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**GAMMA-RAY PRODUCTION DUE
TO NEUTRON INTERACTIONS WITH IRON
FOR INCIDENT NEUTRON ENERGIES
BETWEEN 0.8 AND 20 MeV:
TABULATED DIFFERENTIAL CROSS SECTIONS**

J. K. Dickens
G. L. Morgan
F. G. Perey

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NEUTRON PHYSICS DIVISION

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GAMMA-RAY PRODUCTION DUE TO NEUTRON INTERACTIONS WITH IRON
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ABSTRACT

Numerical values of differential cross sections for gamma rays produced by neutron reactions with iron have been obtained for neutron energies between 0.8 and 20 MeV. The data are primarily for $\theta_\gamma = 125$ deg with supporting data at $\theta_\gamma = 35, 75$ and 90 deg. These data consist of (a) discrete-line values of $d\sigma/d\omega$ for 45 observed transitions due to neutron interactions with natural iron; and (b) neutron gamma-ray production group cross section values of $d^2\sigma/d\omega dE$ for $0.7 \leq E_\gamma \leq 10.5$ MeV, with gamma-ray group sizes ranging from 20 keV for $E_\gamma \leq 1$ MeV to 160 keV for $E_\gamma \leq 9$ MeV. The $d\sigma/d\omega$ values were obtained for $4.85 \leq E_n \leq 9.0$ MeV using a Ge(Li) spectrometer. Additional discrete-line $d\sigma/d\omega$ values for $4.85 \leq E_n < 6.45$ MeV at $\theta_\gamma = 125$ deg have been tabulated for 66 observed transitions due to neutron interactions with an iron sample enriched in the isotope ^{54}Fe . The $d^2\sigma/d\omega dE$ values were obtained for $0.8 \leq E_n \leq 20$ MeV using a NaI spectrometer.

INTRODUCTION

As part of a continuing program 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 iron. The data are presented in this report because it was impractical to publish all the numerical values with the journal article¹ describing the measurements.

The first set of data is for $d\sigma/d\omega$ obtained at the Oak Ridge 5.5 MV and Tandem Van de Graaff facilities using a Ge(Li) spectrometer for gamma-ray detection. The second set of data in the tables is for $d^2\sigma/d\omega dE$

obtained at the 47 m flight station of the Oak Ridge Electron Linear Accelerator using a NaI-crystal-photomultiplier system for gamma-ray detection. Details of both experimental systems have been given in previous reports, see Ref. 1 for the NaI system and Ref. 2 for the GE(L.i) system.

Tables 1, 2, and 3 report elemental $d\sigma/d\omega$ (in mb/sr) for discrete-line gamma-ray production cross sections due to neutron interactions with natural iron. Table 1 gives a complete report for $E_n = 4.85$ MeV. For $E_n \geq 5.4$ MeV, not all of the observed gamma rays were related to transitions associated with $n + Fe$ reactions. The data in Tables 2 and 3, therefore, represent most, but not all, of the gamma-ray yields for neutron interactions with Fe. The remainder may be classified as "continuum". The mean incident-neutron energy is given at the head of each column along with the associated beam spread. The uncertainty in mean energy is estimated to be ± 50 keV. Included in these tables are absolute uncertainties associated with the cross-section value obtained, expressed in terms of standard deviations. These uncertainties include absolute normalization ($\leq 7\%$), detector calibration ($\leq 5\%$), multiple scattering corrections ($\leq 10\%$), and peak-area extraction difficulties (1-50%). Similar results for neutron interactions with an iron sample enriched to $>97\%$ in the isotope ^{54}Fe are given in Table 4.

The graphs following Table 4 show representative gamma-ray spectra obtained with the NaI spectrometer.

The computer output tables which follow the graphs give the data obtained with the NaI spectrometer at the ORELA Shield Test Station. The first set of tables contain data in coarse gamma-ray energy groups of about

240 keV; the gamma-ray grouping is the same as in Reference 3 to facilitate comparison. The errors indicated in these tables represent half the area of the confidence interval given by the unfolding code FERD and are overestimates since FERD output points were combined. The second set of tables give values of $d^2\sigma/dEd\omega$ for the 123 mesh points of the response matrix used in FERD. The differential cross section values given are the middle values of the confidence interval and the errors are half of the width of the confidence interval. Therefore, the errors do not include an absolute error of about 10% estimated for the neutron flux measurements, effective area of the beam and absolute efficiency of the detector. The relative errors for cross sections corresponding to adjacent neutron energy groups should be less than 5%. The data were analyzed twice with different neutron energy group widths. One set of group widths corresponds to those used in Ref. 3 and is included to facilitate comparison with that data. The other neutron energy groups were selected so as to have enough counts in each pulse-height spectrum for the unfolding code FERD. The neutron group widths are 0.2 MeV up to 1 MeV, 0.5 MeV from 1 to 10 MeV, 1 MeV from 10 to 16 MeV and 2 MeV from 16 to 20 MeV.

