655E 00	-2.1049321E 01	8.0389266E 01	-1.6826921E 02	1.6936951E 02	-6.4601327E 01	0.765	0.2198	0.974
150 0 - 180		2.1805613E 00	-1.5757644E 01	3.7362919E 01	-4.2865101E 01	1.8256821E 01	0.	0.958	0.2685	0.981
200 0 - 180		2.4758582E 00	-2.1634276E 01	8.3539493E 01	-1.8098907E 02	1.8905129E 02	-7.3798943E 01	1.092	0.2930	0.981
250 0 - 180		2.7955738E 00	-2.9513895E 01	1.3810880E 02	-3.2923669E 02	3.6006226E 02	-1.4393050E 02	1.166	0.3024	0.979
300 0 - 180		2.9055608E 00	-2.9011835E 01	1.2719441E 02	-2.8965698E 02	3.0927730E 02	-1.2243887E 02	1.273	0.3151	0.983
350 0 - 180		2.7336714E 00	-2.0742860E 01	5.7755103E 01	-7.4676408E 01	3.4388314E 01	0.	1.320	0.3082	0.990
400 0 - 180		2.7845120E 00	-2.1126144E 01	5.5101106E 01	-6.5927030E 01	2.8303832E 01	0.	1.307	0.2909	0.988

TABLE 69

NEUTRONS INCIDENT ON CR

EMIN # 2.659 (MEV)

PROTONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0 - 180		-1.3010983E-02	-2.0492006E 00	-8.0745571E 00	1.1998261E 01	8.5560937E 00	-1.4079815E 01	0.239	0.0969	0.954
50 0 - 180		1.3755776E 00	-1.4632903E 01	4.7575402E 01	-1.0090335E 02	1.1160111E 02	-4.8106350E 01	0.414	0.1341	0.957
100 0 - 180		1.7901913E 00	-1.5956969E 01	4.2729509E 01	-6.2463135E 01	4.5913314E 01	-1.3815107E 01	0.630	0.1852	0.976
150 0 - 180		2.3701135E 00	-2.6705002E 01	1.1571523E 02	-2.6205065E 02	2.7932903E 02	-1.1076259E 02	0.788	0.2207	0.976
200 0 - 180		2.4223463E 00	-2.6336825E 01	1.0994602E 02	-2.4045413E 02	2.4953387E 02	-9.6894652E 01	0.865	0.2362	0.981
250 0 - 180		2.4769272E 00	-2.5254173E 01	1.0368772E 02	-2.2427017E 02	2.2800664E 02	-8.5931132E 01	0.968	0.2552	0.987
300 0 - 180		2.7526450E 00	-3.2227865E 01	1.5261177E 02	-3.5640305E 02	3.7769637E 02	-1.4620276E 02	1.005	0.2435	0.984
350 0 - 180		2.6816736E 00	-2.8185713E 01	1.1862907E 02	-2.5192391E 02	2.4344600E 02	-8.5225906E 01	1.057	0.2606	0.989
400 0 - 180		2.3746813E 00	-1.4654797E 01	2.2842793E 01	-1.1979004E 01	0.	0.	1.138	0.2661	0.984

NEUTRONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0 - 180		1.2078986E 00	-1.8017089E 01	8.8325121E 01	-2.1888109E 02	2.5121820E 02	-1.0787593E 02	0.415	0.1742	0.946
50 0 - 180		1.3803852E 00	-9.7624897E 00	2.5097128E 01	-4.6870245E 01	5.6859154E 01	-2.9868045E 01	0.694	0.2524	0.967
100 0 - 180		2.2454714E 00	-1.9373415E 01	7.2236424E 01	-1.4242678E 02	1.4108717E 02	-5.5686761E 01	1.097	0.3762	0.978
150 0 - 180		2.4381583E 00	-2.0765373E 01	8.4270822E 01	-1.8462643E 02	1.9972717E 02	-8.3081551E 01	1.312	0.4274	0.978
200 0 - 180		2.6597579E 00	-2.4194112E 01	1.1079451E 02	-2.5635577E 02	2.8094141E 02	-1.1337310E 02	1.498	0.4690	0.983
250 0 - 180		2.7214549E 00	-2.3847173E 01	9.8728962E 01	-1.9994229E 02	1.8757105E 02	-6.5628058E 01	1.615	0.4988	0.984
300 0 - 180		2.9191548E 00	-2.5177019E 01	1.0800094E 02	-2.3412906E 02	2.3748457E 02	-8.9723402E 01	1.793	0.5358	0.986
350 0 - 180		2.5869703E 00	-2.7528225E 01	1.2401677E 02	-2.7274278E 02	2.7788315E 02	-1.0550860E 02	1.850	0.5346	0.989
400 0 - 180		3.0799740E 00	-2.7972437E 01	1.2767413E 02	-2.8855290E 02	3.0270949E 02	-1.1808930E 02	1.941	0.5552	0.988

TABLE 70

PROTONS INCIDENT ON CU

EMIN # 3.067 (MEV)

PROTONS EMITTED

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0 - 180		1.3626693E 00	-1.6436592E 01	5.6900162E 01	-1.2238791E 02	1.4037438E 02	-6.4048231E 01	0.295	0.1232	0.945
50 0 - 180		1.2594084E 00	-1.1905601E 01	3.4500231E 01	-5.9034296E 01	5.2650508E 01	-1.9148614E 01	0.525	0.2011	0.974
100 0 - 180		1.9689415E 00	-1.6243343E 01	5.3037182E 01	-9.9899371E 01	9.9051334E 01	-3.9726135E 01	0.871	0.2929	0.980
150 0 - 180		2.3432110E 00	-2.1996438E 01	9.1083243E 01	-2.0835626E 02	2.3391389E 02	-9.9290839E 01	1.041	0.3352	0.977
200 0 - 180		2.3164334E 00	-2.0441355E 01	7.9553692E 01	-1.5993177E 02	1.5493593E 02	-5.7616454E 01	1.201	0.3896	0.988
250 0 - 180		2.6643327E 00	-2.5488543E 01	1.1213866E 02	-2.4716652E 02	2.5549141E 02	-9.8974123E 01	1.384	0.4281	0.988
300 0 - 180		2.8077347E 00	-2.9315624E 01	1.4052006E 02	-3.2370732E 02	3.4069785E 02	-1.3236334E 02	1.454	0.4415	0.985
350 0 - 180		2.8206049E 00	-2.7730464E 01	1.2779505E 02	-2.8821176E 02	3.0163189E 02	-1.1771145E 02	1.567	0.4755	0.988
400 0 - 180		2.9495882E 00	-2.9605651E 01	1.3998254E 02	-3.1972614E 02	3.3434804E 02	-1.2897968E 02	1.657	0.4935	0.991

NEUTRONS EMITTED

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0 - 180		-1.9229358E 00	2.5202106E 01	-1.3660369E 02	2.9301065E 02	-2.7694565E 02	9.4124815E 01	0.274	0.1135	0.939
50 0 - 180		1.0905015E 00	-7.8925771E 00	1.7648429E 01	-4.2135463E 01	5.8853125E 01	-3.0419318E 01	0.490	0.1668	0.963
100 0 - 180		2.1399404E 00	-1.7478803E 01	5.0065476E 01	-8.0126073E 01	6.8002450E 01	-2.4817453E 01	0.785	0.2300	0.978
150 0 - 180		2.5899328E 00	-2.3854501E 01	9.1964759E 01	-1.8951128E 02	1.8624223E 02	-6.8941486E 01	1.003	0.2718	0.990
200 0 - 180		2.4354009E 00	-1.7799412E 01	4.3702141E 01	-4.9934347E 01	2.0898024E 01	0.	1.099	0.3011	0.984
250 0 - 180		2.9125448E 00	-2.7807130E 01	1.1461411E 02	-2.4847390E 02	2.5334307E 02	-9.5862174E 01	1.216	0.2965	0.984
300 0 - 180		2.9484418E 00	-2.7146498E 01	1.0226552E 02	-1.9424303E 02	1.7142399E 02	-5.5970997E 01	1.307	0.3196	0.989
350 0 - 180		2.7032574E 00	-1.5208112E 01	2.2555520E 01	-1.1127665E 01	0.	0.	1.417	0.3169	0.991
400 0 - 180		2.8020459E 00	-1.6340734E 01	2.6534310E 01	-1.4635792E 01	0.	0.	1.473	0.3087	0.978

TABLE 71

NEUTRONS INCIDENT ON CU

EMIN # 3.067 (MEV)

PROTONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0 - 180		1.8467310E 00	-3.0953321E 01	1.4184163E 02	-3.2862728E 02	3.5582477E 02	-1.4399882E 02	0.212	0.0889	0.948
50 0 - 180		1.0350303E 00	-1.0191508E 01	2.2555628E 01	-4.3869057E 01	5.6975380E 01	-2.9662732E 01	0.372	0.1287	0.960
100 0 - 180		1.6278106E 00	-1.2865114E 01	2.6733369E 01	-3.7634070E 01	3.6461687E 01	-1.6209673E 01	0.593	0.1799	0.972
150 0 - 180		2.1602287E 00	-2.3378364E 01	9.6719462E 01	-2.1475183E 02	2.2532757E 02	-8.8162979E 01	0.719	0.2006	0.977
200 0 - 180		2.2383278E 00	-1.9344858E 01	5.2150739E 01	-6.5494941E 01	2.9704089E 01	0.	0.838	0.2248	0.982
250 0 - 180		2.4826929E 00	-2.4343086E 01	8.6841432E 01	-1.6326304E 02	1.4836682E 02	-5.1552633E 01	0.901	0.2259	0.976
300 0 - 180		2.6967813E 00	-2.9108508E 01	1.1807486E 02	-2.3484888E 02	2.1080921E 02	-6.8287444E 01	0.974	0.2380	0.983
350 0 - 180		2.3824106E 00	-1.5769069E 01	2.5253686E 01	-1.3411327E 01	0.	0.	1.034	0.2405	0.985
400 0 - 180		2.4215318E 00	-1.5922190E 01	2.5562398E 01	-1.3623165E 01	0.	0.	1.071	0.2446	0.990

NEUTRONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0 - 180		1.1024355E 00	-1.1014359E 01	3.6532353E 01	-8.5516632E 01	1.0718596E 02	-5.1513516E 01	0.399	0.1744	0.958
50 0 - 180		1.6292344E 00	-1.2559305E 01	3.7082286E 01	-6.9269407E 01	7.2510031E 01	-3.1580759E 01	0.695	0.2610	0.973
100 0 - 180		2.0513541E 00	-1.3939331E 01	4.4933844E 01	-9.2635595E 01	1.0305123E 02	-4.5406689E 01	1.088	0.3625	0.981
150 0 - 180		2.4610682E 00	-1.9361703E 01	7.6684467E 01	-1.6914603E 02	1.8413628E 02	-7.6673814E 01	1.342	0.4238	0.983
200 0 - 180		2.9054996E 00	-2.6789511E 01	1.1983913E 02	-2.6903045E 02	2.8093022E 02	-1.0540064E 02	1.536	0.4549	0.988
250 0 - 180		2.8374517E 00	-2.3401031E 01	1.0291872E 02	-2.3929717E 02	2.6228053E 02	-1.0691094E 02	1.695	0.4922	0.988
300 0 - 180		3.0365049E 00	-2.6336208E 01	1.1138458E 02	-2.3662640E 02	2.3738401E 02	-8.9659202E 01	1.818	0.5230	0.986
350 0 - 180		3.1057187E 00	-2.7529195E 01	1.2584378E 02	-2.8574193E 02	3.0028504E 02	-1.1725313E 02	1.951	0.5482	0.988
400 0 - 180		3.2241972E 00	-2.9844392E 01	1.4004446E 02	-3.2600170E 02	3.5200793E 02	-1.4107037E 02	2.007	0.5566	0.986

