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The Mn(n,x γ) Reaction Cross Section for Incident Neutron Energies Between 0.2 and 20.0 MeV

G. L. Morgan

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Neutron Physics Division

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G. L. Morgan

AUGUST 1976

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ABSTRACT

Differential cross sections for the neutron-induced gamma-ray production from natural manganese have been measured for incident neutron energies between 0.2 and 20.0 MeV. The Oak Ridge Linear Accelerator (ORELA) was used to provide the neutrons and a NaI spectrometer to detect the gamma rays at 125° . The data presented are the double differential cross section, $d^2\sigma/d\Omega dE$, for gamma-ray energies between 0.22 and 10.6 MeV for coarse intervals in incident neutron energy. The integrated yield of gamma rays of energies greater than 220 keV with higher resolution in the neutron energy is also presented. The experimental results are compared with the Evaluated Neutron Data Files (ENDF).

INTRODUCTION

As part of a continuing program¹ for determining numerical values of gamma-ray production cross sections for neutron-induced reactions, we have measured the absolute differential cross sections for gamma rays produced by neutron interactions with natural manganese. The data are presented in this report in tabular and graphical form and are compared to the current evaluated data file for manganese (MAT 1197 ENDF/B-IV).²

Two methods of data analysis were employed. The first gives the detailed gamma-ray spectra for a series of relatively coarse intervals in incident neutron energy while the second method uses integral quantities to illustrate the detailed behavior of the cross sections as a function of the incident neutron energy. The second approach is used to facilitate comparison of the experimental and evaluated data in the region of the thresholds for the (n,2n) and (n,3n) reactions.

EXPERIMENTAL PROCEDURE

Details of the experimental procedure are given elsewhere³ and only a brief description will be given here. Neutrons were produced by photonuclear processes due to bremsstrahlung from the impact on a tantalum target of electrons from the Oak Ridge Electron Linear Accelerator (ORELA). The present experiment employed an electron beam energy of 135 MeV with a repetition rate of 800 pulses per second and a pulse width of 12 ns. The total electron beam power was 18 kW.

Neutrons produced at the linac target traversed a 47.35 m flight path and were incident on a thin slab of natural manganese oriented 45°

with respect to the incident beam. The slab was 30 cm wide by 30 cm high with a thickness of 0.0388 atoms/barn. Gamma rays originating in the sample were detected by a heavily shielded 12.5 cm by 12.5 cm NaI detector at 125° with respect to the incident neutron beam. For each event in the detector data were recorded in a two-parameter array containing gamma-ray pulse height as a function of time-of-flight for the incident neutron.

The neutron flux at the sample position was determined in a separate experiment using calibrated thick organic scintillators. During the course of the gamma-ray measurements the flux was monitored using a small plastic scintillator in the edge of the neutron beam 30 m from the source.

DATA REDUCTION

Two methods of data reduction were employed. In the first, the pulse height spectra were integrated over intervals of neutron time-of-flight to form pulse-height spectra for specific incident neutron energy ranges. These intervals ranged in width from 0.5 MeV at energies below 5 MeV to 3 MeV in the range 14 to 20 MeV. The spectra so formed were then unfolded using the code FERD and measured response functions of the NaI detector. The results were the gamma-ray spectra defined by 149 points covering the gamma-ray energy range from 0.22 to 10.6 MeV. After correction for self-absorption and neutron self-shielding in the sample, these spectra were normalized to cross sections using the measured neutron flux and sample thickness. A further correction was then applied to the unfolded data. The contribution to the observed cross section at $E_\gamma = 0.511$ MeV due to pair production in the sample was analytically removed. This was done

by first calculating the pair production probability as a function of gamma-ray energy using a Monte Carlo technique. Implicit in the calculation are the assumptions of uniform gamma-ray production probability within the sample volume intercepted by the beam and the isotropy of emitted gamma rays. The total 0.511-MeV cross section within each neutron energy group was then calculated from the product of the observed gamma-ray cross section and the pair production probability. This cross section was then "smeared" with the detector resolution and subtracted from the original data. The magnitude of the correction ranged from on the order of 0.05 mb/sr for $E_n = 1.0-1.5$ MeV to 11 mb/sr for $E_n = 10-12$ MeV.

These results are presented in the first set of figures at the end of this report. Figure 1 is a three-dimensional representation of the data giving cross section versus gamma-ray and incident neutron energy. Figures 2-20 present the detailed gamma-ray spectra for each incident neutron energy interval. These are compared to cross sections generated from the evaluation (ENDF/B-IV MAT 1197) by averaging over the appropriate neutron energy interval.

The data described above provide detailed information about the secondary gamma-ray spectra, but because the unfolding technique requires good statistical accuracy the data must be binned over large neutron energy intervals. Therefore, a second type of data reduction, pulse-height weighting,^{4,5} was also used. This technique provided only integral information about the secondary gamma spectra (e.g., total yield and average photon energy); but because the demands on statistical accuracy are less it allowed better resolution in the incident neutron energy. In this work the pulse height weighting analysis was applied to spectra

formed by integration over time-of-flight intervals corresponding to $\Delta E_n = 0.1$ MeV at $E_n = 1$ MeV increasing to $\Delta E_n = 1.0$ MeV at $E_n = 20$ MeV. The results of this analysis for the total yield and average secondary gamma-ray energy as a function of the incident neutron energy are presented in Figs. 21-24. Two values of the lower cut-off in gamma-ray energy were used, 0.22 and 0.62 MeV. Comparisons are made for the same quantities calculated from the evaluated files.

The data shown in the graphs are given in the tables contained in the last section of the report. The values shown in the graphs and presented in the tables do not include an uncertainty of 10% in overall normalization due mainly to the determination of the incident neutron flux.

ACKNOWLEDGMENTS

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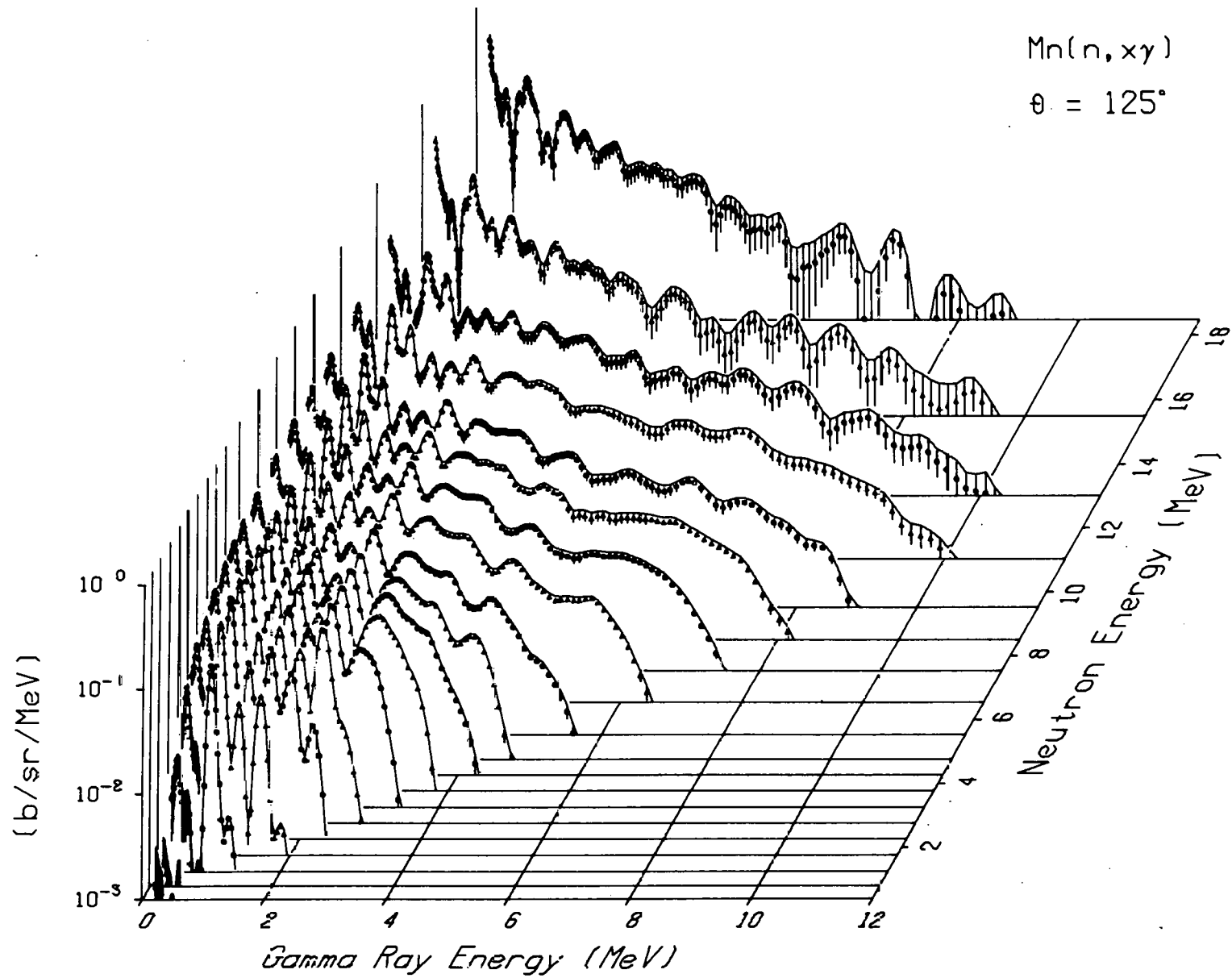


FIGURE 1

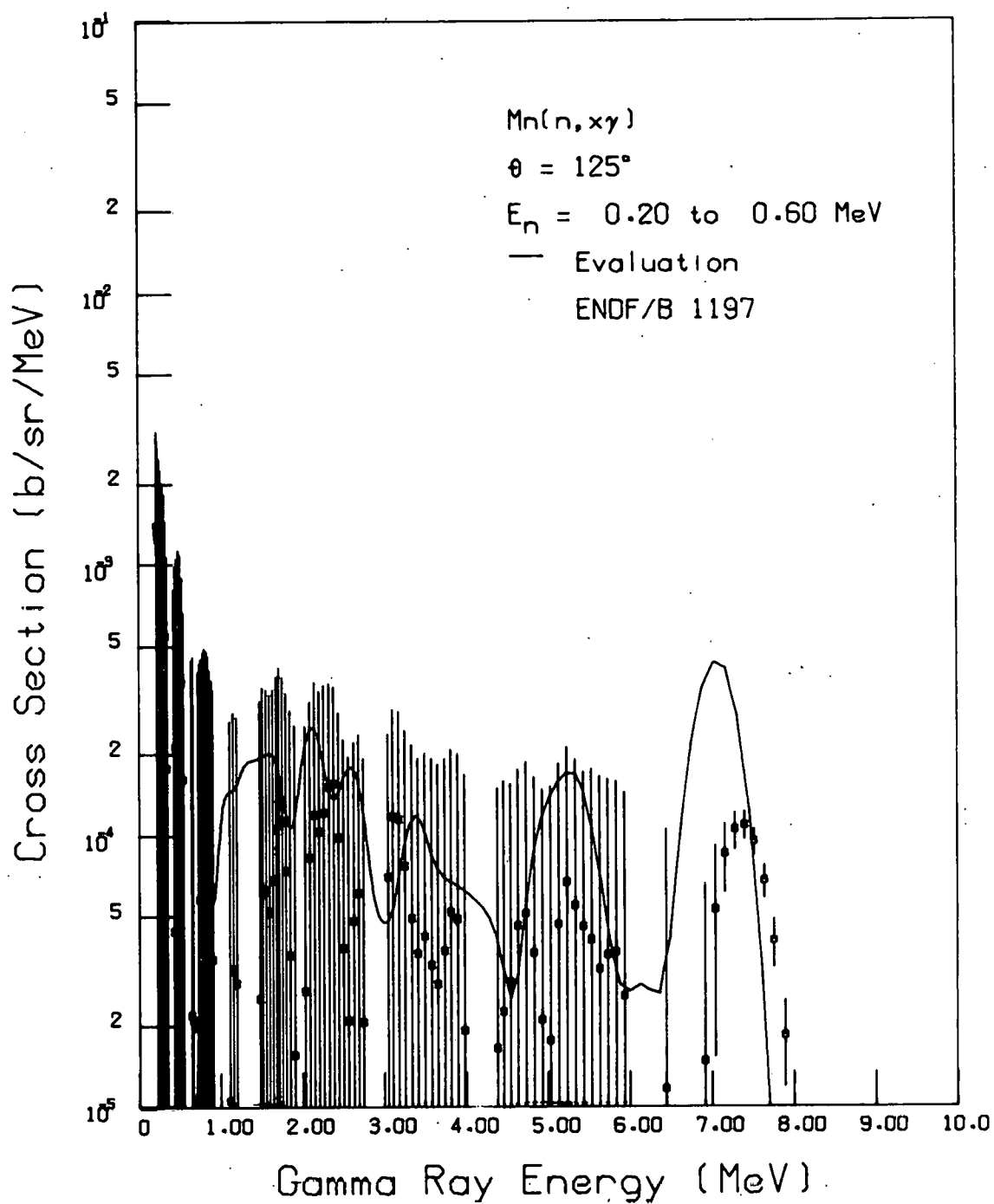


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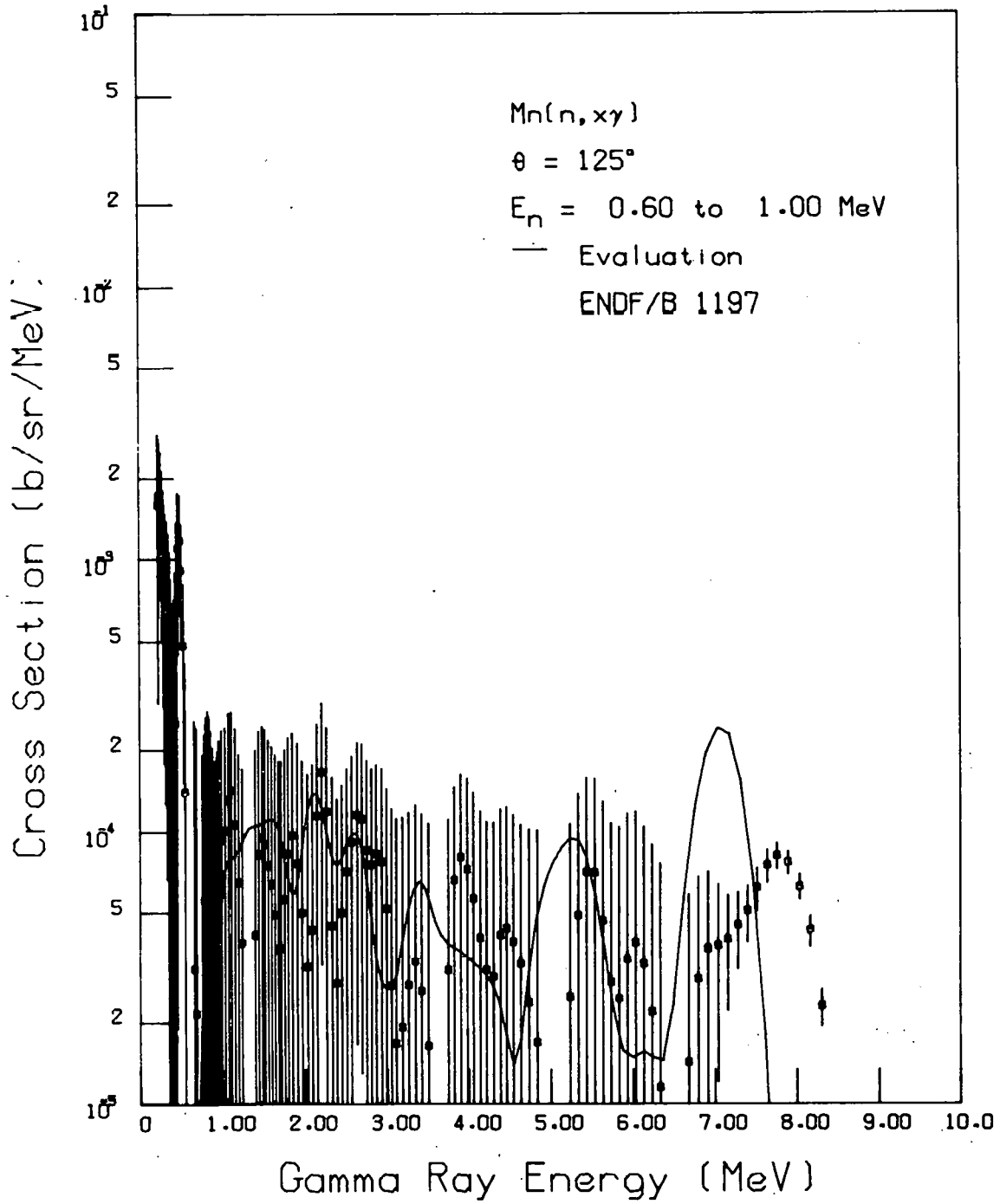


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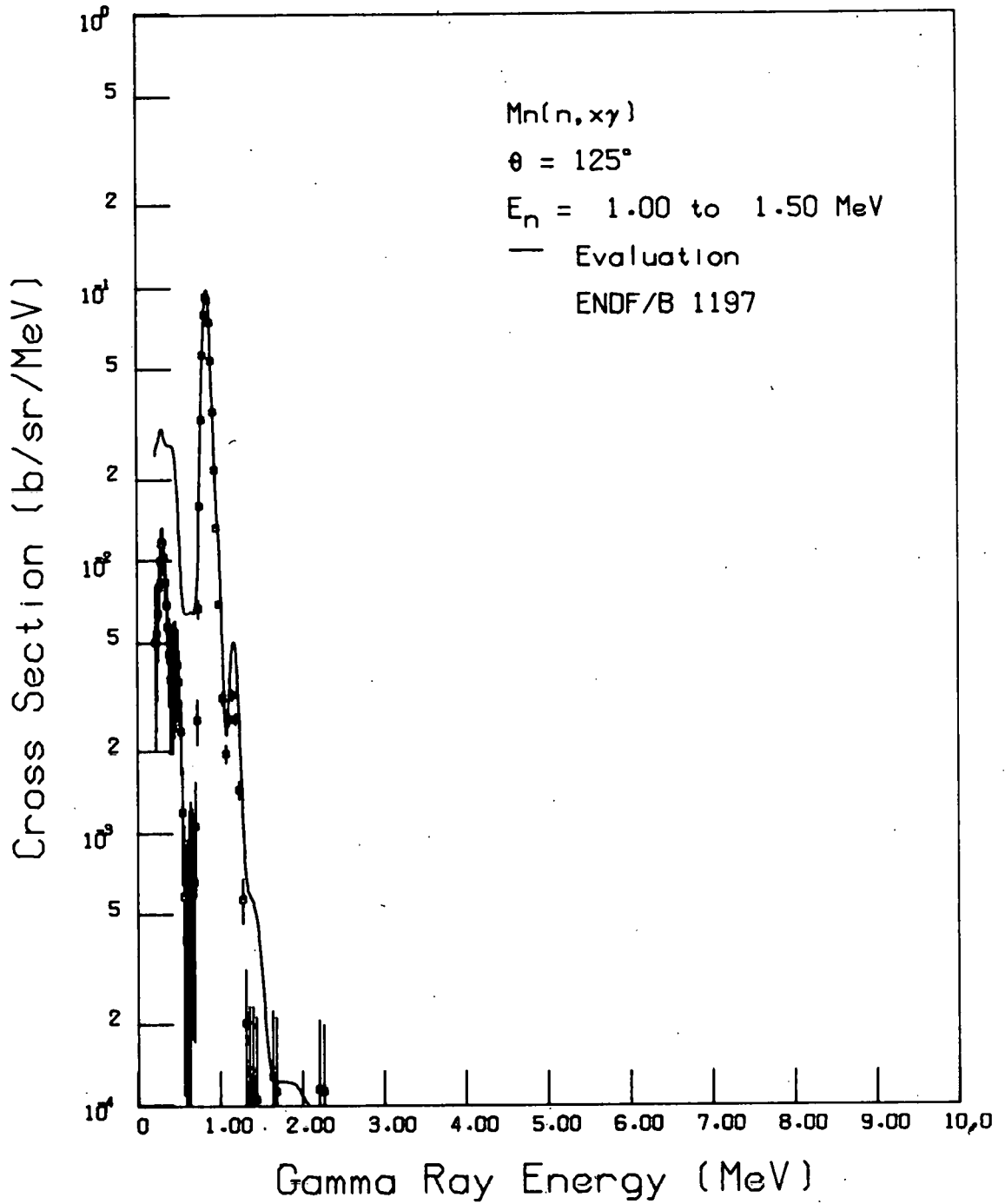


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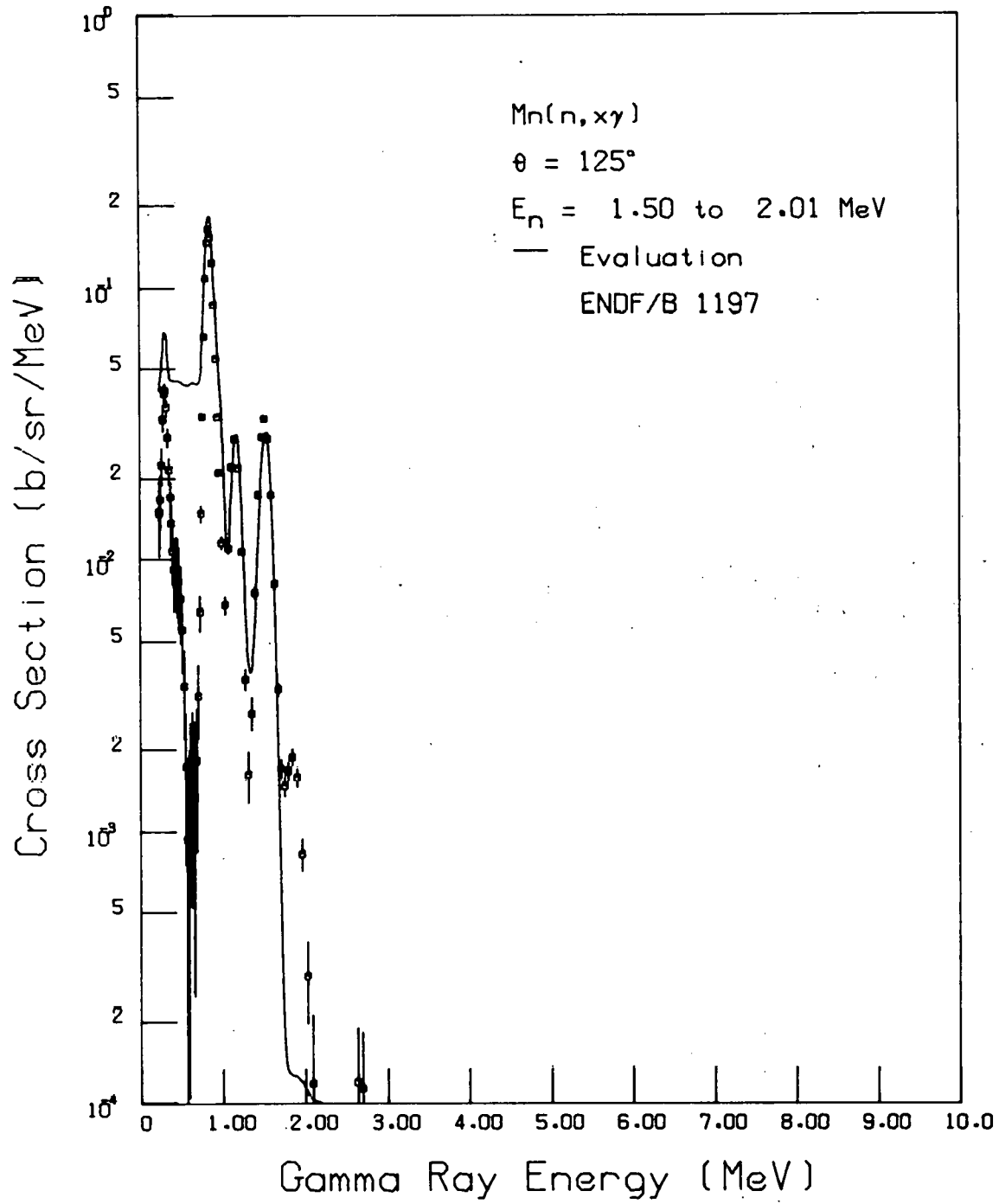


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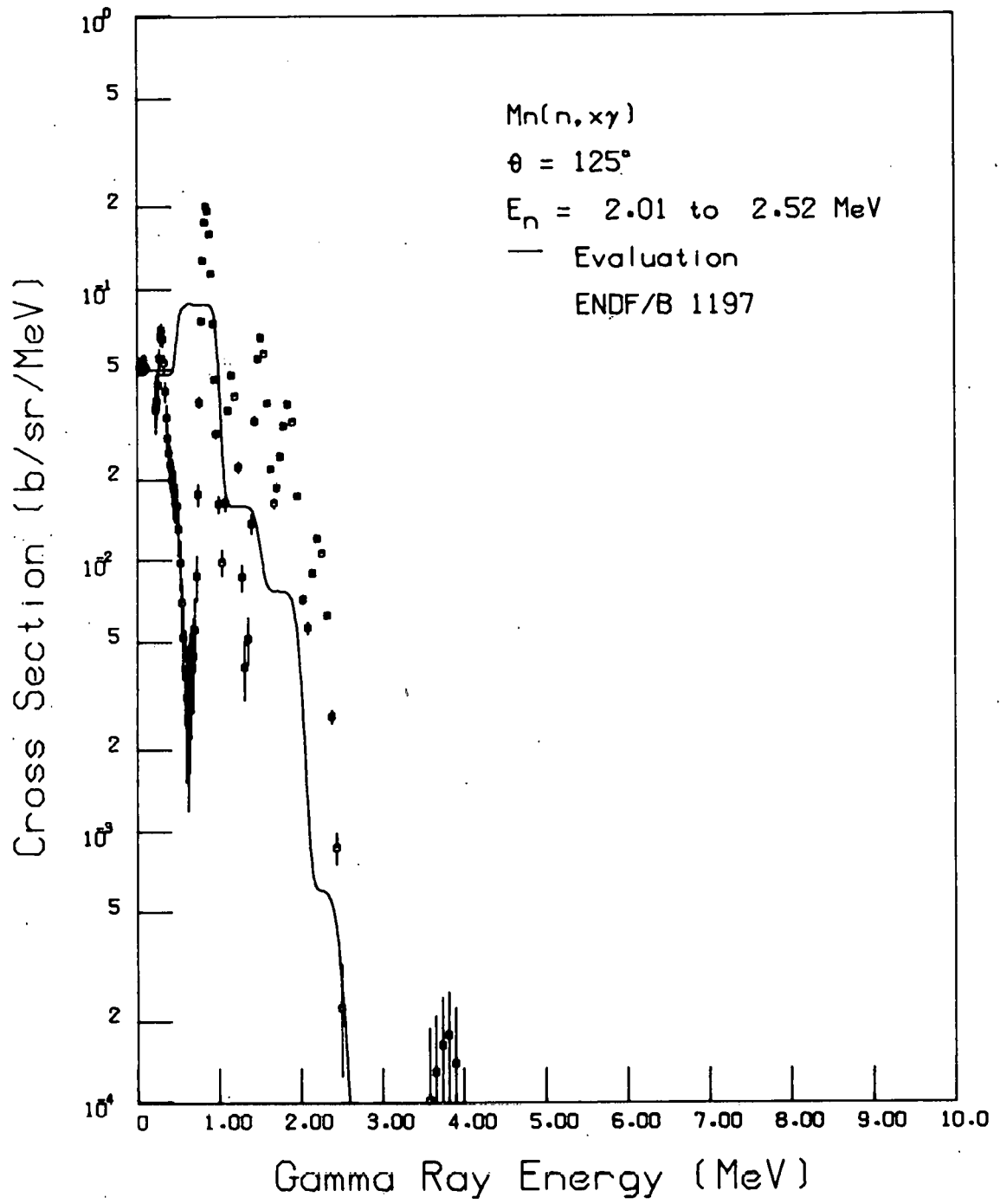


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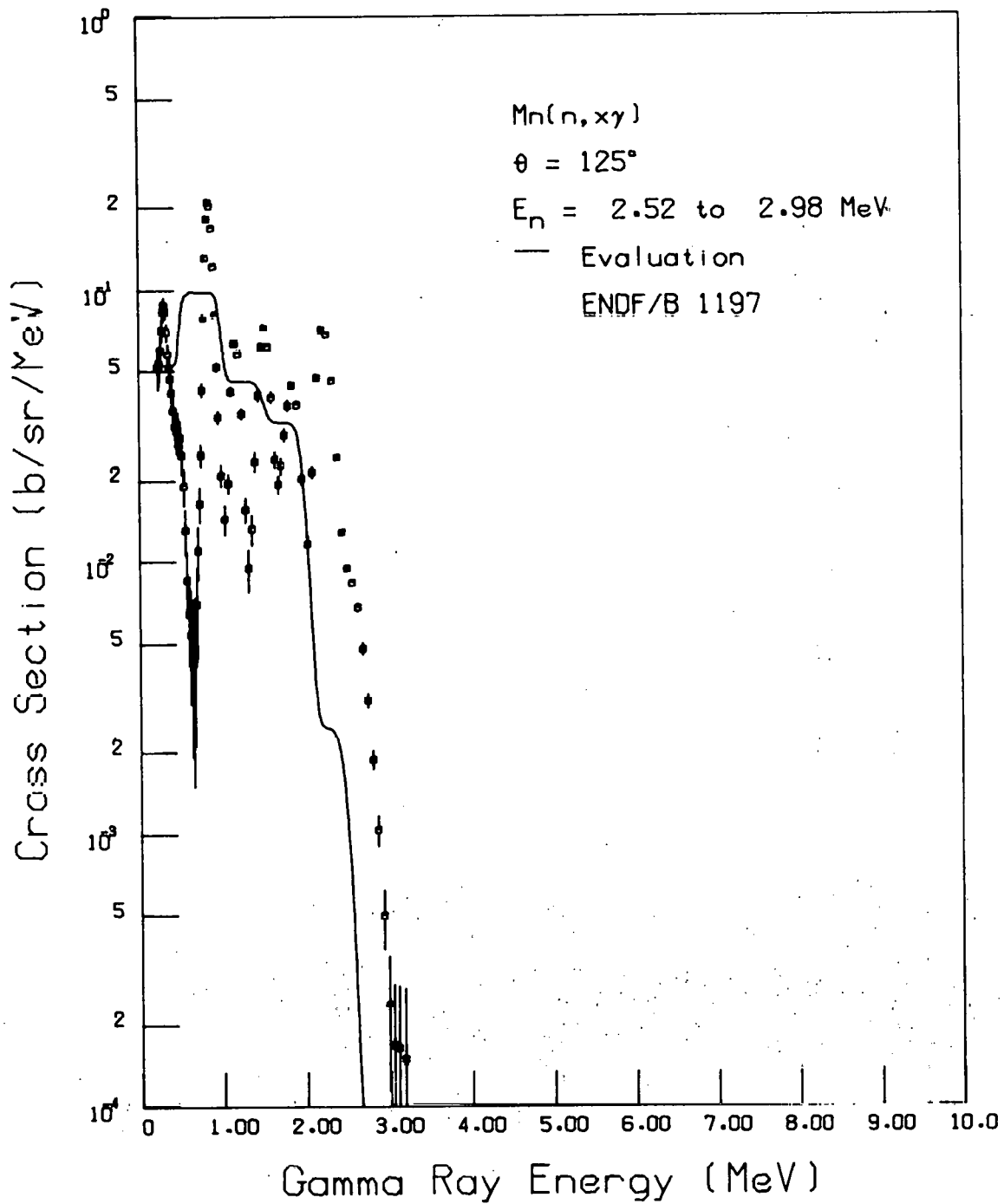


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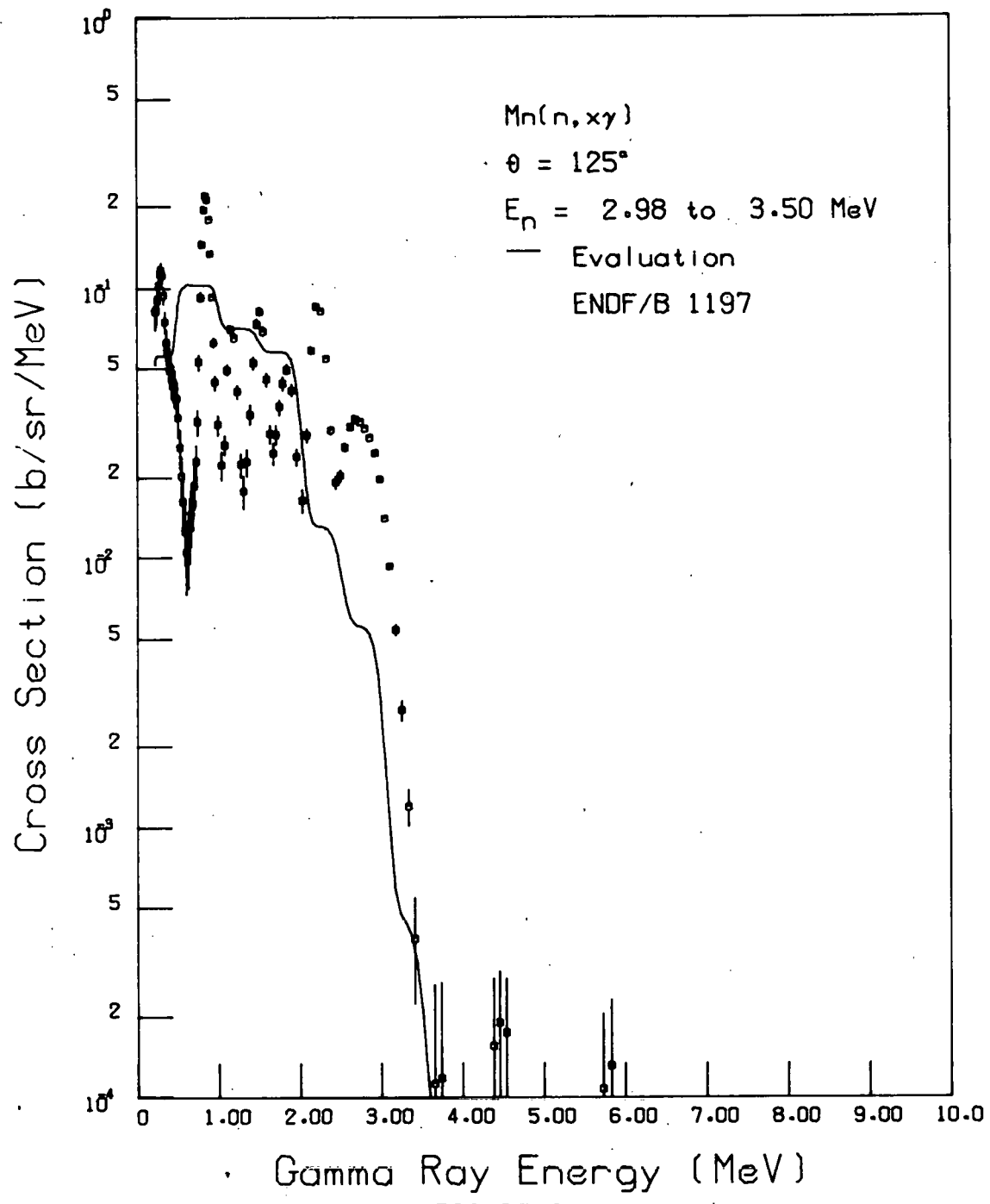


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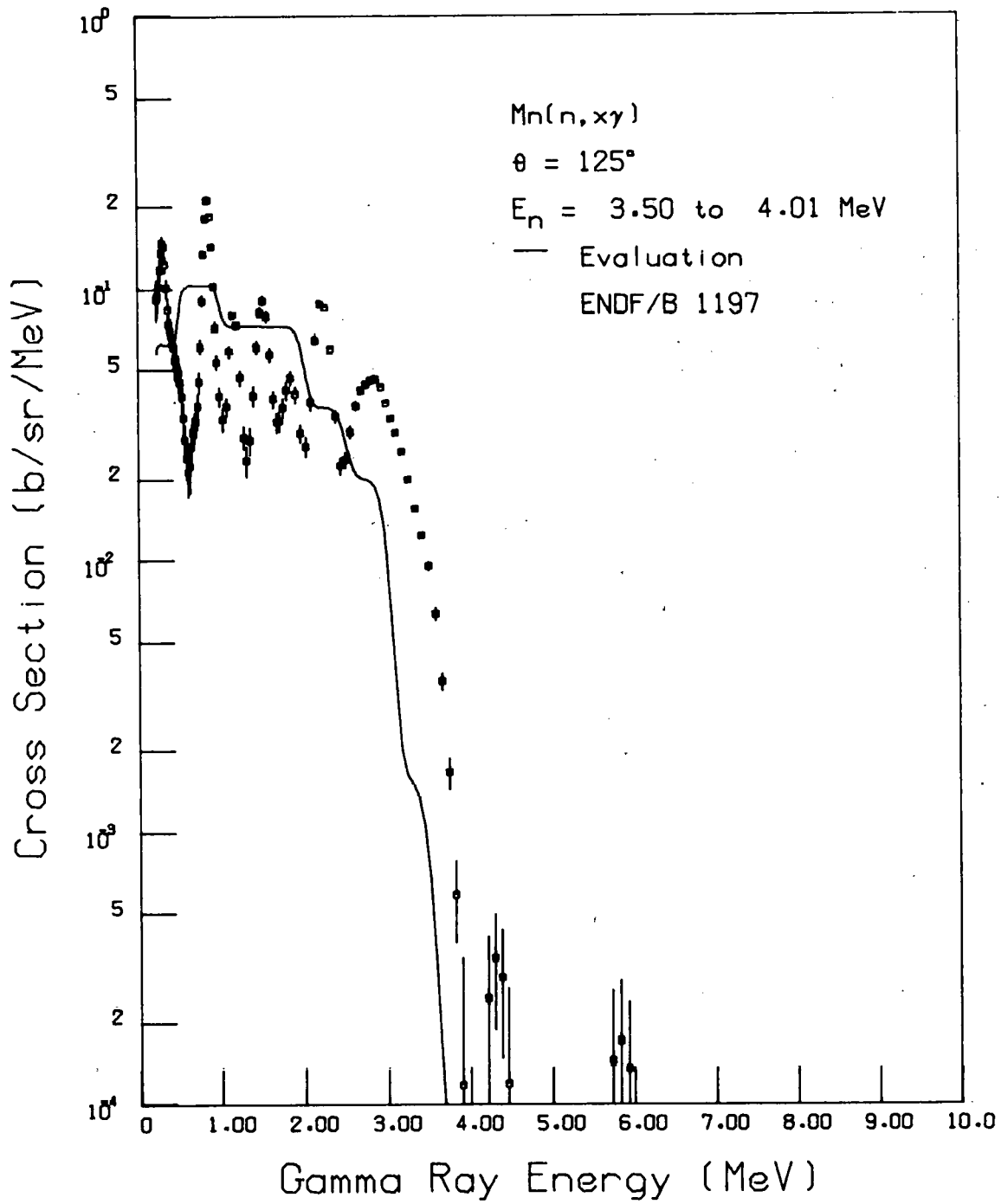