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J. K. Dickens and F. G. Perey, Nucl. Instr. Meth. 82, 301 (1970).
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TABLE 1. GAMMA RAYS FROM 4.85-MeV NEUTRON INTERACTIONS
WITH ^{56}Fe ($\theta_\gamma = 125$ DEG, $\Delta E_n = 0.15$ MeV)

$E_\gamma^{\text{(a)}}$	$I_\gamma^{\text{(b)}}$	Assignment ^(c)	E_γ	I_γ	Assignment
787.9	0.5 \pm 0.3	3445.4-2657.6	2461	0.22 \pm 0.12	4546-2085.1
846.8	89.0 \pm 4.5	846.8-g.s.	2523.5	4.60 \pm 0.42	3370.3-846.8
869	0.25 \pm 0.12	3829-2960.4	2598.6	4.45 \pm 0.31	3445.4-846.8
1037.8	5.53 \pm 0.40	3122.9-2085.1	2657.6 ^(d)	0.2 \pm 0.1	2657.6-g.s.
1171.4	2.20 \pm 0.30	3829-2657.4	2757 ^(e)	3.8 \pm 0.3	3604-846.8
1175.3		4298.2-3122.9	2960.4 ^(d)	0.2 \pm 0.1	2960.4-g.s.
1238.3	20.0 \pm 1.1	2085.1-846.8	2982	2.13 \pm 0.18	3829-846.8
1302.6	0.82 \pm 0.25	3387.7-2085.1	3009.7	0.25 \pm 0.11	3856.5-846.8
1336	0.29 \pm 0.15	4458-2960.4	3119.1	0.32 \pm 0.11	3119.1-g.s.
1360.4	1.51 \pm 0.16	3445.4-2085.1	3202.2	2.03 \pm 0.16	4049.0-846.8
1575	0.40 \pm 0.20	4694-3119.1	3253.7	1.12 \pm 0.11	4100.5-846.8
1668	0.20 \pm 0.12	3753-2085.1	3273.2	.46 \pm 0.10	4120.0-846.8
1771.4	2.67 \pm 0.28	3856.5-2085.1	3370.3	.74 \pm 0.20	3370.3-g.s.
1790	0.23 \pm 0.12	4447-2657.6	3448		3448-g.s.
1810.8	10.4 \pm 0.60	2657.6-846.8	3451.4	3.05 \pm 0.35	4298.2-846.8
1852	1.06 \pm 0.15	4509-2657.6	3548	1.67 \pm 0.10	4395-846.8
1880	0.36 \pm 0.15	4537-2657.6	3600		4447-846.8
1963.9	0.43 \pm 0.14	4049-2085.1	3604	3.85 \pm 0.20	3604-g.s.
2008	0.42 \pm 0.22	4093-2085.1	3662	0.67 \pm 0.10	4509-846.8
2015.4	0.65 \pm 0.22	4100.5-2085.1	3765	0.24 \pm 0.09	4612-846.8
2034.9	1.79 \pm 0.15	4120.0-2085.1	3829		3829-g.s.
2082	0.51 \pm 0.14	4740-2657.6	3830	0.53 \pm 0.09	4673-846.8
2095.1	2.03 \pm 0.14	2941.9-846.8	3880	0.19 \pm 0.08	4727-846.8
2113.6	7.28 \pm 0.40	2960.4-846.8	4537	0.32 \pm 0.08	4537-g.s.
2213	0.14 \pm 0.10	4293-2085.1	4544		4544-g.s.
2272.3	4.98 \pm 0.30	3119.1-846.8	4658	0.24 \pm 0.09	4658-g.s.
2374	0.18 \pm 0.12	4459-2085.1	4673	0.11 \pm 0.07	4673-g.s.
2425(d)	0.83 \pm 0.22	4509-2085.1			

^a $\Delta E_n = 0.08\%$, due principally to uncertainties in Doppler shift corrections.

^b Elemental differential cross sections (mb/sr) not corrected for isotopic abundance.