TABLE 72

PROTONS INCIDENT ON RU

EMIN # 4.24J (MEV)

PROTONS EMITTED

EO (MEV)	ANG. INT.	AC	AI	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	E/MAX /EO
25 0 - 180		8.9529793E-02	1.5945013E 00	-3.6809368E 01	9.7416440E 01	-9.7297485E C1	3.2341805E C1	0.248	0.1167	0.960
50 0 - 180		1.5138248E 00	-1.5770661E C1	5.2651497E 01	-1.0682608E 02	1.1448408E 02	-4.8719236E C1	0.434	0.1726	0.974
100 0 - 180		2.3373091E 00	-2.4513238E 01	1.0270600E 02	-2.2618529E 02	2.3722361E 02	-9.3639413E C1	0.737	0.2486	0.980
150 0 - 180		2.6054350E 00	-2.8233412E 01	1.2377808E 02	-2.7181766E 02	2.8104779E 02	-1.0922700E 02	0.938	0.3071	0.981
200 0 - 180		2.3086171E 00	-2.1248636E 01	9.0576798E 01	-1.9886322E 02	2.0454162E C2	-7.8345953E 01	1.149	0.3860	0.986
250 0 - 180		3.0272696E 00	-3.3209622E 01	1.5585029E 02	-3.5386834E 02	3.7040548E 02	-1.4388278E C2	1.275	0.3782	0.977
300 0 - 180		2.7961079E 00	-2.7990016E 01	1.2579413E 02	-2.7878323E 02	2.8721830E C2	-1.1030590E 02	1.359	0.4145	0.974
350 0 - 180		3.0187807E 00	-2.9930868E 01	1.3462143E 02	-2.9840914E 02	3.0671247E 02	-1.1733226E C2	1.488	0.4194	0.983
400 0 - 180		3.1309483E 00	-3.3049722E 01	1.5682329E 02	-3.5672894E 02	3.7216166E 02	-1.4396118E 02	1.555	0.4339	0.983

NEUTRONS EMITTED

EO (MEV)	ANG. INT.	AC	AI	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	E/MAX /EO
25 0 - 180		7.2191010E 00	-8.8292649E 01	3.7927740E 02	-7.8425195E 02	7.6419474E C2	-2.8290673E 02	0.226	0.0974	0.935
50 0 - 180		1.9722747E-01	5.5043004E 00	-5.6402806E 01	1.3577196E 02	-1.3220050E 02	4.4667599E 01	0.415	0.1519	0.962
100 0 - 180		2.2737394E 00	-1.8520817E 01	5.5160723E 01	-1.0379058E 02	1.0746947E C2	-4.4757239E 01	0.716	0.2169	0.976
150 0 - 180		2.6206823E 00	-2.3858016E 01	9.4717762E 01	-2.0819703E 02	2.1844665E 02	-8.5561203E 01	0.934	0.2546	0.980
200 0 - 180		2.5102025E 00	-1.9518649E 01	5.4225640E 01	-6.9175650E 01	3.1315245E 01	0.	1.060	0.2955	0.981
250 0 - 180		2.9991039E 00	-2.7647900E 01	1.1514969E 02	-2.5032949E 02	2.5296638E 02	-9.4759953E 01	1.240	0.2907	0.976
300 0 - 180		3.1394620E 00	-2.8867379E 01	1.1649878E 02	-2.4882921E C2	2.5068412E 02	-9.4304903E 01	1.304	0.2844	0.980
350 0 - 180		3.2828450E 00	-3.2007145E 01	1.3939630E 02	-3.1384858E 02	3.2983691E 02	-1.2660217E C2	1.408	0.3053	0.977
400 0 - 180		3.3045741E 00	-2.9881852E 01	1.1682555E 02	-2.2920299E 02	2.0200806E 02	-6.3260790E 01	1.521	0.3223	0.987

TABLE 73

NEUTRONS INCIDENT ON RU

EMIN # 4.240 (MEV)

PROTONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 180	-1.0304801E 00	1.8254456E 01	-1.2933442E 02	3.0150669E 02	-2.9317532E 02	1.0031124E 02	0.168	0.0746	0.953
50	0 - 180	1.1556102E 00	-1.3465720E 01	4.3003771E 01	-9.5349535E 01	1.0894507E 02	-4.7237982E 01	0.306	0.1102	0.959
100	0 - 180	1.6304628E 00	-1.0938849E 01	3.7140606E 00	3.5133218E 01	-5.2643334E 01	2.1053482E 01	0.520	0.1574	0.980
150	0 - 180	2.0694760E 00	-1.8632185E 01	5.6870667E 01	-1.1189418E 02	1.2038551E 02	-5.1272308E 01	0.642	0.1772	0.978
200	0 - 180	2.0158372E 00	-1.3235056E 01	1.9216529E 01	-9.6691400E 00	0.	0.	0.771	0.1978	0.978
250	0 - 180	2.1995857E 00	-1.4340309E 01	2.2808788E 01	-1.2634897E 01	0.	0.	0.891	0.2167	0.971
300	0 - 180	2.2376514E 00	-1.4005135E 01	2.0582483E 01	-1.0547735E 01	0.	0.	0.929	0.2148	0.984
350	0 - 180	2.8005095E 00	-2.7434330E 01	1.0414784E 02	-2.1252198E 02	2.0821779E 02	-7.7628499E 01	0.990	0.2135	0.971
400	0 - 180	2.9043888E 00	-2.8950601E 01	1.1505621E 02	-2.3583948E 02	2.2639744E 02	-8.1398009E 01	1.088	0.2323	0.995

NEUTRONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 180	-2.0671063E 00	1.9811505E 01	-7.7102813E 01	1.1277726E 02	-5.9355585E 01	2.4533707E 00	0.308	0.1444	0.964
50	0 - 180	1.7438793E 00	-1.4533498E 01	4.3607476E 01	-7.8620070E 01	7.8979452E 01	-3.3744154E 01	0.586	0.2310	0.970
100	0 - 180	2.1207513E 00	-1.4897514E 01	4.3914691E 01	-7.5111352E 01	6.7148062E 01	-2.4586089E 01	0.956	0.3210	0.974
150	0 - 180	2.5667528E 00	-2.0607311E 01	8.1199155E 01	-1.7103231E 02	1.7174217E 02	-6.5056042E 01	1.269	0.4002	0.982
200	0 - 180	2.7955959E 00	-2.2412200E 01	8.8722880E 01	-1.8882578E 02	1.9586082E 02	-7.7810968E 01	1.476	0.4411	0.977
250	0 - 180	3.0335237E 00	-2.5705461E 01	1.0485071E 02	-2.1492146E 02	2.0745049E 02	-7.6010282E 01	1.650	0.4673	0.989
300	0 - 180	3.1724693E 00	-3.0479952E 01	1.4433084E 02	-3.3248534E 02	3.5209545E 02	-1.3838520E 02	1.749	0.4988	0.979
350	0 - 180	3.3086852E 00	-3.0624185E 01	1.4356677E 02	-3.31113810E 02	3.4894454E 02	-1.3508682E 02	1.927	0.5271	0.988
400	0 - 180	3.3767911E 00	-2.9976802E 01	1.3273505E 02	-2.9173609E 02	2.9687631E 02	-1.1237852E 02	2.025	0.5244	0.986

TABLE 74

PROTONS INCIDENT ON CE

EMIN # 5.181 (MEV)

PROTONS EMITTED

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0 - 180	-1.4568736E 00	1.4207781E 01	-7.8134155E 01	1.5712432E 02	-1.3259603E 02	3.7222117E 01	0.187	0.0928	0.962	
50 0 - 180	2.4394864E 00	-3.0039801E 01	1.2635737E 02	-2.8861737E 02	3.2129382E 02	-1.3545023E 02	0.341	0.1371	0.961	
100 0 - 180	2.2288820E 00	-2.3430558E 01	9.1995404E 01	-1.9497684E 02	2.0120671E 02	-7.9240002E 01	0.617	0.2131	0.974	
150 0 - 180	2.5131664E 00	-2.8607899E 01	1.2477824E 02	-2.7097047E 02	2.7701144E 02	-1.0680140E 02	0.792	0.2648	0.974	
200 0 - 180	2.6362371E 00	-2.6343043E 01	1.0732609E 02	-2.2301735E 02	2.1872367E 02	-8.0639393E 01	0.974	0.2972	0.979	
250 0 - 180	2.6627859E 00	-2.5920590E 01	1.0589639E 02	-2.2297637E 02	2.2172359E 02	-8.2357833E 01	1.083	0.3299	0.987	
300 0 - 180	2.2885566E 00	-1.2277500E 01	1.9227925E 01	-1.0077302E 01	0.	0.	1.307	0.3926	0.985	
350 0 - 180	2.9774483E 00	-2.8902163E 01	1.2182523E 02	-2.5245872E 02	2.4216253E 02	-8.6620007E 01	1.360	0.3772	0.990	
400 0 - 180	3.0801913E 00	-3.2325991E 01	1.5388023E 02	-3.5599405E 02	3.7528782E 02	-1.4523159E 02	1.435	0.3998	0.986	

NEUTRONS EMITTED

EO (MEV)	ANG. INT.	A0	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0 - 180	-3.7295424E 00	5.0095726E 01	-2.5979879E 02	5.6076265E 02	-5.4142007E 02	1.9097561E 02	0.188	0.0893	0.984	
50 0 - 180	1.6198674E 00	-1.4851999E 01	4.6730499E 01	-9.8828199E 01	1.1231070E 02	-5.0271059E 01	0.396	0.1511	0.966	
100 0 - 180	2.3739879E 00	-1.8390504E 01	4.9013333E 01	-7.4616608E 01	5.7750049E 01	-1.7793247E 01	0.681	0.2016	0.975	
150 0 - 180	2.9411562E 00	-2.7323218E 01	1.0758323E 02	-2.3284169E 02	2.4299159E 02	-9.5249596E 01	0.930	0.2533	0.976	
200 0 - 180	3.1399618E 00	-3.0093947E 01	1.2803990E 02	-2.8770017E 02	3.0427400E 02	-1.1964738E 02	1.127	0.2858	0.977	
250 0 - 180	2.6565755E 00	-1.4409516E 01	2.0694767E 01	-1.0099544E 01	0.	0.	1.276	0.3090	0.986	
300 0 - 180	3.3400775E 00	-3.0132218E 01	1.1902223E 02	-2.4704868E 02	2.4165546E 02	-8.8481791E 01	1.372	0.2896	0.980	
350 0 - 180	2.9414532E 00	-1.6153319E 01	2.4363726E 01	-1.2443094E 01	0.	0.	1.526	0.3266	0.985	
400 0 - 180	2.9613937E 00	-1.5695110E 01	2.1729481E 01	-9.9031608E 00	0.	0.	1.589	0.3323	0.990	

TABLE 75

NEUTRONS INCIDENT CN CE

EMIN # 5.181 (MEV)

PROTONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 180	-4.8779893E 00	3.6136326E 01	-1.1916846E 02	1.5344968E 02	-6.9996095E 01	0.	0.122	0.0570	0.923
50	0 - 180	1.9737954E 00	-2.5976996E 01	1.0034979E 02	-2.1484634E 02	2.2363438E 02	-8.8476732E C1	0.242	0.0901	0.960
100	0 - 180	2.2846097E 00	-2.9238620E 01	1.2019163E 02	-2.5634052E 02	2.5793889E 02	-9.7350087E 01	0.413	0.1307	0.974
150	0 - 180	2.1174071E 00	-2.0685014E 01	6.0972728E 01	-9.8029463E 01	7.9647456E 01	-2.5885347E 01	0.564	0.1622	0.978
200	0 - 180	2.7433002E 00	-3.1783831E 01	1.3181098E 02	-2.7939239E 02	2.7673339E 02	-1.0228287E 02	0.679	0.1683	0.981
250	0 - 180	2.1963291E 00	-1.5172787E 01	2.3239695E 01	-1.2028368E 01	0.	0.	0.778	0.1902	0.975
300	0 - 180	2.8092952E 00	-3.1517318E 01	1.3102002E 02	-2.7105427E 02	2.5505166E 02	-8.7439779E 01	0.840	0.1987	0.984
350	0 - 180	2.5527802E 00	-2.1685982E 01	5.8513615E 01	-7.4400084E 01	3.4529727E C1	0.	0.891	0.1993	0.988
400	0 - 180	2.4228738E 00	-1.5569131E 01	2.3392313E 01	-1.1962256E 01	0.	0.	0.977	0.2107	0.976

NEUTRONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 180	4.7845793E-02	6.9438899E 00	-6.3611444E 01	1.5265154E 02	-1.4732547E 02	4.8341614E C1	0.277	0.1356	0.979
50	0 - 180	3.1447676E 00	-3.3721893E 01	1.4407523E 02	-3.1132219E 02	3.1691036E 02	-1.2154591E 02	0.567	0.2240	0.981
100	0 - 180	2.2620463E 00	-1.7098933E 01	6.0886077E 01	-1.2638092E 02	1.3113596E 02	-5.2812337E C1	0.934	0.3136	0.979
150	0 - 180	3.0479113E 00	-2.6862690E 01	1.0607692E 02	-2.1463968E 02	2.0775433E 02	-7.7099525E 01	1.233	0.3701	0.973
200	0 - 180	2.9571176E 00	-2.3591823E 01	9.2521065E 01	-1.9337970E 02	1.9384618E C2	-7.3882700E C1	1.449	0.4113	0.980
250	0 - 180	3.1092571E 00	-2.4000768E 01	9.0564446E 01	-1.7725989E 02	1.6464890E 02	-5.8256573E 01	1.675	0.4509	0.986
300	0 - 180	3.3914315E 00	-2.9361077E 01	1.2916938E 02	-2.9596760E 02	3.2055464E C2	-1.3012981E C2	1.816	0.4587	0.975
350	0 - 180	3.4140823E 00	-2.7901135E 01	1.1527017E 02	-2.4073126E 02	2.3333204E 02	-8.4316934E 01	2.017	0.5044	0.986
400	0 - 180	3.4763794E 00	-2.8689942E 01	1.2257356E 02	-2.6666569E 02	2.6937301E C2	-1.0116048E C2	2.121	0.5155	0.985

TABLE 76
 PROTONS INCIDENT ON W
 EMIN # 6.202 (MEV)
 PRCTCNS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 180	-6.0950918E 00	5.4282249E 01	-2.1162640E 02	3.6928687E 02	-2.9429743E 02	8.4227196E 01	0.147	0.0760	0.952
50	0 - 180	1.9099333E 00	-2.4807218E 01	1.0270540E 02	-2.2967670E 02	2.4884887E 02	-1.0226243E 02	0.307	0.1329	0.972
100	0 - 180	2.3740541E 00	-2.6215661E 01	9.9844112E 01	-2.0467874E 02	2.0969687E 02	-8.3687316E 01	0.529	0.1931	0.978
150	0 - 180	2.5776601E 00	-2.8203105E 01	1.0690630E 02	-2.0096248E 02	1.8023568E 02	-6.1941263E 01	0.705	0.2437	0.984
200	0 - 180	2.6611063E 00	-2.8977658E 01	1.2305049E 02	-2.6171923E 02	2.6038415E 02	-9.6953895E 01	0.845	0.2643	0.980
250	0 - 180	2.9057706E 00	-3.1841110E 01	1.3886632E 02	-2.9487123E 02	2.8958421E 02	-1.0600776E 02	1.002	0.2979	0.970
300	0 - 180	2.8863992E 00	-3.0228061E 01	1.3167422E 02	-2.8388548E 02	2.8345037E 02	-1.0505383E 02	1.109	0.3247	0.983
350	0 - 180	2.6075671E 00	-2.1130300E 01	6.4935727E 01	-8.7183410E 01	4.0293094E 01	0.	1.221	0.3514	0.985
400	0 - 180	3.0634012E 00	-3.0935756E 01	1.3316514E 02	-2.8660554E 02	2.8952607E 02	-1.0955887E 02	1.311	0.3623	0.980

NEUTRONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 180	1.1935276E 00	-8.9805664E 00	1.1123817E 01	-2.1672350E 01	4.5079143E 01	-3.1343518E 01	0.172	0.0877	0.945
50	0 - 180	3.6805295E-01	2.5545093E 00	-3.9712606E 01	9.4675194E 01	-8.8652790E 01	2.7952279E 01	0.342	0.1339	0.974
100	0 - 180	2.3669498E 00	-1.8638758E 01	5.6418277E 01	-1.0784219E 02	1.0912710E 02	-4.3928775E 01	0.639	0.1940	0.975
150	0 - 180	2.9506396E 00	-2.8018506E 01	1.1643730E 02	-2.6012315E 02	2.7309204E 02	-1.0653856E 02	0.869	0.2364	0.977
200	0 - 180	3.1384224E 00	-2.8291584E 01	1.1211947E 02	-2.3744164E 02	2.3807691E 02	-8.9208728E 01	1.097	0.2800	0.981
250	0 - 180	3.0754661E 00	-2.5574432E 01	9.9079748E 01	-2.1785492E 02	2.2966821E 02	-9.0045081E 01	1.226	0.2929	0.989
300	0 - 180	2.9569579E 00	-1.6855138E 01	2.5842003E 01	-1.3274244E 01	0.	0.	1.384	0.3085	0.981
350	0 - 180	3.0626195E 00	-1.7273984E 01	2.6350563E 01	-1.3485761E 01	0.	0.	1.505	0.3132	0.978
400	0 - 180	3.0865855E 00	-1.6579174E 01	2.4854010E 01	-1.3100233E 01	0.	0.	1.612	0.3055	0.963

TABLE 77
 NEUTRONS INCIDENT CN W
 EMIN # 6.202 (MEV)

PROTONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0	- 180	-3.7099278E 00	3.0788990E 01	-1.2202877E 02	1.9742579E 02	-1.4045460E 02	3.4212745E 01	0.107	0.0528	0.938
50 0	- 180	3.0507177E 00	-3.9442869E 01	1.4754712E 02	-2.8595477E 02	2.7195567E 02	-1.0085946E 02	0.186	0.0740	0.954
100 0	- 180	1.7103207E 00	-1.8290503E 01	6.0158364E 01	-1.2559088E 02	1.3555994E 02	-5.6319930E 01	0.380	0.1236	0.975
150 0	- 180	2.4676827E 00	-2.9726395E 01	1.1989428E 02	-2.5598987E 02	2.6079434E 02	-1.00339817E 02	0.485	0.1328	0.963
200 0	- 180	2.4763072E 00	-2.7353588E 01	1.0602156E 02	-2.1948473E 02	2.1561796E 02	-7.9258282E 01	0.600	0.1565	0.972
250 0	- 180	2.0968538E 00	-1.5410334E 01	2.4966602E 01	-1.3705012E 01	0.	0.	0.692	0.1776	0.964
300 0	- 180	2.5604593E 00	-2.5057355E 01	8.6932707E 01	-1.7089249E 02	1.6753766E 02	-6.3002604E 01	0.750	0.1753	0.961
350 0	- 180	2.4257127E 00	-1.6837163E 01	2.6245748E 01	-1.3873008E 01	0.	0.	0.841	0.1797	0.972
400 0	- 180	2.6906560E 00	-2.9346518E 01	1.1497199E 02	-2.2209442E 02	1.9070306E 02	-5.801079E 01	0.812	0.1822	0.980

NEUTRONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0	- 180	2.5318676E 00	-2.1560634E 01	6.2819052E 01	-1.0571162E 02	9.5758784E 01	-3.7103668E 01	0.248	0.1252	0.956
50 0	- 180	3.1780613E 00	-3.4064680E 01	1.3953023E 02	-2.8966992E 02	2.8683850E 02	-1.0821901E 02	0.494	0.2107	0.981
100 0	- 180	2.5734978E 00	-2.2367867E 01	9.1239008E 01	-2.0930215E 02	2.3223050E 02	-9.6689197E 01	0.848	0.2898	0.974
150 0	- 180	2.7487285E 00	-2.0143117E 01	6.6811648E 01	-1.2904980E 02	1.2950774E 02	-5.1686710E 01	1.149	0.3548	0.976
200 0	- 180	2.9245214E 00	-2.2113242E 01	8.0701363E 01	-1.6149143E 02	1.5848922E 02	-5.9930471E 01	1.391	0.4054	0.980
250 0	- 180	3.2451175E 00	-2.8193488E 01	1.2218051E 02	-2.6883397E 02	2.7400019E 02	-1.0379509E 02	1.583	0.4336	0.986
300 0	- 180	3.4381717E 00	-2.7180630E 01	1.0258790E 02	-2.7234048E 02	1.9068667E 02	-6.8219992E 01	1.810	0.4558	0.985
350 0	- 180	3.3391640E 00	-2.4979677E 01	8.4695250E 01	-1.3859624E 02	9.8886672E 01	-2.3278362E 01	1.923	0.5079	0.987
400 0	- 180	3.6141967E 00	-3.1417665E 01	1.4194694E 02	-3.2167661E 02	3.3428911E 02	-1.2799626E 02	2.111	0.5100	0.985

TABLE 78

PROTONS INCIDENT ON PB

EMIN # 6.683 (MEV)

PROTONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 180	1.320428E 01	-1.286319E 02	4.6002569E 02	-8.2165350E 02	7.224200E 02	-2.4982734E 02	0.142	0.0750	0.963
50	0 - 180	2.6018114E 00	-3.5088128E 01	1.4365677E 02	-2.9648411E 02	2.9441088E 02	-1.1178931E 02	0.279	0.1305	0.983
100	0 - 180	2.4871734E 00	-2.9237531E 01	1.1465248E 02	-2.3276676E 02	2.3019827E 02	-8.7533151E 01	0.486	0.1835	0.973
150	0 - 180	2.3660108E 00	-2.4741790E 01	9.6920964E 01	-2.0747157E 02	2.1868202E 02	-8.8032897E 01	0.662	0.2224	0.979
200	0 - 180	2.1625789E 00	-2.0077272E 01	7.3944903E 01	-1.4838936E 02	1.4779527E 02	-5.7267905E 01	0.826	0.2720	0.971
250	0 - 180	2.5850703E 00	-2.5557280E 01	1.071777E 02	-2.3845668E 02	2.5139182E 02	-9.8653008E 01	0.948	0.2892	0.982
300	0 - 180	2.7950034E 00	-2.8210974E 01	1.2052600E 02	-2.6280676E 02	2.6852440E 02	-1.0201724E 02	1.078	0.3202	0.974
350	0 - 180	2.9584166E 00	-3.2259900E 01	1.5039702E 02	-3.4167544E 02	3.5428000E 02	-1.3524783E 02	1.139	0.3180	0.977
400	0 - 180	2.6336989E 00	-1.9245021E 01	5.2105606E 01	-6.4662634E 01	2.8760022E 01	0.	1.274	0.3567	0.987

NEUTRONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 180	-1.0696647E 01	1.0474212E 02	-4.0864344E 02	7.3268332E 02	-6.1817400E 02	1.9714690E 02	0.162	0.0846	0.955
50	0 - 180	5.3363863E-01	-2.0000171E 00	-7.5300528E 00	5.9851294E 00	1.3593317E 01	-1.3587232E 01	0.322	0.1281	0.976
100	0 - 180	2.2873548E 00	-1.6177575E 01	3.9288350E 01	-6.1185705E 01	5.4011132E 01	-2.0506440E 01	0.623	0.1902	0.980
150	0 - 180	2.9030063E 00	-2.5011385E 01	9.3453987E 01	-1.9984832E 02	2.0738181E 02	-8.1055434E 01	0.859	0.2312	0.986
200	0 - 180	3.1468205E 00	-2.8279937E 01	1.1244047E 02	-2.4538199E 02	2.5456200E 02	-9.8331720E 01	1.032	0.2559	0.975
250	0 - 180	2.7215051E 00	-1.4452115E 01	2.1004134E 01	-1.0993820E 01	0.	0.	1.240	0.2860	0.980
300	0 - 180	2.8050652E 00	-1.3923148E 01	1.8374589E 01	-8.6170843E 00	0.	0.	1.403	0.3039	0.973
350	0 - 180	3.5962173E 00	-3.2783994E 01	1.3071814E 02	-2.6437536E 02	2.4580111E 02	-8.3844196E 01	1.505	0.3153	0.976
400	0 - 180	3.1307423E 00	-1.5577061E 01	1.9358082E 01	-7.6051723E 00	0.	0.	1.712	0.3396	0.987

TABLE 79
NEUTRONS INCIDENT CN PB
EMIN # 6.683 (MEV)

PROTONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0	- 180	-9.0378220E-02	-8.0273110E 00	1.2354443E 01	-7.5008847E 00	0.	0.	0.086	0.0463	0.952
50 0	- 180	2.7366863E 00	-3.5808510E 01	1.3104462E 02	-2.4394796E 02	2.1820150E 02	-7.4988032E 01	0.186	0.0781	0.965
100 0	- 180	1.3485838E 00	-1.4584156E 01	3.6439954E 01	-5.8006441E 01	5.0336195E 01	-1.7481246E 01	0.322	0.1106	0.970
150 0	- 180	1.9693453E 00	-1.8181422E 01	4.2591497E 01	-4.9780306E 01	2.1741522E 01	0.	0.453	0.1260	0.975
200 0	- 180	2.3276422E 00	-2.4224436E 01	8.5596961E 01	-1.6494499E 02	1.5468443E 02	-5.5873476E 01	0.577	0.1492	0.951
250 0	- 180	2.5945782E 00	-2.5091879E 01	7.0788851E 01	-9.1946722E 01	4.2906444E 01	0.	0.663	0.1615	0.966
300 0	- 180	2.6223336E 00	-2.8827323E 01	1.1103130E 02	-2.2631656E 02	2.1866625E 02	-7.9160922E 01	0.676	0.1554	0.960
350 0	- 180	2.8079890E 00	-2.8831195E 01	1.0443298E 02	-1.9407185E 02	1.6662404E 02	-5.2314376E 01	0.808	0.1764	0.977
400 0	- 180	2.3582475E 00	-1.4940750E 01	2.0441139E 01	-9.5985236E 00	0.	0.	0.874	0.1804	0.964

NEUTRONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0	- 180	-1.0535538E 01	9.6807840E 01	-3.4975517E 02	5.8169294E 02	-4.5077330E 02	1.2928671E 02	0.234	0.1261	0.966
50 0	- 180	2.0571266E 00	-1.6476537E 01	4.8394414E 01	-8.5731975E 01	8.3078920E 01	-3.3863421E 01	0.477	0.2035	0.981
100 0	- 180	2.4239236E 00	-1.8864763E 01	6.6337548E 01	-1.3682747E 02	1.4264282E 02	-5.7911233E 01	0.831	0.2878	0.980
150 0	- 180	2.8609483E 00	-2.3959020E 01	1.0011625E 02	-2.3325269E 02	2.6086489E 02	-1.0910642E 02	1.133	0.3494	0.973
200 0	- 180	3.0404526E 00	-2.3625256E 01	8.5680150E 01	-1.6513120E 02	1.5416956E 02	-5.5590549E 01	1.364	0.3919	0.983
250 0	- 180	3.1766919E 00	-2.3900004E 01	9.5129708E 01	-2.1009988E 02	2.2437796E 02	-9.0923812E 01	1.634	0.4259	0.971
300 0	- 180	3.2422385E 00	-2.4791517E 01	9.5305846E 01	-1.9516333E 02	1.9178830E 02	-7.1841694E 01	1.738	0.4520	0.981
350 0	- 180	3.5421914E 00	-2.9770485E 01	1.3025572E 02	-2.9336200E 02	3.0748512E 02	-1.1996378E 02	1.948	0.4677	0.973
400 0	- 180	3.5264986E 00	-2.6336093E 01	1.0125729E 02	-2.1370311E 02	2.1930258E 02	-8.5533992E 01	2.103	0.4923	0.985

TABLE 80
 PROTONS INCIDENT ON U
 EMIN # 7.251 (MEV)
 PROTONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 180	-2.9674907E 00	2.2021958E 01	-8.3587977E 01	1.1862450E 02	-5.8265411E 01	0.	0.116	0.0642	0.961
50	0 - 180	1.2566097E 00	-1.4915602E 01	4.4990932E 01	-9.2215159E 01	1.0762910E 02	-5.0373452E 01	0.249	0.118	0.961
100	0 - 180	2.4208705E 00	-2.9641202E 01	1.1544691E 02	-2.2641809E 02	2.1521936E 02	-7.9414146E 01	0.446	0.1736	0.975
150	0 - 180	2.4748794E 00	-2.8897652E 01	1.2594051E 02	-2.8458612E 02	3.0464707E 02	-1.2190530E 02	0.619	0.2155	0.978
200	0 - 180	2.3607213E 00	-2.5144995E 01	1.0321307E 02	-2.2426880E 02	2.3481120E 02	-9.3195145E 01	0.730	0.2366	0.975
250	0 - 180	2.6729377E 00	-2.9600331E 01	1.3122192E 02	-2.8860880E 02	2.9452010E 02	-1.1194592E 02	0.882	0.2728	0.974
300	0 - 180	2.5665891E 00	-2.3922642E 01	9.1040919E 01	-1.7758692E 02	1.6514101E 02	-5.8685265E 01	1.015	0.3009	0.976
350	0 - 180	2.3451692E 00	-1.3118555E 01	1.9558915E 01	-9.8941820E 00	0.	0.	1.140	0.3125	0.984
400	0 - 180	2.8394526E 00	-2.8005687E 01	1.2362049E 02	-2.7884811E 02	2.9271041E 02	-1.1402923E 02	1.179	0.3211	0.970

NEUTRONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25	0 - 180	1.2538987E 00	-7.1060402E 00	-8.6683052E 00	4.9556189E 01	-6.0203695E 01	2.2208601E 01	0.149	0.0803	0.961
50	0 - 180	5.3136895E-01	2.9351545E-01	-2.8439110E 01	6.7547513E 01	-5.9536737E 01	1.7119752E 01	0.313	0.1308	0.978
100	0 - 180	2.3571133E 00	-1.6452385E 01	3.7534007E 01	-5.3572425E 01	4.5200235E 01	-1.7087847E 01	0.613	0.1954	0.965
150	0 - 180	2.8858055E 00	-2.5334476E 01	9.8106008E 01	-2.1650162E 02	2.3017670E 02	-9.1697637E 01	0.825	0.2265	0.973
200	0 - 180	3.0120970E 00	-2.4615425E 01	9.0238863E 01	-1.9190653E 02	2.0025533E 02	-7.9280848E 01	1.029	0.2557	0.984
250	0 - 180	2.8162770E 00	-1.5496129E 01	2.2368533E 01	-1.1002974E 01	0.	0.	1.219	0.2914	0.985
300	0 - 180	2.8159998E 00	-1.4139554E 01	1.9216581E 01	-9.5522777E 00	0.	0.	1.366	0.2931	0.979
350	0 - 180	3.0854994E 00	-1.6565420E 01	2.4877438E 01	-1.2814106E 01	0.	0.	1.562	0.3292	0.974
400	0 - 180	3.6708888E 00	-3.2492068E 01	1.3384113E 02	-2.8560848E 02	2.7887484E 02	-9.9065690E 01	1.651	0.3272	0.974

TABLE 81
NEUTRONS INCIDENT ON U
EMIN # 7.251 (MEV)
PROTONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0 - 180		-8.5362556E 00	7.0822976E 01	-2.6997268E 02	4.7086406E 02	-3.8141231E 02	1.1365659E 02	0.073	0.0398	0.932
50 0 - 180		1.8871809E 00	-2.3353527E 01	7.4408539E 01	-1.4188569E 02	1.4432631E 02	-5.9165232E 01	0.172	0.0722	0.953
100 0 - 180		1.9142443E 00	-1.9090129E 01	3.7527054E 01	-1.9444927E 01	-2.3681718E 01	2.1435181E 01	0.311	0.1057	0.973
150 0 - 180		1.9594892E 00	-1.9732760E 01	5.0385837E 01	-6.2582597E 01	2.8172204E 01	0.	0.403	0.1138	0.979
200 0 - 180		2.4157260E 00	-2.5729467E 01	8.3109739E 01	-1.4176748E 02	1.1641856E 02	-3.6358463E 01	0.510	0.1328	0.967
250 0 - 180		2.4145168E 00	-2.9050661E 01	1.2462433E 02	-2.8155644E 02	2.9482315E 02	-1.1370259E 02	0.556	0.1392	0.967
300 0 - 180		2.8865934E 00	-3.5955390E 01	1.5423176E 02	-3.2741724E 02	3.2156901E 02	-1.1765538E 02	0.657	0.1568	0.977
350 0 - 180		2.6592854E 00	-2.5967982E 01	7.9766032E 01	-1.0991226E 02	5.2424318E 01	0.	0.763	0.1710	0.968
400 0 - 180		2.5075717E 00	-1.7921870E 01	2.7916348E 01	-1.4786274E 01	0.	0.	0.807	0.1586	0.970