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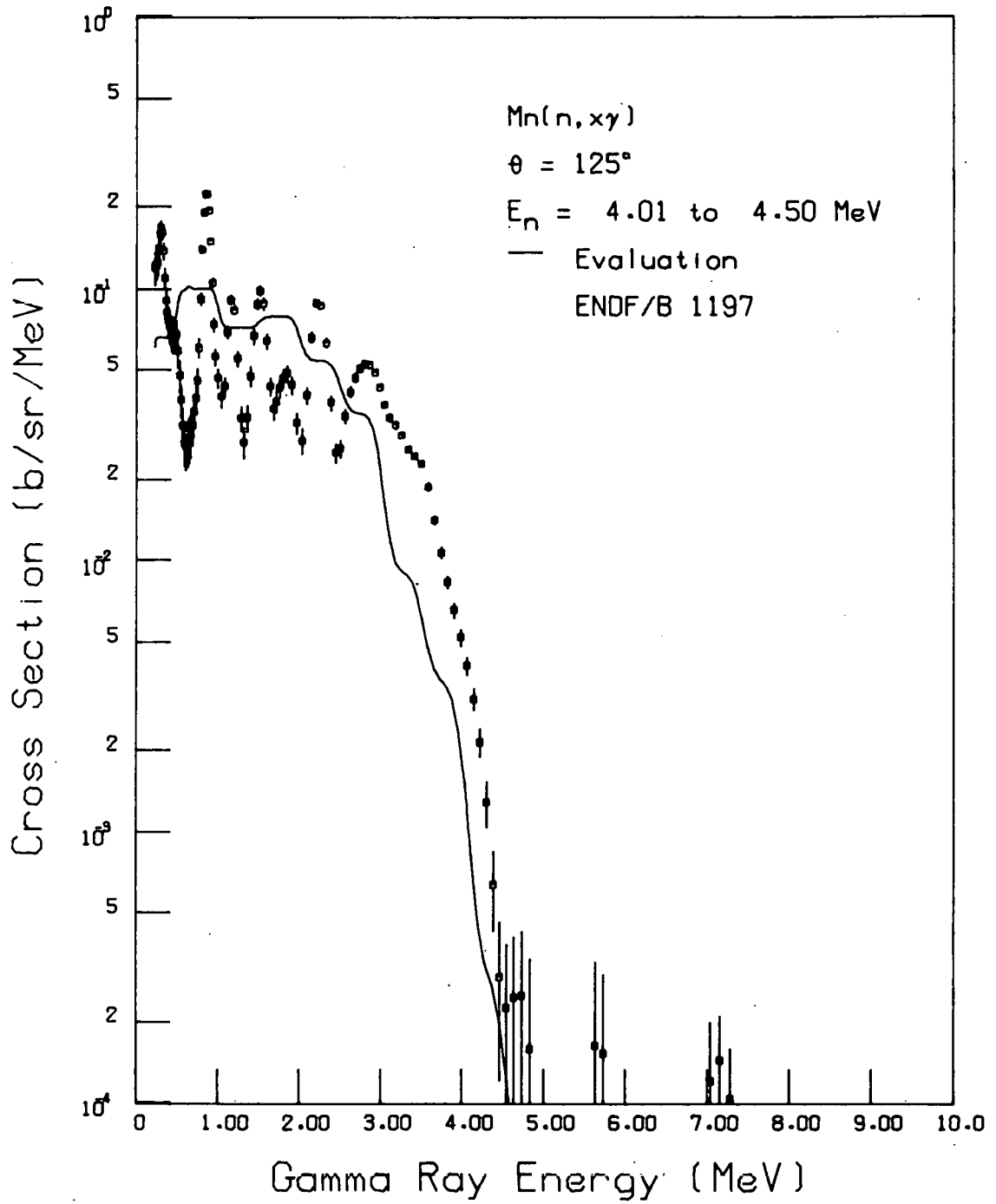


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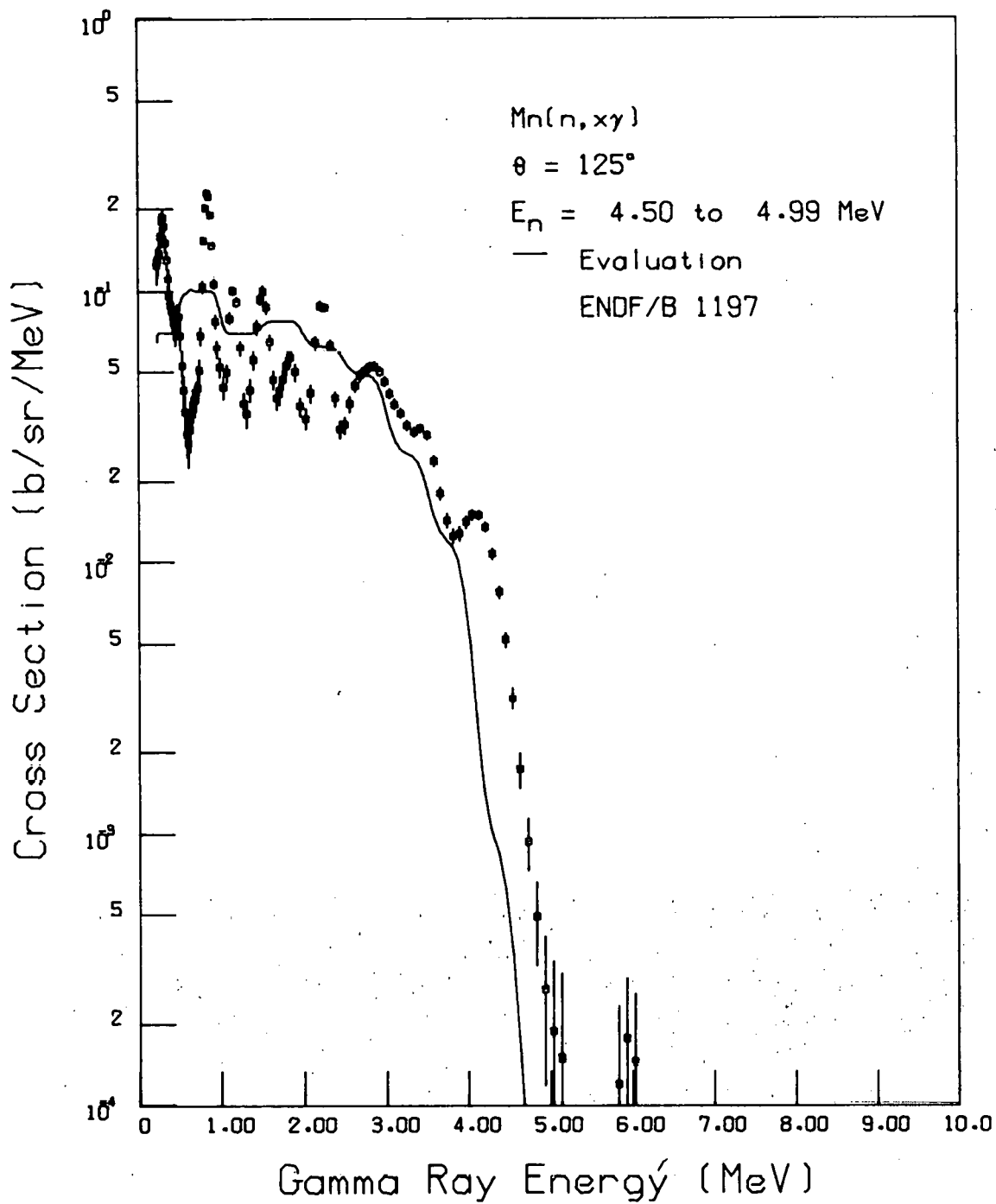


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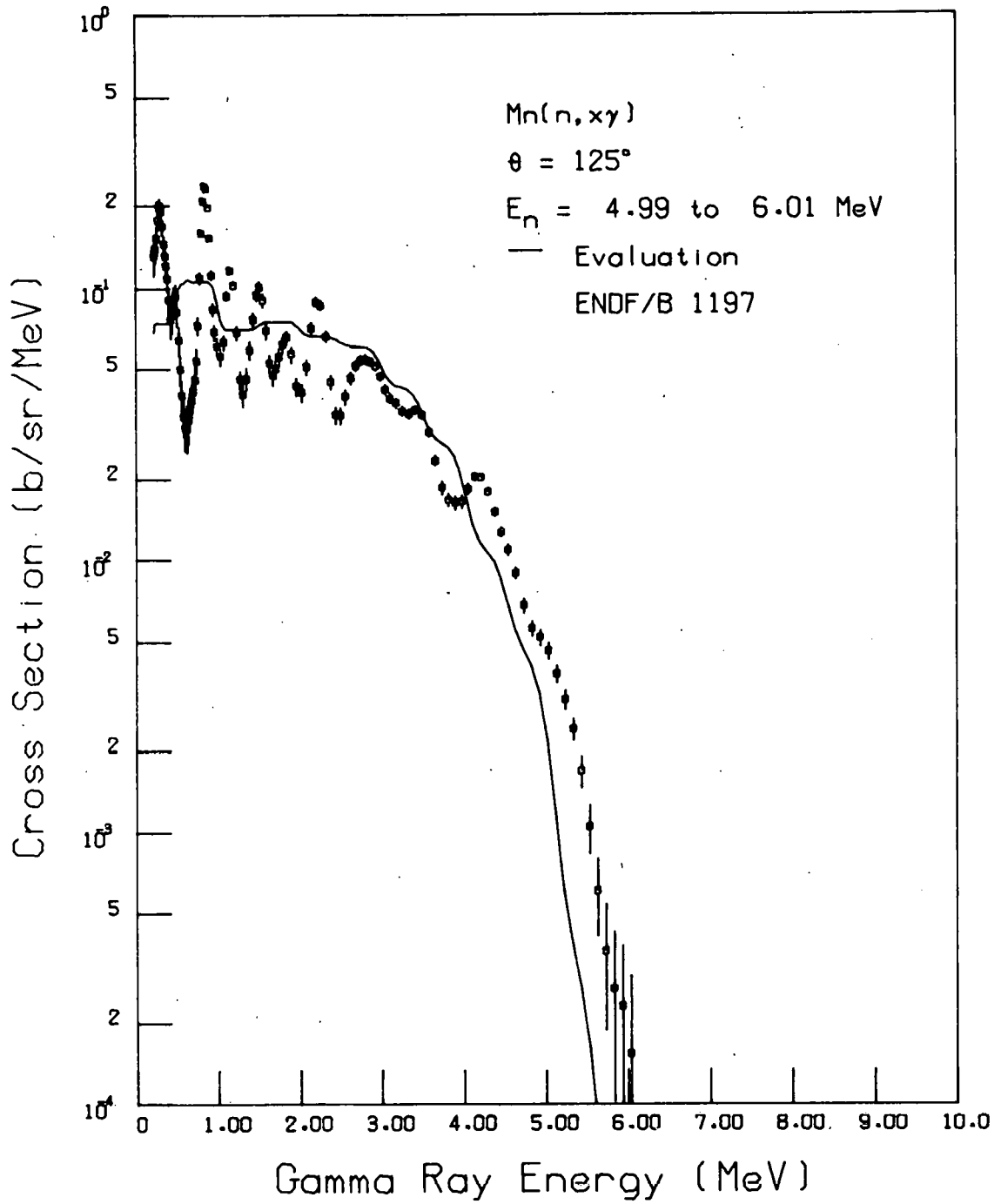


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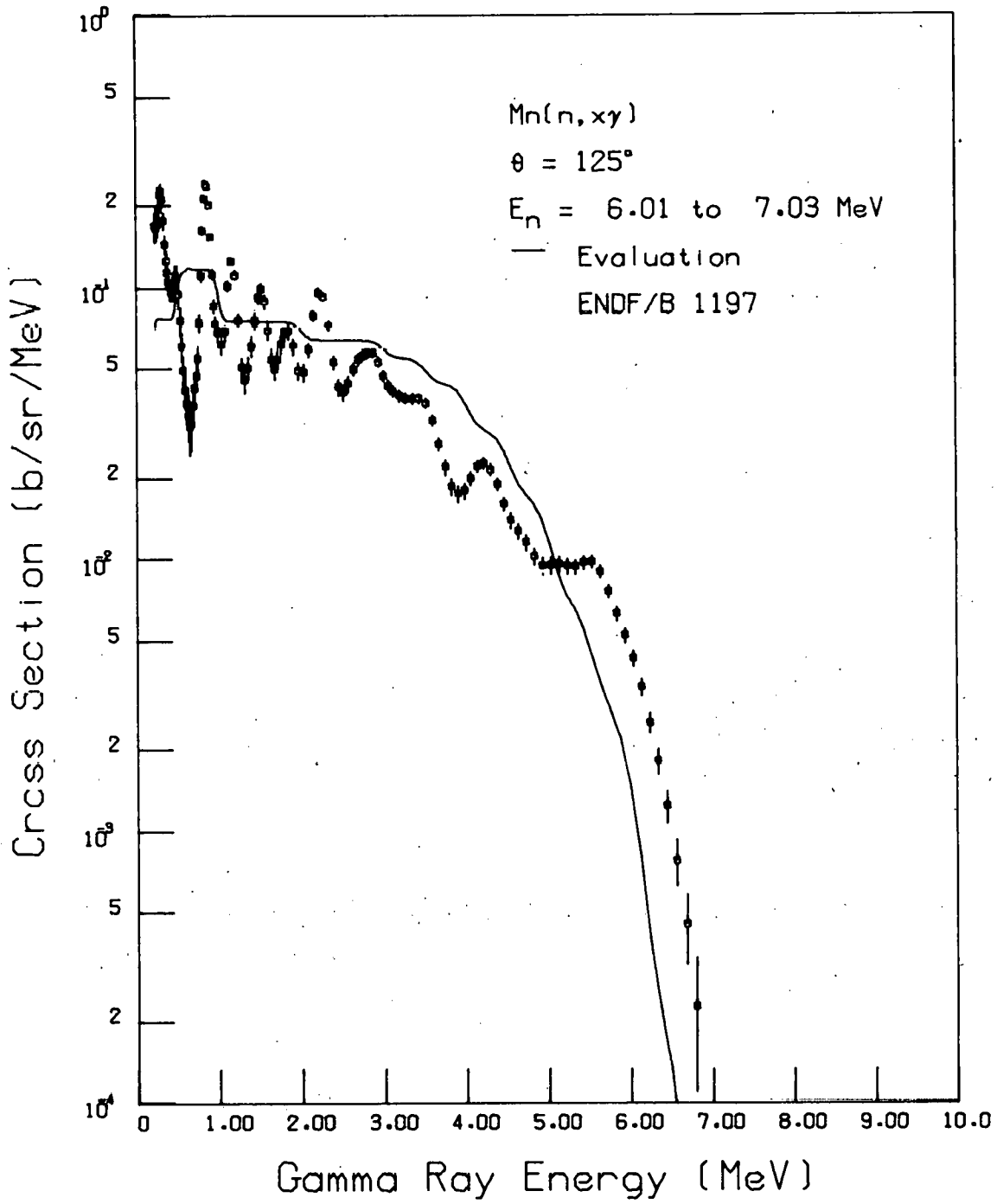


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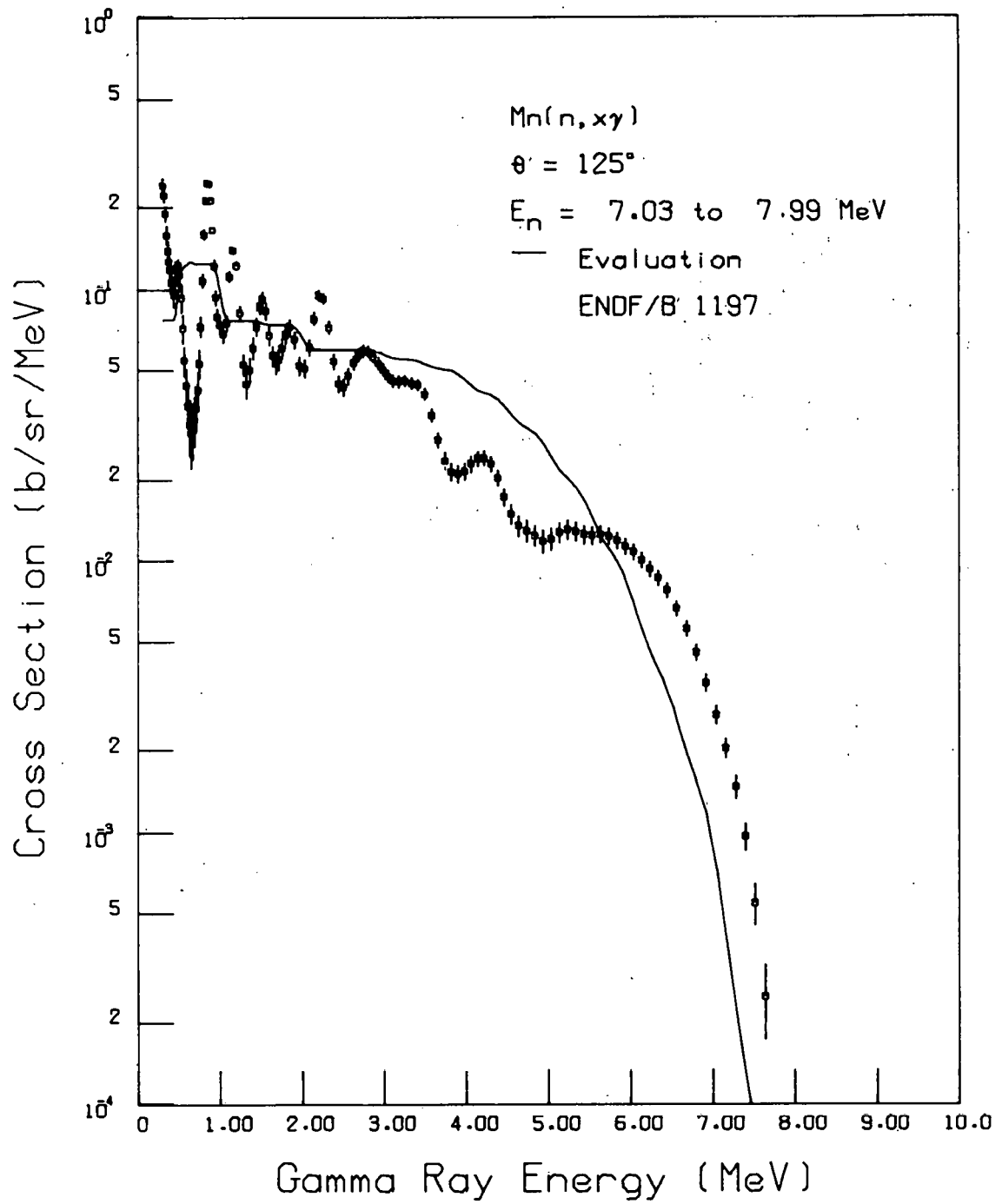


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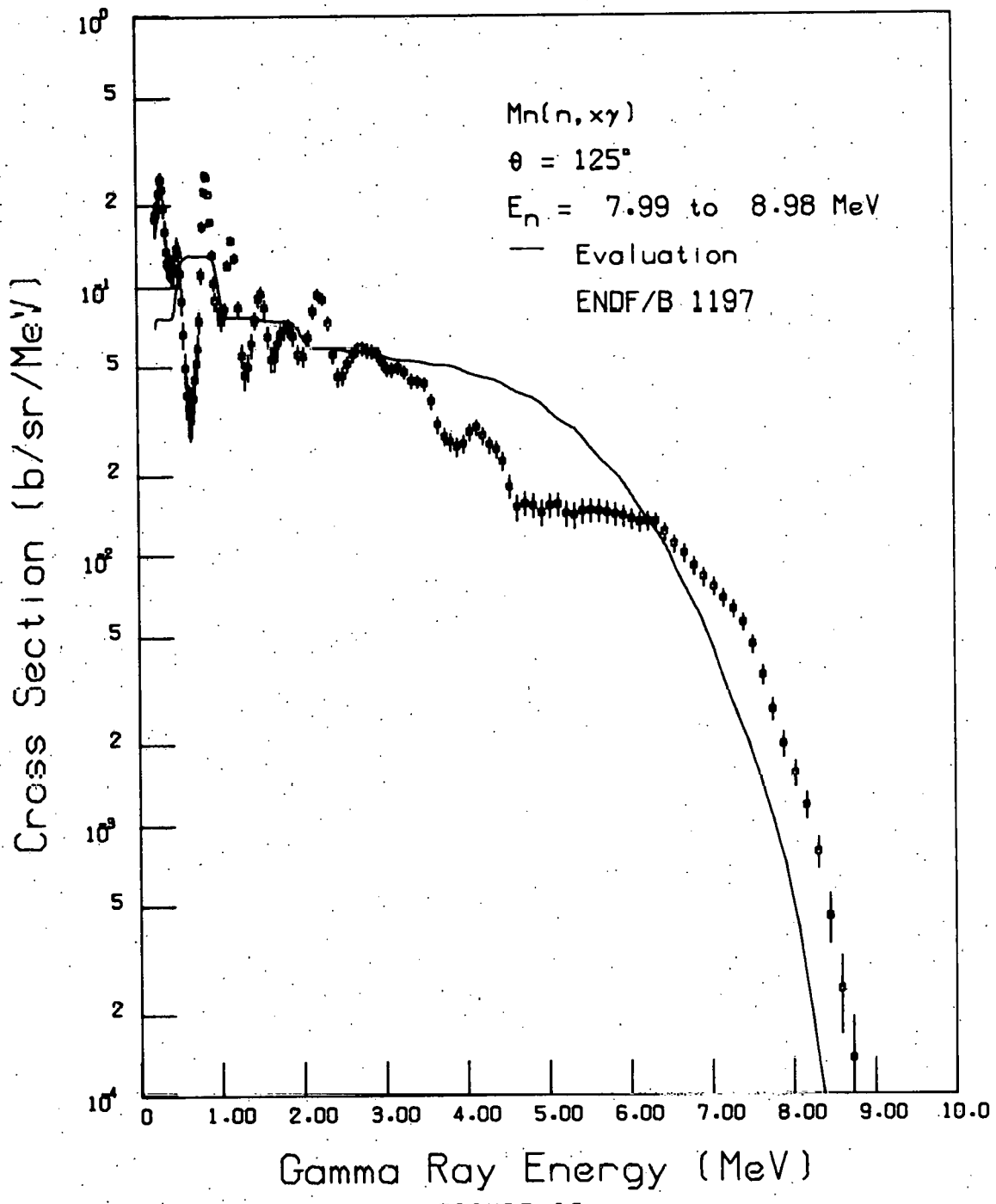


FIGURE 15

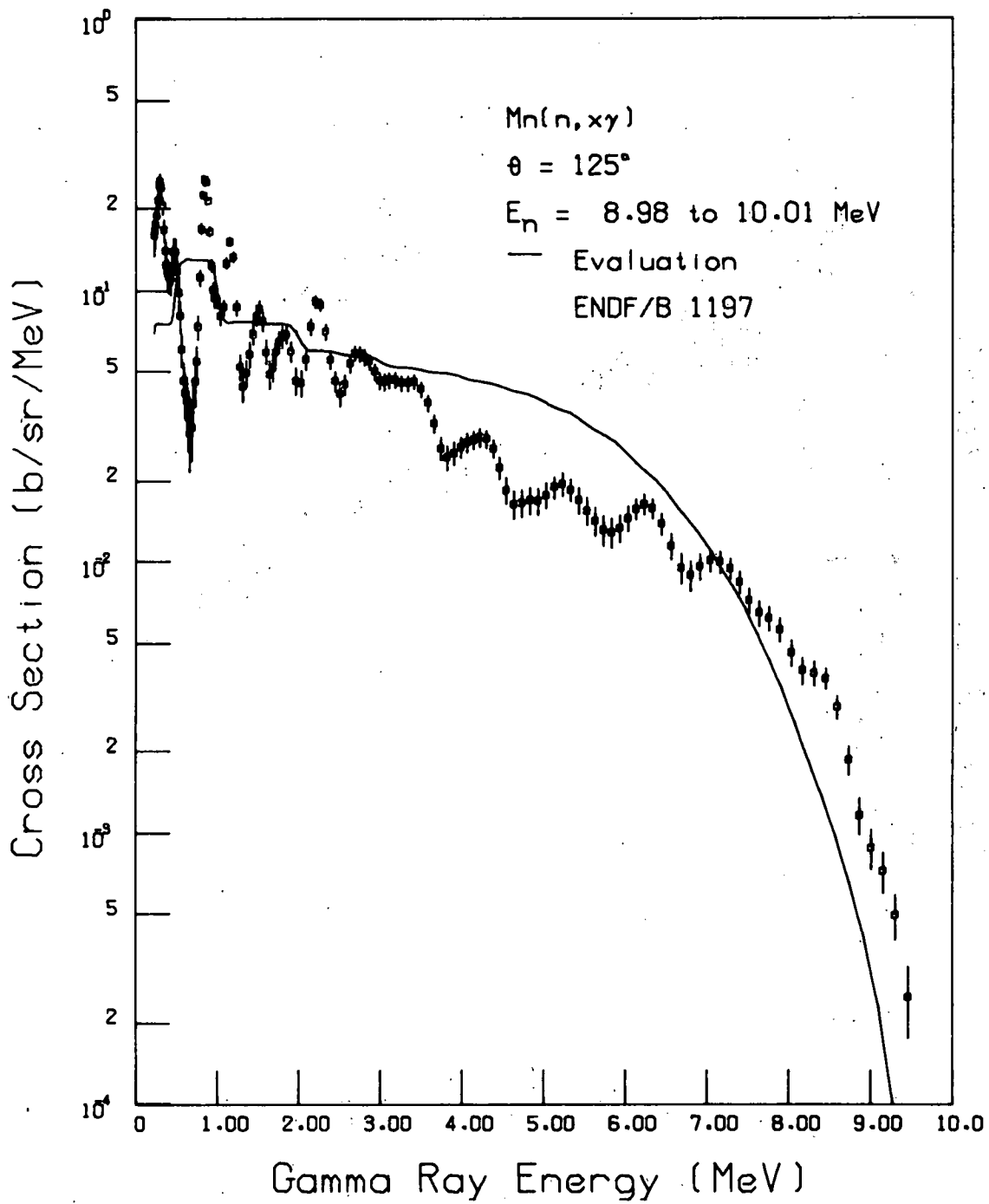


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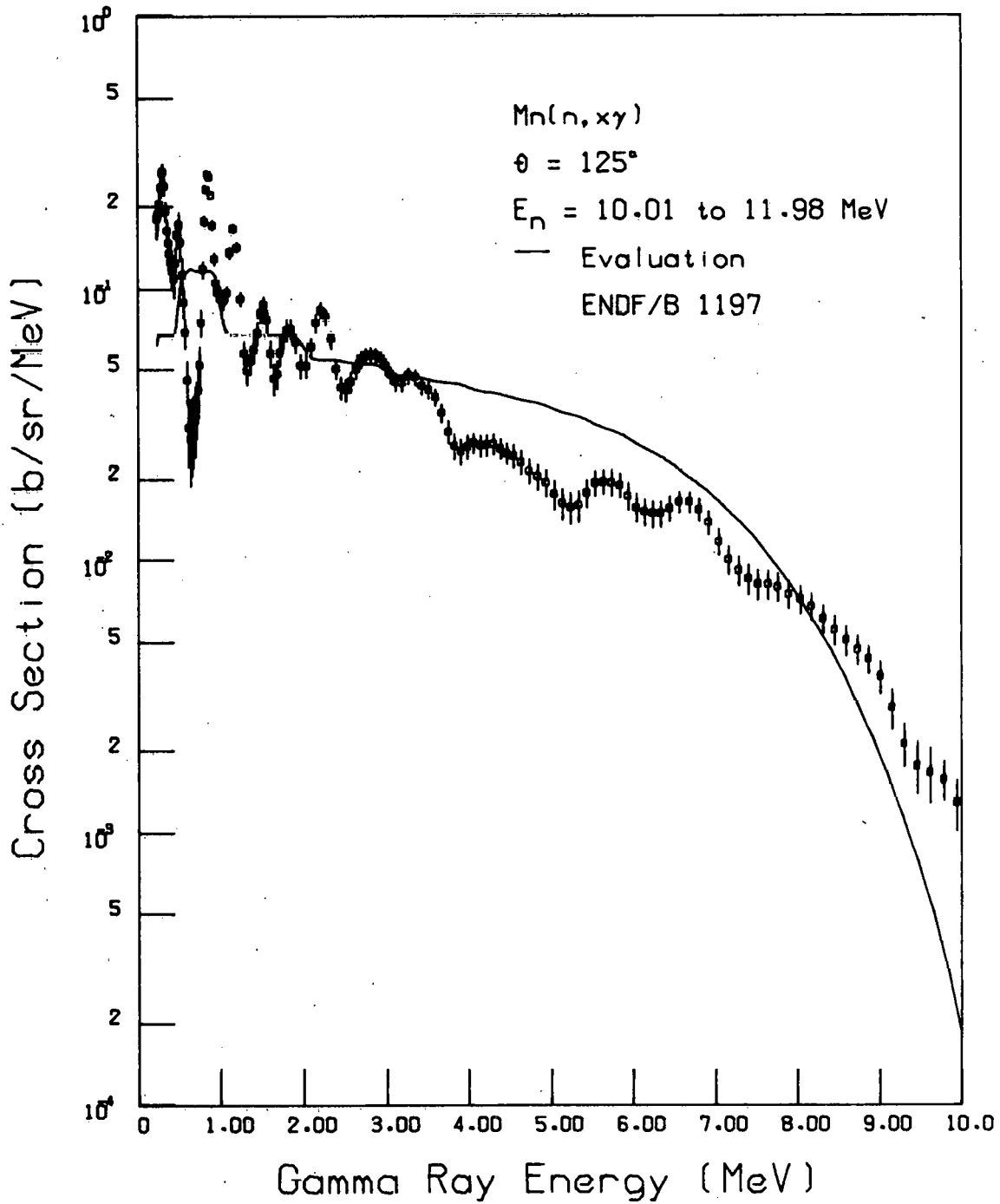


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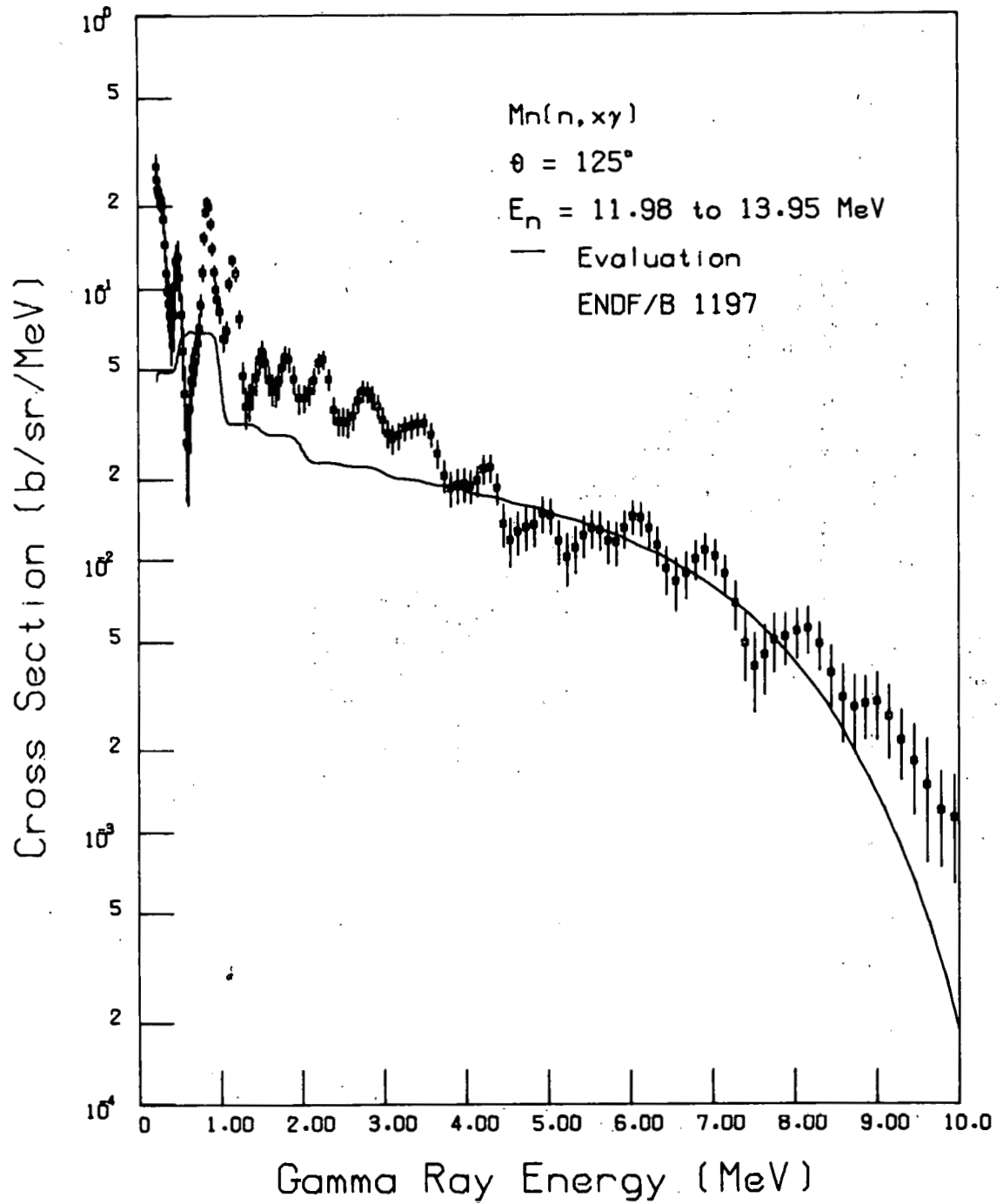


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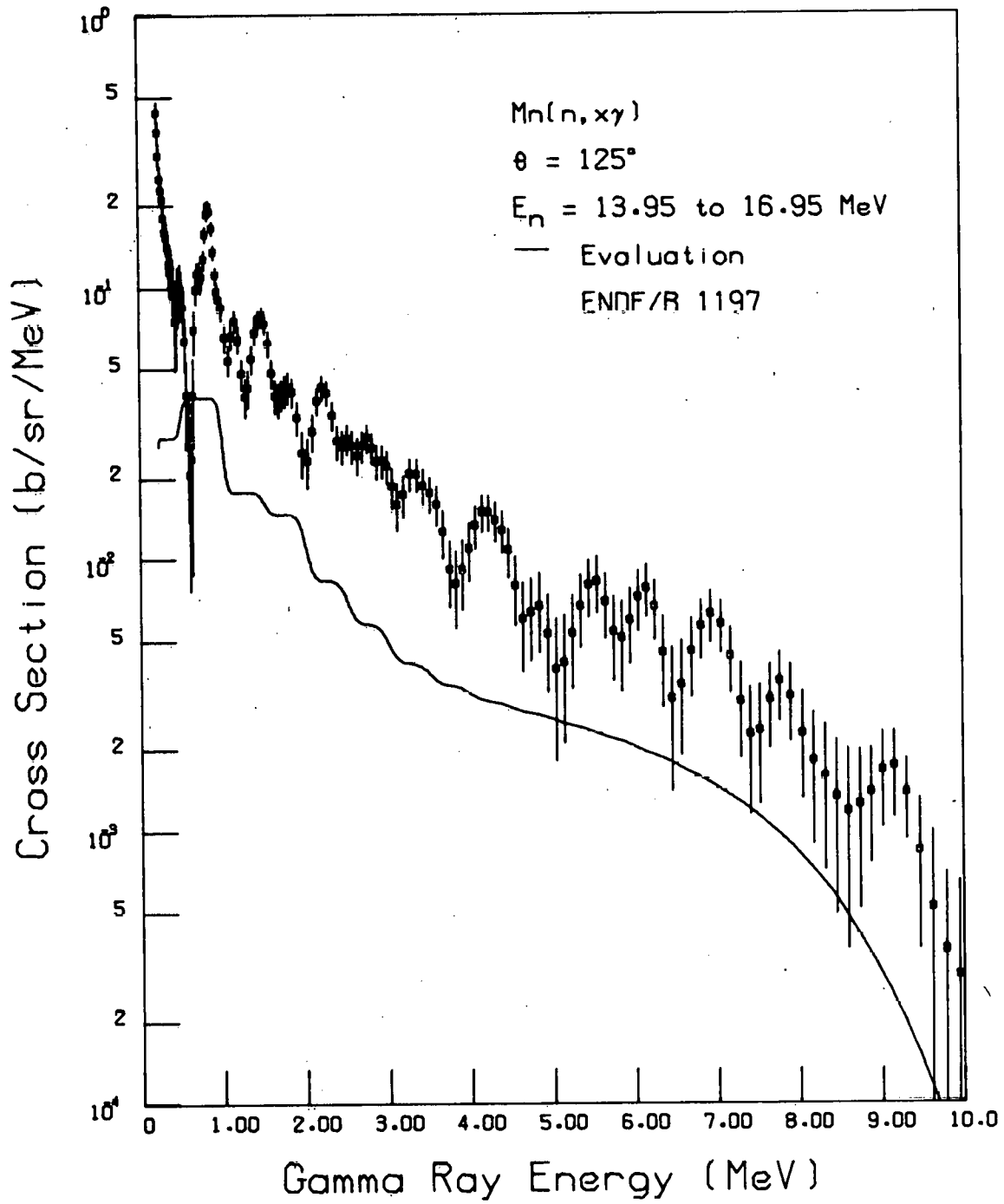