^c Other lines observed due to interactions of neutrons with ^{nat}Fe include:
211-keV from $^{56}\text{Fe}(n,p)^{56}\text{Mn}$, $I_\gamma = 0.13 \pm 0.07$ mb/sr; 352-keV from $^{57}\text{Fe}(n,n')^{57}\text{Fe}$ and $^{56}\text{Fe}(n,\gamma)^{57}\text{Fe}$ seen in background, $I_\gamma = 0.6 \pm 0.2$ mb/sr; 567-keV due to $^{56}\text{Fe}(n,\alpha)^{53}\text{Cr}$, $I_\gamma = 0.25 \pm 0.12$ mb/sr; and several transitions due to $^{54}\text{Fe}(n,n')^{54}\text{Fe}$.

^d Coincident with gamma rays due to excitation of ^{54}Fe (5.8% isotopic abundance in sample).

^e May include 2752-KeV gamma associated with 3599-846.8 keV transition.

TABLE 2. ELEMENTAL DIFFERENTIAL CROSS SECTIONS FOR GAMMA-RAY PRODUCTION
DUE TO NEUTRON INTERACTIONS WITH IRON^a

E_{γ} (keV)	Level (keV)	Incident Neutron Energy and Energy Spread (MeV)								
		5.35±0.20		5.85±0.20		6.40±0.20		6.90±0.15		
		$\theta_{\gamma}=55^{\circ}$	$\theta_{\gamma}=90^{\circ}$	$\theta_{\gamma}=55^{\circ}$	$\theta_{\gamma}=90^{\circ}$	$\theta_{\gamma}=55^{\circ}$	$\theta_{\gamma}=75^{\circ}$	$\theta_{\gamma}=90^{\circ}$	$\theta_{\gamma}=55^{\circ}$	$\theta_{\gamma}=90^{\circ}$
⁵⁶ Fe Isotope										
788	344 ^c	0.3±0.2	0.3±0.2			0.3±0.2				
847	847	85.0±8.5	81.7±8.2	86.6±8.7	83.2±8.3	88.0±8.8	88.8±8.9	82.0±8.2	89.2±8.9	84.2±8.4
1038	3123	5.7±0.7	5.7±0.7	5.6±0.7	5.6±0.7	6.5±0.7	6.4±0.7	6.1±0.6	6.5±0.7	6.4±0.7
1171	3829	2.1±0.3	2.2±0.3	2.2±0.3	1.9±0.3	2.5±0.3	1.8±0.3	2.1±0.3	1.6±0.3	1.8±0.3
1175	4298									
1238	2085	23.9±2.4	22.6±2.3	27.0±2.7	23.5±2.4	28.9±2.9	26.2±2.6	24.5±2.5	30.0±3.0	25.3±2.5
1303	3388	0.72±0.14	0.95±0.19	1.22±0.20	1.3±0.21	2.1±0.3	1.9±0.3	2.1±0.3	3.0±0.4	2.5±0.4
1336	4458	0.80±0.25	0.42±0.21	1.13±0.20	0.96±0.19	1.20±0.21	0.79±0.18	0.89±0.19	1.05±0.20	0.75±0.17
1360	3445	0.97±0.22	0.79±0.20	1.55±0.23	0.97±0.22	1.33±0.23	1.10±0.30	1.27±0.23	1.35±0.23	1.30±0.23
1575	4694	0.60±0.27	1.06±0.50		1.47±0.65	0.63±0.32	1.30±0.55	1.60±0.60	1.10±0.47	1.75±0.65
1668	3753 ^b	0.85±0.35			0.38±0.14	1.33±0.23	1.24±0.20	1.18±0.20	1.65±0.35	1.44±0.30
1771	3856	2.2±0.3	3.2±0.4	2.4±0.3	3.3±0.4	2.4±0.3	2.4±0.3	2.4±0.3	2.6±0.3	3.1±0.4
1811	2658	9.3±0.9	10.6±1.1	11.2±1.1	9.6±1.0	9.9±1.0	9.1±0.9	8.9±1.0	11.0±1.1	9.5±1.0
1852	4509	1.55±0.45	1.85±0.45	2.05±0.30	1.71±0.25	1.67±0.45		1.7±0.5	1.70±0.40	1.35±0.30
1964	4049	1.16±0.26	1.31±0.30	1.07±0.29	0.90±0.30	1.15±0.25		1.47±0.35	1.20±0.35	0.93±0.23
2008	4093	0.83±0.31	0.60±0.25	1.37±0.25	0.75±0.25			0.64±0.25	1.20±0.35	
2015	4100									
2035	4120	1.4±0.3	1.9±0.3	2.8±0.4	2.1±0.3	2.4±0.3		2.3±0.3	1.6±0.3	1.7±0.3
2082	4740	1.10±0.30	1.20±0.35	0.88±0.22	1.15±0.35	0.80±0.20		0.82±0.22	1.20±0.35	0.72±0.18
2095	2942	1.5±0.5	0.94±0.24	1.20±0.30	1.18±0.30	1.02±0.25		1.05±0.27	0.65±0.20	0.83±0.18
2114	2960	5.5±0.7	5.9±0.7	5.1±0.6	5.2±0.6	5.4±0.7	5.1±0.6	4.9±0.6	5.2±0.7	4.7±0.6
2213	4298	0.35±0.20	0.75±0.35		0.45±0.20			0.40±0.25		
2272	3119	3.3±0.4	3.4±0.4	2.45±0.35	2.9±0.4	2.1±0.3	2.2±0.3	2.6±0.4	2.2±0.3	2.6±0.4
2374	4459	0.74±0.23	0.81±0.32	1.25±0.55	0.50±0.30	0.62±0.28		0.56±0.26		0.72±0.28
2425	4509	0.66±0.31			0.90±0.33			0.30±0.20		