NEUTRONS EMITTED

EO (MEV)	ANG. INT.	AC	A1	A2	A3	A4	A5	NO. EMIT.	ENERGY EMIT./EO	EMAX /EO
25 0 - 180		1.2215402E 01	-1.3038609E 02	5.2103278E 02	-1.0088926E 03	9.3330792E 02	-3.3146709E 02	0.219	0.1171	0.956
50 0 - 180		5.1828278E-01	-2.1898272E 00	5.4662177E 00	-3.3205688E 01	5.7920196E 01	-3.0886008E 01	0.455	0.1986	0.974
100 0 - 180		2.4269300E 00	-1.9179059E 01	7.3487267E 01	-1.6854508E 02	1.9068329E 02	-8.1574339E 01	0.865	0.2780	0.967
150 0 - 180		2.8476853E 00	-2.1548895E 01	7.3797043E 01	-1.4043909E 02	1.3516062E 02	-5.1797806E 01	1.117	0.3507	0.982
200 0 - 180		3.0147045E 00	-2.2861919E 01	8.7304401E 01	-1.8415136E 02	1.8949732E 02	-7.4816880E 01	1.385	0.3979	0.979
250 0 - 180		3.1628371E 00	-2.3111016E 01	8.2836171E 01	-1.6178192E 02	1.5365289E 02	-5.6075422E 01	1.579	0.4261	0.982
300 0 - 180		3.4472428E 00	-2.7720682E 01	1.1246498E 02	-2.4193633E 02	2.4726257E 02	-9.5338452E 01	1.738	0.4271	0.972
350 0 - 180		3.4163530E 00	-2.6859478E 01	1.0752689E 02	-2.2400436E 02	2.1839469E 02	-7.9692878E 01	1.863	0.4560	0.979
400 0 - 180		3.6387798E 00	-2.8119423E 01	1.1324928E 02	-2.3899185E 02	2.3693559E 02	-8.8175594E 01	2.151	0.4837	0.979

APPENDIX 1

DETAILS OF MONTE CARLO DATA ANALYSIS

A. Cascade Neutron- and Proton-Emission Spectra

In this appendix, the manner in which the Monte Carlo data were analyzed to produce the values that were fitted will be described. In the case of the cascade particles, the Monte Carlo history tapes were available and were used.

Let

N = the total number of particles, either neutrons or protons, emitted into a specified angular interval from N_H incident-particle collisions,

k = an even integer,

$[x]$ = the integral part of the number x ,

and assume that the N -emitted particles have been arranged in the order of increasing energy. If one now defines

E_i = the energy of the $i[\frac{N}{k}]$ emitted particle where $i = 1, 2, \dots, k-2$,

E_{k-1} = the energy of the $[\frac{N-(k-2)[\frac{N}{k}]}{2}] + (k-2)[\frac{N}{k}]$ emitted particle, and

E_k = the energy of the highest emitted particle,

then there is an equal number of emitted particles between E_i and E_{i+1} except for the last two i values. The energies E_i for even i will be used to define the energy intervals in a histogram representing the energy distribution. The ordinates F_{E_i} in the histogram are given by

$$F_{E_i} = \frac{2[\frac{N}{k}]}{N_H(E_{i+1} - E_{i-1}) 2\pi(\cos \theta_1 - \cos \theta_2)}, \quad i \text{ odd and } < k-1, \quad (\text{A.1})$$

$$F_{E_{k-1}} = \frac{N - (k-2) \left[\frac{N}{k} \right]}{N_H(E_k - E_{k-2}) 2\pi(\cos \theta_1 - \cos \theta_2)} , \quad (\text{A.2})$$

where θ_1 and θ_2 are the limits of the angular interval being considered.

In analyzing the data, it was arbitrarily assumed that no statistical significance could be attached to less than ten emitted particles in a given energy interval. The quantity k was taken to have the value 50 and $2\left[\frac{N}{k}\right]$ was tested to see if it was greater than ten. If it was, $k = 50$ was used; if it was not, k was systematically reduced and the largest even value of k such that $2\left[\frac{N}{k}\right] \geq 10$ was used. In a few cases, the value of k determined in this way was less than eight - i.e., the histogram contained less than four energy intervals. When this occurred, it was decided that the particles emitted in the particular angular interval under consideration were statistically insignificant and no attempt was made to obtain a fit.

In doing the fitting, the histogram value F_{E_i} was taken to be an estimate of the energy distribution at the energy E_i . In a given angular interval, there are $k/2$ histogram intervals and thus $k/2$ points to be fitted. Actually, $k/2 + 1$ points were used in all intervals except the very special case when the highest energy interval in the histogram contained exactly ten emitted particles. The additional data point used was obtained by defining

E_a = the energy of the $N-5$ th emitted particle,

E_b = the energy of the $N-10$ th emitted particle,

and estimating the energy distribution, F_{E_a} , at the energy E_a to be

$$F_{E_a} = \frac{10}{N_H(E_k - E_b) 2\pi(\cos \theta_1 - \cos \theta_2)} . \quad (\text{A.3})$$

This data point is introduced in order to extend the fit to as high an energy as possible. The energy E_a is always larger than the energy E_{k-1} , and, because of this additional point, the fits are valid - i.e., they do not behave erratically for energies less than E_a . The use of this additional point means that the very high energy emitted particles are given more weight than the other emitted particles. It is to be understood that there is no particular justification for this other than as an artifice to extend the fits.

In the case of the spectra integrated over all angles, the data analysis is carried out exactly as above except that the cosine differences in the denominators of Eqs. A.1, A.2, and A.3 are omitted.

B. Evaporation Neutron- and Proton-Emission Spectra

In the case of the evaporation particles, the Monte Carlo history tapes were not available and the histograms that were fitted were constructed directly from the equal-energy-interval histogram data presented by Bertini.

Let G_i be the value of the energy distribution - normalized to unity - of either evaporation neutrons or protons in the energy interval E_{i-1} to E_i ; that is,

$$(\Delta E) \sum_{i=1}^M G_i = 1 \quad (\text{A.4})$$

$$\Delta E = E_i - E_{i-1} = \text{constant} ,$$

where M is the total number of intervals in the histograms of Bertini. The probability, P_j , of a particle having energy less than E_j is given by

$$P_j = \Delta E \sum_{i=1}^j G_i . \quad (\text{A.5})$$

Let P'_j be a set of probability values defined by

$$P'_j = \frac{j}{T}, \quad j = 1, \dots, T, \quad (\text{A.6})$$

$$P'_0 = 0,$$

and let E'_j be the energy values corresponding to these probabilities - that is, E'_j is an energy such that P'_j is the probability that a particle will have energy less than E'_j . The energies E'_j were determined by interpolating in the tables of P_j and E_j . Logarithmic interpolation was used in all except the lowest energy interval where linear interpolation was employed. The energies E'_j for even j were used to define the energy interval in a histogram of the energy distribution. The ordinates in the histogram are given by

$$G_{E'_j} = n \frac{2}{T} \frac{1}{(E'_{j+1} - E'_{j-1})}, \quad j \text{ odd}, \quad (\text{A.7})$$

where

n = the average number of emitted particles per collision.*

This histogram, because of the way the energy intervals were chosen, has the property that there is an equal probability for finding an emitted particle in any of the intervals.

In analyzing the data, T was taken to be 40 provided that N , the total number of particles emitted in the N_H Monte Carlo collisions considered, was greater than 200. If this was not the case, T was taken to be

$$T = 2 \left[\frac{N}{10} \right];$$

that is, it was arbitrarily assumed that no statistical significance could

*Note that since n has been introduced into Eq. A.7 the histogram is normalized to the average number of emitted particles.

be attached to an energy interval which did not, on the average, receive ten of the emitted particles in the Monte Carlo studies. If N was less than 40, it was assumed that the sample was not statistically significant and no attempt was made to obtain a fit.

In doing the fitting, the histogram value $G_{E'_j}$ was taken to be an estimate of the energy distribution at the energy E'_j .

C. Cascade Neutron- and Proton-Emission Spectra Integrated Over All Angles

The data analysis for this case is exactly the same as that in section A of this appendix except that the factor $2\pi(\cos \theta_1 - \cos \theta_2)$ must be omitted from Eqs. A.1, A.2, and A.3.

APPENDIX 2

CHI-SQUARED VALUES

The validity of an analytic fit to statistical data is often discussed in terms of the χ^2 value.⁶ For the energy spectra fitted in section III, an approximate value of χ^2 may be determined from the equation*/

$$\chi^2 = N_H \sum_{E_i} \Delta E_i \frac{[F_{E_i} - F(E_i)]^2}{F(E_i)}, \quad (\text{A2.1})$$

where the notation is the same as in Appendix 1. Equation A2.1 may be put in the form

$$\chi^2 = N_H \sum_{E_i} \frac{(\Delta E_i) F_{E_i}^2 \left[1 - \frac{F(E_i)}{F_{E_i}}\right]^2}{F(E_i)}, \quad (\text{A2.2})$$

and, assuming $\frac{F(E_i)}{F_{E_i}}$ is small,

$$\frac{F(E_i)}{F_{E_i}} \cong 1 + \log \frac{F(E_i)}{F_{E_i}}, \quad (\text{A2.3})$$

so

$$\chi^2 = N_H \sum_{E_i} (\Delta E_i F_{E_i}) \left[\log \frac{F(E_i)}{F_{E_i}} \right]^2. \quad (\text{A2.4})$$

Because of the manner in which the ΔE_i intervals were chosen (see Appendix 1),

$$F_{E_i} \Delta E_i = \text{constant} \quad (\text{A2.5})$$

*See ref. 6, page 66.

†To obtain χ^2 for the evaporation spectra, F_{E_i} and $F(E_i)$ must be replaced by G_{E_i} and $G(E_i)$.

and Eq. A2.4 becomes

$$\chi^2 = N_H(F_{E_i} \Delta E_i) R, \quad (\text{A2.6})$$

where R is the quantity which was minimized in obtaining the fits. In addition to the value of χ^2 , one also needs the number of degrees of freedom, n, which is defined by

n = the number of fitted points - the number of parameters in the fit.

Values of χ^2/n and n for all of the spectral fits given in Tables 2 through 81 are given in Tables A2.1 through A2.8: Tables A2.1 to A2.4 contain values for the fits given in Tables 2 to 41, Tables A2.5 and A2.6 contain values for the fits given in Tables 42 to 61, and Tables A2.7 and A2.8 contain values for the fits given in Tables 62 to 81. For those cases where no fits were obtained because of poor statistics, there are, of course, no values of χ^2/n and n.

For each individual fit the value of χ^2/n yields only a limited amount of information. In the present instance where there is a large number of fits, by grouping the fits with the same number of degrees of freedom one can obtain somewhat more general information. If the errors in the Monte Carlo values are normally distributed about the fitted function, then the values of χ^2/n for a given n should have a probability distribution given by

$$F_n\left(\frac{\chi^2}{n}\right) = \frac{n^{\frac{n}{2}}}{2^{\frac{n}{2}} \Gamma\left(\frac{n}{2}\right)} \left(\frac{\chi^2}{n}\right)^{\frac{n}{2} - 1} \exp\left[-\frac{n}{2} \left(\frac{\chi^2}{n}\right)\right], \quad (\text{A2.7})$$

where Γ is the usual gamma function.

In Fig. A2.1 the distribution of χ^2/n obtained from all of the fits, with $n = 20$, to the cascade-particle spectra is compared with the theoretical distribution, F_{20} . The calculated distribution gives an average value of χ^2/n of approximately 1.2, while the theoretical distribution gives an average value of χ^2/n of 1. Since the calculated distribution is a rather good representation of the theoretical distribution, one may conclude that in general the fitted function is a reasonable representation of the function described statistically by the Monte Carlo data.