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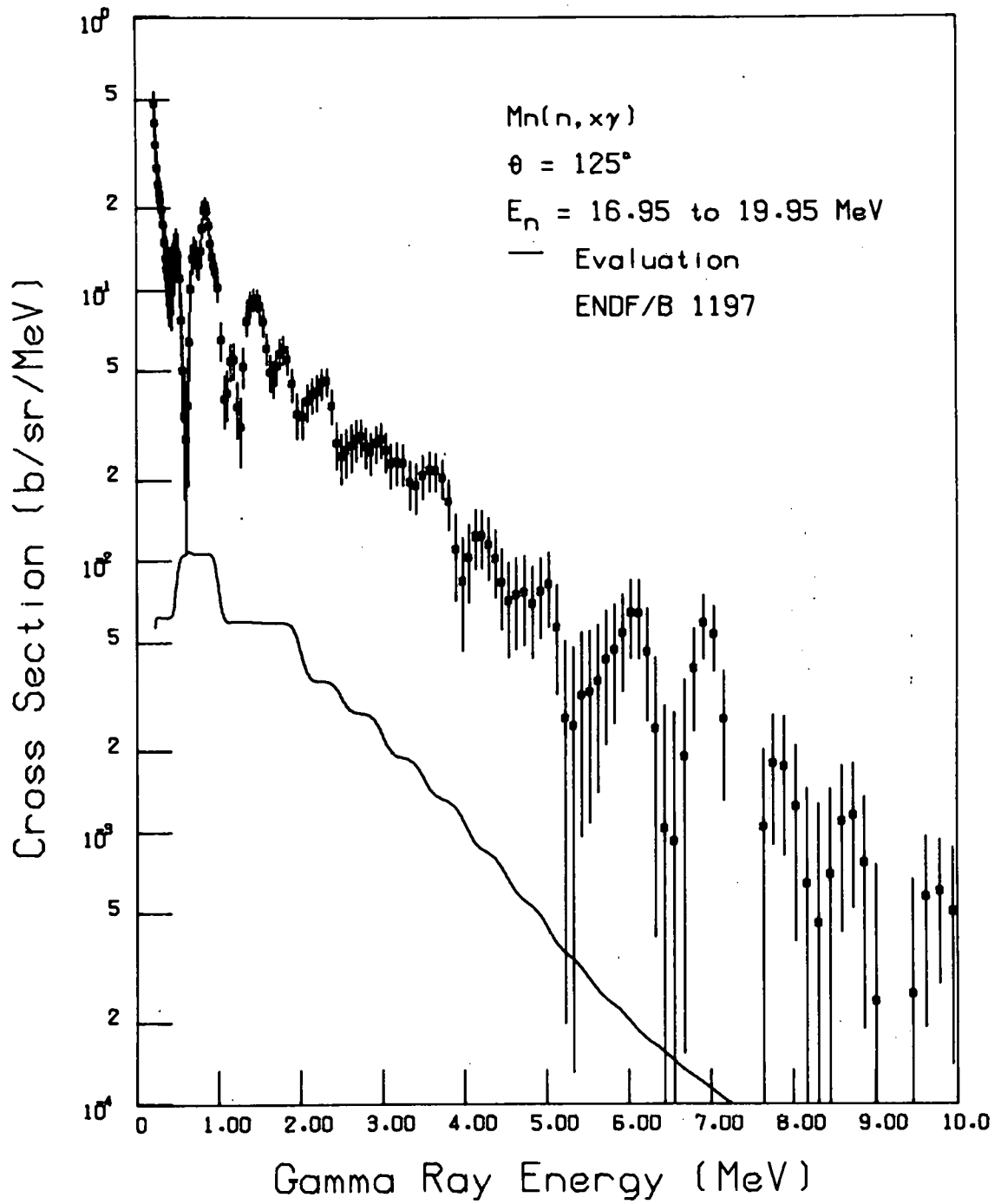


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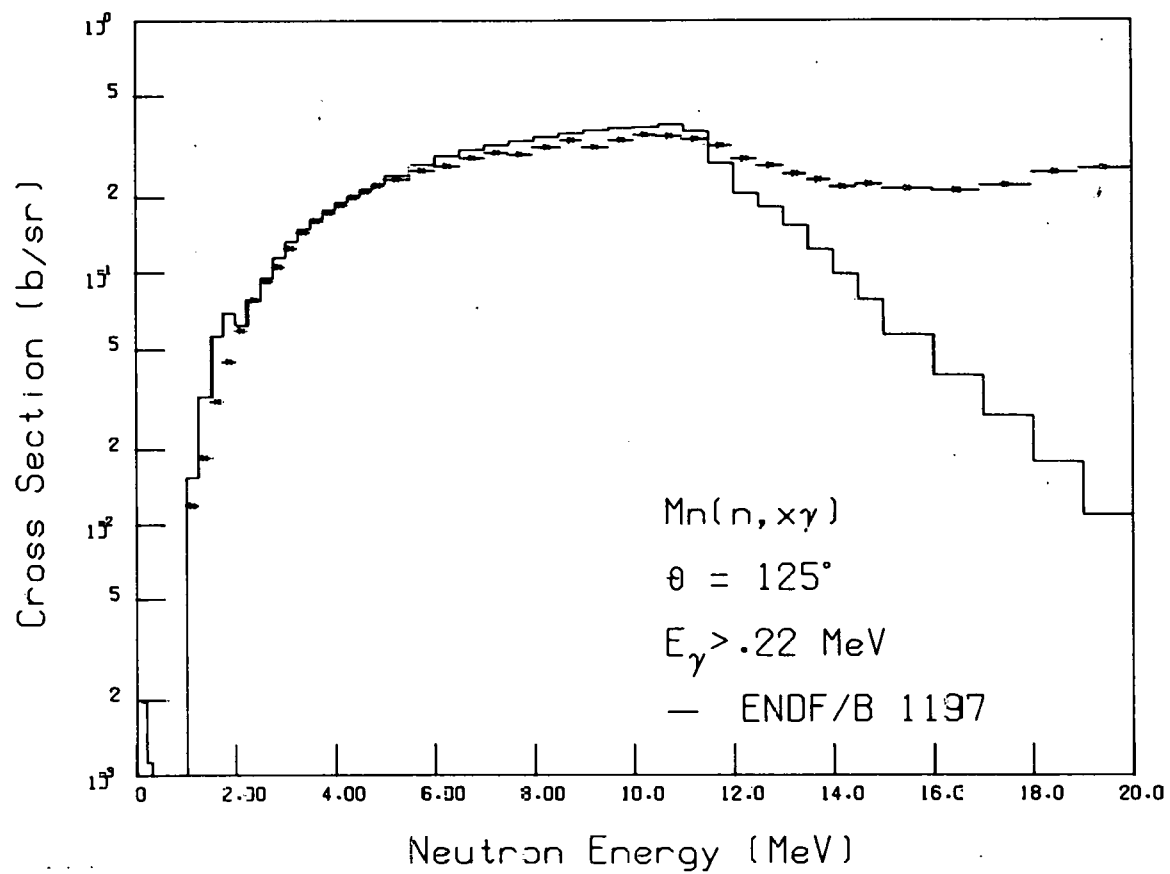


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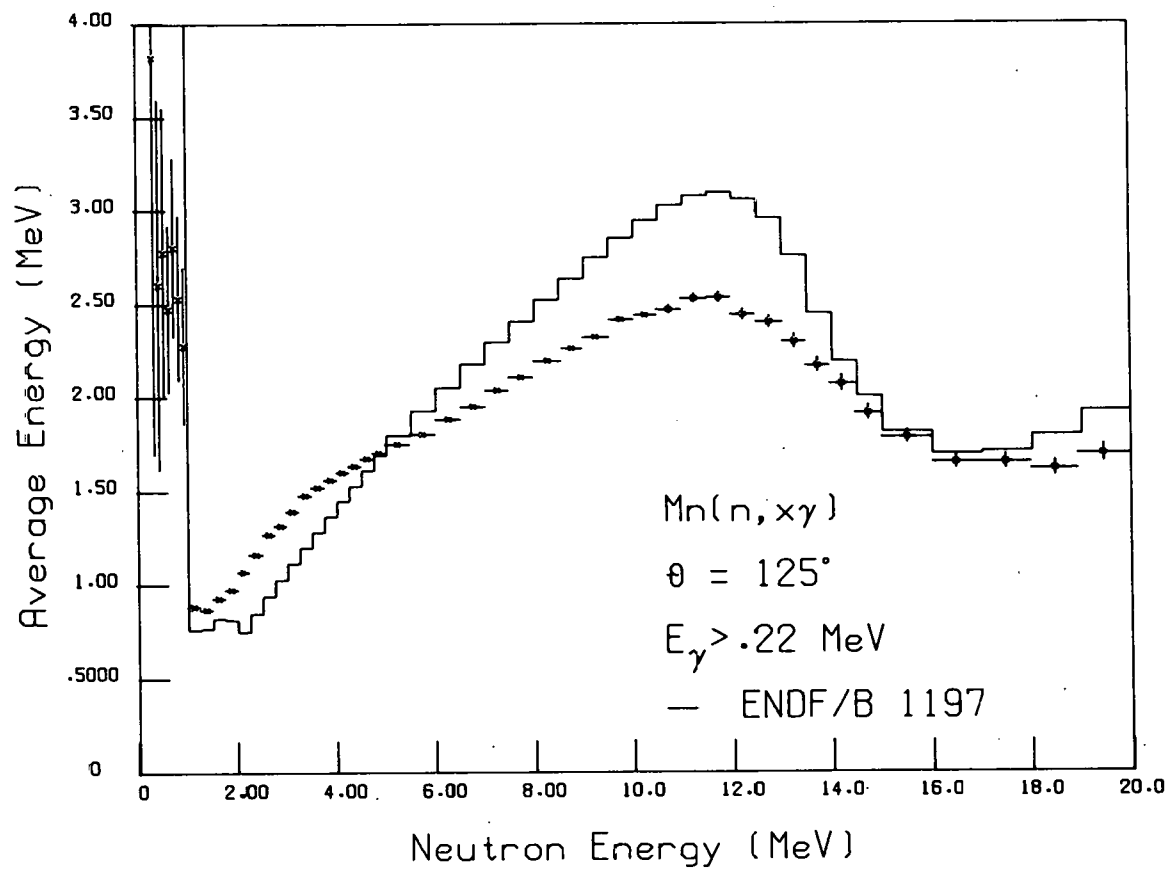


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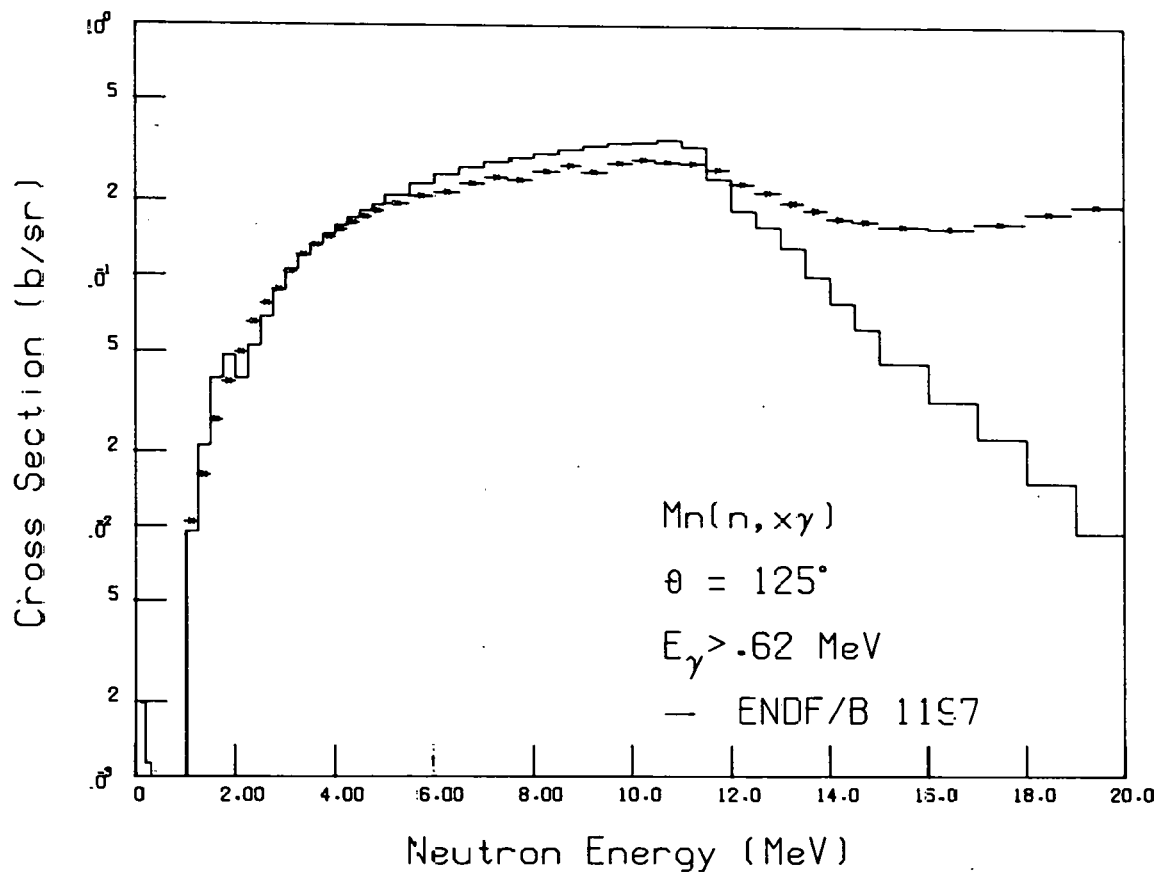


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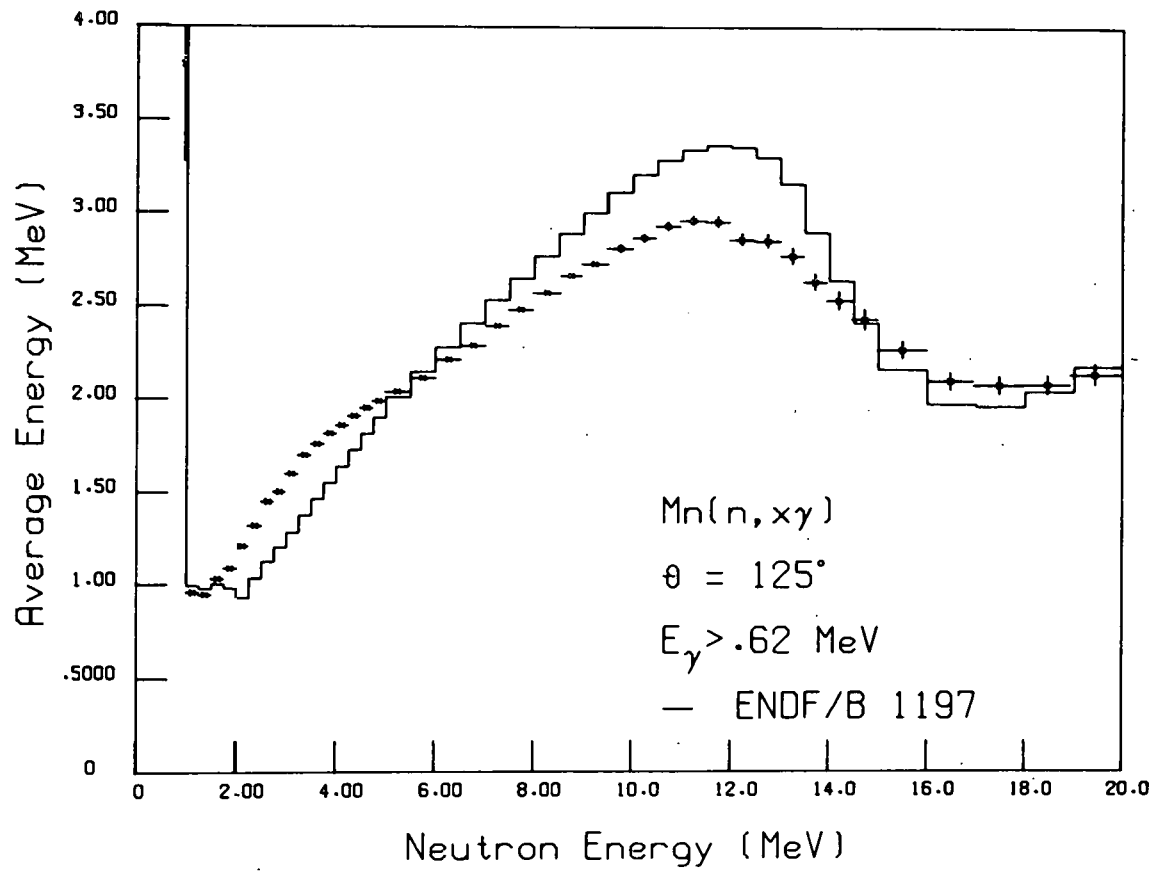


FIGURE 24

DIFFERENTIAL CROSS SECTIONS FOR GAMMA RAY PRODUCTION IN MM. THE FIRST SET OF NUMBERS IS THE DOUBLY DIFFERENTIAL CROSS SECTION, WHILE THE SECOND SET IS THE GAMMA RAY PRODUCTION CROSS SECTION FOR THE DESIGNATED GAMMA ENERGY INTERVALS. THIS SECOND SET RESULTS FROM INTEGRATION OF THE DOUBLY DIFFERENTIAL DATA. THE UNCERTAINTIES ARE GIVEN IN THE SAME UNITS AS THE DATA AND DO NOT INCLUDE AN ESTIMATED 10 PERCENT ERROR IN ABSOLUTE NORMALIZATION.

INCIDENT NEUTRON ENERGY = 0.20 TO 0.60 MEV. ANGLE = 125 DEGREES.

PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)	PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)
2.250E-01	1.393E-03	1.708E-03	2.630E 00	4.814E-05	1.725E-04
2.350E-01	1.303E-03	1.581E-03	2.690E 00	6.079E-05	1.737E-04
2.450E-01	1.244E-03	1.465E-03	2.750E 00	2.044E-05	1.712E-04
2.575E-01	1.138E-03	1.333E-03	2.810E 00	-3.755E-05	1.755E-04
2.725E-01	9.978E-04	1.243E-03	2.870E 00	-8.396E-05	1.657E-04
2.875E-01	8.898E-04	1.122E-03	2.930E 00	-5.999E-05	1.706E-04
3.025E-01	8.901E-04	1.063E-03	2.990E 00	-2.005E-06	1.712E-04
3.175E-01	8.085E-04	1.022E-03	3.050E 00	6.950E-05	1.663E-04
3.325E-01	5.871E-04	9.088E-04	3.110E 00	1.165E-04	1.731E-04
3.475E-01	1.771E-04	8.935E-04	3.180E 00	1.142E-04	1.701E-04
3.625E-01	-9.967E-05	8.579E-04	3.260E 00	7.674E-05	1.665E-04
3.775E-01	-3.469E-04	7.631E-04	3.340E 00	4.925E-05	1.655E-04
3.925E-01	-3.029E-04	7.896E-04	3.420E 00	3.648E-05	1.554E-04
4.100E 01	2.200E-04	7.042E-04	3.500E 00	4.757E-05	1.481E-04
4.300E-01	4.450E-05	7.661E-04	3.580E 00	3.308E-05	1.583E-04
4.500E-01	2.141E-04	7.757E-04	3.660E 00	2.823E-05	1.542E-04
4.700E-01	3.441E-04	7.117E-04	3.740E 00	3.742E-05	1.546E-04
4.900E-01	4.533E-04	6.822E-04	3.820E 00	5.174E-05	1.552E-04
5.100E-01	4.750E-04	6.157E-04	3.900E 00	4.909E-05	1.504E-04
5.200E-01	2.470E-04	5.781E-04	3.980E 00	1.894E-05	1.476E-04
5.500E-01	1.613E-04	5.018E-04	4.060E 00	-7.751E-06	1.345E-04
5.700E-01	-1.717E-05	4.564E-04	4.140E 00	-1.689E-05	1.375E-04
5.900E-01	-1.122E-04	4.009E-04	4.220E 00	-1.121E-05	1.361E-04
6.100E-01	-7.489E-05	4.243E-04	4.300E 00	3.760E-06	1.366E-04
6.300E-01	-1.926E-05	4.153E-04	4.380E 00	1.627E-05	1.324E-04
6.500E-01	2.170E-05	4.227E-04	4.460E 00	2.232E-05	1.355E-04
6.700E-01	2.092E-05	4.354E-04	4.540E 00	2.860E-05	1.251E-04
6.900E-01	-6.436E-06	4.055E-04	4.620E 00	4.617E-05	1.275E-04
7.100E-01	-1.173E-06	3.916E-04	4.700E 00	5.118E-05	1.337E-04
7.300E-01	1.965E-05	3.797E-04	4.800E 00	3.666E-05	1.267E-04
7.500E-01	5.837E-05	3.721E-04	4.900E 00	2.077E-05	1.260E-04
7.700E-01	9.284E-05	3.505E-04	5.000E 00	1.739E-05	1.330E-04
7.900E-01	1.262E-04	3.471E-04	5.100E 00	4.666E-05	1.360E-04
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8.300E-01	1.435E-04	3.345E-04	5.300E 00	5.505E-05	1.342E-04
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8.900E-01	6.127E-05	3.116E-04	5.600E 00	3.202E-05	1.321E-04
9.100E-01	3.491E-05	3.091E-04	5.700E 00	3.605E-05	1.243E-04
9.300E-01	7.088E-06	3.012E-04	5.800E 00	3.701E-05	1.209E-04
9.500E-01	-1.978E-05	2.940E-04	5.900E 00	2.539E-05	1.175E-04
9.700E-01	-4.969E-05	2.742E-04	6.000E 00	7.149E-06	1.156E-04
1.000E 00	-6.829E-05	2.589E-04	6.100E 00	-8.910E-06	1.063E-04
1.040E 00	-5.584E-05	2.562E-04	6.200E 00	-5.987E-06	9.809E-05
1.080E 00	-2.043E-05	2.580E-04	6.300E 00	4.197E-06	9.668E-05
1.120E 00	1.046E-05	2.531E-04	6.400E 00	1.152E-05	9.303E-05
1.160E 00	3.185E-05	2.516E-04	6.500E 00	-3.683E-06	8.060E-05
1.200E 00	2.085E-05	2.443E-04	6.600E 00	-2.735E-06	6.774E-05
1.240E 00	-3.497E-06	2.517E-04	6.800E 00	-1.767E-05	6.018E-05
1.280E 00	-8.212E-05	2.647E-04	6.900E 00	1.463E-05	5.147E-05
1.320E 00	-1.480E-04	2.440E-04	7.040E 00	5.305E-05	3.789E-05
1.360E 00	-1.697E-04	2.951E-04	7.160E 00	8.515E-05	2.431E-05
1.400E 00	-1.151E-04	2.973E-04	7.280E 00	1.046E-04	1.646E-05
1.440E 00	-3.749E-05	3.007E-04	7.400E 00	1.087E-04	1.484E-05
1.480E 00	2.494E-05	2.881E-04	7.520E 00	9.436E-05	1.032E-05
1.520E 00	6.318E-05	2.879E-04	7.640E 00	6.957E-05	9.413E-06
1.560E 00	6.191E-05	2.826E-04	7.760E 00	4.067E-05	8.286E-06
1.600E 00	5.176E-05	2.777E-04	7.880E 00	1.817E-05	6.395E-06
1.640E 00	6.807E-05	2.763E-04	8.030E 00	5.561E-06	4.573E-06
1.680E 00	1.050E-04	2.801E-04	8.170E 00	1.068E-06	3.270E-06
1.720E 00	1.314E-04	2.863E-04	8.310E 00	1.069E-06	2.850E-06
1.760E 00	1.122E-04	2.704E-04	8.450E 00	1.802E-06	2.524E-06
1.800E 00	7.371E-05	2.621E-04	8.590E 00	2.034E-06	2.194E-06
1.850E 00	3.620E-05	2.517E-04	8.730E 00	1.892E-06	2.047E-06
1.910E 00	1.550E-05	2.383E-04	8.870E 00	1.300E-06	1.963E-06
1.970E 00	6.882E-06	2.333E-04	9.010E 00	5.790E-07	1.913E-06
2.030E 00	2.656E-05	2.254E-04	9.150E 00	-3.393E-07	1.814E-06
2.090E 00	8.205E-05	2.278E-04	9.300E 00	-1.247E-06	1.670E-06
2.150E 00	1.191E-04	2.484E-04	9.460E 00	-1.927E-06	1.792E-06
2.210E 00	1.027E-04	2.380E-04	9.620E 00	-1.518E-06	1.686E-06
2.270E 00	1.206E-04	2.365E-04	9.780E 00	-6.762E-07	1.632E-06
2.330E 00	1.506E-04	2.122E-04	9.940E 00	5.689E-07	1.796E-06
2.390E 00	1.547E-04	1.971E-04	1.010E 01	7.233E-07	1.567E-06
2.450E 00	9.782E-05	1.858E-04	1.026E 01	8.459E-07	1.056E-06
2.510E 00	3.833E-05	1.866E-04	1.042E 01	6.719E-07	1.278E-06
2.570E 00	2.061E-05	1.740E-04	1.058E 01	6.703E-07	1.417E-06

INTEGRATED DATA

PHOTON ENERGY INTERVAL (MEV)	I-SECTION (B/SR)	ERROR (B/SR)
3.000E-01 - 4.000E-01	2.054E-05	8.900E-05
4.000E-01 - 5.000E-01	1.684E-05	7.292E-05
5.000E-01 - 6.000E-01	1.751E-05	5.016E-05
6.000E-01 - 7.000E-01	-1.109E-06	4.204E-05
7.000E-01 - 8.000E-01	5.918E-06	3.691E-05
8.000E-01 - 1.000E 00	9.456E-06	6.162E-05
1.000E 00 - 1.200E 00	-2.054E-06	5.085E-05
1.200E 00 - 1.400E 00	-1.830E-05	5.504E-05
1.400E 00 - 1.600E 00	3.582E-06	5.787E-05
1.600E 00 - 1.800E 00	1.941E-05	5.533E-05
1.800E 00 - 2.000E 00	5.056E-06	4.856E-05
2.000E 00 - 2.500E 00	5.256E-05	1.100E-04
2.500E 00 - 3.000E 00	-9.258E-07	8.639E-05
3.000E 00 - 3.500E 00	3.531E-05	8.268E-05
3.500E 00 - 4.000E 00	1.891E-05	7.702E-05
4.000E 00 - 4.500E 00	8.001E-07	6.784E-05
4.500E 00 - 5.000E 00	1.817E-05	6.409E-05
5.000E 00 - 6.000E 00	4.047E-05	1.296E-04
6.000E 00 - 7.000E 00	-2.186E-06	8.245E-05
7.000E 00 - 8.000E 00	6.864E-05	1.461E-05
8.000E 00 - 9.000E 00	1.836E-06	2.636E-06
9.000E 00 - 1.000E 01	-8.025E-07	1.731E-06

DIFFERENTIAL CROSS SECTIONS FOR GAMMA RAY PRODUCTION IN HW. THE FIRST SET OF NUMBERS IS THE DOUBLY DIFFERENTIAL CROSS SECTION, WHILE THE SECOND SET IS THE GAMMA RAY PRODUCTION CROSS SECTION FOR THE DESIGNATED GAMMA RAY ENERGY INTERVALS. THIS SECOND SET RESULTS FROM INTEGRATION OF THE DOUBLY DIFFERENTIAL DATA. THE UNCERTAINTIES ARE GIVEN IN THE SAME UNITS AS THE DATA AND DO NOT INCLUDE AN ESTIMATED 10 PERCENT ERROR IN ABSOLUTE NORMALIZATION.

INCIDENT NEUTRON ENERGY = 0.60 TO 1.00 REV. ANGLE = 125 DEGREES.

PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)	PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)
2.250E-01	1.586E-03	1.291E-03	2.630E 00	1.146E-04	9.823E-05
2.350E-01	1.702E-03	1.090E-03	2.690E 00	1.112E-04	9.835E-05
2.450E-01	1.723E-03	9.798E-04	2.750E 00	8.514E-05	9.730E-05
2.575E-01	1.608E-03	8.950E-04	2.810E 00	7.530E-05	9.463E-05
2.725E-01	1.315E-03	8.107E-04	2.870E 00	8.247E-05	9.326E-05
2.875E-01	1.045E-03	7.559E-04	2.930E 00	7.734E-05	9.293E-05
3.025E-01	8.923E-04	7.146E-04	2.990E 00	5.178E-05	9.231E-05
3.175E-01	8.035E-04	6.776E-04	3.050E 00	2.714E-05	9.247E-05
3.325E-01	7.228E-04	6.563E-04	3.110E 00	1.663E-05	9.491E-05
3.475E-01	5.991E-04	6.445E-04	3.170E 00	1.901E-05	9.399E-05
3.625E-01	4.227E-04	6.438E-04	3.260E 00	2.725E-05	9.056E-05
3.775E-01	2.123E-04	6.322E-04	3.340E 00	3.325E-05	9.177E-05
3.925E-01	5.029E-05	6.409E-04	3.420E 00	2.580E-05	9.022E-05
4.100E-01	1.729E-05	6.489E-04	3.500E 00	1.622E-05	9.091E-05
4.300E-01	2.490E-04	6.511E-04	3.580E 00	9.708E-06	8.976E-05
4.500E-01	6.963E-04	6.774E-04	3.660E 00	9.814E-06	8.347E-05
4.700E-01	1.104E-03	6.571E-04	3.740E 00	3.095E-05	7.984E-05
4.900E-01	1.177E-03	5.547E-04	3.820E 00	6.596E-05	7.963E-05
5.100E-01	9.105E-04	4.291E-04	3.900E 00	8.021E-05	8.178E-05
5.300E-01	4.809E-04	3.302E-04	3.980E 00	7.255E-05	8.433E-05
5.500E-01	1.394E-04	2.766E-04	4.060E 00	5.640E-05	8.259E-05
5.700E-01	-6.378E-05	2.398E-04	4.140E 00	4.059E-05	7.844E-05
5.900E-01	-1.392E-04	2.216E-04	4.220E 00	3.085E-05	7.762E-05
6.100E-01	-1.138E-04	2.116E-04	4.300E 00	2.918E-05	7.844E-05
6.300E-01	-5.084E-05	2.251E-04	4.380E 00	4.134E-05	7.992E-05
6.500E-01	9.814E-06	2.338E-04	4.460E 00	4.386E-05	7.924E-05
6.700E-01	3.129E-05	2.244E-04	4.540E 00	3.911E-05	7.564E-05
6.900E-01	2.141E-05	2.195E-04	4.620E 00	3.246E-05	7.347E-05
7.100E-01	-3.208E-06	2.122E-04	4.700E 00	2.347E-05	7.813E-05
7.300E-01	-2.508E-05	1.986E-04	4.800E 00	1.667E-05	8.434E-05
7.500E-01	-2.239E-05	1.903E-04	4.900E 00	6.940E-06	8.396E-05
7.700E-01	0.162E-05	1.817E-04	5.030E 00	-9.172E-07	7.926E-05
7.900E-01	5.598E-05	1.724E-04	5.130E 00	4.713E-06	7.565E-05
8.100E-01	9.473E-05	1.686E-04	5.230E 00	2.459E-05	8.198E-05
8.300E-01	1.095E-04	1.669E-04	5.330E 00	4.894E-05	8.704E-05
8.500E-01	9.767E-05	1.664E-04	5.430E 00	7.071E-05	8.575E-05
8.700E-01	7.190E-05	1.629E-04	5.530E 00	7.031E-05	8.572E-05
8.900E-01	4.534E-05	1.572E-04	5.630E 00	4.686E-05	8.185E-05
9.100E-01	2.841E-05	1.520E-04	5.730E 00	2.785E-05	7.935E-05
9.300E-01	2.974E-05	1.519E-04	5.830E 00	2.411E-05	7.922E-05
9.500E-01	4.964E-05	1.476E-04	5.920E 00	3.394E-05	8.229E-05
9.700E-01	7.300E-05	1.430E-04	6.030E 00	3.887E-05	7.936E-05
1.000E 00	9.332E-05	1.426E-04	6.130E 00	3.249E-05	7.146E-05
1.040E 00	1.006E-04	1.411E-04	6.230E 00	2.162E-05	6.733E-05
1.080E 00	1.306E-04	1.422E-04	6.330E 00	1.140E-05	6.477E-05
1.120E 00	1.414E-04	1.358E-04	6.440E 00	4.456E-06	6.110E-05
1.160E 00	1.061E-04	1.342E-04	6.560E 00	5.553E-06	5.429E-05
1.200E 00	6.506E-05	1.277E-04	6.680E 00	1.414E-05	4.424E-05
1.240E 00	3.895E-05	1.309E-04	6.800E 00	2.860E-05	3.928E-05
1.280E 00	9.702E-06	1.433E-04	6.920E 00	3.689E-05	3.446E-05
1.320E 00	-1.110E-05	1.579E-04	7.040E 00	3.797E-05	2.603E-05
1.360E 00	-1.973E-06	1.582E-04	7.160E 00	4.000E-05	1.830E-05
1.400E 00	4.161E-05	1.577E-04	7.280E 00	4.521E-05	1.423E-05
1.440E 00	8.218E-05	1.524E-04	7.400E 00	5.095E-05	1.214E-05
1.480E 00	9.520E-05	1.487E-04	7.520E 00	6.211E-05	1.133E-05
1.520E 00	8.986E-05	1.478E-04	7.640E 00	7.566E-05	1.033E-05
1.560E 00	7.507E-05	1.422E-04	7.760E 00	8.135E-05	9.015E-06
1.600E 00	6.372E-05	1.422E-04	7.890E 00	7.666E-05	7.456E-06
1.640E 00	4.934E-05	1.416E-04	8.030E 00	6.251E-05	6.520E-06
1.680E 00	3.677E-05	1.438E-04	8.170E 00	4.306E-05	5.696E-06
1.720E 00	3.721E-05	1.442E-04	8.310E 00	2.260E-05	3.592E-06
1.760E 00	5.613E-05	1.438E-04	8.450E 00	7.971E-06	2.804E-06
1.800E 00	8.279E-05	1.388E-04	8.590E 00	1.173E-06	2.314E-06
1.850E 00	9.678E-05	1.334E-04	8.730E 00	-7.189E-07	1.820E-06
1.910E 00	7.643E-05	1.351E-04	8.870E 00	-4.596E-07	1.519E-06
1.970E 00	5.002E-05	1.318E-04	9.010E 00	2.236E-07	1.389E-06
2.030E 00	3.102E-05	1.311E-04	9.150E 00	6.547E-07	1.180E-06
2.090E 00	4.336E-05	1.328E-04	9.300E 00	4.875E-07	1.144E-06
2.150E 00	1.143E-04	1.342E-04	9.460E 00	7.088E-07	8.805E-07
2.210E 00	1.649E-04	1.327E-04	9.620E 00	8.155E-07	9.022E-07
2.270E 00	1.178E-04	1.239E-04	9.780E 00	9.383E-07	1.079E-06
2.330E 00	4.494E-05	1.133E-04	9.940E 00	6.849E-07	7.870E-07
2.390E 00	2.768E-05	1.045E-04	1.010E 01	5.141E-07	5.984E-07
2.450E 00	5.013E-05	9.793E-05	1.026E 01	4.303E-07	5.561E-07
2.510E 00	7.123E-05	9.859E-05	1.042E 01	2.974E-07	6.167E-07
2.570E 00	9.113E-05	9.847E-05	1.058E 01	2.271E-07	6.190E-07

INTEGRATED DATA

PHOTON ENERGY INTERVAL (MEV)	I-SECTION (B/SR)	ERROR (B/SR)
3.000E-01 - 4.000E-01	5.102E-05	6.552E-05
4.000E-01 - 5.000E-01	6.475E-05	6.359E-05
5.000E-01 - 6.000E-01	2.657E-05	3.002E-05
6.000E-01 - 7.000E-01	-2.038E-06	2.231E-05
7.000E-01 - 8.000E-01	3.268E-07	1.910E-05
8.000E-01 - 1.000E 00	1.374E-05	3.117E-05
1.000E 00 - 1.200E 00	2.252E-05	2.758E-05
1.200E 00 - 1.400E 00	3.248E-06	2.933E-05
1.400E 00 - 1.600E 00	1.600E-05	2.961E-05
1.600E 00 - 1.800E 00	9.937E-06	2.859E-05
1.800E 00 - 2.000E 00	1.500E-05	2.683E-05
2.000E 00 - 2.500E 00	3.691E-05	6.018E-05
2.500E 00 - 3.000E 00	4.338E-05	4.803E-05
3.000E 00 - 3.500E 00	1.267E-05	4.617E-05
3.500E 00 - 4.000E 00	2.071E-05	4.182E-05
4.000E 00 - 4.500E 00	2.073E-05	3.975E-05
4.500E 00 - 5.000E 00	1.114E-05	3.967E-05
5.000E 00 - 6.000E 00	3.582E-05	8.175E-05
6.000E 00 - 7.000E 00	2.117E-05	5.519E-05
7.000E 00 - 8.000E 00	5.978E-05	1.292E-05
8.000E 00 - 9.000E 00	1.638E-05	3.221E-06
9.000E 00 - 1.000E 01	6.740E-07	1.028E-06

DIFFERENTIAL CROSS SECTIONS FOR GAMMA RAY PRODUCTION IN Fe. THE FIRST SET OF NUMBERS IS THE DOUBLY DIFFERENTIAL CROSS SECTION, WHILE THE SECOND SET IS THE GAMMA RAY PRODUCTION CROSS SECTION FOR THE DESIGNATED GAMMA RAY ENERGY INTERVALS. THIS SECOND SET RESULTS FROM INTEGRATION OF THE DOUBLY DIFFERENTIAL DATA. THE UNCERTAINTIES ARE GIVEN IN THE SAME UNITS AS THE DATA AND DO NOT INCLUDE AN ESTIMATED 10 PERCENT ERROR IN ABSOLUTE NORMALIZATION.

INCIDENT NEUTRON ENERGY = 1.00 TO 1.50 MEV. ANGLE = 125 DEGREES.

PHOTON ENERGY (MEV)	X-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)	PHOTON ENERGY (MEV)	X-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)
2.250E-01	5.029E-03	3.038E-03	2.630E 00	1.954E-06	7.070E-05
2.350E-01	5.006E-03	2.638E-03	2.690E 00	4.577E-05	6.881E-05
2.450E-01	5.394E-03	2.345E-03	2.750E 00	6.424E-05	6.571E-05
2.575E-01	6.411E-03	2.139E-03	2.810E 00	4.835E-05	6.430E-05
2.725E-01	8.054E-03	1.990E-03	2.870E 00	3.726E-05	6.651E-05
2.875E-01	1.002E-02	1.769E-03	2.930E 00	5.163E-05	6.592E-05
3.025E-01	1.159E-02	1.556E-03	2.990E 00	6.259E-05	6.409E-05
3.175E-01	1.178E-02	1.452E-03	3.050E 00	4.294E-05	6.523E-05
3.325E-01	1.030E-02	1.397E-03	3.110E 00	8.915E-06	6.694E-05
3.475E-01	8.330E-03	1.448E-03	3.180E 00	2.695E-06	6.635E-05
3.625E-01	6.890E-03	1.483E-03	3.260E 00	5.277E-05	6.442E-05
3.775E-01	5.733E-03	1.534E-03	3.340E 00	9.242E-05	6.481E-05
3.925E-01	4.541E-03	1.617E-03	3.420E 00	7.062E-05	6.541E-05
4.100E-01	3.679E-03	1.730E-03	3.500E 00	7.420E-05	6.566E-05
4.300E-01	3.759E-03	1.806E-03	3.580E 00	6.995E-06	6.444E-05
4.500E-01	4.119E-03	1.883E-03	3.660E 00	2.179E-05	6.141E-05
4.700E-01	4.196E-03	1.823E-03	3.740E 00	3.372E-05	6.007E-05
4.900E-01	4.137E-03	1.500E-03	3.820E 00	2.022E-05	5.914E-05
5.100E-01	3.588E-03	1.096E-03	3.900E 00	7.505E-06	6.299E-05
5.300E-01	7.361E-03	7.704E-04	3.980E 00	-2.657E-06	6.180E-05
5.500E-01	1.190E-03	5.431E-04	4.060E 00	1.021E-05	6.233E-05
5.700E-01	5.856E-04	4.767E-04	4.140E 00	2.943E-05	6.000E-05
5.900E-01	4.047E-04	4.605E-04	4.220E 00	5.081E-05	6.058E-05
6.100E-01	4.547E-04	4.880E-04	4.300E 00	5.919E-05	5.671E-05
6.300E-01	6.294E-04	5.710E-04	4.380E 00	5.913E-05	5.577E-05
6.500E-01	7.394E-04	5.651E-04	4.460E 00	6.543E-05	5.551E-05
6.700E-01	7.003E-04	5.245E-04	4.540E 00	7.580E-05	5.821E-05
6.900E-01	6.604E-04	4.832E-04	4.620E 00	7.517E-05	5.990E-05
7.100E-01	1.061E-03	4.780E-04	4.700E 00	3.998E-05	5.934E-05
7.300E-01	2.599E-03	4.830E-04	4.800E 00	6.395E-07	5.753E-05
7.500E-01	6.675E-03	4.953E-04	4.900E 00	-1.666E-05	5.786E-05
7.700E-01	1.593E-02	4.877E-04	5.000E 00	-8.069E-06	6.120E-05
7.900E-01	3.300E-02	5.057E-04	5.100E 00	7.989E-06	6.257E-05
8.100E-01	5.676E-02	5.265E-04	5.200E 00	2.907E-05	6.216E-05
8.300E-01	7.998E-02	5.148E-04	5.300E 00	4.422E-05	6.132E-05
8.500E-01	9.293E-02	5.021E-04	5.400E 00	4.310E-05	6.212E-05
8.700E-01	9.029E-02	4.674E-04	5.500E 00	3.395E-05	6.323E-05
8.900E-01	7.470E-02	3.907E-04	5.600E 00	5.630E-05	6.493E-05
9.100E-01	5.386E-02	3.057E-04	5.700E 00	1.987E-05	6.463E-05
9.300E-01	3.498E-02	2.406E-04	5.800E 00	2.647E-05	6.385E-05
9.500E-01	2.147E-02	2.154E-04	5.900E 00	3.547E-05	6.116E-05
9.700E-01	1.321E-02	2.046E-04	6.000E 00	3.535E-05	5.968E-05
1.000E 00	6.923E-03	1.912E-04	6.100E 00	3.569E-05	5.909E-05
1.040E 00	3.123E-03	1.660E-04	6.200E 00	4.599E-05	5.665E-05
1.080E 00	1.954E-03	1.453E-04	6.300E 00	5.967E-05	5.324E-05
1.120E 00	2.620E-03	1.362E-04	6.400E 00	6.266E-05	5.097E-05
1.160E 00	3.211E-03	1.308E-04	6.500E 00	4.701E-05	4.489E-05
1.200E 00	2.611E-03	1.198E-04	6.600E 00	7.447E-05	3.861E-05
1.240E 00	1.434E-03	1.082E-04	6.800E 00	1.342E-05	3.529E-05
1.280E 00	5.704E-04	1.075E-04	6.920E 00	1.179E-05	3.045E-05
1.320E 00	2.002E-04	1.140E-04	7.040E 00	1.700E-05	2.440E-05
1.360E 00	1.172E-04	1.131E-04	7.160E 00	2.133E-05	1.881E-05
1.400E 00	1.200E-04	1.099E-04	7.280E 00	2.082E-05	1.550E-05
1.440E 00	1.049E-04	1.062E-04	7.400E 00	1.813E-05	1.384E-05
1.480E 00	5.707E-05	1.073E-04	7.520E 00	1.494E-05	1.270E 0E
1.520E 00	2.320E-05	1.039E-04	7.640E 00	2.161E-05	1.216E-05
1.560E 00	3.805E-05	1.028E-04	7.760E 00	2.985E-05	1.142E-05
1.600E 00	0.707E-05	7.977E-05	7.900E 00	4.797E-05	1.027E-05
1.640E 00	1.277E-04	9.505E-05	8.030E 00	5.656E-05	9.358E-06
1.680E 00	1.122E-04	9.790E-05	8.170E 00	5.968E-05	8.261E-06
1.720E 00	5.624E-05	1.004E-04	8.310E 00	5.303E-05	6.742E-06
1.760E 00	9.432E-06	1.007E-04	8.450E 00	4.129E-05	5.765E-06
1.800E 00	6.992E-07	9.998E-05	8.590E 00	2.796E-05	4.467E-06
1.850E 00	3.165E-05	9.628E-05	8.730E 00	1.571E-05	3.416E-06
1.910E 00	6.751E-05	9.232E-05	8.870E 00	7.060E-06	2.575E-06
1.970E 00	7.390E-05	9.200E-05	9.010E 00	2.473E-06	1.740E-06
2.030E 00	2.933E-05	7.191E-05	9.150E 00	6.754E-07	1.342E-06
2.090E 00	5.688E-05	6.130E-05	9.300E 00	1.010E-07	1.301E-06
2.150E 00	9.452E-06	9.045E-05	9.460E 00	4.437E-08	1.036E-06
2.210E 00	1.104E-04	9.080E-05	9.620E 00	1.376E-07	8.092E-07
2.270E 00	1.124E-04	8.469E-05	9.780E 00	3.329E-07	8.238E-07
2.330E 00	9.911E-05	8.028E-05	9.940E 00	4.452E-07	7.224E-07
2.390E 00	0.4910E-06	7.300E-05	1.010E 01	7.409E-07	5.689E-07
2.450E 00	4.729E-05	7.142E-05	1.026E 01	8.515E-07	4.088E-07
2.510E 00	-7.817E-07	7.291E-05	1.042E 01	7.840E-07	5.506E-07
2.570E 00	-2.117E-05	7.291E-05	1.058E 01	6.232E-07	5.595E-07

INTEGRATED DATA

PHOTON ENERGY INTERVAL (MEV)	X-SECTION (B/SR)	ERROR (B/SR)
3.000E-01 - 4.000E-01	0.304E-04	1.495E-04
4.000E-01 - 5.000E-01	3.987E-04	1.745E-04
5.000E-01 - 6.000E-01	1.653E-04	6.615E-05
6.000E-01 - 7.000E-01	6.650E-05	5.286E-05
7.000E-01 - 8.000E-01	1.203E-03	4.901E-05
8.000E-01 - 1.000E 00	1.051E-02	7.121E-05
1.000E 00 - 1.200E 00	6.153E-04	2.929E-05
1.200E 00 - 1.400E 00	1.426E-04	2.276E-04
1.400E 00 - 1.600E 00	1.281E-05	2.106E-05
1.600E 00 - 1.800E 00	1.416E-05	1.972E-05
1.800E 00 - 2.000E 00	1.049E-05	1.882E-05
2.000E 00 - 2.500E 00	3.972E-05	4.193E-05
2.500E 00 - 3.000E 00	1.592E-05	3.399E-05
3.000E 00 - 3.500E 00	2.307E-05	3.273E-05
3.500E 00 - 4.000E 00	7.305E-06	3.099E-05
4.000E 00 - 4.500E 00	2.196E-05	2.931E-05
4.500E 00 - 5.000E 00	1.576E-05	2.932E-05
5.000E 00 - 6.000E 00	2.645E-05	6.271E-05
6.000E 00 - 7.000E 00	3.638E-05	4.622E-05
7.000E 00 - 8.000E 00	2.453E-05	1.437E-05
8.000E 00 - 9.000E 00	3.456E-05	5.414E-06
9.000E 00 - 1.000E 01	4.357E-07	1.068E-06

DIFFERENTIAL CROSS SECTIONS FOR GAMMA RAY PRODUCTION IN H₂. THE FIRST SET OF NUMBERS IS THE DOUBLY DIFFERENTIAL CROSS SECTION, WHILE THE SECOND SET IS THE GAMMA RAY PRODUCTION CROSS SECTION FOR THE DESIGNATED GAMMA RAY ENERGY INTERVALS. THIS SECOND SET RESULTS FROM INTEGRATION OF THE DOUBLY DIFFERENTIAL DATA. THE UNCERTAINTIES ARE GIVEN IN THE SAME UNITS AS THE DATA AND DO NOT INCLUDE AN ESTIMATED 10 PERCENT ERROR IN ABSOLUTE NORMALIZATION.

INCIDENT NEUTRON ENERGY = 1.50 TO 2.01 MEV. ANGLE = 125 DEGREES.

PHOTON ENERGY (MEV)	X-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)	PHOTON ENERGY (MEV)	X-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)
2.250E-01	1.481E-02	4.568E-03	2.630E 00	1.191E-04	6.910E-05
2.350E-01	1.498E-02	3.994E-03	2.690E 00	1.131E-04	6.934E-05
2.450E-01	1.664E-02	3.737E-03	2.750E 00	6.925E-05	6.764E-05
2.575E-01	2.220E-02	3.515E-03	2.810E 00	2.284E-05	6.900E-05
2.725E-01	3.266E-02	3.211E-03	2.870E 00	-1.010E-05	6.951E-05
2.875E-01	4.104E-02	2.870E-03	2.930E 00	-3.074E-05	7.045E-05
3.025E-01	4.188E-02	2.535E-03	2.990E 00	-3.362E-05	7.204E-05
3.175E-01	3.623E-02	2.383E-03	3.050E 00	-1.304E-05	6.905E-05
3.325E-01	2.810E-02	2.309E-03	3.110E 00	1.776E-05	6.868E-05
3.475E-01	2.121E-02	2.357E-03	3.180E 00	4.668E-05	6.962E-05
3.625E-01	1.685E-02	2.399E-03	3.260E 00	4.744E-05	6.965E-05
3.775E-01	1.356E-02	2.476E-03	3.340E 00	5.037E-05	6.954E-05
3.925E-01	1.072E-02	2.621E-03	3.420E 00	6.619E-05	7.331E-05
4.100E-01	9.166E-03	2.740E-03	3.500E 00	7.321E-05	6.958E-05
4.300E-01	9.279E-03	2.802E-03	3.580E 00	5.796E-05	6.877E-05
4.500E-01	9.078E-03	2.930E-03	3.660E 00	4.509E-05	7.050E-05
4.700E-01	8.274E-03	2.795E-03	3.740E 00	4.505E-05	6.899E-05
4.900E-01	7.176E-03	2.274E-03	3.820E 00	4.053E-05	6.791E-05
5.100E-01	5.510E-03	1.678E-03	3.900E 00	3.007E-05	7.019E-05
5.300E-01	3.407E-03	1.219E-03	3.980E 00	2.702E-05	6.874E-05
5.500E-01	1.728E-03	9.806E-04	4.060E 00	3.347E-05	6.752E-05
5.700E-01	9.331E-04	9.188E-04	4.140E 00	3.215E-05	6.521E-05
5.900E-01	1.044E-03	9.399E-04	4.220E 00	1.233E-05	6.387E-05
6.100E-01	1.512E-03	9.842E-04	4.300E 00	-9.364E-06	5.991E-05
6.300E-01	1.630E-03	1.110E-03	4.380E 00	-2.505E-05	5.946E-05
6.500E-01	1.393E-03	1.140E-03	4.460E 00	-1.507E-05	6.010E-05
6.700E-01	1.324E-03	1.078E-03	4.500E 00	6.616E-06	6.199E-05
6.900E-01	1.824E-03	9.888E-04	4.630E 00	2.862E-05	6.067E-05
7.100E-01	3.144E-03	9.568E-04	4.730E 00	4.483E-05	6.152E-05
7.300E-01	6.401E-03	9.795E-04	4.830E 00	6.263E-05	6.003E-05
7.500E-01	1.476E-02	1.019E-03	4.930E 00	7.005E-05	6.405E-05
7.700E-01	3.342E-02	1.013E-03	5.030E 00	4.063E-05	6.145E-05
7.900E-01	6.603E-02	1.023E-03	5.130E 00	4.275E-06	5.916E-05
8.100E-01	1.084E-01	1.052E-03	5.230E 00	7.958E-07	6.160E-05
8.300E-01	1.464E-01	1.034E-03	5.330E 00	1.802E-05	6.411E-05
8.500E-01	1.636E-01	9.846E-04	5.430E 00	2.058E-05	6.475E-05
8.700E-01	1.533E-01	9.180E-04	5.530E 00	5.777E-06	6.119E-05
8.900E-01	1.227E-01	7.977E-04	5.630E 00	-7.525E-06	5.757E-05
9.100E-01	8.600E-02	6.585E-04	5.730E 00	-4.773E-06	5.805E-05
9.300E-01	5.472E-02	5.710E-04	5.830E 00	1.703E-05	6.046E-05
9.500E-01	3.334E-02	5.469E-04	5.930E 00	5.207E-05	6.014E-05
9.700E-01	2.078E-02	5.365E-04	6.030E 00	8.389E-05	5.759E-05
1.000E 00	1.146E-02	5.365E-04	6.130E 00	9.029E-05	5.554E-05
1.040E 00	6.785E-03	5.009E-04	6.230E 00	6.568E-05	5.598E-05
1.080E 00	1.097E-02	4.473E-04	6.330E 00	2.607E-05	5.466E-05
1.120E 00	2.191E-02	4.668E-04	6.430E 00	6.772E-07	5.303E-05
1.160E 00	2.766E-02	4.851E-04	6.560E 00	8.523E-06	4.691E-05
1.200E 00	2.158E-02	4.194E-04	6.680E 00	3.328E-05	4.228E-05
1.240E 00	1.063E-02	3.676E-04	6.800E 00	4.675E-05	3.789E-05
1.280E 00	3.614E-03	3.233E-04	6.920E 00	4.078E-05	3.321E-05
1.320E 00	1.611E-03	3.447E-04	7.040E 00	2.663E-05	2.743E-05
1.360E 00	2.714E-03	3.505E-04	7.160E 00	1.685E-05	2.358E-05
1.400E 00	7.559E-03	4.061E-04	7.280E 00	1.582E-05	2.141E-05
1.440E 00	1.725E-02	4.203E-04	7.400E 00	2.111E-05	1.946E-05
1.480E 00	2.823E-02	4.750E-04	7.520E 00	2.950E-05	1.822E-05
1.520E 00	3.294E-02	5.375E-04	7.640E 00	3.736E-05	1.757E-05
1.560E 00	2.777E-02	4.767E-04	7.760E 00	4.002E-05	1.695E-05
1.600E 00	1.723E-02	3.249E-04	7.890E 00	3.084E-05	1.662E-05
1.640E 00	8.148E-03	2.098E-04	8.030E 00	1.304E-05	1.534E-05
1.680E 00	3.337E-03	1.510E-04	8.170E 00	7.009E-06	1.384E-05
1.720E 00	1.702E-03	1.270E-04	8.310E 00	1.747E-05	1.314E-05
1.760E 00	1.465E-03	1.243E-04	8.450E 00	3.051E-05	1.204E-05
1.800E 00	1.661E-03	1.271E-04	8.590E 00	3.906E-05	9.948E-06
1.850E 00	1.876E-03	1.292E-04	8.730E 00	4.514E-05	8.369E-06
1.910E 00	1.577E-03	1.189E-04	8.870E 00	4.377E-05	7.896E-06
1.970E 00	8.223E-04	1.085E-04	9.010E 00	3.304E-05	6.392E-06
2.030E 00	2.924E-04	9.702E-05	9.160E 00	1.489E-05	4.175E-06
2.090E 00	1.173E-04	9.295E-05	9.300E 00	7.708E-06	3.946E-06
2.150E 00	5.859E-05	9.507E-05	9.460E 00	2.612E-06	3.181E-06
2.210E 00	2.577E-05	9.421E-05	9.620E 00	1.326E-06	1.967E-06
2.270E 00	3.059E-05	8.596E-05	9.780E 00	1.289E-06	1.898E-06
2.330E 00	6.111E-05	7.954E-05	9.940E 00	1.121E-06	1.635E-06
2.390E 00	6.790E-05	7.759E-05	1.010E 01	1.011E-06	1.045E-06
2.450E 00	4.682E-05	7.677E-05	1.026E 01	9.253E-07	7.716E-07
2.510E 00	4.473E-05	7.485E-05	1.042E 01	5.076E-07	1.016E-06
2.570E 00	8.251E-05	7.274E-05	1.058E 01	2.163E-07	9.032E-07

INTEGRATED DATA

PHOTON ENERGY INTERVAL (MEV)	X-SECTION (B/SR)	ERROR (B/SR)
3.000E-01 - 4.000E-01	2.314E-03	2.433E-04
4.000E-01 - 5.000E-01	4.610E-04	2.703E-04
5.000E-01 - 6.000E-01	2.530E-04	1.151E-04
6.000E-01 - 7.000E-01	1.546E-04	1.062E-04
7.000E-01 - 8.000E-01	2.503E-03	9.993E-05
8.000E-01 - 1.000E 00	1.803E-02	1.526E-04
1.000E 00 - 1.200E 00	3.367E-03	9.523E-05
1.200E 00 - 1.400E 00	1.258E-03	7.140E-05
1.400E 00 - 1.600E 00	4.830E-03	9.179E-05
1.600E 00 - 1.800E 00	9.269E-04	3.307E-05
1.800E 00 - 2.000E 00	2.905E-04	2.389E-05
2.000E 00 - 2.500E 00	4.493E-05	4.352E-05
2.500E 00 - 3.000E 00	2.256E-05	3.515E-05
3.000E 00 - 3.500E 00	1.941E-05	3.510E-05
3.500E 00 - 4.000E 00	2.190E-05	3.464E-05
4.000E 00 - 4.500E 00	2.924E-06	3.146E-05
4.500E 00 - 5.000E 00	2.195E-05	3.077E-05
5.000E 00 - 6.000E 00	1.512E-05	6.076E-05
6.000E 00 - 7.000E 00	4.131E-05	4.736E-05
7.000E 00 - 8.000E 00	2.696E-05	1.974E-05
8.000E 00 - 9.000E 00	2.894E-05	1.104E-05
9.000E 00 - 1.000E 01	7.356E-06	3.078E-06

DIFFERENTIAL CROSS SECTIONS FOR GAMMA RAY PRODUCTION IN NN. THE FIRST SET OF NUMBERS IS THE DOUBLY DIFFERENTIAL CROSS SECTION, WHILE THE SECOND SET IS THE GAMMA RAY PRODUCTION CROSS SECTION FOR THE DESIGNATED GAMMA RAY ENERGY INTERVALS. THIS SECOND SET RESULTS FROM INTEGRATION OF THE DOUBLY DIFFERENTIAL DATA. THE UNCERTAINTIES ARE GIVEN IN THE SAME UNITS AS THE DATA AND DO NOT INCLUDE AN ESTIMATED 10 PERCENT ERROR IN ABSOLUTE NORMALIZATION.

INCIDENT NEUTRON ENERGY = 2.01 TO 2.52 MEV. ANGLE = 125 DEGREES.

PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)	PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)
2.250E-01	3.594E-02	6.640E-03	2.630E 00	5.523E-05	9.429E-05
2.350E-01	3.675E-02	5.690E-03	2.690E 00	9.558E-05	9.064E-05
2.450E-01	3.861E-02	5.318E-03	2.750E 00	9.423E-05	8.830E-05
2.575E-01	4.430E-02	5.194E-03	2.810E 00	6.317E-05	9.018E-05
2.725E-01	5.551E-02	4.904E-03	2.870E 00	5.208E-05	9.147E-05
2.875E-01	6.668E-02	4.378E-03	2.930E 00	7.920E-05	6.255E-05
3.025E-01	7.086E-02	3.860E-03	2.990E 00	8.155E-05	9.124E-05
3.175E-01	6.533E-02	3.572E-03	3.050E 00	7.353E-05	8.817E-05
3.325E-01	5.351E-02	3.574E-03	3.110E 00	4.501E-05	8.696E-05
3.475E-01	4.184E-02	3.675E-03	3.180E 00	-1.364E-06	8.384E-05
3.625E-01	3.355E-02	3.690E-03	3.260E 00	-4.572E-05	8.667E-05
3.775E-01	2.814E-02	3.628E-03	3.340E 00	-4.940E-05	8.590E-05
3.925E-01	2.484E-02	3.636E-03	3.420E 00	-1.042E-05	8.945E-05
4.100E-01	2.245E-02	3.895E-03	3.500E 00	5.103E-05	0.609E-05
4.300E-01	1.985E-02	3.918E-03	3.580E 00	1.014E-04	8.602E-05
4.500E-01	1.826E-02	4.042E-03	3.660E 00	1.285E-04	7.879E-05
4.700E-01	1.781E-02	3.888E-03	3.740E 00	1.670E-04	8.068E-05
4.900E-01	1.588E-02	3.302E-03	3.820E 00	1.766E-04	7.684E-05
5.100E-01	1.302E-02	2.664E-03	3.900E 00	1.389E-04	8.406E-05
5.300E-01	9.800E-03	2.874E-03	3.980E 00	5.747E-06	9.073E-06
5.500E-01	6.999E-03	1.635E-03	4.060E 00	-2.697E-05	7.093E-05
5.700E-01	5.182E-03	1.544E-03	4.140E 00	-4.843E-05	6.539E-05
5.900E-01	3.996E-03	1.524E-03	4.220E 00	-2.115E-05	6.240E-05
6.100E-01	3.119E-03	1.608E-03	4.300E 00	2.087E-05	6.784E-05
6.300E-01	3.023E-03	1.839E-03	4.380E 00	4.734E-05	6.844E-05
6.500E-01	3.513E-03	1.871E-03	4.460E 00	4.425E-05	6.805E-05
6.700E-01	3.967E-03	1.722E-03	4.540E 00	1.370E-05	6.255E-05
6.900E-01	4.431E-03	1.697E-03	4.630E 00	-1.387E-05	6.066E-05
7.100E-01	5.565E-03	1.666E-03	4.730E 00	-3.875E-05	5.800E-05
7.300E-01	8.749E-03	1.686E-03	4.830E 00	-1.749E-05	6.992E-05
7.500E-01	1.754E-02	1.731E-03	4.930E 00	3.370E-05	7.234E-05
7.700E-01	3.832E-02	1.707E-03	5.030E 00	9.126E-05	7.287E-05
7.900E-01	7.633E-02	1.734E-03	5.130E 00	9.872E-05	6.983E-05
8.100E-01	1.277E-01	1.768E-03	5.230E 00	4.996E-05	6.922E-05
8.300E-01	1.761E-01	1.750E-03	5.330E 00	-2.309E-05	7.150E-05
8.500E-01	2.013E-01	1.704E-03	5.430E 00	-3.307E-05	6.859E-05
8.700E-01	1.932E-01	1.637E-03	5.530E 00	-5.658E-05	6.274E-05
8.900E-01	1.584E-01	1.462E-03	5.630E 00	-1.619E-05	6.186E-05
9.100E-01	1.138E-01	1.286E-03	5.730E 00	2.539E-05	6.432E-05
9.300E-01	7.420E-02	1.161E-03	5.830E 00	4.926E-05	6.206E-05
9.500E-01	4.622E-02	1.144E-03	5.930E 00	5.894E-05	5.641E-05
9.700E-01	2.913E-02	1.141E-03	6.030E 00	6.326E-05	5.768E-05
1.000E 00	1.614E-02	1.187E-03	6.130E 00	7.797E-05	5.575E-05
1.040E 00	9.823E-03	1.086E-03	6.230E 00	8.344E-05	5.674E-05
1.080E 00	1.630E-02	1.001E-03	6.330E 00	7.164E-05	5.460E-05
1.120E 00	3.560E-02	1.069E-03	6.440E 00	4.882E-05	5.688E-05
1.160E 00	4.809E-02	1.047E-03	6.560E 00	1.931E-05	5.252E-05
1.200E 00	7.021E-02	1.012E-03	6.680E 00	3.328E-06	4.255E-05
1.240E 00	2.197E-02	9.323E-04	6.800E 00	1.402E-05	3.941E-05
1.280E 00	8.636E-03	9.424E-04	6.920E 00	1.827E-05	3.676E-05
1.320E 00	4.022E-03	9.774E-04	7.040E 00	6.505E-06	3.125E-05
1.360E 00	5.138E-03	1.014E-03	7.160E 00	-7.934E-06	2.595E-05
1.400E 00	1.361E-02	1.176E-03	7.280E 00	3.698E-07	2.327E-05
1.440E 00	3.264E-02	1.199E-03	7.400E 00	3.150E-05	2.309E-05
1.480E 00	5.541E-02	1.243E-03	7.520E 00	5.818E-05	2.403E-05
1.520E 00	6.891E-02	1.394E-03	7.640E 00	5.943E-05	2.303E-05
1.560E 00	5.785E-02	1.296E-03	7.760E 00	3.656E-05	2.149E-05
1.600E 00	3.787E-02	9.694E-04	7.880E 00	1.321E-05	2.110E-05
1.640E 00	2.165E-02	7.369E-04	8.030E 00	-1.339E-05	1.988E-05
1.680E 00	1.610E-02	6.514E-04	8.170E 00	3.074E-05	1.900E-05
1.720E 00	1.851E-02	6.769E-04	8.310E 00	3.569E-05	1.781E-05
1.760E 00	2.417E-02	7.602E-04	8.450E 00	1.845E-05	1.749E-05
1.800E 00	3.119E-02	8.195E-04	8.590E 00	4.539E-06	1.578E-05
1.850E 00	3.768E-02	7.407E-04	8.730E 00	6.167E-06	1.516E-05
1.910E 00	3.245E-02	6.287E-04	8.870E 00	2.003E-05	1.465E-05
1.970E 00	1.720E-02	4.069E-04	9.010E 00	3.111E-05	1.306E-05
2.030E 00	7.151E-03	2.696E-04	9.150E 00	3.868E-05	1.136E-05
2.090E 00	5.615E-03	2.638E-04	9.300E 00	4.109E-05	9.880E-06
2.150E 00	9.970E-03	2.891E-04	9.450E 00	2.237E-06	8.241E-06
2.210E 00	1.201E-02	2.974E-04	9.600E 00	2.025E-05	6.501E-06
2.270E 00	1.057E-02	2.578E-04	9.780E 00	9.487E-06	5.153E-06
2.330E 00	6.234E-03	1.914E-04	9.940E 00	4.622E-06	4.824E-06
2.390E 00	2.629E-02	1.462E-04	1.010E 01	8.641E-06	3.694E-06
2.450E 00	8.661E-04	1.146E-04	1.026E 01	1.652E-06	2.629E-06
2.510E 00	2.224E-04	9.875E-05	1.042E 01	1.070E-06	2.943E-06
2.570E 00	5.206E-05	9.623E-05	1.058E 01	8.976E-07	3.156E-06

INTEGRATED DATA

PHOTON ENERGY INTERVAL (MEV)	I-SECTION (B/SR)	ERROR (B/SR)
3.000E-01 - 4.000E-01	4.412E-03	3.650E-04
4.000E-01 - 5.000E-01	1.881E-03	3.796E-04
5.000E-01 - 6.000E-01	7.807E-04	1.885E-04
6.000E-01 - 7.000E-01	3.634E-04	1.759E-04
7.000E-01 - 8.000E-01	2.638E-04	2.966E-04
8.000E-01 - 1.000E 00	2.775E-02	2.843E-04
1.000E 00 - 1.200E 00	5.538E-03	2.117E-04
1.200E 00 - 1.400E 00	2.551E-03	1.974E-04
1.400E 00 - 1.600E 00	9.694E-03	2.495E-04
1.600E 00 - 1.800E 00	4.509E-03	1.477E-04
1.800E 00 - 2.000E 00	5.884E-03	1.233E-04
2.000E 00 - 2.500E 00	3.280E-03	1.119E-04
2.500E 00 - 3.000E 00	3.996E-05	4.622E-05
3.000E 00 - 3.500E 00	1.827E-06	4.352E-05
3.500E 00 - 4.000E 00	6.263E-05	4.081E-05
4.000E 00 - 4.500E 00	1.827E-06	3.379E-05
4.500E 00 - 5.000E 00	-5.468E-07	3.283E-05
5.000E 00 - 6.000E 00	2.106E-05	6.563E-05
6.000E 00 - 7.000E 00	4.118E-05	4.929E-05
7.000E 00 - 8.000E 00	2.429E-05	2.351E-05
8.000E 00 - 9.000E 00	1.945E-05	1.676E-05
9.000E 00 - 1.000E 01	2.531E-05	8.046E-06

DIFFERENTIAL CROSS SECTIONS FOR GAMMA RAY PRODUCTION IN W. THE FIRST SET OF NUMBERS IS THE DOUBLY DIFFERENTIAL CROSS SECTION, WHILE THE SECOND SET IS THE GAMMA RAY PRODUCTION CROSS SECTION FOR THE DESIGNATED GAMMA RAY ENERGY INTERVALS. THIS SECOND SET RESULTS FROM INTEGRATION OF THE DOUBLY DIFFERENTIAL DATA. THE UNCERTAINTIES ARE GIVEN IN THE SAME UNITS AS THE DATA AND DO NOT INCLUDE AN ESTIMATED 10 PERCENT ERROR IN ABSOLUTE NORMALIZATION.

INCIDENT NEUTRON ENERGY = 2.52 TO 2.98 MEV. ANGLE = 125 DEGREES.

PROTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)	PROTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)
2.250E-01	5.222E-02	9.333E-03	2.630E 00	6.746E-03	2.597E-04
2.350E-01	5.206E-02	8.124E-03	2.690E 00	4.766E-03	2.325E-04
2.450E-01	5.371E-02	7.663E-03	2.750E 00	3.076E-03	1.831E-04
2.575E-01	6.008E-02	7.403E-03	2.810E 00	1.865E-03	1.499E-04
2.725E-01	7.191E-02	6.755E-03	2.870E 00	1.030E-03	1.315E-04
2.975E-01	8.265E-02	5.989E-03	2.930E 00	4.969E-04	1.227E-04
3.025E-01	8.827E-02	5.496E-03	2.990E 00	2.338E-04	1.205E-04
3.175E-01	8.326E-02	4.925E-03	3.050E 00	1.671E-04	1.116E-04
3.325E-01	7.005E-02	4.963E-03	3.110E 00	1.633E-04	1.124E-04
3.475E-01	5.807E-02	4.990E-03	3.180E 00	1.485E-04	1.200E-04
3.625E-01	5.150E-02	4.712E-03	3.260E 00	9.297E-05	1.112E-04
3.775E-01	4.696E-02	4.707E-03	3.340E 00	5.866E-05	1.155E-04
3.925E-01	4.180E-02	4.798E-03	3.420E 00	1.516E-05	1.190E-04
4.100E-01	3.588E-02	5.046E-03	3.500E 00	-2.364E-05	9.205E-05
4.300E-01	3.151E-02	5.163E-03	3.580E 00	-3.210E-05	1.003E-04
4.500E-01	3.024E-02	5.231E-03	3.660E 00	-2.575E-05	1.131E-04
4.700E-01	3.039E-02	5.031E-03	3.740E 00	5.725E-06	1.024E-04
4.900E-01	2.859E-02	4.314E-03	3.820E 00	1.566E-05	1.053E-04
5.100E-01	2.450E-02	3.636E-03	3.900E 00	3.018E-05	1.244E-04
5.300E-01	1.897E-02	2.935E-03	3.980E 00	7.306E-06	1.027E-04
5.500E-01	1.306E-02	2.484E-03	4.060E 00	-6.464E-06	9.009E-05
5.700E-01	8.581E-03	2.349E-03	4.140E 00	-1.135E-05	9.241E-05
5.900E-01	6.477E-03	2.338E-03	4.220E 00	-6.680E-06	8.542E-05
6.100E-01	5.442E-03	2.437E-03	4.300E 00	2.886E-05	8.559E-05
6.300E-01	4.611E-03	2.692E-03	4.380E 00	6.748E-05	9.898E-05
6.500E-01	4.220E-03	2.734E-03	4.460E 00	6.452E-05	8.437E-05
6.700E-01	4.761E-03	2.661E-03	4.540E 00	5.087E-05	8.293E-05
6.900E-01	6.980E-03	2.585E-03	4.630E 00	2.468E-05	8.249E-05
7.100E-01	1.102E-02	2.476E-03	4.730E 00	1.170E-05	8.499E-05
7.300E-01	1.636E-02	2.432E-03	4.830E 00	3.700E-06	7.886E-05
7.500E-01	2.466E-02	2.425E-03	4.930E 00	1.232E-05	8.118E-05
7.700E-01	4.293E-02	2.405E-03	5.030E 00	2.456E-05	8.031E-05
7.900E-01	7.907E-02	2.499E-03	5.130E 00	3.441E-05	8.284E-05
8.100E-01	1.310E-01	2.601E-03	5.230E 00	1.403E-05	8.219E-05
8.300E-01	1.818E-01	2.551E-03	5.330E 00	-1.256E-05	7.678E-05
8.500E-01	2.095E-01	2.476E-03	5.430E 00	-3.807E-06	7.938E-05
8.700E-01	2.027E-01	2.450E-03	5.530E 00	-5.538E-06	8.102E-05
8.900E-01	1.677E-01	2.215E-03	5.630E 00	-3.283E-06	8.578E-05
9.100E-01	1.219E-01	1.980E-03	5.730E 00	-1.804E-06	8.608E-05
9.300E-01	8.097E-02	1.813E-03	5.830E 00	1.354E-05	8.704E-05
9.500E-01	5.180E-02	1.839E-03	5.930E 00	-1.734E-06	7.575E-05
9.700E-01	3.393E-02	1.841E-03	6.030E 00	-8.901E-06	7.313E-05
1.000E 00	2.070E-02	1.899E-03	6.130E 00	1.651E-05	7.906E-05
1.040E 00	1.432E-02	1.775E-03	6.230E 00	6.117E-05	8.197E-05
1.080E 00	1.944E-02	1.605E-03	6.330E 00	9.382E-05	7.553E-05
1.120E 00	4.227E-02	1.709E-03	6.440E 00	8.258E-05	7.143E-05
1.160E 00	6.364E-02	1.602E-03	6.560E 00	4.392E-05	5.935E-05
1.200E 00	5.838E-02	1.650E-03	6.680E 00	3.066E-06	5.614E-05
1.240E 00	3.483E-02	1.586E-03	6.800E 00	-1.467E-05	5.503E-05
1.280E 00	1.550E-02	1.597E-03	6.920E 00	-2.437E-05	4.516E-05
1.320E 00	9.422E-03	1.696E-03	7.040E 00	-2.538E-05	3.990E-05
1.360E 00	1.320E-02	1.717E-03	7.160E 00	-1.656E-05	3.569E-05
1.400E 00	2.332E-02	1.926E-03	7.280E 00	1.716E-05	3.317E-05
1.440E 00	4.095E-02	1.944E-03	7.400E 00	6.743E-05	3.014E-05
1.480E 00	6.212E-02	1.972E-03	7.520E 00	9.675E-05	2.954E-05
1.520E 00	7.213E-02	2.095E-03	7.640E 00	7.627E-05	2.787E-05
1.560E 00	6.162E-02	2.108E-03	7.760E 00	2.801E-05	2.693E-05
1.600E 00	4.008E-02	1.782E-03	7.890E 00	-6.128E-06	2.467E-05
1.640E 00	2.373E-02	1.512E-03	8.030E 00	2.678E-06	2.230E-05
1.680E 00	1.915E-02	1.446E-03	8.170E 00	3.012E-05	2.182E-05
1.720E 00	2.252E-02	1.508E-03	8.310E 00	3.864E-05	2.052E-05
1.760E 00	2.926E-02	1.621E-03	8.450E 00	2.361E-05	2.020E-05
1.800E 00	3.736E-02	1.689E-03	8.590E 00	4.573E-06	1.879E-05
1.850E 00	4.433E-02	1.539E-03	8.730E 00	-7.106E-06	1.855E-05
1.910E 00	3.789E-02	1.343E-03	8.870E 00	-5.836E-06	1.821E-05
1.970E 00	2.004E-02	1.020E-03	9.010E 00	5.052E-06	1.739E-05
2.030E 00	1.155E-02	8.747E-04	9.150E 00	2.316E-05	1.588E-05
2.090E 00	2.123E-02	9.953E-04	9.300E 00	3.594E-05	1.413E-05
2.150E 00	4.745E-02	1.147E-03	9.460E 00	3.393E-05	1.419E-05
2.210E 00	7.076E-02	1.309E-03	9.620E 00	2.473E-05	1.168E-05
2.270E 00	6.853E-02	1.138E-03	9.780E 00	1.735E-05	8.933E-06
2.330E 00	4.589E-02	7.938E-04	9.940E 00	1.194E-05	8.818E-06
2.390E 00	2.396E-02	5.136E-04	1.010E 01	8.809E-06	6.912E-06
2.450E 00	1.270E-02	3.463E-04	1.026E 01	6.446E-06	4.343E-06
2.510E 00	9.381E-03	3.033E-04	1.042E 01	5.386E-06	3.521E-06
2.570E 00	8.321E-03	2.836E-04	1.058E 01	4.145E-06	3.782E-06

INTEGRATED DATA

PROTON ENERGY INTERVAL (MEV)	I-SECTION (B/SR)	ERROR (B/SR)
3.000E-01 - 4.000E-01	6.153E-03	4.906E-04
4.000E-01 - 5.000E-01	3.134E-03	4.952E-04
5.000E-01 - 6.000E-01	1.432E-03	2.753E-04
6.000E-01 - 7.000E-01	5.245E-04	2.623E-04
7.000E-01 - 8.000E-01	3.518E-03	2.449E-04
8.000E-01 - 1.000E 00	2.407E-02	4.326E-04
1.000E 00 - 1.200E 00	7.180E-03	3.374E-04
1.200E 00 - 1.400E 00	4.407E-03	3.340E-04
1.400E 00 - 1.600E 00	1.091E-02	4.004E-04
1.600E 00 - 1.800E 00	5.238E-03	3.117E-04
1.800E 00 - 2.000E 00	6.892E-03	2.685E-04
2.000E 00 - 2.500E 00	1.833E-02	4.341E-04
2.500E 00 - 3.000E 00	1.961E-03	9.863E-05
3.000E 00 - 3.500E 00	4.866E-05	5.699E-05
3.500E 00 - 4.000E 00	-9.165E-07	5.386E-05
4.000E 00 - 4.600E 00	1.107E-05	4.513E-05
4.500E 00 - 5.000E 00	9.706E-06	4.096E-05
5.000E 00 - 6.000E 00	-5.965E-06	8.168E-05
6.000E 00 - 7.000E 00	2.692E-05	6.489E-05
7.000E 00 - 8.000E 00	2.885E-05	3.035E-05
8.000E 00 - 9.000E 00	1.251E-05	1.982E-05
9.000E 00 - 1.000E 01	2.346E-05	1.264E-05

DIFFERENTIAL CROSS SECTIONS FOR GAMMA RAY PRODUCTION IN HW. THE FIRST SET OF NUMBERS IS THE DOUBLY DIFFERENTIAL CROSS SECTION, WHILE THE SECOND SET IS THE GAMMA RAY PRODUCTION CROSS SECTION FOR THE DESIGNATED GAMMA RAY ENERGY INTERVALS. THIS SECOND SET RESULTS FROM INTEGRATION OF THE DOUBLY DIFFERENTIAL DATA. THE UNCERTAINTIES ARE GIVEN IN THE SAME UNITS AS THE DATA AND DO NOT INCLUDE AN ESTIMATED 10 PERCENT ERROR IN ABSOLUTE NORMALIZATION.

INCIDENT NEUTRON ENERGY = 2.98 TO 3.50 MEV. ANGLE = 125 DEGREES.

PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)	PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)
2.250E-01	8.160E-02	1.205E-02	2.630E 00	3.045E-02	9.225E-04
2.350E-01	8.151E-02	1.042E-02	2.690E 00	3.253E-02	8.261E-04
2.450E-01	8.281E-02	9.734E-03	2.750E 00	3.187E-02	7.589E-04
2.575E-01	8.952E-02	9.451E-03	2.810E 00	3.000E-02	7.187E-04
2.725E-01	1.022E-01	8.717E-03	2.870E 00	2.772E-02	6.67E-04
2.875E-01	1.129E-01	7.712E-03	2.930E 00	2.432E-02	5.364E-04
3.025E-01	1.171E-01	7.074E-03	2.990E 00	1.938E-02	4.531E-04
3.175E-01	1.111E-01	6.430E-03	3.050E 00	1.392E-02	3.862E-04
3.325E-01	9.412E-02	6.462E-03	3.110E 00	9.244E-03	3.233E-04
3.475E-01	7.474E-02	6.724E-03	3.180E 00	5.376E-03	2.612E-04
3.625E-01	6.275E-02	6.644E-03	3.260E 00	2.700E-03	2.276E-04
3.775E-01	5.806E-02	6.462E-03	3.340E 00	1.188E-03	1.803E-04
3.925E-01	5.449E-02	6.561E-03	3.420E 00	3.838E-04	1.635E-04
4.100E-01	4.919E-02	6.854E-03	3.500E 00	8.810E-05	1.527E-04
4.300E-01	4.555E-02	6.950E-03	3.580E 00	6.816E-05	1.447E-04
4.500E-01	4.470E-02	6.947E-03	3.660E 00	1.118E-04	1.482E-04
4.700E-01	4.278E-02	6.675E-03	3.740E 00	1.167E-04	1.476E-04
4.900E-01	3.897E-02	5.931E-03	3.820E 00	6.868E-05	1.459E-04
5.100E-01	3.293E-02	5.105E-03	3.900E 00	8.586E-06	1.541E-04
5.300E-01	2.560E-02	4.270E-03	3.980E 00	-5.747E-05	1.475E-04
5.500E-01	2.006E-02	3.600E-03	4.060E 00	-8.069E-05	1.238E-04
5.700E-01	1.613E-02	3.280E-03	4.140E 00	-6.476E-05	1.127E-04
5.900E-01	1.254E-02	3.135E-03	4.220E 00	-1.234E-05	1.224E-04
6.100E-01	1.049E-02	3.213E-03	4.300E 00	6.987E-05	1.179E-04
6.300E-01	1.122E-02	3.540E-03	4.380E 00	1.537E-04	1.207E-04
6.500E-01	1.307E-02	3.583E-03	4.460E 00	1.889E-04	1.037E-04
6.700E-01	1.443E-02	3.469E-03	4.540E 00	1.724E-04	1.018E-04
6.900E-01	1.594E-02	3.371E-03	4.630E 00	9.245E-05	9.954E-05
7.100E-01	1.848E-02	3.351E-03	4.730E 00	-2.015E-06	9.978E-05
7.300E-01	2.271E-02	3.395E-03	4.830E 00	-7.740E-05	9.574E-05
7.500E-01	3.192E-02	3.395E-03	4.930E 00	-8.343E-05	9.518E-05
7.700E-01	5.326E-02	3.310E-03	5.030E 00	-4.564E-05	9.739E-05
7.900E-01	9.251E-02	3.327E-03	5.130E 00	-2.162E-05	9.907E-05
8.100E-01	1.453E-01	3.362E-03	5.230E 00	-1.064E-05	9.528E-05
8.300E-01	1.946E-01	3.239E-03	5.330E 00	-3.212E-06	8.288E-05
8.500E-01	2.202E-01	3.177E-03	5.430E 00	4.656E-05	8.095E-05
8.700E-01	2.127E-01	3.147E-03	5.530E 00	3.100E-05	9.040E-05
8.900E-01	1.784E-01	2.899E-03	5.630E 00	6.263E-05	9.523E-05
9.100E-01	1.331E-01	2.650E-03	5.730E 00	1.066E-04	9.681E-05
9.300E-01	9.203E-02	2.472E-03	5.830E 00	1.303E-04	9.839E-05
9.500E-01	6.252E-02	2.483E-03	5.930E 00	9.447E-05	8.998E-05
9.700E-01	4.458E-02	2.549E-03	6.030E 00	3.001E-05	8.728E-05
1.000E 00	3.102E-02	2.695E-03	6.130E 00	-3.443E-05	9.825E-05
1.040E 00	2.197E-02	2.516E-03	6.230E 00	-7.644E-05	9.586E-05
1.080E 00	2.616E-02	2.214E-03	6.330E 00	-7.755E-05	8.991E-05
1.120E 00	4.963E-02	2.304E-03	6.440E 00	-5.505E-05	7.779E-05
1.160E 00	7.053E-02	2.373E-03	6.560E 00	-1.228E-05	7.263E-05
1.200E 00	6.521E-02	2.300E-03	6.680E 00	4.076E-05	7.850E-05
1.240E 00	4.112E-02	2.174E-03	6.800E 00	7.412E-05	6.561E-05
1.280E 00	2.207E-02	2.229E-03	6.920E 00	5.865E-05	5.545E-05
1.320E 00	1.758E-02	2.453E-03	7.040E 00	2.877E-05	5.150E-05
1.360E 00	2.268E-02	2.584E-03	7.160E 00	1.074E-05	4.831E-05
1.400E 00	3.398E-02	2.881E-03	7.280E 00	1.848E-05	4.339E-05
1.440E 00	5.274E-02	2.857E-03	7.400E 00	2.364E-05	3.641E-05
1.480E 00	7.344E-02	2.761E-03	7.520E 00	1.898E-05	2.890E-05
1.520E 00	9.152E-02	2.920E-03	7.640E 00	1.225E-05	2.297E-05
1.560E 00	6.884E-02	2.916E-03	7.760E 00	3.408E-05	3.086E-05
1.600E 00	4.573E-02	2.498E-03	7.890E 00	6.350E-05	3.135E-05
1.640E 00	2.874E-02	2.248E-03	8.030E 00	7.083E-05	2.851E-05
1.680E 00	2.428E-02	2.232E-03	8.170E 00	4.481E-05	2.533E-05
1.720E 00	2.852E-02	2.314E-03	8.310E 00	1.162E-05	2.450E-05
1.760E 00	3.629E-02	2.378E-03	8.450E 00	-9.342E-06	2.273E-05
1.800E 00	4.428E-02	2.501E-03	8.590E 00	-1.206E-05	2.056E-05
1.850E 00	4.968E-02	2.212E-03	8.730E 00	-5.217E-07	1.902E-05
1.910E 00	4.155E-02	2.048E-03	8.870E 00	1.420E-05	1.775E-05
1.970E 00	2.362E-02	1.674E-03	9.010E 00	2.133E-05	1.772E-05
2.030E 00	1.620E-02	1.562E-03	9.150E 00	2.196E-05	1.642E-05
2.090E 00	2.802E-02	1.680E-03	9.300E 00	2.934E-05	1.546E-05
2.150E 00	5.846E-02	1.856E-03	9.460E 00	1.443E-05	1.457E-05
2.210E 00	8.502E-02	1.900E-03	9.620E 00	6.060E-06	1.306E-05
2.270E 00	8.155E-02	1.844E-03	9.780E 00	3.658E-06	1.144E-05
2.330E 00	5.444E-02	1.356E-03	9.940E 00	5.983E-06	1.249E-05
2.390E 00	7.944E-02	1.070E-03	1.010E 01	9.418E-06	1.535E-05
2.450E 00	1.897E-02	9.644E-04	1.026E 01	1.268E-05	1.050E-05
2.510E 00	2.002E-02	9.820E-04	1.042E 01	1.517E-05	6.836E-06
2.570E 00	2.551E-02	9.657E-04	1.058E 01	1.411E-05	9.128E-06

INTEGRATED DATA

PHOTON ENERGY INTERVAL (MEV)	I-SECTION (B/SR)	ERROR (B/SR)
3.000E-01 - 4.000E-01	7.995E-03	6.589E-04
4.000E-01 - 5.000E-01	4.426E-03	6.864E-04
5.000E-01 - 6.000E-01	2.187E-03	3.884E-04
6.000E-01 - 7.000E-01	1.309E-03	3.439E-04
7.000E-01 - 8.000E-01	4.413E-03	3.356E-04
8.000E-01 - 1.000E 00	2.611E-02	5.723E-04
1.000E 00 - 1.200E 00	8.656E-03	4.754E-04
1.200E 00 - 1.400E 00	5.969E-03	4.792E-04
1.400E 00 - 1.600E 00	1.284E-02	5.676E-04
1.600E 00 - 1.800E 00	6.416E-03	4.654E-04
1.800E 00 - 2.000E 00	7.812E-03	4.075E-04
2.000E 00 - 2.500E 00	2.274E-02	7.586E-04
2.500E 00 - 3.000E 00	1.377E-02	3.796E-04
3.000E 00 - 3.500E 00	2.536E-03	1.242E-04
3.500E 00 - 4.000E 00	3.038E-05	7.422E-05
4.000E 00 - 4.500E 00	1.896E-05	5.900E-05
4.500E 00 - 5.000E 00	5.493E-06	4.909E-05
5.000E 00 - 6.000E 00	3.692E-05	9.252E-05
6.000E 00 - 7.000E 00	-3.202E-06	7.859E-05
7.000E 00 - 8.000E 00	2.812E-05	3.782E-05
8.000E 00 - 9.000E 00	1.484E-05	2.206E-05
9.000E 00 - 1.000E 01	1.270E-05	1.417E-05

DIFFERENTIAL CROSS SECTIONS FOR GAMMA RAY PRODUCTION IN H₂. THE FIRST SET OF NUMBERS IS THE DOUBLY DIFFERENTIAL CROSS SECTION, WHILE THE SECOND SET IS THE GAMMA RAY PRODUCTION CROSS SECTION FOR THE DESIGNATED GAMMA RAY ENERGY INTERVALS. THIS SECOND SET RESULTS FROM INTEGRATION OF THE DOUBLY DIFFERENTIAL DATA. THE UNCERTAINTIES ARE GIVEN IN THE SAME UNITS AS THE DATA AND DO NOT INCLUDE AN ESTIMATED 10 PERCENT ERROR IN ABSOLUTE NORMALIZATION.

INCIDENT NEUTRON ENERGY = 3.50 TO 4.01 MEV. ANGLE = 125 DEGREES.

PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)	PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)
2.250E-01	9.137E-02	1.554E-02	2.630E 00	3.673E-02	1.545E-03
2.350E-01	9.201E-02	1.342E-02	2.690E 00	4.199E-02	1.474E-03
2.450E-01	9.388E-02	1.252E-02	2.750E 00	4.416E-02	1.439E-03
2.575E-01	1.016E-01	1.201E-02	2.810E 00	4.573E-02	1.422E-03
2.725E-01	1.178E-01	1.102E-02	2.870E 00	4.622E-02	1.272E-03
2.875E-01	1.357E-01	9.729E-03	2.930E 00	4.308E-02	1.146E-03
3.025E-01	1.473E-01	8.827E-03	2.990E 00	3.764E-02	1.003E-03
3.175E-01	1.431E-01	7.905E-03	3.050E 00	3.288E-02	8.866E-04
3.325E-01	1.231E-01	7.921E-03	3.110E 00	2.916E-02	7.901E-04
3.475E-01	1.005E-01	8.088E-03	3.180E 00	2.485E-02	7.175E-04
3.625E-01	8.389E-02	8.042E-03	3.260E 00	1.963E-02	6.057E-04
3.775E-01	7.378E-02	8.399E-03	3.340E 00	1.527E-02	5.040E-04
3.925E-01	6.963E-02	8.159E-03	3.420E 00	1.226E-02	4.229E-04
4.100E-01	6.723E-02	7.894E-03	3.500E 00	9.435E-03	3.576E-04
4.300E-01	6.056E-02	7.954E-03	3.580E 00	6.322E-03	3.275E-04
4.500E-01	5.438E-02	8.115E-03	3.660E 00	3.566E-03	2.509E-04
4.700E-01	5.177E-02	7.608E-03	3.740E 00	1.648E-03	2.194E-04
4.900E-01	4.890E-02	7.155E-03	3.820E 00	5.864E-04	1.964E-04
5.100E-01	4.522E-02	6.556E-03	3.900E 00	1.166E-04	2.282E-04
5.300E-01	3.996E-02	5.474E-03	3.980E 00	-5.694E-05	2.344E-04
5.500E-01	3.328E-02	4.561E-03	4.060E 00	-5.499E-05	1.987E-04
5.700E-01	2.762E-02	4.056E-03	4.140E 00	6.583E-05	1.686E-04
5.900E-01	2.376E-02	3.881E-03	4.220E 00	2.438E-04	1.677E-04
6.100E-01	2.119E-02	4.135E-03	4.300E 00	3.421E-04	1.554E-04
6.300E-01	2.212E-02	4.539E-03	4.380E 00	2.909E-04	1.447E-04
6.500E-01	2.612E-02	4.363E-03	4.460E 00	1.179E-04	1.475E-04
6.700E-01	2.968E-02	4.092E-03	4.540E 00	-4.307E-05	1.702E-04
6.900E-01	3.091E-02	4.022E-03	4.620E 00	-1.319E-04	1.636E-04
7.100E-01	3.241E-02	4.036E-03	4.700E 00	-1.066E-04	1.334E-04
7.300E-01	3.691E-02	4.057E-03	4.800E 00	-3.937E-05	1.157E-04
7.500E-01	4.533E-02	4.052E-03	4.900E 00	2.172E-05	1.115E-04
7.700E-01	6.109E-02	3.945E-03	5.030E 00	6.680E-05	1.156E-04
7.900E-01	9.030E-02	3.987E-03	5.130E 00	8.302E-05	1.104E-04
8.100E-01	1.340E-01	4.055E-03	5.230E 00	4.789E-05	1.079E-04
8.300E-01	1.810E-01	4.059E-03	5.330E 00	-4.037E-05	1.105E-04
8.500E-01	2.118E-01	3.982E-03	5.430E 00	-1.091E-04	1.086E-04
8.700E-01	2.123E-01	3.833E-03	5.530E 00	-8.266E-05	1.129E-04
8.900E-01	1.843E-01	3.617E-03	5.630E 00	4.523E-05	1.279E-04
9.100E-01	1.420E-01	3.411E-03	5.730E 00	1.440E-04	1.173E-04
9.300E-01	1.016E-01	3.140E-03	5.830E 00	1.696E-04	1.154E-04
9.500E-01	7.174E-02	3.073E-03	5.930E 00	1.337E-04	1.034E-04
9.700E-01	5.343E-02	3.122E-03	6.030E 00	8.638E-05	1.094E-04
1.000E 00	4.014E-02	3.311E-03	6.130E 00	4.122E-05	1.035E-04
1.040E 00	3.287E-02	3.150E-03	6.230E 00	1.649E-06	9.921E-05
1.080E 00	3.671E-02	2.783E-03	6.330E 00	-3.055E-05	1.011E-04
1.120E 00	5.853E-02	2.817E-03	6.440E 00	-5.529E-05	9.401E-05
1.160E 00	7.989E-02	2.784E-03	6.560E 00	-5.085E-05	8.793E-05
1.200E 00	7.329E-02	2.732E-03	6.680E 00	-3.562E-05	8.497E-05
1.240E 00	4.705E-02	2.830E-03	6.800E 00	7.744E-07	8.390E-05
1.280E 00	2.824E-02	2.732E-03	6.920E 00	4.032E-05	6.847E-05
1.320E 00	2.321E-02	2.985E-03	7.040E 00	6.210E-05	6.587E-05
1.360E 00	2.756E-02	3.157E-03	7.160E 00	5.195E-05	5.927E-05
1.400E 00	4.017E-02	3.508E-03	7.280E 00	2.438E-05	5.094E-05
1.440E 00	6.055E-02	3.480E-03	7.400E 00	1.741E-07	4.053E-05
1.480E 00	8.183E-02	3.373E-03	7.520E 00	-8.488E-06	3.700E-05
1.520E 00	9.008E-02	3.675E-03	7.640E 00	5.038E-06	3.700E-05
1.560E 00	7.860E-02	3.763E-03	7.760E 00	2.600E-05	3.504E-05
1.600E 00	5.686E-02	3.132E-03	7.890E 00	4.221E-05	3.030E-05
1.640E 00	3.921E-02	2.734E-03	8.030E 00	4.086E-05	2.756E-05
1.680E 00	3.211E-02	2.744E-03	8.170E 00	2.318E-05	2.341E-05
1.720E 00	3.244E-02	2.904E-03	8.310E 00	9.100E-06	1.988E-05
1.760E 00	3.629E-02	3.012E-03	8.450E 00	7.616E-06	1.875E-05
1.800E 00	4.209E-02	3.142E-03	8.590E 00	1.090E-05	1.702E-05
1.850E 00	4.681E-02	2.655E-03	8.730E 00	1.340E-05	1.494E-05
1.910E 00	4.973E-02	2.678E-03	8.870E 00	1.479E-05	1.419E-05
1.970E 00	2.914E-02	2.978E-03	9.010E 00	1.713E-05	1.337E-05
2.030E 00	2.698E-02	2.154E-03	9.150E 00	1.548E-05	1.359E-05
2.090E 00	3.804E-02	2.317E-03	9.300E 00	1.036E-05	1.396E-05
2.150E 00	6.431E-02	2.500E-03	9.460E 00	2.831E-06	1.401E-05
2.210E 00	8.784E-02	2.660E-03	9.620E 00	4.572E-06	1.356E-05
2.270E 00	8.526E-02	2.470E-03	9.780E 00	8.531E-06	1.211E-05
2.330E 00	5.945E-02	2.043E-03	9.940E 00	1.133E-05	1.476E-05
2.390E 00	3.366E-02	1.666E-03	1.010E 01	1.338E-05	1.520E-05
2.450E 00	2.219E-02	1.510E-03	1.026E 01	1.589E-05	1.069E-05
2.510E 00	2.334E-02	1.466E-03	1.042E 01	1.818E-05	8.538E-06
2.570E 00	2.953E-02	1.522E-03	1.058E 01	1.474E-05	9.731E-06

INTEGRATED DATA

PHOTON ENERGY INTERVAL (MEV)	I-SECTION (B/SR)	ERROR (B/SR)
3.000E-01 - 4.000E-01	1.038E-02	8.147E-04
4.000E-01 - 5.000E-01	5.652E-03	7.744E-04
5.000E-01 - 6.000E-01	3.397E-03	4.908E-04
6.000E-01 - 7.000E-01	2.607E-03	4.234E-04
7.000E-01 - 8.000E-01	5.356E-03	4.015E-04
8.000E-01 - 1.000E 00	2.668E-02	7.109E-04
1.000E 00 - 1.200E 00	1.060E-02	5.817E-04
1.200E 00 - 1.400E 00	7.145E-03	5.913E-04
1.400E 00 - 1.600E 00	1.456E-02	7.070E-04
1.600E 00 - 1.800E 00	7.488E-03	5.792E-04
1.800E 00 - 2.000E 00	7.867E-03	5.248E-04
2.000E 00 - 2.500E 00	2.544E-02	1.069E-03
2.500E 00 - 3.000E 00	1.974E-02	6.890E-04
3.000E 00 - 3.500E 00	1.062E-02	3.149E-04
3.500E 00 - 4.000E 00	1.330E-03	1.258E-04
4.000E 00 - 4.500E 00	7.915E-05	8.316E-05
4.500E 00 - 5.000E 00	-2.723E-05	6.818E-05
5.000E 00 - 6.000E 00	4.683E-05	1.129E-04
6.000E 00 - 7.000E 00	-2.965E-06	9.083E-05
7.000E 00 - 8.000E 00	2.557E-05	4.313E-05
8.000E 00 - 9.000E 00	1.595E-05	1.867E-05
9.000E 00 - 1.000E 01	9.335E-06	1.358E-05

DIFFERENTIAL CROSS SECTIONS FOR GAMMA RAY PRODUCTION IN HW. THE FIRST SET OF NUMBERS IS THE DOUBLY DIFFERENTIAL CROSS SECTION WHILE THE SECOND SET IS THE GAMMA RAY PRODUCTION CROSS SECTION FOR THE DESIGNATED GAMMA RAY ENERGY INTERVALS. THIS SECOND SET RESULTS FROM INTEGRATION OF THE DOUBLY DIFFERENTIAL DATA. THE UNCERTAINTIES ARE GIVEN IN THE SAME UNITS AS THE DATA AND DO NOT INCLUDE AN ESTIMATED 10 PERCENT ERROR IN ABSOLUTE NORMALIZATION.

INCIDENT NEUTRON ENERGY = 4.01 TO 4.50 MEV. ANGLE = 125 DEGREES.

PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)	PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)
2.250E-01	1.191E-01	1.702E-02	2.630E 00	4.155E-02	1.998E-03
2.350E-01	1.217E-01	1.443E-02	2.690E 00	4.686E-02	1.948E-03
2.450E-01	1.212E-01	1.353E-02	2.750E 00	5.060E-02	1.853E-03
2.575E-01	1.246E-01	1.348E-02	2.810E 00	5.275E-02	1.812E-03
2.725E-01	1.403E-01	1.259E-02	2.870E 00	5.248E-02	1.678E-03
2.875E-01	1.583E-01	1.131E-02	2.930E 00	4.903E-02	1.577E-03
3.025E-01	1.676E-01	1.044E-02	2.990E 00	4.315E-02	1.444E-03
3.175E-01	1.613E-01	9.450E-03	3.050E 00	3.724E-02	1.303E-03
3.325E-01	1.375E-01	9.547E-03	3.110E 00	3.333E-02	1.196E-03
3.475E-01	1.091E-01	9.678E-03	3.180E 00	3.131E-02	1.120E-03
3.625E-01	9.021E-02	9.406E-03	3.260E 00	2.869E-02	9.631E-04
3.775E-01	8.120E-02	9.418E-03	3.340E 00	2.538E-02	8.766E-04
3.925E-01	7.622E-02	9.420E-03	3.420E 00	2.398E-02	8.151E-04
4.100E-01	7.234E-02	1.003E-02	3.500E 00	2.248E-02	7.673E-04
4.300E-01	6.910E-02	1.009E-02	3.580E 00	1.856E-02	6.538E-04
4.500E-01	6.727E-02	9.862E-03	3.660E 00	1.395E-02	5.383E-04
4.700E-01	6.006E-02	9.665E-03	3.740E 00	1.059E-02	4.739E-04
4.900E-01	6.766E-02	8.790E-03	3.820E 00	8.266E-03	4.094E-04
5.100E-01	5.092E-02	7.020E-03	3.900E 00	6.516E-03	4.068E-04
5.300E-01	4.784E-02	6.601E-03	3.980E 00	5.180E-03	3.563E-04
5.500E-01	3.880E-02	5.357E-03	4.060E 00	4.064E-03	3.089E-04
5.700E-01	3.127E-02	4.861E-03	4.140E 00	3.062E-03	2.809E-04
5.900E-01	2.685E-02	4.742E-03	4.220E 00	2.126E-03	2.567E-04
6.100E-01	2.618E-02	4.819E-03	4.300E 00	1.277E-03	2.450E-04
6.300E-01	2.726E-02	3.358E-03	4.380E 00	6.347E-04	2.068E-04
6.500E-01	2.809E-02	5.448E-03	4.460E 00	2.909E-04	1.708E-04
6.700E-01	2.902E-02	5.295E-03	4.540E 00	2.237E-04	1.577E-04
6.900E-01	3.140E-02	5.111E-03	4.620E 00	2.447E-04	1.634E-04
7.100E-01	3.525E-02	4.885E-03	4.700E 00	2.486E-04	1.779E-04
7.300E-01	3.963E-02	4.881E-03	4.800E 00	1.574E-04	1.819E-04
7.500E-01	4.594E-02	4.944E-03	4.900E 00	3.468E-05	1.594E-04
7.700E-01	6.068E-02	4.883E-03	5.000E 00	-1.978E-05	1.476E-04
7.900E-01	9.183E-02	4.801E-03	5.100E 00	-4.373E-05	1.794E-04
8.100E-01	1.397E-01	4.733E-03	5.200E 00	-3.439E-05	1.684E-04
8.300E-01	1.906E-01	4.570E-03	5.300E 00	-2.021E-05	1.828E-04
8.500E-01	2.232E-01	4.435E-03	5.400E 00	3.008E-05	1.485E-04
8.700E-01	2.233E-01	4.391E-03	5.500E 00	7.529E-05	1.433E-04
8.900E-01	1.934E-01	4.206E-03	5.600E 00	1.621E-04	1.687E-04
9.100E-01	1.483E-01	4.012E-03	5.700E 00	1.521E-04	1.452E-04
9.300E-01	1.050E-01	3.844E-03	5.800E 00	9.083E-05	1.382E-04
9.500E-01	7.354E-02	3.909E-03	5.900E 00	1.159E-05	1.314E-04
9.700E-01	5.610E-02	3.834E-03	6.000E 00	-6.876E-05	1.395E-04
1.000E 00	4.675E-02	3.890E-03	6.100E 00	-9.321E-05	1.346E-04
1.040E 00	3.993E-02	3.597E-03	6.200E 00	-8.275E-05	1.167E-04
1.080E 00	4.355E-02	3.392E-03	6.300E 00	-3.713E-05	1.076E-04
1.120E 00	6.930E-02	3.487E-03	6.440E 00	1.162E-06	1.005E-04
1.160E 00	9.078E-02	3.446E-03	6.560E 00	-7.962E-06	1.005E-04
1.200E 00	8.305E-02	3.334E-03	6.680E 00	-3.639E-05	8.649E-05
1.240E 00	5.522E-02	3.412E-03	6.800E 00	-1.654E-05	8.413E-05
1.280E 00	3.327E-02	3.366E-03	6.920E 00	4.112E-05	7.975E-05
1.320E 00	2.714E-02	3.575E-03	7.040E 00	1.204E-04	7.850E-05
1.360E 00	3.342E-02	3.707E-03	7.160E 00	1.439E-04	6.532E-05
1.400E 00	4.763E-02	4.168E-03	7.280E 00	1.033E-04	5.500E-05
1.440E 00	6.703E-02	4.148E-03	7.400E 00	3.331E-05	4.796E-05
1.480E 00	8.783E-02	4.013E-03	7.520E 00	-2.600E-05	4.415E-05
1.520E 00	9.827E-02	4.310E-03	7.640E 00	-5.197E-05	4.019E-05
1.560E 00	8.798E-02	4.387E-03	7.760E 00	-4.145E-05	3.838E-05
1.600E 00	6.404E-02	3.807E-03	7.880E 00	-6.723E-07	3.513E-05
1.640E 00	4.367E-02	3.473E-03	8.000E 00	5.454E-05	3.651E-05
1.680E 00	3.610E-02	3.364E-03	8.120E 00	9.095E-05	3.533E-05
1.720E 00	3.832E-02	3.382E-03	8.240E 00	7.944E-05	3.082E-05
1.760E 00	4.322E-02	3.451E-03	8.400E 00	3.835E-05	3.003E-05
1.800E 00	6.689E-02	3.557E-03	8.590E 00	4.210E-07	2.849E-05
1.850E 00	4.884E-02	3.399E-03	8.730E 00	-1.261E-05	2.397E-05
1.910E 00	4.816E-02	3.200E-03	8.870E 00	-6.938E-06	2.078E-05
1.970E 00	3.192E-02	2.847E-03	9.010E 00	6.603E-06	1.874E-05
2.030E 00	2.745E-02	2.854E-03	9.150E 00	2.235E-05	1.664E-05
2.090E 00	4.053E-02	2.825E-03	9.300E 00	2.737E-05	1.638E-05
2.150E 00	6.626E-02	2.940E-03	9.460E 00	2.470E-05	1.441E-05
2.210E 00	8.070E-02	3.106E-03	9.620E 00	1.809E-05	1.799E-05
2.270E 00	8.677E-02	2.760E-03	9.780E 00	1.374E-05	1.252E-05
2.330E 00	6.284E-02	2.444E-03	9.940E 00	1.039E-05	1.061E-05
2.390E 00	1.794E-02	2.169E-03	1.010E 01	8.498E-06	7.750E-06
2.450E 00	2.483E-02	2.006E-03	1.026E 01	6.998E-06	6.009E-06
2.510E 00	2.578E-02	2.000E-03	1.042E 01	5.656E-06	6.310E-06
2.570E 00	3.395E-02	1.982E-03	1.058E 01	4.938E-06	6.634E-06

INTEGRATED DATA

PHOTON ENERGY INTERVAL (MEV)	I-SECTION (B/SR)	ERROR (B/SR)
3.000E-01 - 4.000E-01	1.151E-02	9.571E-04
4.000E-01 - 5.000E-01	6.897E-03	9.676E-04
5.000E-01 - 6.000E-01	4.077E-03	5.883E-04
6.000E-01 - 7.000E-01	2.844E-03	5.211E-04
7.000E-01 - 8.000E-01	5.502E-03	4.882E-04
8.000E-01 - 1.000E 00	2.799E-02	8.357E-04
1.000E 00 - 1.200E 00	1.235E-02	7.004E-04
1.200E 00 - 1.400E 00	8.396E-03	7.115E-04
1.400E 00 - 1.600E 00	1.606E-02	8.361E-04
1.600E 00 - 1.800E 00	8.577E-03	6.924E-04
1.800E 00 - 2.000E 00	8.469E-03	6.395E-04
2.000E 00 - 2.500E 00	2.663E-02	1.306E-03
2.500E 00 - 3.000E 00	2.246E-02	9.092E-04
3.000E 00 - 3.500E 00	1.473E-02	5.111E-04
3.500E 00 - 4.000E 00	5.815E-03	2.500E-04
4.000E 00 - 4.500E 00	1.075E-03	1.247E-04
4.500E 00 - 5.000E 00	8.705E-05	8.407E-05
5.000E 00 - 6.000E 00	3.964E-05	1.522E-04
6.000E 00 - 7.000E 00	-2.721E-05	1.028E-04
7.000E 00 - 8.000E 00	3.288E-05	4.908E-05
8.000E 00 - 9.000E 00	3.285E-05	2.851E-05
9.000E 00 - 1.000E 01	1.891E-05	1.429E-05

DIFFERENTIAL CROSS SECTIONS FOR GAMMA RAY PRODUCTION IN HW. THE FIRST SET OF NUMBERS IS THE DOUBLY DIFFERENTIAL CROSS SECTION, WHILE THE SECOND SET IS THE GAMMA RAY PRODUCTION CROSS SECTION FOR THE DESIGNATED GAMMA RAY ENERGY INTERVALS. THIS SECOND SET RESULTS FROM INTEGRATION OF THE DOUBLY DIFFERENTIAL DATA. THE UNCERTAINTIES ARE GIVEN IN THE SAME UNITS AS THE DATA AND DO NOT INCLUDE AN ESTIMATED 10 PERCENT ERROR IN ABSOLUTE NORMALIZATION.

INCIDENT NEUTRON ENERGY = 4.50 TO 4.99 MEV. ANGLE = 125 DEGREES.

PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)	PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)
2.250E-01	1.241E-01	1.900E-02	2.630E 00	4.467E-02	2.299E-03
2.350E-01	1.273E-01	1.646E-02	2.690E 00	4.857E-02	2.209E-03
2.450E-01	1.302E-01	1.535E-02	2.750E 00	5.030E-02	2.169E-03
2.575E-01	1.363E-01	1.490E-02	2.810E 00	5.210E-02	2.179E-03
2.725E-01	1.508E-01	1.376E-02	2.870E 00	5.255E-02	2.043E-03
2.875E-01	1.807E-01	1.182E-02	2.930E 00	5.026E-02	1.933E-03
3.025E-01	1.862E-01	1.087E-02	2.990E 00	4.602E-02	1.788E-03
3.175E-01	1.714E-01	1.030E-02	3.050E 00	4.142E-02	1.712E-03
3.325E-01	1.496E-01	1.005E-02	3.110E 00	3.789E-02	1.624E-03
3.475E-01	1.294E-01	1.000E-02	3.180E 00	3.509E-02	1.469E-03
3.625E-01	1.106E-01	9.737E-03	3.260E 00	3.165E-02	1.362E-03
3.775E-01	9.562E-02	1.000E-02	3.340E 00	2.992E-02	1.223E-03
3.925E-01	8.837E-02	9.889E-03	3.420E 00	3.084E-02	1.215E-03
4.100E-01	8.429E-02	1.008E-02	3.500E 00	2.910E-02	1.126E-03
4.300E-01	7.632E-02	1.036E-02	3.580E 00	2.304E-02	1.035E-03
4.500E-01	7.267E-02	1.002E-02	3.660E 00	1.782E-02	9.163E-04
4.700E-01	7.897E-02	1.001E-02	3.740E 00	1.413E-02	8.190E-04
4.900E-01	8.000E-02	9.075E-03	3.820E 00	1.240E-02	7.469E-04
5.100E-01	6.808E-02	8.466E-03	3.900E 00	1.267E-02	7.307E-04
5.300E-01	5.290E-02	7.411E-03	3.980E 00	1.397E-02	7.174E-04
5.500E-01	4.281E-02	6.021E-03	4.060E 00	1.487E-02	6.575E-04
5.700E-01	3.565E-02	5.269E-03	4.140E 00	1.478E-02	6.062E-04
5.900E-01	2.985E-02	5.067E-03	4.220E 00	1.332E-02	5.256E-04
6.100E-01	2.739E-02	5.158E-03	4.300E 00	1.064E-02	4.545E-04
6.300E-01	3.075E-02	5.398E-03	4.380E 00	7.702E-03	3.762E-04
6.500E-01	3.537E-02	5.357E-03	4.460E 00	5.146E-03	3.049E-04
6.700E-01	3.807E-02	5.284E-03	4.540E 00	3.145E-03	2.761E-04
6.900E-01	3.954E-02	5.187E-03	4.630E 00	1.713E-03	2.541E-04
7.100E-01	4.109E-02	5.140E-03	4.730E 00	9.297E-04	2.056E-04
7.300E-01	4.386E-02	5.195E-03	4.830E 00	4.932E-04	1.693E-04
7.500E-01	5.087E-02	5.119E-03	4.930E 00	2.656E-04	1.483E-04
7.700E-01	6.845E-02	4.907E-03	5.030E 00	1.867E-04	1.513E-04
7.900E-01	1.033E-01	4.943E-03	5.130E 00	1.500E-04	1.549E-04
8.100E-01	1.534E-01	5.057E-03	5.230E 00	6.161E-05	1.447E-04
8.300E-01	2.022E-01	5.007E-03	5.330E 00	-4.106E-05	1.421E-04
8.500E-01	2.285E-01	5.030E-03	5.430E 00	-9.187E-05	1.314E-04
8.700E-01	2.220E-01	4.954E-03	5.530E 00	-7.641E-05	1.337E-04
8.900E-01	1.894E-01	4.720E-03	5.630E 00	-2.565E-05	1.250E-04
9.100E-01	1.458E-01	4.351E-03	5.730E 00	3.920E-05	1.154E-04
9.300E-01	1.056E-01	4.092E-03	5.830E 00	1.188E-04	1.089E-04
9.500E-01	7.692E-02	4.138E-03	5.930E 00	1.762E-04	1.168E-04
9.700E-01	6.112E-02	4.157E-03	6.030E 00	1.446E-04	1.122E-04
1.000E 00	5.208E-02	4.351E-03	6.130E 00	3.343E-05	1.153E-04
1.040E 00	4.396E-02	4.039E-03	6.230E 00	-5.659E-05	1.095E-04
1.080E 00	4.982E-02	3.668E-03	6.330E 00	-7.726E-05	1.019E-04
1.120E 00	7.909E-02	3.851E-03	6.440E 00	-3.927E-05	9.779E-05
1.160E 00	9.975E-02	3.782E-03	6.560E 00	2.410E-05	9.986E-05
1.200E 00	9.066E-02	3.707E-03	6.680E 00	4.400E-05	1.004E-04
1.240E 00	6.136E-02	3.568E-03	6.800E 00	5.944E-05	9.255E-05
1.280E 00	3.824E-02	3.654E-03	6.920E 00	5.950E-05	8.024E-05
1.320E 00	3.503E-02	3.934E-03	7.040E 00	4.325E-05	7.940E-05
1.360E 00	4.299E-02	4.043E-03	7.160E 00	2.723E-05	6.901E-05
1.400E 00	5.545E-02	4.412E-03	7.280E 00	1.047E-05	5.622E-05
1.440E 00	7.370E-02	4.322E-03	7.400E 00	1.997E-05	5.708E-05
1.480E 00	9.264E-02	4.137E-03	7.520E 00	2.429E-05	4.712E-05
1.520E 00	9.933E-02	4.492E-03	7.640E 00	2.522E-05	4.594E-05
1.560E 00	8.683E-02	4.622E-03	7.760E 00	1.896E-05	4.485E-05
1.600E 00	6.444E-02	4.130E-03	7.890E 00	5.906E-06	3.593E-05
1.640E 00	4.689E-02	3.820E-03	8.030E 00	-1.111E-05	2.976E-05
1.680E 00	3.999E-02	3.692E-03	8.170E 00	-3.422E-06	3.383E-05
1.720E 00	4.141E-02	3.720E-03	8.310E 00	5.921E-06	2.581E-05
1.760E 00	4.686E-02	3.797E-03	8.450E 00	2.178E-05	2.198E-05
1.800E 00	5.284E-02	3.926E-03	8.590E 00	2.850E-05	2.072E-05
1.850E 00	5.677E-02	3.525E-03	8.730E 00	2.777E-05	1.762E-05
1.910E 00	5.011E-02	3.477E-03	8.870E 00	2.056E-05	1.458E-05
1.970E 00	3.727E-02	3.089E-03	9.010E 00	1.804E-05	1.388E-05
2.030E 00	3.353E-02	2.896E-03	9.150E 00	1.615E-05	1.375E-05
2.090E 00	4.188E-02	3.157E-03	9.300E 00	1.102E-05	1.410E-05
2.150E 00	6.446E-02	3.206E-03	9.460E 00	6.557E-06	1.240E-05
2.210E 00	8.784E-02	3.208E-03	9.620E 00	6.085E-06	1.089E-05
2.270E 00	8.659E-02	2.988E-03	9.780E 00	1.052E-05	1.292E-05
2.330E 00	6.259E-02	2.678E-03	9.940E 00	1.282E-05	1.182E-05
2.390E 00	4.001E-02	2.507E-03	1.010E 01	1.227E-05	9.966E-06
2.450E 00	3.880E-02	2.296E-03	1.026E 01	1.214E-05	7.683E-06
2.510E 00	3.198E-02	2.258E-03	1.042E 01	1.087E-05	8.793E-06
2.570E 00	3.815E-02	2.345E-03	1.058E 01	8.894E-06	9.180E-06

INTEGRATED DATA

PHOTON ENERGY INTERVAL (MEV)	I-SECTION (B/SR)	ERROR (B/SR)
3.000E-01 - 4.000E-01	1.302E-02	1.008E-03
4.000E-01 - 5.000E-01	7.826E-03	9.919E-04
5.000E-01 - 6.000E-01	4.582E-03	6.449E-04
6.000E-01 - 7.000E-01	3.430E-03	5.280E-04
7.000E-01 - 8.000E-01	6.188E-03	5.062E-04
8.000E-01 - 1.000E 00	2.874E-02	9.171E-04
1.000E 00 - 1.200E 00	1.377E-02	7.731E-04
1.200E 00 - 1.400E 00	9.847E-03	7.679E-04
1.400E 00 - 1.600E 00	1.667E-02	8.752E-04
1.600E 00 - 1.800E 00	9.260E-03	7.604E-04
1.800E 00 - 2.000E 00	9.733E-03	6.861E-04
2.000E 00 - 2.500E 00	2.767E-02	1.428E-03
2.500E 00 - 3.000E 00	2.337E-02	1.074E-03
3.000E 00 - 3.500E 00	1.705E-02	7.035E-04
3.500E 00 - 4.000E 00	8.386E-03	4.272E-04
4.000E 00 - 4.500E 00	5.598E-03	2.482E-04
4.500E 00 - 5.000E 00	6.048E-04	1.030E-04
5.000E 00 - 6.000E 00	4.916E-05	1.315E-04
6.000E 00 - 7.000E 00	1.939E-05	9.986E-05
7.000E 00 - 8.000E 00	1.992E-05	5.263E-05
8.000E 00 - 9.000E 00	1.429E-05	2.178E-05
9.000E 00 - 1.000E 01	1.096E-05	1.275E-05

DIFFERENTIAL CROSS SECTIONS FOR GAMMA RAY PRODUCTION IN HW. THE FIRST SET OF NUMBERS IS THE DOUBLY DIFFERENTIAL CROSS SECTION, WHILE THE SECOND SET IS THE GAMMA RAY PRODUCTION CROSS SECTION FOR THE DESIGNATED GAMMA RAY ENERGY INTERVALS. THIS SECOND SET RESULTS FROM INTEGRATION OF THE DOUBLY DIFFERENTIAL DATA. THE UNCERTAINTIES ARE GIVEN IN THE SAME UNITS AS THE DATA AND DO NOT INCLUDE AN ESTIMATED 10 PERCENT ERROR IN ABSOLUTE NORMALIZATION.

INCIDENT NEUTRON ENERGY = 4.99 TO 6.01 MEV. ANGLE = 125 DEGREES.

PROTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)	PROTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)
2.250E-01	1.305E-01	2.044E-02	2.630E 00	4.656E-02	2.292E-03
2.350E-01	1.342E-01	1.757E-02	2.690E 00	5.154E-02	2.232E-03
2.450E-01	1.389E-01	1.646E-02	2.750E 00	5.403E-02	2.191E-03
2.550E-01	1.526E-01	1.590E-02	2.810E 00	5.429E-02	2.176E-03
2.725E-01	1.772E-01	1.449E-02	2.870E 00	5.330E-02	2.063E-03
2.875E-01	1.970E-01	1.267E-02	2.930E 00	5.117E-02	1.933E-03
3.025E-01	2.016E-01	1.153E-02	2.990E 00	4.698E-02	1.802E-03
3.175E-01	1.905E-01	1.066E-02	3.050E 00	4.201E-02	1.728E-03
3.225E-01	1.675E-01	9.843E-03	3.110E 00	3.110E-02	1.649E-03
3.475E-01	1.444E-01	1.061E-02	3.180E 00	3.748E-02	1.515E-03
3.625E-01	1.301E-01	1.002E-02	3.260E 00	3.491E-02	1.478E-03
3.775E-01	1.201E-01	1.009E-02	3.340E 00	3.417E-02	1.366E-03
3.925E-01	1.078E-01	1.040E-02	3.420E 00	3.534E-02	1.277E-03
4.100E-01	9.033E-02	1.088E-02	3.500E 00	3.389E-02	1.220E-03
4.300E-01	7.651E-02	1.144E-02	3.580E 00	2.915E-02	1.140E-03
4.500E-01	7.878E-02	1.080E-02	3.660E 00	2.295E-02	1.000E-03
4.700E-01	9.027E-02	1.024E-02	3.740E 00	1.827E-02	9.642E-04
4.900E-01	9.794E-02	9.800E-03	3.820E 00	1.652E-02	8.994E-04
5.100E-01	8.140E-02	9.451E-03	3.900E 00	1.608E-02	8.628E-04
5.300E-01	6.405E-02	7.769E-03	2.000E 00	1.427E-02	8.358E-04
5.500E-01	5.015E-02	6.396E-03	4.060E 00	1.808E-02	8.135E-04
5.700E-01	4.021E-02	5.456E-03	4.140E 00	2.008E-02	7.446E-04
5.900E-01	3.347E-02	5.185E-03	4.220E 00	1.992E-02	6.858E-04
6.100E-01	3.047E-02	5.416E-03	4.300E 00	1.769E-02	6.427E-04
6.300E-01	3.086E-02	6.213E-03	4.380E 00	1.486E-02	5.542E-04
6.500E-01	3.277E-02	6.219E-03	4.460E 00	1.251E-02	4.990E-04
6.700E-01	3.556E-02	5.883E-03	4.540E 00	1.079E-02	4.732E-04
6.900E-01	3.872E-02	5.647E-03	4.630E 00	8.882E-03	4.192E-04
7.100E-01	4.198E-02	5.506E-03	4.730E 00	6.752E-03	4.072E-04
7.300E-01	4.605E-02	5.635E-03	4.830E 00	5.592E-03	3.549E-04
7.500E-01	5.413E-02	5.620E-03	4.930E 00	5.152E-03	3.306E-04
7.700E-01	7.292E-02	5.407E-03	5.030E 00	4.607E-03	3.048E-04
7.900E-01	1.089E-01	5.284E-03	5.130E 00	3.786E-03	2.695E-04
8.100E-01	1.596E-01	5.199E-03	5.230E 00	3.036E-03	2.475E-04
8.300E-01	2.090E-01	5.086E-03	5.330E 00	2.366E-03	2.175E-04
8.500E-01	2.368E-01	4.981E-03	5.430E 00	1.664E-03	2.237E-04
8.700E-01	2.313E-01	4.927E-03	5.530E 00	1.036E-03	2.114E-04
8.900E-01	1.977E-01	4.714E-03	5.630E 00	6.012E-04	1.920E-04
9.100E-01	1.520E-01	4.461E-03	5.730E 00	3.623E-04	1.771E-04
9.300E-01	1.110E-01	4.310E-03	5.830E 00	2.645E-04	1.628E-04
9.500E-01	8.330E-02	4.412E-03	5.930E 00	2.280E-04	1.521E-04
9.700E-01	6.888E-02	4.409E-03	6.030E 00	1.521E-04	1.433E-04
1.000E 00	6.096E-02	4.568E-03	6.130E 00	3.921E-05	1.318E-04
1.040E 00	5.594E-02	4.286E-03	6.230E 00	-5.502E-05	1.257E-04
1.080E 00	6.334E-02	3.731E-03	6.330E 00	-8.860E-05	1.208E-04
1.120E 00	9.332E-02	3.828E-03	6.440E 00	-5.369E-05	1.028E-04
1.160E 00	1.164E-01	3.746E-03	6.560E 00	5.011E-05	9.357E-05
1.200E 00	1.024E-01	3.770E-03	0.000E 00	3.421E-05	9.329E-05
1.240E 00	6.857E-02	3.826E-03	6.800E 00	9.770E-05	7.582E-05
1.280E 00	4.587E-02	3.773E-03	6.920E 00	5.307E-05	6.801E-05
1.320E 00	4.061E-02	4.116E-03	7.040E 00	4.879E-05	7.329E-05
1.360E 00	4.632E-02	4.249E-03	7.160E 00	5.063E-05	5.882E-05
1.400E 00	5.913E-02	4.637E-03	7.280E 00	5.324E-05	5.050E-05
1.440E 00	7.692E-02	4.559E-03	7.400E 00	4.013E-05	4.291E-05
1.480E 00	9.434E-02	4.490E-03	7.520E 00	1.708E-05	3.118E-05
1.520E 00	1.010E-01	4.862E-03	7.640E 00	-3.127E-05	2.517E-05
1.560E 00	9.020E-02	4.938E-03	7.760E 00	-6.580E-06	2.266E-05
1.600E 00	8.543E-02	4.581E-03	7.880E 00	2.266E-05	3.919E-05
1.640E 00	5.293E-02	3.913E-03	8.030E 00	1.406E-05	1.811E-05
1.680E 00	4.767E-02	3.906E-03	8.170E 00	2.110E-05	1.693E-05
1.720E 00	5.028E-02	4.009E-03	8.310E 00	1.461E-05	1.842E-05
1.760E 00	5.583E-02	3.946E-03	8.450E 00	3.244E-06	1.744E-05
1.800E 00	6.219E-02	3.998E-03	8.590E 00	-2.089E-06	1.607E-05
1.850E 00	6.606E-02	3.642E-03	8.730E 00	8.122E-06	1.831E-05
1.910E 00	5.709E-02	3.642E-03	8.870E 00	2.233E-05	1.856E-05
1.970E 00	4.346E-02	3.392E-03	9.010E 00	3.332E-05	1.802E-05
2.030E 00	4.171E-02	3.701E-03	9.150E 00	2.867E-05	1.801E-05
2.090E 00	5.129E-02	3.205E-03	9.300E 00	1.607E-05	1.687E-05
2.150E 00	7.103E-02	3.347E-03	9.460E 00	5.149E-06	1.612E-05
2.210E 00	8.885E-02	3.416E-03	9.620E 00	4.457E-06	1.373E-05
2.270E 00	8.632E-02	3.309E-03	9.780E 00	1.055E-05	1.444E-05
2.330E 00	6.608E-02	2.907E-03	9.940E 00	1.408E-05	1.390E-05
2.390E 00	4.500E-02	2.566E-03	1.010E 01	1.308E-05	1.042E-05
2.450E 00	3.406E-02	2.437E-03	1.026E 01	1.179E-05	7.305E-06
2.510E 00	3.391E-02	2.316E-03	1.042E 01	9.136E-06	8.407E-06
2.570E 00	3.977E-02	2.323E-03	1.058E 01	7.328E-06	8.606E-06

INTEGRATED DATA

PROTON ENERGY INTERVAL (MEV)	I-SECTION (B/SR)	ERROR (B/SR)
3.000E-01 - 4.000E-01	1.491E-02	1.047E-03
4.000E-01 - 5.000E-01	8.573E-03	1.065E-03
5.000E-01 - 6.000E-01	5.386E-03	6.885E-04
6.000E-01 - 7.000E-01	3.374E-03	5.885E-04
7.000E-01 - 8.000E-01	6.515E-03	5.508E-04
8.000E-01 - 1.000E 00	3.020E-02	9.400E-04
1.000E 00 - 1.200E 00	1.648E-02	7.882E-04
1.200E 00 - 1.400E 00	1.109E-02	6.046E-04
1.400E 00 - 1.600E 00	1.723E-02	9.350E-04
1.600E 00 - 1.800E 00	1.081E-02	7.951E-04
1.800E 00 - 2.000E 00	1.126E-02	7.219E-04
2.000E 00 - 2.500E 00	2.970E-02	1.510E-03
2.500E 00 - 3.000E 00	2.432E-02	1.078E-03
3.000E 00 - 3.500E 00	1.850E-02	7.388E-04
3.500E 00 - 4.000E 00	1.053E-02	4.868E-04
4.000E 00 - 4.500E 00	8.586E-03	3.316E-04
4.500E 00 - 5.000E 00	3.598E-03	1.988E-04
5.000E 00 - 6.000E 00	1.702E-03	2.124E-04
6.000E 00 - 7.000E 00	3.135E-05	1.030E-04
7.000E 00 - 8.000E 00	2.376E-05	3.860E-05
8.000E 00 - 9.000E 00	1.281E-05	1.769E-05
9.000E 00 - 1.000E 01	1.443E-05	1.570E-05

DIFFERENTIAL CROSS SECTIONS FOR GAMMA RAY PRODUCTION IN HP. THE FIRST SET OF NUMBERS IS THE DOUBLY DIFFERENTIAL CROSS SECTION, WHILE THE SECOND SET IS THE GAMMA RAY PRODUCTION CROSS SECTION FOR THE DESIGNATED GAMMA RAY ENERGY INTERVALS. THIS SECOND SET RESULTS FROM INTEGRATION OF THE DOUBLY DIFFERENTIAL DATA. THE UNCERTAINTIES ARE GIVEN IN THE SAME UNITS AS THE DATA AND DO NOT INCLUDE AN ESTIMATED 10 PERCENT ERROR IN ABSOLUTE NORMALIZATION.

INCIDENT NEUTRON ENERGY = 6.01 TO 7.03 MEV. ANGLE = 125 DEGREES.

PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)	PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)
2.250E-01	1.675E-01	2.130E-02	2.630E 00	4.989E-02	2.698E-03
2.350E-01	1.680E-01	1.870E-02	2.690E 00	5.424E-02	2.544E-03
2.450E-01	1.653E-01	1.781E-02	2.750E 00	5.604E-02	2.485E-03
2.550E-01	1.703E-01	1.738E-02	2.810E 00	5.739E-02	2.505E-03
2.725E-01	1.948E-01	1.598E-02	2.870E 00	5.709E-02	2.290E-03
2.875E-01	2.206E-01	1.409E-02	2.930E 00	5.277E-02	2.163E-03
3.025E-01	2.279E-01	1.275E-02	2.990E 00	4.694E-02	2.130E-03
3.175E-01	2.106E-01	1.171E-02	3.050E 00	4.318E-02	2.043E-03
3.325E-01	1.762E-01	1.174E-02	3.110E 00	4.126E-02	1.921E-03
3.475E-01	1.441E-01	1.174E-02	3.180E 00	3.970E-02	1.856E-03
3.625E-01	1.250E-01	1.127E-02	3.260E 00	3.879E-02	1.713E-03
3.775E-01	1.138E-01	1.167E-02	3.340E 00	3.862E-02	1.603E-03
3.925E-01	1.056E-01	1.162E-02	3.420E 00	3.880E-02	1.567E-03
4.100E-01	1.007E-01	1.138E-02	3.500E 00	3.718E-02	1.525E-03
4.300E-01	1.006E-01	1.154E-02	3.580E 00	3.210E-02	1.411E-03
4.500E-01	1.028E-01	1.126E-02	3.660E 00	2.637E-02	1.334E-03
4.700E-01	1.089E-01	1.154E-02	3.740E 00	2.172E-02	1.376E-03
4.900E-01	1.088E-01	1.141E-02	3.820E 00	1.845E-02	1.276E-03
5.100E-01	9.450E-02	1.121E-02	3.900E 00	1.724E-02	1.224E-03
5.300E-01	7.530E-02	9.471E-03	3.980E 00	1.778E-02	1.189E-03
5.500E-01	6.077E-02	7.258E-03	4.060E 00	1.973E-02	1.157E-03
5.700E-01	4.956E-02	6.073E-03	4.140E 00	2.186E-02	1.107E-03
5.900E-01	4.170E-02	5.927E-03	4.220E 00	2.241E-02	1.049E-03
6.100E-01	3.728E-02	5.897E-03	4.300E 00	2.117E-02	1.004E-03
6.300E-01	3.371E-02	6.572E-03	4.380E 00	1.871E-02	9.298E-04
6.500E-01	3.069E-02	6.765E-03	4.460E 00	1.583E-02	9.001E-04
6.700E-01	3.150E-02	6.499E-03	4.540E 00	1.380E-02	8.954E-04
6.900E-01	3.670E-02	6.174E-03	4.630E 00	1.261E-02	7.916E-04
7.100E-01	4.257E-02	5.950E-03	4.730E 00	1.145E-02	7.721E-04
7.300E-01	4.722E-02	5.851E-03	4.830E 00	1.015E-02	7.344E-04
7.500E-01	5.507E-02	5.758E-03	4.930E 00	9.384E-03	7.317E-04
7.700E-01	7.441E-02	5.598E-03	5.030E 00	9.427E-03	6.960E-04
7.900E-01	1.110E-01	5.608E-03	5.130E 00	9.556E-03	6.469E-04
8.100E-01	1.618E-01	5.713E-03	5.230E 00	9.376E-03	6.226E-04
8.300E-01	2.121E-01	5.671E-03	5.330E 00	9.313E-03	5.755E-04
8.500E-01	2.611E-01	5.467E-03	5.430E 00	9.664E-03	5.328E-04
8.700E-01	2.360E-01	5.380E-03	5.530E 00	9.728E-03	4.991E-04
8.900E-01	2.011E-01	5.222E-03	5.630E 00	8.914E-03	4.675E-04
9.100E-01	1.535E-01	4.958E-03	5.730E 00	7.563E-03	4.113E-04
9.300E-01	1.117E-01	4.714E-03	5.830E 00	6.269E-03	3.644E-04
9.500E-01	8.510E-02	4.804E-03	5.930E 00	5.213E-03	3.164E-04
9.700E-01	7.312E-02	4.805E-03	6.030E 00	4.287E-03	2.860E-04
1.000E 00	6.792E-02	5.017E-03	6.130E 00	3.359E-03	2.478E-04
1.040E 00	6.133E-02	4.737E-03	6.230E 00	2.487E-03	2.188E-04
1.080E 00	6.827E-02	4.293E-03	6.330E 00	1.795E-03	1.952E-04
1.120E 00	1.010E-01	4.335E-03	6.430E 00	1.233E-03	1.738E-04
1.160E 00	1.253E-01	4.279E-03	6.560E 00	7.739E-04	1.552E-04
1.200E 00	1.109E-01	4.406E-03	6.680E 00	4.517E-04	1.316E-04
1.240E 00	7.538E-02	4.293E-03	6.800E 00	2.252E-04	1.151E-04
1.280E 00	5.084E-02	4.210E-03	6.920E 00	5.713E-05	1.042E-04
1.320E 00	4.537E-02	4.655E-03	7.040E 00	-1.237E-05	8.647E-05
1.360E 00	5.039E-02	4.840E-03	7.160E 00	-2.546E-06	7.504E-05
1.400E 00	6.053E-02	5.201E-03	7.280E 00	3.936E-05	7.062E-05
1.440E 00	7.556E-02	5.051E-03	7.400E 00	6.110E-05	5.545E-05
1.480E 00	9.182E-02	4.699E-03	7.520E 00	4.916E-05	5.077E-05
1.520E 00	9.874E-02	4.978E-03	7.640E 00	3.053E-05	4.923E-05
1.560E 00	8.873E-02	5.247E-03	7.760E 00	2.502E-05	4.171E-05
1.600E 00	6.916E-02	4.909E-03	7.890E 00	3.713E-05	3.494E-05
1.640E 00	5.402E-02	4.596E-03	8.030E 00	4.631E-05	3.449E-05
1.680E 00	4.984E-02	4.389E-03	8.170E 00	3.803E-05	3.289E-05
1.720E 00	5.413E-02	4.519E-03	8.310E 00	1.307E-05	2.462E-05
1.760E 00	6.156E-02	4.640E-03	8.450E 00	-1.009E-05	2.110E-05
1.800E 00	6.747E-02	4.725E-03	8.590E 00	-2.059E-05	2.039E-05
1.850E 00	6.902E-02	4.349E-03	8.730E 00	-1.437E-05	1.849E-05
1.910E 00	6.057E-02	4.084E-03	8.870E 00	4.189E-06	1.624E-05
1.970E 00	4.914E-02	3.803E-03	9.010E 00	2.284E-05	1.473E-05
2.030E 00	4.853E-02	2.849E-02	9.150E 00	3.434E-05	1.343E-05
2.090E 00	5.908E-02	3.613E-03	9.300E 00	3.336E-05	1.202E-05
2.150E 00	7.864E-02	3.731E-03	9.460E 00	2.311E-05	8.253E-06
2.210E 00	9.546E-02	3.833E-03	9.620E 00	1.247E-05	7.080E-06
2.270E 00	9.203E-02	3.590E-03	9.780E 00	5.427E-06	7.198E-06
2.330E 00	7.193E-02	3.170E-03	9.940E 00	4.562E-06	6.044E-06
2.390E 00	5.274E-02	2.897E-03	1.010E 01	6.872E-06	4.195E-06
2.450E 00	4.287E-02	2.776E-03	1.026E 01	1.103E-05	3.409E-06
2.510E 00	4.090E-02	2.747E-03	1.042E 01	1.439E-05	3.890E-06
2.570E 00	4.411E-02	2.809E-03	1.058E 01	1.411E-05	4.168E-06

INTEGRATED DATA

PHOTON ENERGY INTERVAL (MEV)	I-SECTION (B/SR)	ERROR (B/SR)
3.000E-01 - 4.000E-01	1.560E-02	1.172E-03
4.000E-01 - 5.000E-01	1.042E-02	1.144E-03
5.000E-01 - 6.000E-01	6.438E-03	7.973E-04
6.000E-01 - 7.000E-01	3.403E-03	6.391E-04
7.000E-01 - 8.000E-01	6.637E-03	5.756E-04
8.000E-01 - 1.000E 00	3.085E-02	1.033E-03
1.000E 00 - 1.200E 00	1.786E-02	8.917E-04
1.200E 00 - 1.400E 00	1.212E-02	9.093E-04
1.400E 00 - 1.600E 00	1.693E-02	1.002E-03
1.600E 00 - 1.800E 00	1.143E-02	9.166E-04
1.800E 00 - 2.000E 00	1.210E-02	8.281E-04
2.000E 00 - 2.500E 00	3.329E-02	1.686E-03
2.500E 00 - 3.000E 00	2.584E-02	1.244E-03
3.000E 00 - 3.500E 00	1.997E-02	8.805E-04
3.500E 00 - 4.000E 00	1.178E-02	6.611E-04
4.000E 00 - 4.500E 00	9.944E-03	5.154E-04
4.500E 00 - 5.000E 00	5.663E-03	3.881E-04
5.000E 00 - 6.000E 00	8.404E-03	5.049E-04
6.000E 00 - 7.000E 00	1.433E-03	1.722E-04
7.000E 00 - 8.000E 00	3.011E-05	5.602E-05
8.000E 00 - 9.000E 00	7.142E-06	2.310E-05
9.000E 00 - 1.000E 01	1.937E-05	9.493E-06

DIFFERENTIAL CROSS SECTIONS FOR GAMMA RAY PRODUCTION IN H₂. THE FIRST SET OF NUMBERS IS THE DOUBLY DIFFERENTIAL CROSS SECTION, WHILE THE SECOND SET IS THE GAMMA RAY PRODUCTION CROSS SECTION FOR THE DESIGNATED GAMMA RAY ENERGY INTERVALS. THIS SECOND SET RESULTS FROM INTEGRATION OF THE DOUBLY DIFFERENTIAL DATA. THE UNCERTAINTIES ARE GIVEN IN THE SAME UNITS AS THE DATA AND DO NOT INCLUDE AN ESTIMATED 10 PERCENT ERROR IN ABSOLUTE NORMALIZATION.

INCIDENT NEUTRON ENERGY = 7.03 TO 7.99 MEV. ANGLE = 125 DEGREES.

PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)	PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)
2.250E-01	1.594E-01	2.305E-02	2.630E 00	5.336E-02	3.008E-03
2.350E-01	1.647E-01	1.993E-02	2.690E 00	5.720E-02	2.912E-03
2.450E-01	1.745E-01	1.859E-02	2.750E 00	5.917E-02	2.779E-03
2.575E-01	1.932E-01	1.790E-02	2.810E 00	5.894E-02	2.761E-03
2.725E-01	2.192E-01	1.657E-02	2.870E 00	5.627E-02	2.685E-03
2.875E-01	2.395E-01	1.492E-02	2.930E 00	5.310E-02	2.569E-03
3.025E-01	2.418E-01	1.373E-02	2.990E 00	5.023E-02	2.420E-03
3.175E-01	2.219E-01	1.244E-02	3.050E 00	4.757E-02	2.368E-03
3.325E-01	1.890E-01	1.248E-02	3.110E 00	4.566E-02	2.317E-03
3.475E-01	1.579E-01	1.251E-02	3.180E 00	4.535E-02	2.194E-03
3.625E-01	1.379E-01	1.195E-02	3.260E 00	4.559E-02	2.041E-03
3.775E-01	1.270E-01	1.210E-02	3.340E 00	4.475E-02	2.003E-03
3.925E-01	1.178E-01	1.211E-02	3.420E 00	4.411E-02	1.976E-03
4.100E-01	1.057E-01	1.270E-02	3.500E 00	4.085E-02	1.857E-03
4.300E-01	9.830E-02	1.259E-02	3.580E 00	3.407E-02	1.803E-03
4.500E-01	1.054E-01	1.268E-02	3.660E 00	2.765E-02	1.715E-03
4.700E-01	1.107E 01	1.261E 02	3.740E 00	2.771E-02	1.649E-03
4.900E 01	1.220E-01	1.276E-02	3.820E 00	2.113E-02	1.629E-03
5.100E-01	1.125E-01	1.345E-02	3.900E 00	2.079E-02	1.554E-03
5.300E-01	9.304E-02	1.139E-02	3.980E 00	2.117E 02	1.454E 03
5.500E-01	7.183E-02	8.338E-03	4.060E 00	1.762E-02	1.429E-03
5.700E-01	5.449E-02	6.975E-03	4.140E 00	2.372E-02	1.459E-03
5.900E-01	4.424E-02	6.407E-03	4.220E 00	2.377E-02	1.438E-03
6.100E-01	3.716E-02	6.475E-03	4.300E 00	2.262E-02	1.401E-03
6.300E-01	3.159E-02	7.441E-03	4.380E 00	2.011E-02	1.286E-03
6.500E-01	2.946E-02	7.654E-03	4.460E 00	1.704E-02	1.271E-03
6.700E-01	3.071E-02	7.224E-03	4.540E 00	1.476E-02	1.293E-03
6.900E-01	3.318E-02	6.965E-03	4.630E 00	1.338E-02	1.191E-03
7.100E-01	3.662E-02	6.235E-03	4.730E 00	1.282E-02	1.192E-03
7.300E-01	4.265E-02	6.839E-03	4.830E 00	1.232E-02	1.099E-03
7.500E-01	5.325E-02	6.580E-03	4.930E 00	1.174E-02	1.156E-03
7.700E-01	7.287E-02	6.338E-03	5.030E 00	1.198E-02	1.141E-03
7.900E-01	1.079E-01	6.388E-03	5.130E 00	1.264E-02	1.071E-03
8.100E-01	1.591E-01	6.455E-03	5.230E 00	1.298E-02	1.065E-03
8.300E-01	2.127E-01	6.375E-03	5.330E 00	1.276E-02	1.008E-03
8.500E-01	2.465E-01	6.186E-03	5.430E 00	1.242E-02	1.025E-03
8.700E-01	2.452E-01	6.067E-03	5.530E 00	1.234E-02	9.572E-04
8.900E-01	2.123E-01	5.759E-03	5.630E 00	1.242E-02	8.851E-04
9.100E-01	1.649E-01	5.503E-03	5.730E 00	1.226E-02	8.465E-04
9.300E-01	1.218E-01	5.357E-03	5.830E 00	1.180E-02	8.093E-04
9.500E-01	9.308E-02	5.223E-03	5.930E 00	1.124E-02	7.499E-04
9.700E-01	6.908E-02	5.223E-03	6.030E 00	1.071E-02	6.933E-04
1.000E 00	7.353E-02	5.688E-03	6.130E 00	1.002E-02	6.374E-04
1.040E 00	6.854E-02	5.179E-03	6.230E 00	9.253E-03	5.826E-04
1.080E 00	7.497E-02	4.721E-03	6.330E 00	8.597E-03	5.156E-04
1.120E 00	1.115E-01	4.784E-03	6.440E 00	7.765E-03	4.610E-04
1.160E 00	1.395E-01	4.861E-03	6.560E 00	6.640E-03	4.185E-04
1.200E 00	1.220E-01	4.704E-03	6.680E 00	5.802E-03	3.831E-04
1.240E 00	8.154E-02	4.859E-03	6.800E 00	4.572E-03	2.992E-04
1.280E 00	5.271E-02	4.764E-03	6.920E 00	3.532E-03	2.562E-04
1.320E 00	4.481E-02	5.013E-03	7.040E 00	2.606E-03	2.071E-04
1.360E 00	5.037E-02	5.156E-03	7.160E 00	2.077E-03	1.660E-04
1.400E 00	6.065E-02	5.669E-03	7.280E 00	1.461E-03	1.436E-04
1.440E 00	7.289E-02	5.461E-03	7.400E 00	9.598E-04	1.124E-04
1.480E 00	8.658E-02	5.328E-03	7.520E 00	5.461E-04	9.480E-05
1.520E 00	9.238E-02	5.629E-03	7.640E 00	2.470E-04	7.612E-05
1.560E 00	8.311E-02	5.856E-03	7.760E 00	8.091E-05	6.450E-05
1.600E 00	6.746E-02	5.339E-03	7.880E 00	3.037E-05	5.197E-05
1.640E 00	5.678E-02	4.968E-03	8.030E 00	5.679E-05	5.103E-05
1.680E 00	5.341E-02	4.900E-03	8.170E 00	9.062E-05	4.629E-05
1.720E 00	5.503E-02	4.958E-03	8.310E 00	8.530E-05	3.239E-05
1.760E 00	6.052E-02	5.095E-03	8.450E 00	6.334E-05	2.579E-05
1.800E 00	6.794E-02	5.163E-03	8.590E 00	4.506E-05	2.359E-05
1.850E 00	7.277E-02	4.577E-03	8.730E 00	3.120E-05	2.144E-05
1.910E 00	6.517E-02	4.460E-03	8.870E 00	1.534E-05	2.036E-05
1.970E 00	5.207E-02	4.123E-03	9.010E 00	6.319E-06	1.700E-05
2.030E 00	5.099E-02	4.075E-03	9.150E 00	3.831E-06	1.558E-05
2.090E 00	6.120E-02	4.030E-03	9.300E 00	9.140E-06	1.819E-05
2.150E 00	7.781E-02	4.140E-03	9.460E 00	1.005E-05	1.930E-05
2.210E 00	9.473E-02	4.127E-03	9.620E 00	1.354E-05	1.546E-05
2.270E 00	9.202E-02	3.989E-03	9.780E 00	1.760E-05	1.703E-05
2.330E 00	7.118E-02	4.631E-03	9.940E 00	1.957E-05	1.600E-05
2.390E 00	5.405E-02	3.810E-03	1.010E 01	1.789E-05	1.306E-05
2.450E 00	4.469E-02	3.280E-03	1.026E 01	1.355E-05	8.633E-06
2.510E 00	4.342E-02	3.106E-03	1.042E 01	1.061E-05	7.260E-06
2.570E 00	4.775E-02	3.207E-03	1.058E 01	7.249E-06	7.533E-06

INTEGRATED DATA

PHOTON ENERGY INTERVAL (MEV)	I-SECTION (B/SR)	ERROR (B/SR)
3.000E-01 - 4.000E-01	1.667E-02	1.240E-03
4.000E-01 - 5.000E-01	1.101E-02	1.277E-03
5.000E-01 - 6.000E-01	7.510E-03	9.309E-04
6.000E-01 - 7.000E-01	3.249E-03	7.165E-04
7.000E-01 - 8.000E-01	6.305E-03	6.615E-04
8.000E-01 - 1.000E 00	3.214E-02	1.167E-02
1.000E 00 - 1.200E 00	1.976E-02	9.880E-04
1.200E 00 - 1.400E 00	1.261E-02	9.967E-04
1.400E 00 - 1.600E 00	1.608E-02	1.113E-03
1.600E 00 - 1.800E 00	1.167E-02	1.001E-03
1.800E 00 - 2.000E 00	1.279E-02	8.951E-04
2.000E 00 - 2.500E 00	3.373E-02	1.906E-03
2.500E 00 - 3.000E 00	2.692E-02	1.423E-03
3.000E 00 - 3.500E 00	2.263E-02	1.062E-03
3.500E 00 - 4.000E 00	1.300E-02	8.361E-04
4.000E 00 - 4.500E 00	1.082E-02	6.974E-04
4.500E 00 - 5.000E 00	6.450E-03	5.887E-04
5.000E 00 - 6.000E 00	1.227E-02	9.465E-04
6.000E 00 - 7.000E 00	7.073E-03	4.488E-04
7.000E 00 - 8.000E 00	9.110E-04	1.088E-04
8.000E 00 - 9.000E 00	5.302E-05	2.994E-05
9.000E 00 - 1.000E 01	1.173E-05	1.647E-05

DIFFERENTIAL CROSS SECTIONS FOR GAMMA RAY PRODUCTION IN ^{238}Pu . THE FIRST SET OF NUMBERS IS THE DOUBLY DIFFERENTIAL CROSS SECTION, WHILE THE SECOND SET IS THE GAMMA RAY PRODUCTION CROSS SECTION FOR THE DESIGNATED GAMMA RAY ENERGY INTERVALS. THIS SECOND SET RESULTS FROM INTEGRATION OF THE DOUBLY DIFFERENTIAL DATA. THE UNCERTAINTIES ARE GIVEN IN THE SAME UNITS AS THE DATA AND DO NOT INCLUDE AN ESTIMATED 10 PERCENT ERROR IN ABSOLUTE NORMALIZATION.