In Fig. A2.2 the distribution of χ^2/n obtained from all of the fits, with $n = 15$, to the evaporation spectra is compared with the theoretical distribution, F_{15} . The calculated distribution gives an average value of χ^2/n of approximately 2.8, while the theoretical distribution gives an average value of 1. Since the calculated distribution is rather a poor representation of the theoretical distribution, the analytic fits in the case of the evaporation spectra are only an approximate representation of the functions described statistically by the Monte Carlo data.

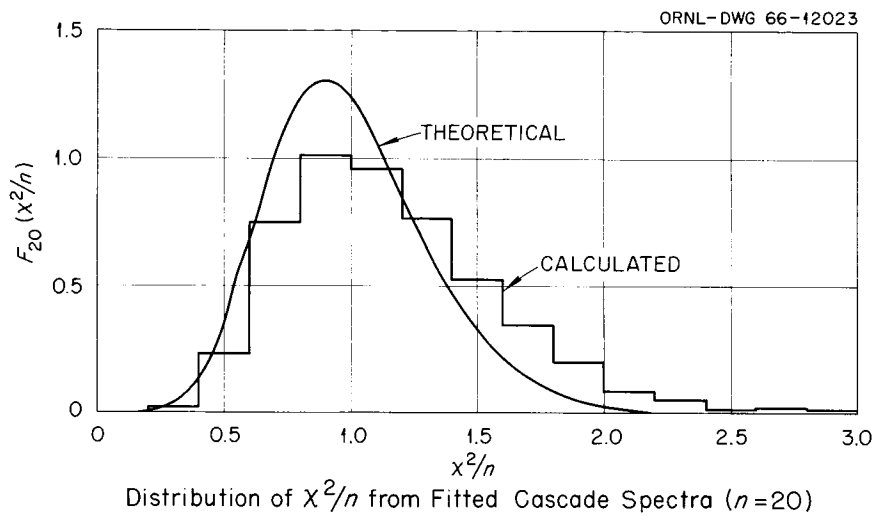
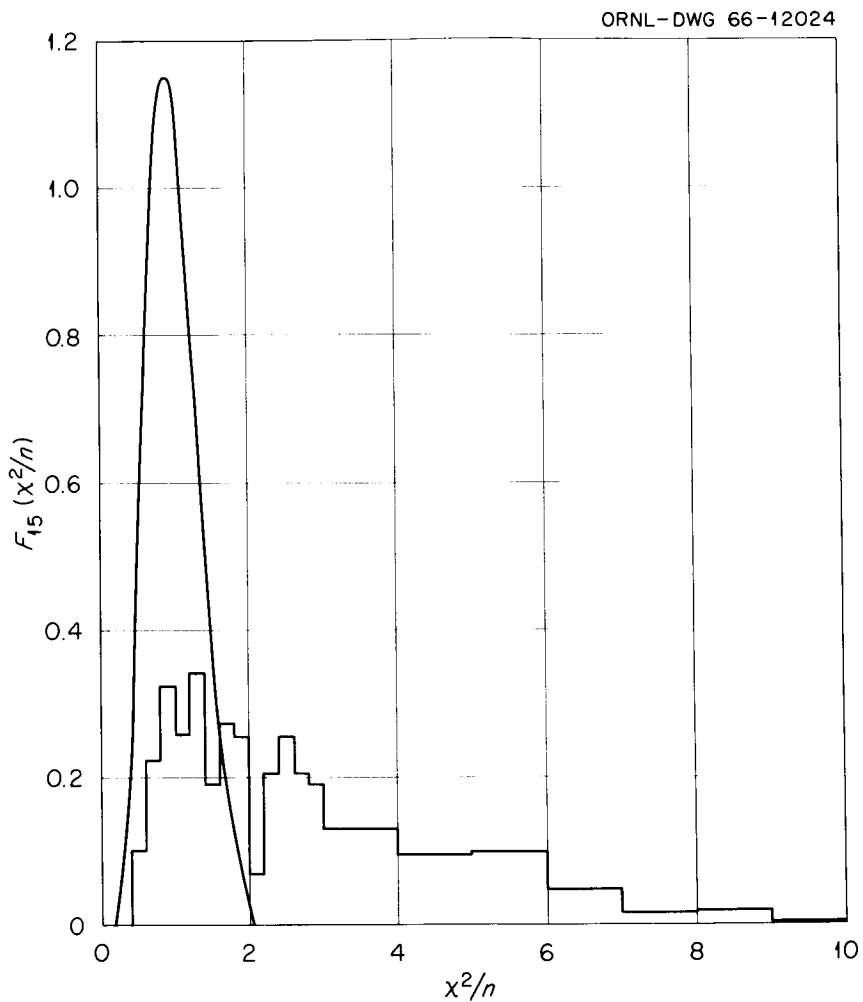


Fig. A2.1



Distribution of χ^2/n from Fitted Evaporation Spectra ($n=15$)

Fig. A2.2

TABLE A2.2
FROTCNS INCIDENT
NEUTRONS EPITTEC

E0 (MEV)	ANG. INT.	C		O		AL		CR		CU		RU		CE		h		PB		L	
		CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA
25	0 - 30	C.83	21	1.44	20	1.17	21	1.01	20	0.68	21	C.91	21	1.22	21	1.10	21	1.54	21	1.49	20
	30 - 60	C.82	21	0.69	20	0.71	20	0.62	22	1.04	20	1.22	21	1.12	21	1.01	21	1.23	20	0.95	20
	60 - 90	C.77	10	0.74	10	0.51	9	0.83	5	1.02	6	1.11	5	2.25	2	C.5E	4	1.00	3	2.05	2
50	0 - 30	1.05	20	C.54	20	0.62	20	0.79	20	1.34	20	1.10	20	C.50	20	1.62	20	1.10	20	0.93	20
	30 - 60	1.05	20	1.09	20	1.29	20	0.93	20	0.74	20	1.19	21	C.72	20	C.62	21	C.62	20	0.86	20
	60 - 90	1.24	18	1.30	18	0.51	20	1.02	18	1.00	18	1.25	19	C.5E	1E	C.92	21	1.06	18	1.31	18
100	0 - 30	1.98	3	1.74	4	2.62	5	0.84	3	0.02	1	1.40	1	C.5E	3	2.13	3	0.30	3	0.46	2
	30 - 60	C.87	20	0.86	20	1.20	20	0.90	20	1.08	20	1.02	20	C.4E	20	1.05	20	C.96	20	1.05	20
	60 - 90	C.41	20	1.64	21	0.72	20	0.88	20	1.02	20	1.08	20	1.25	20	C.92	20	C.83	20	1.81	20
150	0 - 30	C.63	20	1.01	20	1.38	20	0.48	21	0.94	21	C.60	21	C.24	22	C.84	21	0.73	20	1.31	21
	30 - 60	C.39	5	0.30	7	0.62	10	1.15	8	1.35	12	C.85	16	1.05	13	0.91	14	1.63	16	1.09	13
	60 - 90	1.62	7	0.37	10	1.34	17	0.88	14	1.65	20	C.97	20	C.4E	20	0.93	21	1.00	19	0.77	21
200	0 - 30	1.05	20	0.47	20	1.02	20	0.70	20	1.43	20	C.59	20	C.76	20	1.26	20	C.55	20	1.40	20
	30 - 60	1.26	20	1.11	20	0.95	20	1.44	20	0.63	20	C.96	20	1.14	20	1.77	20	1.13	20	1.80	20
	60 - 90	C.84	21	0.68	20	1.67	22	1.39	20	0.51	20	C.90	22	1.20	20	1.17	20	1.56	22	0.99	20
250	0 - 30	C.51	9	1.02	11	0.88	16	1.05	19	0.90	19	C.56	16	C.91	22	1.34	20	0.98	21	0.55	21
	30 - 60	1.04	20	0.63	20	1.27	20	1.66	20	1.06	20	C.61	20	1.25	20	1.25	20	C.89	20	0.82	20
	60 - 90	1.15	20	1.03	20	1.05	20	1.54	20	1.46	20	C.87	20	C.54	20	1.00	20	1.40	20	0.70	20
300	0 - 30	1.20	22	1.37	20	0.68	20	1.27	21	0.81	20	C.62	20	1.72	22	C.65	20	1.08	22	0.62	20
	30 - 60	C.77	8	1.28	12	0.82	19	0.70	20	1.01	22	C.99	20	C.5E	22	1.1E	21	1.16	20	1.07	20
	60 - 90	1.0E	21	0.93	20	1.34	20	1.20	20	1.21	20	C.69	20	C.67	20	C.65	21	1.13	19	0.99	21
350	0 - 30	1.04	20	0.74	20	0.81	20	1.18	20	0.83	20	1.13	20	3.24	22	1.17	20	1.40	20	0.79	20
	30 - 60	1.36	20	1.03	20	2.08	22	1.43	22	0.93	21	1.00	20	2.63	22	C.84	20	1.46	22	1.17	20
	60 - 90	C.74	6	0.53	13	1.19	22	0.71	21	0.74	22	1.57	20	1.01	22	C.47	20	1.97	22	1.29	21
400	0 - 30	1.15	20	1.23	20	0.82	20	0.93	20	0.76	20	1.47	20	1.07	20	C.96	20	C.94	21	1.67	22
	30 - 60	C.82	20	0.99	20	1.25	20	1.14	20	0.98	20	1.52	20	1.00	20	C.61	20	1.40	20	0.88	20
	60 - 90	C.70	20	1.68	20	1.93	22	1.98	22	0.95	20	1.12	20	2.5E	22	1.00	20	1.66	20	3.07	22
400	0 - 30	1.51	12	1.41	16	1.15	20	1.08	20	0.92	20	1.96	22	1.24	22	1.00	22	1.26	20	0.61	20
	30 - 60	C.81	21	1.39	20	0.72	20	0.67	20	1.33	20	C.88	20	2.06	20	C.87	20	1.59	20	1.62	20
	60 - 90	C.93	20	1.26	20	0.76	20	1.38	20	1.02	20	1.06	20	C.00	20	C.00	20	1.30	20	1.18	20
400	0 - 30	C.84	20	0.77	20	1.51	20	1.14	20	3.38	22	2.22	22	3.2E	22	2.17	22	1.18	20	1.01	20
	30 - 60	C.84	20	0.77	20	1.27	20	1.14	20	0.56	20	C.83	22	C.94	22	C.81	20	C.83	21	0.86	21
	60 - 90	C.92	13	1.06	17	1.27	20	1.14	20	1.14	20	C.83	22	C.94	22	C.81	20	C.83	21	0.86	21

TABLE A2.3

NEUTRONS INCIDENT
PRCTONS EPIITTEC

EO (MEV)	ANG. INT.	C		O		AL		CR		CU		RU		CE		K		PB		U	
		CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA
25	0 - 30	2.56	22	1.15	21	1.69	19	0.98	18	1.24	19	1.91	13	0.45	13	0.97	12	0.32	7		
	30 - 60	0.32	20	1.73	20	1.45	20	0.73	19	1.25	20	0.65	16	0.67	18	1.32	12	1.32	12		
	60 - 90	1.35	12	0.54	8	0.40	5	2.58	1	1.27	4	1.83	2	1.65	3	0.04	2	0.03	1		
	90 - 180																				
50	0 - 30	1.79	22	0.69	20	0.74	19	1.39	20	1.85	19	0.71	16	0.50	16	0.75	18	1.50	15		
	30 - 60	0.85	20	1.32	20	0.87	20	0.72	20	0.81	20	1.25	21	0.99	21	1.39	20	1.27	20		
	60 - 90	1.06	20	1.15	19	1.42	17	1.93	13	0.68	14	0.76	12	0.98	11	0.84	10	1.26	7		
	90 - 180	3.42	2	1.16	4	0.51	2	1.36	1	3.42	2	0.15	1	0.63	1	2.19	2	0.22	1		
100	0 - 30	0.62	20	1.46	20	0.95	20	0.57	20	1.22	20	0.75	17	0.98	20	1.33	19	1.07	19		
	30 - 60	1.30	20	1.47	20	1.11	20	0.67	20	0.57	20	0.74	20	1.02	20	0.74	20	1.12	20		
	60 - 90	0.69	21	1.30	20	0.67	20	0.99	21	1.22	19	0.74	20	1.02	21	0.67	18	1.37	19		
	90 - 180	0.70	6	2.75	10	0.64	8	0.89	8	0.56	10	2.13	3	1.18	7	1.47	5	1.19	6		
150	0 - 30	1.56	20	0.95	20	0.91	20	1.05	20	1.06	20	0.73	20	1.25	18	0.59	16	0.57	14		
	30 - 60	0.76	20	1.39	20	1.17	20	2.23	20	0.95	20	0.75	20	0.83	20	1.03	21	1.13	20		
	60 - 90	0.97	20	1.33	20	0.95	21	0.65	22	1.01	22	1.43	20	0.55	20	1.18	22	0.89	19		
	90 - 180	1.42	6	0.63	14	0.80	12	0.85	12	1.79	11	0.43	11	0.76	9	0.73	10	0.81	8		
200	0 - 30	0.96	20	1.06	20	0.79	20	0.54	20	0.61	20	1.84	21	2.33	16	1.43	15	1.34	19		
	30 - 60	1.03	20	1.21	20	1.44	20	1.76	20	1.20	20	1.26	20	0.72	20	0.74	20	1.04	20		
	60 - 90	0.90	19	1.29	21	1.02	20	1.57	22	1.19	20	0.84	21	0.83	20	1.19	19	0.90	20		
	90 - 180	1.55	8	1.00	15	1.36	15	0.66	17	1.17	18	1.44	19	1.05	13	0.58	14	1.39	16		
250	0 - 30	0.91	20	1.23	20	1.26	20	0.91	20	1.70	20	1.20	19	2.24	10	1.47	10	1.94	13		
	30 - 60	1.79	20	1.31	20	0.83	20	1.13	20	1.41	22	1.69	20	0.71	20	1.10	19	0.94	20		
	60 - 90	1.21	20	1.44	20	1.34	20	1.35	20	0.94	20	1.48	22	0.92	17	1.03	19	0.85	20		
	90 - 180	0.97	9	1.24	19	1.56	20	1.66	20	1.31	18	0.66	16	0.43	9	0.82	8	0.46	10		
300	0 - 30	0.73	20	1.43	22	1.07	20	1.78	21	0.68	20	0.28	19	0.80	13	1.41	10	1.53	10		
	30 - 60	0.94	20	1.13	20	0.76	20	0.94	20	1.02	20	1.13	20	1.46	20	0.89	20	0.98	19		
	60 - 90	0.71	19	1.21	20	0.73	21	0.78	20	1.38	22	1.35	20	0.79	19	0.45	21	1.27	16		
	90 - 180	1.75	8	0.50	19	1.29	20	0.63	20	1.01	19	0.85	19	1.35	11	2.15	6	0.51	9		
350	0 - 30	0.88	20	0.99	20	0.97	20	1.09	20	0.57	19	1.51	20	3.24	12	0.80	11	1.05	12		
	30 - 60	0.74	20	1.07	20	1.50	20	1.50	20	1.63	20	0.96	20	0.83	20	0.61	20	0.69	20		
	60 - 90	0.85	20	1.26	20	1.06	20	0.94	20	1.26	20	1.41	22	0.45	20	1.12	21	0.81	19		
	90 - 180	1.30	10	1.50	21	0.60	20	1.91	20	0.90	20	1.14	21	1.17	17	1.24	16	1.28	16		
400	0 - 30	1.16	20	0.88	20	1.79	20	1.35	20	0.61	20	1.04	20	0.92	11	1.06	10	1.24	13		
	30 - 60	0.95	20	1.25	20	1.69	20	1.57	20	1.50	20	0.54	20	0.50	20	0.98	20	1.32	20		
	60 - 90	1.22	20	1.62	20	1.65	22	1.30	20	1.50	20	1.81	20	1.61	22	0.98	22	1.20	20		
	90 - 180	1.15	11	1.12	20	1.23	22	0.82	20	1.09	22	1.03	22	0.74	15	0.77	15	1.52	16		

TABLE A2.4

NEUTRONS INCIDENT
NEUTRONS EMITTED

EO (MEV)	ANG. INT.	C		O		AL		CR		CU		RU		CE		h		PB		L	
		CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA
25	0 - 3C	0.88	20	1.36	22	1.17	20	0.77	21	1.05	20	0.68	20	0.71	20	1.33	21	1.78	20	0.86	22
	30 - 6C	0.67	20	1.15	20	0.79	20	0.97	20	1.34	20	0.90	20	0.85	20	1.65	20	0.94	20	0.85	20
	60 - 9C	1.3E	16	1.14	15	1.10	17	0.71	11	0.53	11	0.75	10	1.03	6	1.76	6	5.36	4	0.56	5
	90 - 18C			1.81	1																
50	0 - 3C	1.41	20	1.26	20	0.74	20	0.93	20	0.67	20	1.82	20	1.07	20	1.17	20	0.63	20	1.44	22
	30 - 6C	1.58	20	0.72	20	1.06	20	1.06	20	0.85	20	0.84	20	1.01	20	1.02	20	0.56	20	0.91	20
	60 - 9C	1.47	20	0.89	22	0.88	21	0.64	20	0.86	20	0.75	20	0.67	21	1.24	21	0.62	20	1.06	20
	90 - 18C	2.14	3	0.16	2	4.88	4	0.91	2	1.18	3	1.35	3	0.52	3	3.91	3	0.82	2	0.03	1
100	0 - 3C	1.56	20	0.79	20	1.85	20	1.36	20	1.01	20	1.31	20	1.06	20	1.04	20	0.94	20	1.28	20
	30 - 6C	0.8E	20	0.99	20	1.31	20	1.13	21	0.97	20	1.30	20	1.15	20	0.72	20	0.84	20	0.58	20
	60 - 9C	1.08	20	1.50	22	0.83	20	0.71	20	1.21	22	0.87	21	1.17	20	1.30	22	1.47	22	0.84	21
	90 - 18C	1.5E	8	0.80	12	1.49	15	1.11	12	0.82	12	0.96	12	2.37	11	0.86	15	1.61	17	0.75	16
150	0 - 3C	1.14	20	1.26	20	0.83	20	1.35	20	0.90	20	1.58	20	0.73	20	1.30	20	0.90	20	0.95	20
	30 - 6C	0.66	20	1.45	20	0.84	20	1.11	20	1.23	20	1.11	20	0.54	20	1.07	20	1.05	20	1.71	20
	60 - 9C	0.73	20	0.83	20	1.15	20	0.64	20	0.93	20	2.13	22	1.35	21	1.47	21	1.52	21	0.86	20
	90 - 18C	1.5C	9	1.03	11	1.10	19	0.91	19	1.04	21	1.14	19	0.52	21	1.33	20	1.18	19	0.81	20
200	0 - 3C	1.05	20	1.23	20	1.19	20	1.63	20	0.92	20	1.11	20	0.61	20	0.97	20	0.78	20	0.64	20
	30 - 6C	1.54	20	1.84	20	0.86	20	1.15	20	0.69	20	1.34	20	2.16	20	0.77	20	0.65	20	2.02	20
	60 - 9C	0.79	20	1.60	20	1.37	20	0.97	20	1.40	21	1.21	20	0.52	20	1.63	20	1.10	20	1.43	20
	90 - 18C	0.95	8	0.95	13	1.02	19	1.13	21	0.90	20	0.84	22	0.66	22	0.97	20	0.73	22	1.11	20
250	0 - 3C	1.15	20	1.53	20	1.00	20	0.84	20	0.55	20	1.09	20	1.28	20	1.17	20	0.61	20	1.14	20
	30 - 6C	1.16	20	1.16	20	1.28	20	1.97	20	0.85	20	1.40	20	1.60	20	1.46	20	0.90	20	1.39	20
	60 - 9C	1.16	20	1.27	20	2.13	22	1.58	22	1.05	20	0.92	20	0.55	20	0.60	20	1.94	22	1.00	20
	90 - 18C	1.07	10	1.34	19	1.65	20	1.44	21	0.94	20	1.79	22	0.53	22	0.65	21	0.84	22	1.39	20
300	0 - 3C	1.12	20	0.71	20	1.01	20	1.30	20	0.99	20	0.94	20	0.54	20	0.63	20	0.83	20	1.20	20
	30 - 6C	2.09	20	1.67	20	0.82	20	1.33	20	0.95	20	1.74	20	1.53	20	1.75	20	0.73	20	1.18	20
	60 - 9C	1.18	20	1.79	22	2.18	20	1.58	20	1.17	20	0.80	20	0.51	20	1.01	20	0.82	20	1.24	20
	90 - 18C	0.4E	14	1.95	19	0.57	22	0.89	20	0.81	20	0.78	20	0.67	20	1.09	22	1.01	21	1.01	23
350	0 - 3C	1.61	20	1.26	20	0.49	20	1.23	20	1.65	20	1.12	20	1.65	20	1.51	20	0.66	20	1.07	20
	30 - 6C	0.93	20	1.43	20	1.90	20	1.73	20	2.14	20	1.24	20	1.28	20	0.93	20	0.66	20	1.00	20
	60 - 9C	0.91	21	1.09	20	1.23	20	1.16	20	1.99	20	0.93	20	1.33	20	0.67	20	0.61	20	0.96	20
	90 - 18C	0.41	14	1.85	19	0.92	22	1.10	22	1.42	20	0.43	22	1.12	20	1.31	20	1.69	21	1.11	20
400	0 - 3C	1.74	20	1.34	20	1.18	20	1.81	20	1.66	20	1.21	20	0.55	20	1.35	20	0.75	20	0.65	20
	30 - 6C	2.09	20	1.48	20	1.38	20	1.39	20	1.56	20	1.65	20	1.92	20	1.15	20	2.27	20	1.48	20
	60 - 9C	1.20	20	2.10	22	1.06	20	1.50	20	1.21	20	0.70	21	0.62	20	1.84	20	1.80	22	0.64	20
	90 - 18C	1.92	15	0.51	19	0.65	20	1.26	20	0.86	20	1.53	20	0.75	20	0.77	20	0.51	21	0.65	20