INCIDENT NEUTRON ENERGY = 7.99 TO 8.98 MEV. ANGLE = 125 DEGREES.

PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)	PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)
2.250E-01	1.783E-01	2.586E-02	2.630E 00	5.575E-02	3.395E-03
2.350E-01	1.830E-01	2.294E-02	2.690E 00	5.851E-02	3.313E-03
2.450E-01	1.855E-01	2.158E-02	2.750E 00	5.877E-02	3.252E-03
2.575E-01	1.950E-01	2.059E-02	2.810E 00	5.777E-02	3.310E-03
2.725E-01	2.232E-01	1.862E-02	2.870E 00	5.729E-02	3.216E-03
2.875E-01	2.486E-01	1.612E-02	2.930E 00	5.580E-02	3.048E-03
3.025E-01	2.492E-01	1.521E-02	2.990E 00	5.192E-02	2.872E-03
3.175E-01	2.286E-01	1.478E-02	3.050E 00	4.907E-02	2.894E-03
3.325E-01	1.951E-01	1.460E-02	3.110E 00	4.882E-02	2.831E-03
3.475E-01	1.597E-01	1.460E-02	3.180E 00	4.951E-02	2.576E-03
3.625E-01	1.347E-01	1.370E-02	3.260E 00	4.761E-02	2.471E-03
3.775E-01	1.226E-01	1.331E-02	3.340E 00	4.427E-02	2.547E-03
3.925E-01	1.196E-01	1.320E-02	3.420E 00	4.400E-02	2.326E-03
4.100E-01	1.188E-01	1.359E-02	3.500E 00	4.307E-02	2.239E-03
4.300E-01	1.135E-01	1.360E-02	3.580E 00	3.705E-02	2.252E-03
4.500E-01	1.132E-01	1.390E-02	3.660E 00	3.041E-02	2.168E-03
4.700E-01	1.268E-01	1.437E-02	3.740E 00	2.735E-02	2.120E-03
4.900E-01	1.380E-01	1.546E-02	3.820E 00	2.615E-02	2.033E-03
5.100E-01	1.316E-01	1.564E-02	3.900E 00	2.508E-02	2.008E-03
5.300E-01	1.117E-01	1.304E-02	3.980E 00	2.577E-02	1.990E-03
5.500E-01	8.835E-02	9.493E-03	4.060E 00	2.853E-02	1.928E-03
5.700E-01	6.652E-02	7.538E-03	4.140E 00	2.970E-02	1.857E-03
5.900E-01	4.969E-02	7.065E-03	4.220E 00	2.765E-02	1.828E-03
6.100E-01	3.953E-02	7.130E-03	4.300E 00	2.551E-02	1.784E-03
6.300E-01	3.551E-02	7.768E-03	4.380E 00	2.460E-02	1.676E-03
6.500E-01	3.428E-02	7.678E-03	4.460E 00	2.216E-02	1.697E-03
6.700E-01	3.431E-02	7.484E-03	4.540E 00	1.782E-02	1.703E-03
6.900E-01	3.849E-02	7.366E-03	4.630E 00	1.493E-02	1.645E-03
7.100E-01	4.507E-02	7.157E-03	4.730E 00	1.543E-02	1.583E-03
7.300E-01	5.198E-02	7.089E-03	4.830E 00	1.516E-02	1.518E-03
7.500E-01	5.915E-02	7.108E-03	4.930E 00	1.426E-02	1.543E-03
7.700E-01	7.479E-02	7.007E-03	5.030E 00	1.515E-02	1.518E-03
7.900E-01	1.106E-01	7.068E-03	5.130E 00	1.531E-02	1.480E-03
8.100E-01	1.669E-01	7.070E-03	5.230E 00	1.416E-02	1.517E-03
8.300E-01	2.248E-01	6.893E-03	5.330E 00	1.393E-02	1.498E-03
8.500E-01	2.583E-01	6.719E-03	5.430E 00	1.442E-02	1.483E-03
8.700E-01	2.584E-01	6.772E-03	5.530E 00	1.453E-02	1.402E-03
8.900E-01	2.198E-01	6.518E-03	5.630E 00	1.445E-02	1.365E-03
9.100E-01	1.725E-01	5.914E-03	5.730E 00	1.429E-02	1.363E-03
9.300E-01	1.304E-01	5.567E-03	5.830E 00	1.404E-02	1.322E-03
9.500E-01	1.027E-01	5.778E-03	5.930E 00	1.384E-02	1.230E-03
9.700E-01	8.927E-02	5.900E-03	6.030E 00	1.346E-02	1.154E-03
1.000E 00	8.208E-02	6.195E-03	6.130E 00	1.313E-02	1.099E-03
1.040E 00	7.431E-02	5.857E-03	6.230E 00	1.326E-02	1.066E-03
1.080E 00	8.187E-02	5.321E-03	6.330E 00	1.315E-02	1.001E-03
1.120E 00	1.196E-01	5.486E-03	6.430E 00	1.206E-02	9.275E-04
1.160E 00	1.481E-01	5.385E-03	6.560E 00	1.087E-02	8.409E-04
1.200E 00	1.269E-01	5.191E-03	6.680E 00	1.005E-02	7.683E-04
1.240E 00	8.290E-02	5.458E-03	6.800E 00	9.024E-03	7.118E-04
1.280E 00	5.526E-02	5.183E-03	6.920E 00	8.199E-03	6.694E-04
1.320E 00	4.686E-02	5.587E-03	7.040E 00	7.549E-03	5.646E-04
1.360E 00	5.024E-02	5.650E-03	7.160E 00	6.856E-03	4.945E-04
1.400E 00	6.082E-02	6.134E-03	7.280E 00	6.247E-03	4.431E-04
1.440E 00	7.559E-02	5.923E-03	7.400E 00	5.572E-03	3.985E-04
1.480E 00	8.990E-02	5.638E-03	7.520E 00	4.613E-03	3.409E-04
1.520E 00	9.397E-02	5.992E-03	7.640E 00	3.550E-03	2.946E-04
1.560E 00	8.264E-02	6.252E-03	7.760E 00	2.647E-03	2.547E-04
1.600E 00	6.478E-02	5.794E-03	7.880E 00	1.970E-03	2.122E-04
1.640E 00	5.350E-02	5.490E-03	8.030E 00	1.530E-03	1.700E-04
1.680E 00	5.375E-02	5.306E-03	8.170E 00	1.171E-03	1.333E-04
1.720E 00	6.057E-02	5.312E-03	8.310E 00	7.861E-04	1.075E-04
1.760E 00	6.640E-02	5.529E-03	8.450E 00	4.530E-04	9.696E-05
1.800E 00	6.918E-02	5.940E-03	8.590E 00	2.438E-04	7.894E-05
1.850E 00	7.029E-02	5.071E-03	8.730E 00	1.349E-04	5.767E-05
1.910E 00	6.531E-02	4.681E-03	8.870E 00	7.721E-05	4.904E-05
1.970E 00	5.574E-02	4.507E-03	9.010E 00	3.678E-05	4.574E-05
2.030E 00	5.479E-02	4.570E-03	9.150E 00	1.707E-05	4.397E-05
2.090E 00	6.453E-02	4.389E-03	9.300E 00	2.969E-05	3.712E-05
2.150E 00	8.064E-02	4.501E-03	9.460E 00	5.687E-05	3.015E-05
2.210E 00	9.301E-02	4.530E-03	9.620E 00	5.853E-05	2.531E-05
2.270E 00	8.936E-02	4.393E-03	9.780E 00	3.599E-05	2.561E-05
2.330E 00	7.278E-02	4.132E-03	9.940E 00	1.648E-05	2.325E-05
2.390E 00	5.561E-02	3.823E-03	1.010E 01	1.019E-05	1.432E-05
2.450E 00	4.585E-02	3.644E-03	1.026E 01	1.297E-05	8.322E-06
2.510E 00	4.624E-02	3.553E-03	1.042E 01	1.287E-05	8.425E-06
2.570E 00	5.140E-02	3.392E-03	1.058E 01	1.025E-05	8.254E-06

INTEGRATED DATA

PHOTON ENERGY INTERVAL (MEV)	I-SECTION (B/SR)	ERROR (B/SR)
3.000E-01 - 4.000E-01	1.688E-02	1.415E-03
4.000E-01 - 5.000E-01	1.218E-02	1.416E-03
5.000E-01 - 6.000E-01	8.947E-03	1.053E-03
6.000E-01 - 7.000E-01	3.671E-03	7.493E-04
7.000E-01 - 8.000E-01	6.874E-03	7.086E-04
8.000E-01 - 1.000E 00	3.401E-02	1.264E-03
1.000E 00 - 1.200E 00	2.121E-02	1.108E-03
1.200E 00 - 1.400E 00	1.294E-02	1.099E-03
1.400E 00 - 1.600E 00	1.633E-02	1.192E-03
1.600E 00 - 1.800E 00	1.200E-02	1.097E-03
1.800E 00 - 2.000E 00	1.290E-02	9.784E-04
2.000E 00 - 2.500E 00	3.432E-02	2.109E-03
2.500E 00 - 3.000E 00	2.769E-02	1.633E-03
3.000E 00 - 3.500E 00	2.365E-02	1.285E-03
3.500E 00 - 4.000E 00	1.489E-02	1.056E-03
4.000E 00 - 4.500E 00	1.317E-02	9.006E-04
4.500E 00 - 5.000E 00	7.725E-03	7.950E-04
5.000E 00 - 6.000E 00	1.439E-02	1.411E-03
6.000E 00 - 7.000E 00	1.121E-02	8.905E-04
7.000E 00 - 8.000E 00	4.631E-03	3.604E-04
8.000E 00 - 9.000E 00	5.538E-04	9.263E-05
9.000E 00 - 1.000E 01	3.629E-05	3.198E-05

DIFFERENTIAL CROSS SECTIONS FOR GAMMA RAY PRODUCTION IN HW. THE FIRST SET OF NUMBERS IS THE DOUBLY DIFFERENTIAL CROSS SECTION, WHILE THE SECOND SET IS THE GAMMA RAY PRODUCTION CROSS SECTION FOR THE DESIGNATED GAMMA RAY ENERGY INTERVALS. THIS SECOND SET RESULTS FROM INTEGRATION OF THE DOUBLY DIFFERENTIAL DATA. THE UNCERTAINTIES ARE GIVEN IN THE SAME UNITS AS THE DATA AND DO NOT INCLUDE AN ESTIMATED 10 PERCENT ERROR IN ABSOLUTE NORMALIZATION.

INCIDENT NEUTRON ENERGY = 8.98 TO 10.01 MEV. ANGLE = 125 DEGREES.

PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)	PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)
2.250E-01	1.599E-01	2.640E-02	2.630E 00	5.365E-02	3.734E-03
2.350E-01	1.658E-01	2.339E-02	2.690E 00	5.900E-02	3.499E-03
2.450E-01	1.751E-01	2.179E-02	2.750E 00	5.806E-02	3.604E-03
2.575E-01	1.882E-01	2.131E-02	2.810E 00	5.686E-02	3.759E-03
2.725E-01	2.156E-01	2.052E-02	2.870E 00	5.458E-02	3.440E-03
2.875E-01	2.444E-01	1.846E-02	2.930E 00	5.007E-02	3.279E-03
3.025E-01	2.523E-01	1.657E-02	2.990E 00	4.662E-02	3.349E-03
3.175E-01	2.380E-01	1.512E-02	3.050E 00	4.604E-02	3.163E-03
3.325E-01	2.052E-01	1.506E-02	3.110E 00	4.668E-02	2.992E-03
3.475E-01	1.669E-01	1.512E-02	3.180E 00	4.683E-02	2.970E-03
3.625E-01	1.394E-01	1.409E-02	3.260E 00	4.549E-02	2.857E-03
3.775E-01	1.240E-01	1.424E-02	3.340E 00	4.548E-02	2.739E-03
3.925E-01	1.160E-01	1.467E-02	3.420E 00	4.606E-02	2.600E-03
4.100E-01	1.120E-01	1.489E-02	3.500E 00	4.319E-02	2.624E-03
4.300E-01	1.111E-01	1.511E-02	3.580E 00	3.836E-02	2.598E-03
4.500E-01	1.209E-01	1.642E-02	3.660E 00	3.214E-02	2.507E-03
4.700E-01	1.392E-01	1.623E-02	3.740E 00	2.607E-02	2.515E-03
4.900E-01	1.388E-01	1.644E-02	3.820E 00	2.410E-02	2.414E-03
5.100E-01	1.174E-01	1.717E-02	3.900E 00	2.907E-02	2.340E-03
5.300E-01	9.759E-02	1.468E-02	3.980E 00	2.633E-02	2.382E-03
5.500E-01	8.046E-02	1.089E-02	4.060E 00	2.738E-02	2.303E-03
5.700E-01	6.070E-02	8.453E-03	4.140E 00	2.800E-02	2.193E-03
5.900E-01	4.646E-02	7.953E-03	4.220E 00	2.865E-02	2.181E-03
6.100E-01	4.182E-02	7.907E-03	4.300E 00	2.829E-02	2.145E-03
6.300E-01	3.942E-02	8.456E-03	4.380E 00	2.595E-02	2.020E-03
6.500E-01	3.416E-02	8.755E-03	4.460E 00	2.210E-02	2.039E-03
6.700E-01	2.973E-02	8.346E-03	4.540E 00	1.832E-02	2.040E-03
6.900E-01	3.133E-02	7.892E-03	4.630E 00	1.620E-02	1.913E-03
7.100E-01	3.825E-02	7.716E-03	4.730E 00	1.645E-02	1.887E-03
7.300E-01	4.611E-02	7.581E-03	4.830E 00	1.676E-02	1.843E-03
7.500E-01	5.493E-02	7.472E-03	4.930E 00	1.668E-02	1.875E-03
7.700E-01	7.353E-02	7.501E-03	5.030E 00	1.753E-02	1.872E-03
7.900E-01	1.122E-01	7.475E-03	5.130E 00	1.879E-02	1.790E-03
8.100E-01	1.691E-01	7.413E-03	5.230E 00	1.924E-02	1.848E-03
8.300E-01	2.257E-01	7.359E-03	5.330E 00	1.835E-02	1.756E-03
8.500E-01	2.575E-01	7.078E-03	5.430E 00	1.676E-02	1.810E-03
8.700E-01	2.513E-01	7.024E-03	5.530E 00	1.529E-02	1.757E-03
8.900E-01	2.138E-01	6.789E-03	5.630E 00	1.407E-02	1.691E-03
9.100E-01	1.645E-01	6.240E-03	5.730E 00	1.304E-02	1.672E-03
9.300E-01	1.236E-01	6.080E-03	5.830E 00	1.273E-02	1.600E-03
9.500E-01	1.008E-01	6.298E-03	5.930E 00	1.328E-02	1.541E-03
9.700E-01	9.396E-02	6.230E-03	6.030E 00	1.440E-02	1.509E-03
1.000E 00	9.267E-02	6.423E-03	6.130E 00	1.561E-02	1.416E-03
1.040E 00	8.045E-02	6.167E-03	6.230E 00	1.624E-02	1.409E-03
1.080E 00	8.679E-02	5.484E-03	6.330E 00	1.565E-02	1.375E-03
1.120E 00	1.261E-01	5.563E-03	6.440E 00	1.371E-02	1.275E-03
1.160E 00	1.810E-01	5.509E-03	6.560E 00	1.132E-02	1.206E-03
1.200E 00	1.322E-01	5.516E-03	6.680E 00	9.434E-03	1.199E-03
1.240E 00	8.644E-02	5.372E-03	6.800E 00	8.865E-03	1.142E-03
1.280E 00	5.222E-02	5.399E-03	6.920E 00	9.562E-03	1.047E-03
1.320E 00	4.427E-02	5.628E-03	7.040E 00	1.008E-02	9.669E-04
1.360E 00	4.953E-02	5.687E-03	7.160E 00	9.938E-03	9.068E-04
1.400E 00	5.843E-02	6.188E-03	7.280E 00	9.394E-03	8.537E-04
1.440E 00	6.211E-02	6.102E-03	7.400E 00	8.354E-03	7.845E-04
1.480E 00	8.042E-02	3.794E-03	7.520E 00	7.156E-03	7.346E-04
1.520E 00	8.560E-02	6.199E-03	7.640E 00	6.452E-03	6.878E-04
1.560E 00	7.676E-02	6.407E-03	7.760E 00	6.170E-03	6.302E-04
1.600E 00	5.936E-02	6.011E-03	7.890E 00	5.601E-03	5.684E-04
1.640E 00	4.908E-02	5.806E-03	8.030E 00	4.602E-03	5.097E-04
1.680E 00	5.168E-02	5.553E-03	8.170E 00	3.950E-03	4.480E-04
1.720E 00	5.926E-02	5.738E-03	8.310E 00	3.868E-03	3.944E-04
1.760E 00	6.450E-02	5.842E-03	8.450E 00	3.696E-03	3.314E-04
1.800E 00	6.757E-02	6.018E-03	8.590E 00	2.900E-03	2.929E-04
1.850E 00	6.864E-02	5.331E-03	8.730E 00	1.852E-03	2.274E-04
1.910E 00	5.944E-02	5.034E-03	8.870E 00	1.155E-03	1.754E-04
1.970E 00	4.637E-02	5.089E-03	9.010E 00	8.755E-04	1.484E-04
2.030E 00	4.549E-02	4.975E-03	9.150E 00	7.105E-04	1.231E-04
2.090E 00	5.548E-02	4.787E-03	9.300E 00	4.946E-04	2.500E-05
2.150E 00	7.378E-02	4.857E-03	9.460E 00	2.469E-04	7.267E-05
2.210E 00	9.095E-02	4.607E-03	9.620E 00	9.090E-05	6.088E-05
2.270E 00	8.861E-02	4.434E-03	9.780E 00	2.792E-05	4.283E-05
2.330E 00	7.049E-02	4.309E-03	9.940E 00	1.060E-05	3.043E-05
2.390E 00	5.538E-02	3.905E-03	1.010E 01	2.787E-05	2.175E-05
2.450E 00	4.616E-02	3.927E-03	1.026E 01	3.383E-05	1.854E-05
2.510E 00	4.147E-02	4.066E-03	1.042E 01	3.403E-05	1.930E-05
2.570E 00	4.487E-02	3.951E-03	1.058E 01	2.899E-05	1.840E-05

INTEGRATED DATA

PHOTON ENERGY INTERVAL (MEV)	I-SECTION (B/SR)	ERROR (B/SR)
3.000E-01 - 4.000E-01	1.736E-02	1.487E-03
4.000E-01 - 5.000E-01	1.241E-02	1.574E-03
5.000E-01 - 6.000E-01	8.075E-03	1.187E-03
6.000E-01 - 7.000E-01	3.543E-03	8.280E-04
7.000E-01 - 8.000E-01	6.541E-03	7.550E-04
8.000E-01 - 1.000E 00	3.382E-02	1.338E-03
1.000E 00 - 1.200E 00	2.231E-02	1.150E-03
1.200E 00 - 1.400E 00	1.288E-02	1.114E-03
1.400E 00 - 1.600E 00	1.495E-02	1.225E-03
1.600E 00 - 1.800E 00	1.147E-02	1.156E-03
1.800E 00 - 2.000E 00	1.185E-02	1.045E-03
2.000E 00 - 2.500E 00	3.242E-02	2.227E-03
2.500E 00 - 3.000E 00	2.619E-02	1.810E-03
3.000E 00 - 3.500E 00	2.296E-02	1.434E-03
3.500E 00 - 4.000E 00	1.492E-02	1.237E-03
4.000E 00 - 4.500E 00	1.335E-02	1.077E-03
4.500E 00 - 5.000E 00	8.442E-03	9.516E-04
5.000E 00 - 6.000E 00	1.585E-02	1.725E-03
6.000E 00 - 7.000E 00	1.285E-02	1.264E-03
7.000E 00 - 8.000E 00	7.681E-03	7.488E-04
8.000E 00 - 9.000E 00	2.945E-03	3.199E-04
9.000E 00 - 1.000E 01	3.096E-04	7.658E-05

DIFFERENTIAL CROSS SECTIONS FOR GAMMA RAY PRODUCTION IN NH. THE FIRST SET OF NUMBERS IS THE DOUBLY DIFFERENTIAL CROSS SECTION WHILE THE SECOND SET IS THE GAMMA RAY PRODUCTION CROSS SECTION FOR THE DESIGNATED GAMMA RAY ENERGY INTERVALS. THIS SECOND SET RESULTS FROM INTEGRATION OF THE DOUBLY DIFFERENTIAL DATA. THE UNCERTAINTIES ARE GIVEN IN THE SAME UNITS AS THE DATA AND DO NOT INCLUDE AN ESTIMATED 10 PERCENT ERROR IN ABSOLUTE NORMALIZATION.

INCIDENT NEUTRON ENERGY = 10.01 TO 11.98 MEV. ANGLE = 125 DEGREES.

PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)	PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)
2.250E-01	1.802E-01	2.863E-02	2.630E 00	5.026E-02	3.981E-03
2.350E-01	1.816E-01	2.977E-02	2.690E 00	5.485E-02	3.847E-03
2.450E-01	1.868E-01	2.320E-02	2.750E 00	5.667E-02	3.669E-03
2.575E-01	2.042E-01	2.255E-02	2.810E 00	5.698E-02	3.616E-03
2.725E-01	2.362E-01	2.128E-02	2.870E 00	5.672E-02	3.553E-03
2.875E-01	2.661E-01	1.899E-02	2.930E 00	5.504E-02	3.399E-03
3.025E-01	2.697E-01	1.691E-02	2.990E 00	5.157E-02	3.315E-03
3.175E-01	2.368E-01	1.590E-02	3.050E 00	4.803E-02	3.351E-03
3.325E-01	1.918E-01	1.627E-02	3.110E 00	4.531E-02	3.304E-03
3.475E-01	1.619E-01	1.606E-02	3.180E 00	4.495E-02	3.247E-03
3.625E-01	1.462E-01	1.550E-02	3.260E 00	4.778E-02	3.033E-03
3.775E-01	1.302E-01	1.641E-02	3.340E 00	4.698E-02	2.945E-03
3.925E-01	1.247E-01	1.646E-02	3.420E 00	4.371E-02	3.010E-03
4.100E-01	1.159E-01	1.727E-02	3.500E 00	4.223E-02	2.934E-03
4.300E-01	1.087E-01	1.702E-02	3.580E 00	3.964E-02	2.750E-03
4.500E-01	1.234E-01	1.734E-02	3.660E 00	3.463E-02	2.734E-03
4.700E-01	1.576E-01	1.717E-02	3.740E 00	2.953E-02	2.750E-03
4.900E-01	1.714E-01	1.894E-02	3.820E 00	2.615E-02	2.700E-03
5.100E-01	1.470E-01	1.974E-02	3.900E 00	2.501E-02	2.609E-03
5.300E-01	1.119E-01	1.658E-02	3.980E 00	2.595E-02	2.530E-03
5.500E-01	8.871E-02	1.184E-02	4.060E 00	2.685E-02	2.357E-03
5.700E-01	6.861E-02	8.859E-03	4.140E 00	2.623E-02	2.379E-03
5.900E-01	4.593E-02	8.372E-03	4.220E 00	2.643E-02	2.356E-03
6.100E-01	3.068E-02	8.752E-03	4.300E 00	2.665E-02	2.313E-03
6.300E-01	2.789E-02	9.233E-03	4.380E 00	2.560E-02	2.215E-03
6.500E-01	2.982E-02	9.501E-03	4.460E 00	2.461E-02	2.204E-03
6.700E-01	3.096E-02	9.364E-03	4.540E 00	2.401E-02	2.233E-03
6.900E-01	3.276E-02	8.966E-03	4.620E 00	2.275E-02	2.201E-03
7.100E-01	3.662E-02	8.809E-03	4.700E 00	2.116E-02	2.124E-03
7.300E-01	4.235E-02	9.057E-03	4.800E 00	2.017E-02	2.140E-03
7.500E-01	5.255E-02	8.841E-03	4.900E 00	1.914E-02	2.136E-03
7.700E-01	7.521E-02	8.279E-03	5.000E 00	1.799E-02	2.145E-03
7.900E-01	1.179E-01	8.084E-03	5.100E 00	1.609E-02	2.086E-03
8.100E-01	1.765E-01	7.974E-03	5.200E 00	1.561E-02	2.090E-03
8.300E-01	2.322E-01	7.725E-03	5.300E 00	1.584E-02	2.080E-03
8.500E-01	2.630E-01	7.434E-03	5.400E 00	1.578E-02	2.129E-03
8.700E-01	2.570E-01	7.305E-03	5.500E 00	1.920E-02	2.008E-03
8.900E-01	2.201E-01	7.085E-03	5.600E 00	1.929E-02	1.927E-03
9.100E-01	1.702E-01	6.708E-03	5.700E 00	1.918E-02	1.944E-03
9.300E-01	1.282E-01	6.605E-03	5.800E 00	1.875E-02	1.890E-03
9.500E-01	1.044E-01	6.956E-03	5.900E 00	1.711E-02	1.869E-03
9.700E-01	9.668E-02	6.831E-03	6.000E 00	1.553E-02	1.813E-03
1.000E 00	9.575E-02	6.763E-03	6.100E 00	1.496E-02	1.887E-03
1.040E 00	8.978E-02	6.487E-03	6.200E 00	1.475E-02	1.668E-03
1.080E 00	9.584E-02	5.695E-03	6.300E 00	1.475E-02	1.673E-03
1.120E 00	1.353E-01	6.152E-03	6.400E 00	1.539E-02	1.586E-03
1.160E 00	1.658E-01	6.172E-03	6.500E 00	1.631E-02	1.479E-03
1.200E 00	1.414E-01	5.759E-03	6.600E 00	1.627E-02	1.445E-03
1.240E 00	9.127E-02	5.411E-03	6.800E 00	1.526E-02	1.427E-03
1.280E 00	5.770E-02	5.591E-03	6.920E 00	1.365E-02	1.336E-03
1.320E 00	4.992E-02	5.906E-03	7.040E 00	1.161E-02	1.251E-03
1.360E 00	5.411E-02	5.927E-03	7.160E 00	9.986E-03	1.163E-03
1.400E 00	5.952E-02	6.550E-03	7.280E 00	9.141E-03	1.163E-03
1.440E 00	6.847E-02	6.389E-03	7.400E 00	8.500E-03	1.095E-03
1.480E 00	8.123E-02	6.122E-03	7.520E 00	8.133E-03	1.057E-03
1.520E 00	8.705E-02	6.401E-03	7.640E 00	8.123E-03	9.922E-04
1.560E 00	7.642E-02	6.661E-03	7.760E 00	7.946E-03	9.374E-04
1.600E 00	5.759E-02	6.438E-03	7.890E 00	7.475E-03	8.792E-04
1.640E 00	4.641E-02	6.245E-03	8.030E 00	7.161E-03	8.344E-04
1.680E 00	4.848E-02	5.898E-03	8.170E 00	6.739E-03	7.937E-04
1.720E 00	5.778E-02	5.775E-03	8.310E 00	6.055E-03	7.216E-04
1.760E 00	6.596E-02	5.972E-03	8.450E 00	5.521E-03	6.640E-04
1.800E 00	6.987E-02	6.225E-03	8.590E 00	5.056E-03	6.451E-04
1.850E 00	7.073E-02	5.598E-03	8.730E 00	4.671E-03	6.111E-04
1.910E 00	6.332E-02	5.269E-03	8.870E 00	4.312E-03	4.998E-04
1.970E 00	5.188E-02	5.124E-03	9.010E 00	3.710E-03	5.049E-04
2.020E 00	8.160E-02	4.761E-03	9.150E 00	2.844E-03	4.785E-04
2.090E 00	6.079E-02	4.855E-03	9.300E 00	2.106E-03	3.815E-04
2.150E 00	7.488E-02	5.036E-03	9.460E 00	1.750E-03	3.757E-04
2.210E 00	8.323E-02	5.135E-03	9.620E 00	1.650E-03	3.833E-04
2.270E 00	7.861E-02	4.880E-03	9.780E 00	1.561E-03	3.624E-04
2.330E 00	6.462E-02	4.394E-03	9.940E 00	1.275E-03	2.730E-04
2.390E 00	5.046E-02	4.178E-03	1.010E 01	8.535E-04	3.366E-04
2.450E 00	4.306E-02	4.090E-03	1.026E 01	4.729E-04	2.101E-04
2.510E 00	4.216E-02	3.931E-03	1.042E 01	2.794E-04	1.231E-04
2.570E 00	4.510E-02	3.989E-03	1.058E 01	1.580E-04	1.697E-04

INTEGRATED DATA

PHOTON ENERGY INTERVAL (MEV)	I-SECTION (B/SR)	ERROR (B/SR)
3.000E-01 - 4.000E-01	1.760E-02	1.618E-03
4.000E-01 - 5.000E-01	1.350E-02	1.751E-03
5.000E-01 - 6.000E-01	9.240E-03	1.304E-03
6.000E-01 - 7.000E-01	3.066E-03	9.168E-04
7.000E-01 - 8.000E-01	6.532E-03	8.619E-04
8.000E-01 - 1.000E 00	3.483E-02	1.428E-03
1.000E 00 - 1.200E 00	2.431E-02	1.230E-03
1.200E 00 - 1.400E 00	1.391E-02	1.155E-03
1.400E 00 - 1.600E 00	1.499E-02	1.283E-03
1.600E 00 - 1.800E 00	1.124E-02	1.207E-03
1.800E 00 - 2.000E 00	1.259E-02	1.082E-03
2.000E 00 - 2.500E 00	3.127E-02	2.321E-03
2.500E 00 - 3.000E 00	2.631E-02	1.854E-03
3.000E 00 - 3.500E 00	2.298E-02	1.566E-03
3.500E 00 - 4.000E 00	1.561E-02	1.351E-03
4.000E 00 - 4.500E 00	1.303E-02	1.159E-03
4.500E 00 - 5.000E 00	1.060E-02	1.082E-03
5.000E 00 - 6.000E 00	1.757E-02	2.013E-03
6.000E 00 - 7.000E 00	1.515E-02	1.547E-03
7.000E 00 - 8.000E 00	8.711E-03	1.050E-03
8.000E 00 - 9.000E 00	5.473E-03	6.610E-04
9.000E 00 - 1.000E 01	1.996E-03	3.699E-04

DIFFERENTIAL CROSS SECTIONS FOR GAMMA RAY PRODUCTION IN MN. THE FIRST SET OF NUMBERS IS THE DOUBLY DIFFERENTIAL CROSS SECTION, WHILE THE SECOND SET IS THE GAMMA RAY PRODUCTION CROSS SECTION FOR THE DESIGNATED GAMMA RAY ENERGY INTERVALS. THIS SECOND SET RESULTS FROM INTEGRATION OF THE DOUBLY DIFFERENTIAL DATA. THE UNCERTAINTIES ARE GIVEN IN THE SAME UNITS AS THE DATA AND DO NOT INCLUDE AN ESTIMATED 10 PERCENT ERROR IN ABSOLUTE NORMALIZATION.

INCIDENT NEUTRON ENERGY = 11.98 TO 13.95 MEV. ANGLE = 125 DEGREES.

PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)	PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)
2.250E-01	2.802E-01	3.274E-02	2.630E 00	3.373E-02	3.721E-03
2.350E-01	2.504E-01	2.820E-02	2.690E 00	3.841E-02	3.816E-03
2.450E-01	2.304E-01	2.555E-02	2.750E 00	4.174E-02	3.695E-03
2.575E-01	2.195E-01	2.404E-02	2.810E 00	4.144E-02	3.709E-03
2.725E-01	2.155E-01	2.251E-02	2.870E 00	3.937E-02	3.708E-03
2.875E-01	2.113E-01	2.067E-02	2.930E 00	3.659E-02	3.394E-03
3.025E-01	2.015E-01	2.010E-02	2.990E 00	3.248E-02	3.308E-03
3.175E-01	1.788E-01	1.897E-02	3.050E 00	2.899E-02	3.355E-03
3.325E-01	1.444E-01	1.824E-02	3.110E 00	2.763E-02	3.268E-03
3.475E-01	1.133E-01	1.803E-02	3.180E 00	2.848E-02	3.083E-03
3.625E-01	9.641E-02	1.828E-02	3.260E 00	3.041E-02	2.967E-03
3.775E-01	8.800E-02	1.856E-02	3.340E 00	3.084E-02	2.980E-03
3.925E-01	7.964E-02	1.908E-02	3.420E 00	3.151E-02	2.934E-03
4.100E-01	7.240E-02	2.033E-02	3.500E 00	3.155E-02	2.826E-03
4.300E-01	7.941E-02	2.057E-02	3.580E 00	2.866E-02	2.825E-03
4.500E-01	1.016E-01	1.941E-02	3.660E 00	2.446E-02	2.806E-03
4.700E 01	1.240E 01	1.144E-01	3.740E 00	2.414E-02	2.794E-03
4.900E-01	1.313E-01	1.904E-02	3.820E 00	1.825E-02	2.698E-03
5.100E-01	1.095E-01	1.857E-02	3.900E 00	1.873E-02	2.725E-03
5.300E-01	7.982E-02	1.602E-02	3.980E 00	1.897E-02	2.712E-03
5.500E-01	5.887E-02	1.286E-02	4.060E 00	1.864E-02	2.617E-03
5.700E-01	4.100E-02	1.079E-02	4.140E 00	1.948E-02	2.547E-03
5.900E-01	2.721E-02	1.066E-02	4.220E 00	2.153E-02	2.535E-03
6.100E-01	2.628E-02	1.039E-02	4.300E 00	2.179E-02	2.471E-03
6.300E-01	3.623E-02	1.138E-02	4.380E 00	1.828E-02	2.397E-03
6.500E-01	4.591E-02	1.115E-02	4.460E 00	1.350E-02	2.431E-03
6.700E-01	5.088E-02	1.032E-02	4.540E 00	1.176E-02	2.413E-03
6.900E-01	5.304E-02	9.821E-03	4.620E 00	1.266E-02	2.326E-03
7.100E-01	5.751E-02	9.605E-03	4.700E 00	1.313E-02	2.368E-03
7.300E-01	6.296E-02	9.413E-03	4.780E 00	1.339E-02	2.278E-03
7.500E-01	7.170E-02	9.033E-03	4.860E 00	1.478E-02	2.231E-03
7.700E-01	8.726E-02	8.384E-03	4.940E 00	1.450E-02	2.157E-03
7.900E-01	1.150E-01	8.085E-03	5.020E 00	1.170E-02	2.173E-03
8.100E-01	1.536E-01	8.090E-03	5.100E 00	1.019E-02	2.266E-03
8.300E-01	1.904E-01	8.201E-03	5.180E 00	1.100E-02	2.184E-03
8.500E-01	2.082E-01	8.129E-03	5.260E 00	1.224E-02	2.136E-03
8.700E-01	1.995E-01	8.078E-03	5.340E 00	1.366E-02	2.113E-03
8.900E-01	1.721E-01	7.756E-03	5.420E 00	1.284E-02	2.082E-03
9.100E-01	1.400E-01	7.135E-03	5.500E 00	1.171E-02	2.102E-03
9.300E-01	1.144E-01	6.741E-03	5.580E 00	1.152E-02	2.094E-03
9.500E-01	9.904E-02	6.786E-03	5.660E 00	1.300E-02	2.019E-03
9.700E-01	9.087E-02	7.103E-03	5.740E 00	1.434E-02	2.047E-03
1.000E 00	8.190E-02	7.391E-03	5.820E 00	1.418E-02	2.024E-03
1.040E 00	6.550E-02	7.012E-03	5.900E 00	1.299E-02	1.961E-03
1.080E 00	6.938E-02	6.352E-03	5.980E 00	1.125E-02	1.886E-03
1.120E 00	1.043E-01	5.980E-03	6.060E 00	9.216E-03	1.854E-03
1.160E 00	1.274E-01	6.205E-03	6.140E 00	8.281E-03	1.835E-03
1.200E 00	1.133E-01	5.946E-03	6.220E 00	8.867E-03	1.746E-03
1.240E 00	7.728E-02	5.868E-03	6.300E 00	1.003E-02	1.679E-03
1.280E 00	8.746E-02	6.200E-03	6.380E 00	1.075E-02	1.609E-03
1.320E 00	3.679E-02	6.402E-03	6.460E 00	1.024E-02	1.538E-03
1.360E 00	3.850E-02	6.003E-03	6.540E 00	8.824E-03	1.453E-03
1.400E 00	4.218E-02	6.307E-03	6.620E 00	6.873E-03	1.396E-03
1.440E 00	4.702E-02	6.425E-03	6.700E 00	4.905E-03	1.359E-03
1.480E 00	5.463E-02	6.250E-03	6.780E 00	4.038E-03	1.311E-03
1.520E 00	5.853E-02	6.043E-03	6.860E 00	4.443E-03	1.272E-03
1.560E 00	5.319E-02	6.154E-03	6.940E 00	5.042E-03	1.220E-03
1.600E 00	4.551E-02	5.755E-03	7.020E 00	6.103E-03	1.147E-03
1.640E 00	4.256E-02	5.524E-03	7.100E 00	5.435E-03	1.114E-03
1.680E 00	4.184E-02	5.385E-03	7.180E 00	5.571E-03	1.105E-03
1.720E 00	4.459E-02	5.571E-03	7.260E 00	4.859E-03	9.923E-04
1.760E 00	5.093E-02	5.657E-03	7.340E 00	3.800E-03	9.835E-04
1.800E 00	5.594E-02	5.488E-03	7.420E 00	3.084E-03	9.798E-04
1.850E 00	5.475E-02	5.467E-03	7.500E 00	2.857E-03	8.773E-04
1.910E 00	4.636E-02	5.293E-03	7.580E 00	2.931E-03	7.713E-04
1.970E 00	3.930E-02	4.961E-03	7.660E 00	2.991E-03	8.382E-04
2.030E 00	3.942E-02	4.520E-03	7.740E 00	2.630E-03	8.001E-04
2.090E 00	4.167E-02	4.482E-03	7.820E 00	2.156E-03	6.231E-04
2.150E 00	4.338E-02	4.711E-03	7.900E 00	1.001E-03	6.571E-04
2.210E 00	5.296E-02	4.539E-03	7.980E 00	1.447E-03	7.153E-04
2.270E 00	5.478E-02	4.246E-03	8.060E 00	1.191E-03	4.569E-04
2.330E 00	4.609E-02	4.152E-03	8.140E 00	1.114E-03	4.767E-04
2.390E 00	3.558E-02	3.853E-03	8.220E 01	1.069E-03	6.231E-04
2.450E 00	3.212E-02	3.657E-03	1.026E 01	7.810E-04	3.979E-04
2.510E 00	3.226E-02	3.814E-03	1.042E 01	5.190E-04	2.080E-04
2.570E 00	3.194E-02	3.890E-03	1.058E 01	2.625E-04	3.103E-04

INTEGRATED DATA

PHOTON ENERGY INTERVAL (MEV)	I-SECTION (B/SR)	ERROR (B/SR)
3.000E-01 - 4.000E-01	1.250E-02	1.868E-03
4.000E-01 - 5.000E-01	1.019E-02	1.973E-03
5.000E-01 - 6.000E-01	6.339E-03	1.384E-03
6.000E-01 - 7.000E-01	4.276E-03	1.063E-03
7.000E-01 - 8.000E-01	7.912E-03	8.907E-04
8.000E-01 - 1.000E 00	2.904E-02	1.507E-03
1.000E 00 - 1.200E 00	1.857E-02	1.289E-03
1.200E 00 - 1.400E 00	1.094E-02	1.222E-03
1.400E 00 - 1.600E 00	1.035E-02	1.239E-03
1.600E 00 - 1.800E 00	9.204E-03	1.110E-03
1.800E 00 - 2.000E 00	9.540E-03	1.052E-03
2.000E 00 - 2.500E 00	2.152E-02	2.127E-03
2.500E 00 - 3.000E 00	1.840E-02	1.842E-03
3.000E 00 - 3.500E 00	1.999E-02	1.535E-03
3.500E 00 - 4.000E 00	1.122E-02	1.384E-03
4.000E 00 - 4.500E 00	9.442E-03	1.253E-03
4.500E 00 - 5.000E 00	6.634E-03	1.156E-03
5.000E 00 - 6.000E 00	1.214E-02	2.131E-03
6.000E 00 - 7.000E 00	1.086E-02	1.829E-03
7.000E 00 - 8.000E 00	6.059E-03	1.171E-03
8.000E 00 - 9.000E 00	3.961E-03	9.631E-04
9.000E 00 - 1.000E 01	1.818E-03	6.366E-04

DIFFERENTIAL CROSS SECTIONS FOR GAMMA RAY PRODUCTION IN MW. THE FIRST SET OF NUMBERS IS THE DOUBLY DIFFERENTIAL CROSS SECTION, WHILE THE SECOND SET IS THE GAMMA RAY PRODUCTION CROSS SECTION FOR THE DESIGNATED GAMMA RAY ENERGY INTERVALS. THIS SECOND SET RESULTS FROM INTEGRATION OF THE DOUBLY DIFFERENTIAL DATA. THE UNCERTAINTIES ARE GIVEN IN THE SAME UNITS AS THE DATA AND DO NOT INCLUDE AN ESTIMATED 10 PERCENT ERROR IN ABSOLUTE NORMALIZATION.

INCIDENT NEUTRON ENERGY = 13.95 TO 16.95 MEV. ANGLE = 125 DEGREES.

PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)	PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)
2.250E-01	4.392E-01	3.940E-02	2.630E 00	2.402E-02	3.748E-03
2.350E-01	3.705E-01	3.349E-02	2.690E 00	2.596E-02	3.420E-03
2.450E-01	3.038E-01	3.027E-02	2.750E 00	2.785E-02	3.274E-03
2.575E-01	2.497E-01	2.871E-02	2.810E 00	2.557E-02	3.257E-03
2.725E-01	2.266E-01	2.737E-02	2.870E 00	2.279E-02	3.300E-03
2.875E-01	2.101E-01	2.389E-02	2.930E 00	2.285E-02	3.182E-03
3.025E-01	1.803E-01	2.257E-02	2.990E 00	2.193E-02	3.046E-03
3.175E-01	1.592E-01	2.234E-02	3.050E 00	1.837E-02	3.184E-03
3.325E-01	1.533E-01	2.131E-02	3.110E 00	1.576E-02	3.141E-03
3.475E-01	1.410E-01	2.073E-02	3.180E 00	1.714E-02	2.991E-03
3.625E-01	1.214E-01	2.173E-02	3.260E 00	2.051E-02	2.861E-03
3.775E-01	1.139E-01	2.286E-02	3.340E 00	2.042E-02	2.844E-03
3.925E-01	1.162E-01	2.279E-02	3.420E 00	1.856E-02	2.815E-03
4.100E-01	1.037E-01	2.405E-02	3.500E 00	1.736E-02	2.633E-03
4.300E-01	7.496E-02	2.557E-02	3.580E 00	1.577E-02	2.606E-03
4.500E-01	7.567E-02	2.561E-02	3.660E 00	1.253E-02	2.558E-03
4.700E-01	9.495E-02	2.369E-02	3.740E 00	9.117E-03	2.503E-03
4.900E-01	1.003E-01	2.192E-02	3.820E 00	8.092E-03	2.572E-03
5.100E-01	9.538E-02	1.992E-02	3.900E 00	9.118E-03	2.660E-03
5.300E-01	8.430E-02	1.698E-02	3.980E 00	1.091E-02	2.676E-03
5.500E-01	6.328E-02	1.435E-02	4.060E 00	1.323E-02	2.359E-03
5.700E-01	4.034E-02	1.329E-02	4.140E 00	1.484E-02	2.297E-03
5.900E-01	2.622E-02	1.249E-02	4.220E 00	1.481E-02	2.211E-03
6.100E-01	2.058E-02	1.294E-02	4.300E 00	1.381E-02	2.303E-03
6.300E-01	2.338E-02	1.464E-02	4.380E 00	1.270E-02	2.222E-03
6.500E-01	4.032E-02	1.468E-02	4.460E 00	1.069E-02	2.216E-03
6.700E-01	6.978E-02	1.305E-02	4.540E 00	7.929E-03	2.257E-03
6.900E-01	9.842E-02	1.169E-02	4.630E 00	6.000E-03	2.167E-03
7.100E-01	1.127E-01	1.118E-02	4.730E 00	6.335E-03	2.140E-03
7.300E-01	1.119E-01	1.150E-02	4.830E 00	6.691E-03	2.187E-03
7.500E-01	1.066E-01	1.132E-02	4.930E 00	5.282E-03	2.090E-03
7.700E-01	1.095E-01	1.083E-02	5.030E 00	3.910E-03	2.113E-03
7.900E-01	1.275E-01	1.012E-02	5.130E 00	4.143E-03	2.054E-03
8.100E-01	1.574E-01	9.731E-03	5.230E 00	5.311E-03	2.000E-03
8.300E-01	1.865E-01	9.258E-03	5.330E 00	6.702E-03	2.033E-03
8.500E-01	1.997E-01	8.970E-03	5.430E 00	7.976E-03	1.931E-03
8.700E-01	1.905E-01	8.615E-03	5.530E 00	8.216E-03	1.990E-03
8.900E-01	1.652E-01	8.425E-03	5.630E 00	6.921E-03	1.885E-03
9.100E-01	1.350E-01	7.909E-03	5.730E 00	5.382E-03	1.853E-03
9.300E-01	1.112E-01	7.547E-03	5.830E 00	5.095E-03	1.872E-03
9.500E-01	9.681E-02	7.465E-03	5.930E 00	5.920E-03	1.857E-03
9.700E-01	9.035E-02	7.896E-03	6.030E 00	7.188E-03	1.802E-03
1.000E 00	8.364E-02	8.210E-03	6.130E 00	7.767E-03	1.715E-03
1.040E 00	6.523E-02	7.440E-03	6.230E 00	6.637E-03	1.653E-03
1.080E 00	5.371E-02	6.510E-03	6.330E 00	4.482E-03	1.644E-03
1.120E 00	6.623E-02	6.646E-03	6.440E 00	3.043E-03	1.651E-03
1.160E 00	7.480E-02	6.423E-03	6.560E 00	3.432E-03	1.551E-03
1.200E 00	6.423E-02	6.536E-03	6.680E 00	4.552E-03	1.482E-03
1.240E 00	4.812E-02	6.076E-03	6.800E 00	5.625E-03	1.392E-03
1.280E 00	3.949E-02	6.384E-03	6.920E 00	6.220E-03	1.350E-03
1.320E 00	4.277E-02	6.757E-03	7.040E 00	5.726E-03	1.248E-03
1.360E 00	5.451E-02	6.498E-03	7.160E 00	4.352E-03	1.191E-03
1.400E 00	6.808E-02	6.653E-03	7.280E 00	2.973E-03	1.138E-03
1.440E 00	7.689E-02	6.361E-03	7.400E 00	2.246E-03	1.105E-03
1.480E 00	7.826E-02	6.117E-03	7.520E 00	2.327E-03	1.079E-03
1.520E 00	7.343E-02	6.221E-03	7.640E 00	3.021E-03	1.029E-03
1.560E 00	6.214E-02	6.394E-03	7.760E 00	3.519E-03	1.006E-03
1.600E 00	4.853E-02	5.933E-03	7.890E 00	3.101E-03	9.839E-04
1.640E 00	3.989E-02	5.615E-03	8.030E 00	2.269E-03	9.647E-04
1.680E 00	3.864E-02	5.445E-03	8.170E 00	1.795E-03	9.080E-04
1.720E 00	4.027E-02	5.257E-03	8.310E 00	1.579E-03	8.683E-04
1.760E 00	4.181E-02	5.618E-03	8.450E 00	1.324E-03	8.315E-04
1.800E 00	4.290E-02	5.799E-03	8.590E 00	1.177E-03	8.114E-04
1.850E 00	4.125E-02	5.075E-03	8.730E 00	1.241E-03	7.296E-04
1.910E 00	3.313E-02	4.587E-03	8.870E 00	1.380E-03	6.279E-04
1.970E 00	2.459E-02	4.782E-03	9.010E 00	1.661E-03	6.452E-04
2.030E 00	2.293E-02	4.790E-03	9.150E 00	1.715E-03	6.052E-04
2.090E 00	2.948E-02	4.648E-03	9.300E 00	1.374E-03	4.568E-04
2.150E 00	3.828E-02	4.338E-03	9.460E 00	8.377E-04	4.718E-04
2.210E 00	4.290E-02	4.420E-03	9.620E 00	5.198E-04	4.797E-04
2.270E 00	4.083E-02	4.046E-03	9.780E 00	3.672E-04	3.351E-04
2.330E 00	3.377E-02	4.074E-03	9.940E 00	2.926E-04	3.616E-04
2.390E 00	2.703E-02	3.856E-03	1.010E 01	3.129E-04	4.231E-04
2.450E 00	2.587E-02	3.657E-03	1.026E 01	3.498E-04	2.670E-04
2.510E 00	2.759E-02	3.461E-03	1.042E 01	3.910E-04	1.688E-04
2.570E 00	2.599E-02	3.568E-03	1.058E 01	2.911E-04	2.264E-04

INTEGRATED DATA

PHOTON ENERGY INTERVAL (MEV)	I-SECTION (B/SR)	ERROR (B/SR)
3.000E-01 - 4.000E-01	1.383E-02	2.205E-03
4.000E-01 - 5.000E-01	8.964E-03	2.415E-03
5.000E-01 - 6.000E-01	6.192E-03	1.592E-03
6.000E-01 - 7.000E-01	5.015E-03	1.342E-03
7.000E-01 - 8.000E-01	1.136E-02	1.100E-03
8.000E-01 - 1.000E 00	2.835E-02	1.678E-03
1.000E 00 - 1.200E 00	1.332E-02	1.370E-03
1.200E 00 - 1.400E 00	9.919E-03	1.290E-03
1.400E 00 - 1.600E 00	1.405E-02	1.256E-03
1.600E 00 - 1.800E 00	8.216E-03	1.111E-03
1.800E 00 - 2.000E 00	6.799E-03	9.788E-04
2.000E 00 - 2.500E 00	1.622E-02	2.100E-03
2.500E 00 - 3.000E 00	1.288E-02	1.686E-03
3.000E 00 - 3.500E 00	9.289E-03	1.467E-03
3.500E 00 - 4.000E 00	5.700E-03	1.297E-03
4.000E 00 - 4.500E 00	6.630E-03	1.141E-03
4.500E 00 - 5.000E 00	3.166E-03	1.081E-03
5.000E 00 - 6.000E 00	6.016E-03	1.947E-03
6.000E 00 - 7.000E 00	5.335E-03	1.563E-03
7.000E 00 - 8.000E 00	3.166E-03	1.087E-03
8.000E 00 - 9.000E 00	1.508E-03	8.032E-04
9.000E 00 - 1.000E 01	9.129E-04	4.655E-04

DIFFERENTIAL CROSS SECTIONS FOR GAMMA RAY PRODUCTION IN W. THE FIRST SET OF NUMBERS IS THE DOUBLY DIFFERENTIAL CROSS SECTION, WHILE THE SECOND SET IS THE GAMMA RAY PRODUCTION CROSS SECTION FOR THE DESIGNATED GAMMA RAY ENERGY INTERVALS. THIS SECOND SET RESULTS FROM INTEGRATION OF THE DOUBLY DIFFERENTIAL DATA. THE UNCERTAINTIES ARE GIVEN IN THE SAME UNITS AS THE DATA AND DO NOT INCLUDE AN ESTIMATED 10 PERCENT ERROR IN ABSOLUTE NORMALIZATION.

INCIDENT NEUTRON ENERGY = 16.95 TO 19.95 MEV. ANGLE = 125 DEGREES.

PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)	PHOTON ENERGY (MEV)	I-SECTION (B/SR/MEV)	ERROR (B/SR/MEV)
2.250E-01	4.819E-01	5.628E-02	2.630E 00	2.643E-02	5.335E-03
2.350E-01	4.088E-01	4.787E-02	2.690E 00	2.810E-02	4.951E-03
2.450E-01	3.405E-01	4.532E-02	2.750E 00	2.865E-02	4.408E-03
2.575E-01	2.801E-01	4.317E-02	2.810E 00	2.637E-02	4.487E-03
2.725E-01	2.429E-01	3.760E-02	2.870E 00	2.508E-02	4.409E-03
2.875E-01	2.263E-01	3.712E-02	2.930E 00	2.709E-02	2.152E-03
3.025E-01	2.180E-01	2.973E-02	2.990E 00	2.797E-02	4.180E-03
3.175E-01	1.973E-01	2.819E-02	3.050E 00	2.534E-02	4.203E-03
3.325E-01	1.738E-01	2.899E-02	3.110E 00	2.270E-02	4.244E-03
3.475E-01	1.499E-01	2.829E-02	3.180E 00	2.308E-02	4.169E-03
3.625E-01	1.306E-01	2.804E-02	3.260E 00	2.282E-02	3.955E-03
3.775E-01	1.187E-01	3.128E-02	3.340E 00	1.934E-02	3.986E-03
3.925E-01	1.118E-01	3.296E-02	3.420E 00	1.882E-02	4.005E-03
4.075E-01	1.088E-01	3.488E-02	3.500E 00	2.058E-02	3.781E-03
4.300E-01	1.077E-01	3.689E-02	3.580E 00	2.154E-02	3.628E-03
4.500E-01	1.154E-01	3.398E-02	3.660E 00	2.143E-02	3.384E-03
4.700E-01	1.284E-01	3.788E-02	3.740E 00	2.087E-02	3.198E-03
4.900E-01	1.389E-01	2.953E-02	3.820E 00	1.638E-02	3.498E-03
5.100E-01	1.352E-01	2.670E-02	3.900E 00	1.698E-02	3.908E-03
5.300E-01	1.107E-01	2.367E-02	3.980E 00	1.372E-02	3.761E-03
5.500E-01	7.722E-02	2.042E-02	4.060E 00	1.026E-02	3.290E-03
5.700E-01	5.031E-02	1.759E-02	4.140E 00	1.229E-02	3.067E-03
5.900E-01	3.420E-02	1.732E-02	4.220E 00	1.231E-02	3.008E-03
6.100E-01	2.825E-02	1.768E-02	4.300E 00	1.140E-02	3.011E-03
6.300E-01	3.749E-02	1.861E-02	4.380E 00	1.010E-02	2.847E-03
6.500E-01	6.453E-02	1.838E-02	4.460E 00	8.282E-03	2.756E-03
6.700E-01	1.010E-01	3.717E-02	4.540E 00	7.098E-03	2.735E-03
6.900E-01	1.309E-01	1.617E-02	4.630E 00	7.442E-03	2.763E-03
7.100E-01	1.425E-01	1.535E-02	4.730E 00	7.619E-03	2.771E-03
7.300E-01	1.370E-01	1.527E-02	4.830E 00	6.933E-03	2.586E-03
7.500E-01	1.260E-01	1.518E-02	4.930E 00	7.690E-03	2.570E-03
7.700E-01	1.236E-01	1.478E-02	5.030E 00	8.198E-03	2.526E-03
7.900E-01	1.391E-01	1.438E-02	5.130E 00	5.652E-03	2.459E-03
8.100E-01	1.689E-01	1.389E-02	5.230E 00	2.614E-03	2.419E-03
8.300E-01	1.968E-01	1.331E-02	5.330E 00	2.460E-03	2.331E-03
8.500E-01	2.066E-01	1.302E-02	5.430E 00	3.189E-03	2.235E-03
8.700E-01	1.952E-01	1.295E-02	5.530E 00	3.279E-03	2.211E-03
8.900E-01	1.718E-01	1.191E-02	5.630E 00	3.584E-03	2.197E-03
9.100E-01	1.481E-01	1.109E-02	5.730E 00	4.304E-03	2.217E-03
9.300E-01	1.318E-01	1.050E-02	5.830E 00	4.683E-03	2.182E-03
9.500E-01	1.225E-01	1.083E-02	5.930E 00	5.393E-03	2.117E-03
9.700E-01	1.168E-01	1.117E-02	6.030E 00	6.417E-03	2.085E-03
1.000E 00	1.014E-01	1.101E-02	6.130E 00	6.397E-03	2.081E-03
1.040E 00	6.513E-02	1.036E-02	6.230E 00	4.609E-03	2.051E-03
1.080E 00	3.961E-02	8.900E-03	6.330E 00	2.398E-03	1.992E-03
1.120E 00	4.152E-02	8.860E-03	6.440E 00	1.030E-03	1.884E-03
1.160E 00	5.472E-02	8.484E-03	6.560E 00	9.216E-04	1.825E-03
1.200E 00	5.519E-02	8.309E-03	6.680E 00	1.890E-03	1.738E-03
1.240E 00	3.693E-02	8.699E-03	6.800E 00	3.994E-03	1.645E-03
1.280E 00	3.110E-02	9.001E-03	6.920E 00	5.889E-03	1.573E-03
1.320E 00	5.231E-02	8.857E-03	7.040E 00	5.343E-03	1.455E-03
1.360E 00	7.666E-02	9.229E-03	7.160E 00	2.605E-03	1.307E-03
1.400E 00	8.890E-02	9.749E-03	7.280E 00	-4.358E-05	1.200E-03
1.440E 00	9.245E-02	8.963E-03	7.400E 00	-8.923E-04	1.158E-03
1.480E 00	9.186E-02	9.491E-03	7.520E 00	-1.491E-04	1.102E-03
1.520E 00	8.712E-02	8.324E-03	7.640E 00	1.003E-03	9.801E-04
1.560E 00	7.578E-02	8.441E-03	7.760E 00	1.791E-03	8.978E-04
1.600E 00	6.074E-02	7.949E-03	7.880E 00	1.735E-03	9.229E-04
1.640E 00	4.966E-02	7.522E-03	8.030E 00	1.235E-03	8.425E-04
1.680E 00	4.708E-02	7.185E-03	8.170E 00	6.407E-04	8.026E-04
1.720E 00	5.196E-02	7.452E-03	8.310E 00	4.600E-04	8.053E-04
1.760E 00	5.832E-02	7.341E-03	8.450E 00	6.943E-04	7.451E-04
1.800E 00	6.018E-02	7.367E-03	8.590E 00	1.087E-03	6.636E-04
1.850E 00	5.524E-02	6.827E-03	8.730E 00	1.150E-03	6.327E-04
1.910E 00	4.480E-02	6.247E-03	8.870E 00	7.653E-04	5.779E-04
1.970E 00	3.470E-02	6.172E-03	9.010E 00	2.370E-04	5.162E-04
2.030E 00	3.398E-02	5.936E-03	9.150E 00	-1.086E-04	4.661E-04
2.090E 00	3.861E-02	6.007E-03	9.300E 00	-4.433E-05	4.049E-04
2.150E 00	4.102E-02	6.101E-03	9.460E 00	2.530E-04	4.155E-04
2.210E 00	4.201E 02	6.422E-03	9.620E 00	5.756E-04	3.863E-04
2.270E 00	4.516E-02	5.931E-03	9.780E 00	6.022E-04	3.289E-04
2.330E 00	4.594E-02	5.464E-03	9.940E 00	5.057E-04	3.667E-04
2.390E 00	3.723E-02	5.351E-03	1.010E 01	3.801E-04	3.219E-04
2.450E 00	2.701E-02	5.363E-03	1.026E 01	2.988E-04	1.974E-04
2.510E 00	2.417E-02	5.157E-03	1.042E 01	1.986E-04	1.861E-04
2.570E 00	2.544E-02	5.196E-03	1.058E 01	9.969E-05	2.003E-04

INTEGRATED DATA

PHOTON ENERGY INTERVAL (MEV)	I-SECTION (B/SR)	ERROR (B/SR)
3.000E-01 - 4.000E-01	1.535E-02	2.962E-03
4.000E-01 - 5.000E-01	1.196E-02	3.360E-03
5.000E-01 - 6.000E-01	8.131E-03	2.115E-03
6.000E-01 - 7.000E-01	7.247E-03	1.761E-03
7.000E-01 - 8.000E-01	1.337E-02	1.500E-03
8.000E-01 - 1.000E 00	3.130E-02	2.387E-03
1.000E 00 - 1.200E 00	1.102E-02	1.847E-03
1.200E 00 - 1.400E 00	1.064E-02	1.793E-03
1.400E 00 - 1.600E 00	1.694E-02	1.722E-03
1.600E 00 - 1.800E 00	1.065E-02	1.484E-03
1.800E 00 - 2.000E 00	9.295E-03	1.320E-03
2.000E 00 - 2.500E 00	9.010E 00	2.370E-04
2.500E 00 - 3.000E 00	9.150E 00	-1.086E-04
3.000E 00 - 3.500E 00	1.332E-02	2.389E-03
3.500E 00 - 4.000E 00	1.095E-02	2.034E-03
4.000E 00 - 4.500E 00	8.576E-03	1.795E-03
4.500E 00 - 5.000E 00	5.354E-03	1.511E-03
5.000E 00 - 5.500E 00	3.701E-03	1.338E-03
5.500E 00 - 6.000E 00	4.280E-03	2.281E-03
6.000E 00 - 7.000E 00	3.611E-03	1.849E-03
7.000E 00 - 8.000E 00	1.341E-03	1.105E-03
8.000E 00 - 9.000E 00	8.103E-04	7.074E-04
9.000E 00 - 1.000E 01	2.907E-04	4.019E-04

TOTAL SECONDARY GAMMA RAY YIELD AND AVERAGE SECONDARY GAMMA RAY ENERGY FROM MN AS A FUNCTION OF THE INCIDENT NEUTRON ENERGY. THESE DATA RESULT FROM A PULSE HEIGHT WEIGHTING ANALYSIS FOR PULSE HEIGHTS GREATER THAN 0.620 MEV. UNCERTAINTIES ARE GIVEN IN PARENTHESES IN THE SAME UNITS AS THE DATA. THE UNCERTAINTIES IN TOTAL YIELD DO NOT INCLUDE A 10 PERCENT ERROR IN ABSOLUTE NORMALIZATION. THE ANGLE IS 125 DEGREES.

INC. NT. ENERGY (MEV)	ENERGY SPREAD (MEV)	SECONDARY PHOTON YIELD (B/SR)	AVERAGE ENERGY (MEV)	INC. NT. ENERGY (MEV)	ENERGY SPREAD (MEV)	SECONDARY PHOTON YIELD (B/SR)	AVERAGE ENERGY (MEV)
0.150	0.101	-0.377E-04 (0.371E-03)	-0.275E 02(0.272E 03)	5.243	0.506	0.194E 00(0.967E-03)	0.204E 01(0.131E-01)
0.251	0.100	-0.311E-04 (0.151E-03)	-0.142E 02(0.696E 02)	5.755	0.518	0.208E 00(0.104E-02)	0.211E 01(0.135E-01)
0.351	0.100	0.207E-03 (0.933E-04)	0.504E 01(0.251E 01)	6.272	0.516	0.216E 00(0.106E-02)	0.221E 01(0.139E-01)
0.451	0.101	0.182E-03 (0.797E-04)	0.484E 01(0.238E 01)	6.778	0.497	0.234E 00(0.114E-02)	0.229E 01(0.142E-01)
0.551	0.099	0.216E-03 (0.564E-04)	0.431E 01(0.130E 01)	7.256	0.459	0.246E 00(0.128E-02)	0.239E 01(0.156E-01)
0.650	0.098	0.257E-03 (0.528E-04)	0.466E 01(0.109E 01)	7.739	0.506	0.242E 00(0.125E-02)	0.248E 01(0.160E-01)
0.747	0.096	0.341E-03 (0.451E-04)	0.420E 01(0.652E 00)	8.271	0.559	0.261E 00(0.130E-02)	0.257E 01(0.162E-01)
0.845	0.102	0.343E-03 (0.451E-04)	0.424E 01(0.645E 00)	8.765	0.427	0.277E 00(0.150E-02)	0.266E 01(0.183E-01)
0.948	0.103	0.355E-03 (0.419E-04)	0.380E 01(0.528E 00)	9.243	0.529	0.260E 00(0.145E-02)	0.273E 01(0.191E-01)
1.127	0.256	0.104E-01 (0.680E-04)	0.961E 00(0.105E-01)	9.758	0.502	0.283E 00(0.162E-02)	0.281E 01(0.203E-01)
1.375	0.240	0.160E-01 (0.976E-04)	0.946E 00(0.863E-02)	10.241	0.463	0.294E 00(0.182E-02)	0.287E 01(0.224E-01)
1.621	0.250	0.267E-01 (0.140E-03)	0.103E 01(0.749E-02)	10.721	0.496	0.287E 00(0.189E-02)	0.293E 01(0.242E-01)
1.878	0.264	0.381E-01 (0.187E-03)	0.109E 01(0.726E-02)	11.235	0.533	0.283E 00(0.196E-02)	0.296E 01(0.257E-01)
2.126	0.232	0.499E-01 (0.256E-03)	0.121E 01(0.833E-02)	11.739	0.474	0.268E 00(0.215E-02)	0.295E 01(0.298E-01)
2.379	0.274	0.658E-01 (0.314E-03)	0.132E 01(0.841E-02)	12.228	0.504	0.235E 00(0.210E-02)	0.286E 01(0.324E-01)
2.636	0.240	0.780E-01 (0.401E-03)	0.145E 01(0.993E-02)	12.749	0.537	0.217E 00(0.224E-02)	0.285E 01(0.366E-01)
2.870	0.227	0.886E-01 (0.482E-03)	0.150E 01(0.108E-01)	13.245	0.455	0.198E 00(0.251E-02)	0.277E 01(0.441E-01)
3.112	0.257	0.104E 00 (0.551E-03)	0.160E 01(0.112E-01)	13.712	0.480	0.186E 00(0.260E-02)	0.263E 01(0.463E-01)
3.371	0.261	0.121E 00 (0.647E-03)	0.170E 01(0.120E-01)	14.205	0.506	0.173E 00(0.266E-02)	0.253E 01(0.498E-01)
3.631	0.259	0.133E 00 (0.721E-03)	0.176E 01(0.126E-01)	14.725	0.534	0.169E 00(0.304E-02)	0.243E 01(0.543E-01)
3.886	0.251	0.143E 00 (0.786E-03)	0.182E 01(0.132E-01)	15.497	1.010	0.161E 00(0.258E-02)	0.227E 01(0.452E-01)
4.129	0.236	0.154E 00 (0.892E-03)	0.186E 01(0.141E-01)	16.477	0.950	0.158E 00(0.289E-02)	0.210E 01(0.485E-01)
4.376	0.257	0.164E 00 (0.935E-03)	0.191E 01(0.142E-01)	17.471	1.038	0.166E 00(0.313E-02)	0.208E 01(0.500E-01)
4.621	0.233	0.173E 00 (0.967E-03)	0.195E 01(0.145E-01)	18.460	0.940	0.182E 00(0.357E-02)	0.208E 01(0.530E-01)
4.864	0.252	0.182E 00 (0.982E-03)	0.199E 01(0.141E-01)	19.438	1.016	0.194E 00(0.399E-02)	0.213E 01(0.562E-01)

TOTAL SECONDARY GAMMA RAY YIELD AND AVERAGE SECONDARY GAMMA RAY ENERGY FROM MN AS A FUNCTION OF THE INCIDENT NEUTRON ENERGY. THESE DATA RESULT FROM A PULSE HEIGHT WEIGHTING ANALYSIS FOR PULSE HEIGHTS GREATER THAN 0.220 MEV. UNCERTAINTIES ARE GIVEN IN PARENTHESES IN THE SAME UNITS AS THE DATA. THE UNCERTAINTIES IN TOTAL YIELD DO NOT INCLUDE A 10 PERCENT ERROR IN ABSOLUTE NORMALIZATION. THE ANGLE IS 125 DEGREES.

INC. NT. ENERGY (MEV)	ENERGY SPREAD (MEV)	SECONDARY PHOTON YIELD (B/SR)	AVERAGE ENERGY (MEV)	INC. NT. ENERGY (MEV)	ENERGY SPREAD (MEV)	SECONDARY PHOTON YIELD (B/SR)	AVERAGE ENERGY (MEV)
0.150	0.101	0.130E-03 (0.602E-03)	0.835E 01(0.391E 02)	5.243	0.506	0.235E 00(0.132E-02)	0.175E 01(0.118E-01)
0.251	0.100	0.515E-04 (0.229E-03)	0.930E 01(0.419E 02)	5.755	0.518	0.253E 00(0.139E-02)	0.180E 01(0.120E-01)
0.351	0.100	0.277E-03 (0.143E-03)	0.382E 01(0.212E 01)	6.272	0.516	0.263E 00(0.145E-02)	0.188E 01(0.125E-01)
0.451	0.101	0.360E-03 (0.116E-03)	0.260E 01(0.990E 00)	6.778	0.497	0.283E 00(0.154E-02)	0.195E 01(0.127E-01)
0.551	0.099	0.348E-03 (0.825E-04)	0.278E 01(0.770E 00)	7.256	0.459	0.299E 00(0.164E-02)	0.204E 01(0.135E-01)
0.650	0.098	0.519E-03 (0.778E-04)	0.247E 01(0.447E 00)	7.739	0.506	0.294E 00(0.162E-02)	0.211E 01(0.140E-01)
0.747	0.096	0.533E-03 (0.815E-04)	0.280E 01(0.481E 00)	8.271	0.559	0.315E 00(0.177E-02)	0.219E 01(0.147E-01)
0.845	0.102	0.616E-03 (0.978E-04)	0.253E 01(0.442E 00)	8.765	0.427	0.336E 00(0.202E-02)	0.226E 01(0.163E-01)
0.948	0.103	0.628E-03 (0.106E-03)	0.228E 01(0.419E 00)	9.243	0.529	0.314E 00(0.190E-02)	0.232E 01(0.168E-01)
1.127	0.256	0.119E-01 (0.163E-03)	0.883E 00(0.145E-01)	9.758	0.502	0.337E 00(0.220E-02)	0.241E 01(0.187E-01)
1.375	0.240	0.185E-01 (0.213E-03)	0.865E 00(0.117E-01)	10.241	0.463	0.355E 00(0.240E-02)	0.244E 01(0.198E-01)
1.621	0.250	0.314E-01 (0.267E-03)	0.928E 00(0.914E-02)	10.721	0.496	0.350E 00(0.242E-02)	0.247E 01(0.207E-01)
1.878	0.264	0.449E-01 (0.328E-03)	0.974E 00(0.929E-02)	11.235	0.533	0.340E 00(0.256E-02)	0.253E 01(0.228E-01)
2.126	0.232	0.595E-01 (0.400E-03)	0.107E 01(0.849E-02)	11.739	0.474	0.321E 00(0.288E-02)	0.253E 01(0.271E-01)
2.379	0.274	0.789E-01 (0.475E-03)	0.116E 01(0.331E-02)	12.228	0.504	0.282E 00(0.283E-02)	0.244E 01(0.294E-01)
2.636	0.240	0.934E-01 (0.584E-03)	0.127E 01(0.956E-02)	12.749	0.537	0.265E 00(0.299E-02)	0.240E 01(0.322E-01)
2.870	0.227	0.106E 00 (0.674E-03)	0.131E 01(0.101E-01)	13.245	0.455	0.246E 00(0.331E-02)	0.230E 01(0.373E-01)
3.112	0.257	0.125E 00 (0.763E-03)	0.139E 01(0.103E-01)	13.712	0.480	0.233E 00(0.355E-02)	0.217E 01(0.396E-01)
3.371	0.261	0.146E 00 (0.903E-03)	0.148E 01(0.112E-01)	14.205	0.506	0.219E 00(0.380E-02)	0.207E 01(0.432E-01)
3.631	0.259	0.161E 00 (0.100E-02)	0.152E 01(0.116E-01)	14.725	0.534	0.224E 00(0.389E-02)	0.191E 01(0.407E-01)
3.886	0.251	0.174E 00 (0.109E-02)	0.156E 01(0.120E-01)	15.497	1.010	0.215E 00(0.350E-02)	0.178E 01(0.351E-01)
4.129	0.236	0.186E 00 (0.120E-02)	0.160E 01(0.127E-01)	16.477	0.950	0.212E 00(0.377E-02)	0.165E 01(0.364E-01)
4.376	0.257	0.200E 00 (0.125E-02)	0.163E 01(0.126E-01)	17.471	1.038	0.221E 00(0.431E-02)	0.165E 01(0.395E-01)
4.621	0.233	0.210E 00 (0.133E-02)	0.167E 01(0.130E-01)	18.460	0.940	0.248E 00(0.502E-02)	0.161E 01(0.406E-01)
4.864	0.252	0.221E 00 (0.136E-02)	0.170E 01(0.128E-01)	19.438	1.016	0.257E 00(0.583E-02)	0.169E 01(0.465E-01)

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