TABLE A2.5

PRCTONS INCIDENT

EVAPORATION PRCTONS EMITTEC

EO (MEV)	ANG. INT.	PRCTONS INCIDENT															
		C	O	AL	CR	CU	RU	CE	W	PB	U						
		CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA
25	0 - 18C	1.83	15	4.22	15	3.59	15	0.69	15	0.59	8						
50	0 - 18C	2.55	15	5.05	15	5.03	15	2.71	15	1.20	15	0.78	14			2.93	2
100	0 - 18C	2.66	15	7.38	15	4.98	15	4.53	15	1.67	15	1.16	14	1.33	12	0.80	15
150	0 - 18C	2.66	15	4.87	15	3.09	15	2.30	15	2.22	15	3.02	15	1.14	15	1.97	15
200	0 - 18C	2.04	15	6.12	15	6.89	15	5.24	15	3.09	15	2.55	15	1.57	14	0.73	15
250	0 - 18C	1.45	15	5.17	15	5.90	15	5.10	15	4.19	15	1.55	15	0.85	15	0.98	15
300	0 - 18C	2.46	15	6.11	15	8.74	15	8.27	15	5.44	15	3.00	15	1.62	15	0.90	15
350	0 - 18C	2.13	14	3.02	15	7.77	15	10.92	15	6.26	15	3.43	15	1.65	15	1.63	15
400	0 - 18C	3.11	15	6.75	15	9.44	15	4.19	15	5.67	15	3.17	15	1.34	15	0.70	15

EVAPORATION NEUTRONS EMITTEC

EO (MEV)	ANG. INT.	PRCTONS INCIDENT															
		C	O	AL	CR	CU	RU	CE	W	PB	U						
		CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA
25	0 - 18C	0.20	3	0.84	16	1.29	15	1.72	15	0.76	15	0.84	14	1.52	15	0.75	15
50	0 - 18C	0.53	15	0.75	15	0.75	15	1.43	15	2.09	15	1.34	15	2.00	15	3.10	15
100	0 - 18C	0.91	15	0.54	15	0.54	15	1.05	15	2.73	15	3.33	15	2.52	15	5.67	15
150	0 - 18C	0.71	15	0.88	14	0.88	15	1.39	15	1.67	15	1.82	15	3.64	15	5.80	15
200	0 - 18C	0.79	14	0.66	15	0.66	15	1.40	15	1.54	15	0.91	15	3.74	15	4.87	15
250	0 - 18C	1.08	17	1.17	15	0.87	17	0.96	15	2.73	15	2.60	15	2.81	15	2.45	15
300	0 - 18C	1.23	15	1.17	14	1.17	14	1.26	15	2.82	15	2.29	15	2.92	15	2.75	15
350	0 - 18C	0.80	14	1.06	14	1.06	14	1.97	15	2.59	15	3.07	15	4.10	15	3.98	15
400	0 - 18C	1.87	15	0.84	15	0.84	15	0.86	15	3.16	15	2.56	15	3.78	15	3.68	15

TABLE A2.7

		FRCTONS INCIDENT															
		PRCTONS EMITTEC															
EO (MEV)	ANG. INT.	C	O	AL	CR	CU	RU	CE	K	PB	L						
		CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA				
25	0 - 18C	0.66	0.73	1.80	2.0	1.47	2.0	1.09	2.0	0.54	2.0	0.51	2.0	1.24	2.0	0.84	2.1
50	0 - 18C	0.96	1.87	0.92	2.0	1.56	2.0	1.40	2.0	1.05	2.0	0.45	2.0	1.09	2.0	0.93	2.0
100	0 - 18C	0.91	0.78	1.15	2.0	0.64	2.0	0.54	2.0	1.09	2.0	0.71	2.0	0.84	2.0	0.72	2.0
150	0 - 18C	0.77	1.47	2.60	2.0	1.47	2.0	1.60	2.0	0.77	2.0	0.68	2.0	0.90	2.0	0.78	2.0
200	0 - 18C	1.24	0.93	1.91	2.0	0.57	2.0	1.35	2.0	1.60	2.0	1.31	2.0	1.37	2.0	1.30	2.0
250	0 - 18C	1.73	2.79	1.99	2.0	2.00	2.0	2.04	2.0	1.71	2.0	1.54	2.0	1.29	2.0	1.79	2.0
300	0 - 18C	0.91	1.56	2.29	2.0	2.09	2.0	0.83	2.0	1.94	2.0	5.10	2.2	1.20	2.0	1.20	2.0
350	0 - 18C	2.35	1.24	1.78	2.0	2.66	2.0	1.98	2.0	1.58	2.0	2.24	2.0	1.43	2.0	2.76	2.2
400	0 - 18C	1.51	2.30	2.63	2.0	1.94	2.0	4.43	2.0	1.98	2.0	2.58	2.0	1.75	2.1	1.79	2.0

NEUTRONS EMITTEC

		FRCTONS INCIDENT															
		PRCTONS EMITTEC															
EO (MEV)	ANG. INT.	C	O	AL	CR	CU	RU	CE	K	PB	L						
		CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA				
25	0 - 18C	0.49	0.88	1.29	2.0	1.07	2.0	0.31	2.0	0.74	2.0	0.71	2.0	1.85	2.0	1.08	2.0
50	0 - 18C	1.43	0.81	1.13	2.0	0.83	2.0	0.54	2.0	0.66	2.0	1.03	2.0	0.72	2.0	1.52	2.0
100	0 - 18C	0.70	1.20	1.22	2.0	0.90	2.0	1.71	2.0	1.72	2.0	0.45	2.0	0.45	2.0	1.73	2.0
150	0 - 18C	1.62	1.11	1.28	2.0	1.46	2.1	0.72	2.0	0.86	2.0	1.61	2.0	0.64	2.0	0.70	2.0
200	0 - 18C	1.33	0.92	0.83	2.0	1.11	2.0	1.74	2.1	1.32	2.1	1.75	2.0	0.74	2.0	1.13	2.0
250	0 - 18C	1.61	0.74	1.29	2.0	1.30	2.0	1.53	2.0	1.59	2.0	3.37	2.2	2.53	2.2	2.53	2.2
300	0 - 18C	1.41	1.68	1.06	2.0	1.62	2.0	0.98	2.0	1.06	2.0	2.18	2.0	2.99	2.2	3.04	2.2
350	0 - 18C	1.95	3.50	3.63	2.1	2.67	2.1	6.97	2.2	1.95	2.0	5.81	2.2	1.66	2.0	5.21	2.2
400	0 - 18C	1.23	1.96	2.13	2.0	4.71	2.1	8.41	2.2	1.89	2.0	6.24	2.2	7.67	2.2	1.90	2.0

TABLE A2.8

NEUTRONS INCIDENT
PRCTGNS EMITTED

EO (MEV)	ANG. INT.	NEUTRONS INCIDENT																			
		C	O	AL	CR	CU	RU	CE	W	PB	U										
		CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA						
25	0 - 18C	0.69	20	0.53	20	1.74	20	1.69	20	0.80	20	0.59	20	1.68	21	0.65	20	0.92	22	0.97	20
50	0 - 18C	1.25	20	0.82	20	0.74	20	0.60	20	1.19	20	0.97	20	1.42	20	1.02	20	1.10	20	0.63	20
100	0 - 18C	1.54	20	0.51	20	0.89	20	1.03	20	0.81	20	1.92	20	0.81	20	0.77	20	1.07	20	1.46	20
150	0 - 18C	1.01	20	0.90	20	1.50	20	1.43	20	0.74	20	1.37	20	0.72	20	0.76	20	1.29	21	0.91	21
200	0 - 18C	0.61	20	1.87	20	1.73	20	1.95	20	2.24	21	3.23	22	0.55	20	0.79	20	1.68	20	1.45	20
250	0 - 18C	1.86	21	1.46	20	1.14	20	1.13	20	0.79	20	4.20	22	2.76	22	1.41	22	1.12	21	1.09	20
300	0 - 18C	1.29	20	1.99	20	0.99	20	0.67	20	2.16	20	2.70	22	1.45	20	1.27	20	0.89	20	1.63	20
350	0 - 18C	2.52	21	1.49	20	1.05	20	1.71	20	5.83	22	1.35	20	1.84	21	2.82	22	1.49	20	1.35	21
400	0 - 18C	1.87	21	2.50	21	1.54	20	6.54	22	5.45	22	1.79	20	5.54	22	1.57	20	3.05	22	3.06	22

NEUTRONS EMITTED

EO (MEV)	ANG. INT.	NEUTRONS EMITTED																			
		C	O	AL	CR	CU	RU	CE	W	PB	U										
		CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA	CHI-SQ /ETA	ETA
25	0 - 18C	0.95	20	1.00	20	0.63	20	1.17	20	1.49	20	0.90	20	1.07	20	1.32	20	0.97	20	0.76	20
50	0 - 18C	0.91	20	1.22	20	0.85	20	0.71	20	0.60	20	1.15	20	1.23	20	1.47	20	0.97	20	1.07	20
100	0 - 18C	0.75	20	1.41	20	2.27	20	1.04	20	1.48	20	0.77	20	1.25	20	0.93	20	1.55	20	1.00	20
150	0 - 18C	0.90	20	1.43	20	1.21	20	1.58	20	0.96	20	1.95	20	0.67	20	1.00	20	0.98	20	0.93	20
200	0 - 18C	0.82	20	1.81	20	1.01	20	1.20	20	0.92	20	1.39	20	0.55	20	1.75	20	0.77	20	0.97	20
250	0 - 18C	1.54	20	2.00	20	1.62	20	0.83	20	1.25	20	2.19	20	1.16	20	1.23	20	1.26	20	1.07	20
300	0 - 18C	1.79	20	1.12	20	1.93	20	1.51	20	1.63	20	2.23	20	2.07	20	1.76	20	1.21	20	0.81	20
350	0 - 18C	1.64	20	2.53	20	1.78	20	1.97	20	2.30	20	1.67	20	1.64	20	2.02	20	1.11	20	1.34	20
400	0 - 18C	1.84	20	7.32	22	2.45	20	1.88	20	2.25	20	1.44	20	1.35	20	0.85	20	2.01	20	1.23	20

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ANALYTIC REPRESENTATION OF NONELASTIC CROSS SECTIONS AND
 PARTICLE-EMISSION SPECTRA FROM NUCLEON-NUCLEUS COLLISIONS
 IN THE ENERGY RANGE 25 TO 400 MeV

R. G. Alsmiller, Jr., M. Leimdorfer, and J. Barish

Change Eqs. 1 and 2, page 4, from

$$\sigma(E) = \exp \left[\sum_{j=0}^{\nu} a_j \left(\frac{E}{400} \right)^j \right] \quad (1)$$

$$R = \sum_{E_i} \left[\log \sigma_{E_i} - \sum_{j=0}^{\nu} a_j \left(\frac{E}{400} \right)^j \right]^2 \quad (2)$$

to read

$$\sigma(E) = \frac{1}{400} \exp \left[\sum_{j=0}^{\nu} a_j \left(\frac{E}{400} \right)^j \right] \quad (1.a)$$

$$R = \sum_{E_i} \left[\log (400 \sigma_{E_i}) - \sum_{j=0}^{\nu} a_j \left(\frac{E}{400} \right)^j \right]^2 ; \quad (2.a)$$

that is, the coefficients as printed in Table 1 are correct only if the exponential in Eq. 1 is divided by 400. When the coefficients in Table 1 are used in conjunction with Eq. 1.a, the cross sections are given in millibarns.