TABLE 2

E_{γ} (keV)	Level (keV)	Incident Neutron Energy and Energy Spread (MeV)									
		5.35±0.20		5.85±0.20		6.40±0.20		6.90±0.15			
		$\theta_{\gamma} = 55^{\circ}$	$\theta_{\gamma} = 90^{\circ}$	$\theta_{\gamma} = 55^{\circ}$	$\theta_{\gamma} = 90^{\circ}$	$\theta_{\gamma} = 55^{\circ}$	$\theta_{\gamma} = 75^{\circ}$	$\theta_{\gamma} = 90^{\circ}$	$\theta_{\gamma} = 55^{\circ}$	$\theta_{\gamma} = 90^{\circ}$	
2524 ^c	3370	5.3±0.7	4.5±0.6	5.0±0.5	3.8±0.5	3.5±0.5	3.5±0.5	3.4±0.4	3.6±0.5	2.0±0.3	
2599 ^d	3445	3.7±0.5	5.8±0.7	5.3±0.7	5.2±0.6	5.5±0.7	6.2±0.7	6.3±0.7	6.0±0.6	6.7±0.7	
2757	3604	3.2±0.4	3.1±0.4	3.2±0.4	2.6±0.4	2.6±0.4		2.1±0.3	2.4±0.3	1.7±0.3	
2982	3829	1.31±0.31	1.18±0.22	1.41±0.31	1.56±0.45	0.90±0.20		1.29±0.33		0.80±0.33	
3202	4049	2.4±0.3	1.90±0.25	2.7±0.3	1.50±0.22	1.60±0.20	1.70±0.30	1.80±0.22	2.3±0.3	1.80±0.22	
3254	4100	1.22±0.22	0.81±0.31	2.2±0.4	1.40±0.35	1.30±0.35		1.75±0.45		1.22±0.24	
3370	3370	1.00±0.18	0.65±0.23	1.37±0.41	0.65±0.25	0.75±0.30		0.70±0.20		0.85±0.30	
3448	3448	2.5±0.4	3.5±0.5	2.3±0.3	3.0±0.4	2.4±0.3	2.4±0.5	2.8±0.4	1.9±0.3	2.0±0.3	
3451	4298										
3548	4395	2.0±0.3	2.2±0.3	2.9±0.4	2.6±0.4	2.2±0.3	2.1±0.6	2.5±0.4	1.7±0.3	1.9±0.3	
3600	4447										
3604	3604	2.6±0.4	3.3±0.4	2.9±0.4	2.6±0.4	2.4±0.3	2.0±0.6	2.5±0.3	2.4±0.3	1.9±0.3	
3662	4509	1.24±0.24	1.07±0.19	1.10±0.25	1.25±0.25	0.82±0.22		1.10±0.30		0.95±0.22	
3765	4612	0.40±0.20	0.75±0.33	0.52±0.24	0.60±0.35						
3880	4727	0.45±0.20	0.80±0.30		0.62±0.30	0.52±0.26		0.55±0.21			
4049	4876	0.90±0.35	0.65±0.25	1.30±0.55	0.75±0.35	0.68±0.28	0.70±0.31	0.75±0.28		0.65±0.28	
4537	4537	0.61±0.23	0.35±0.18		0.43±0.21	0.49±0.23					
4544	4544										
5228	5228		0.15±0.10	0.22±0.06	0.19±0.08	0.50±0.25		0.26±0.13			
5255	5255		0.23±0.11	0.31±0.06	0.30±0.13	0.55±0.22		0.23±0.13		0.50±0.20	
<u>54Fe Isotopes^e</u>											
1130	2538		1.1±0.2		1.0±0.2			1.2±0.2		1.1±0.2	1.3±0.2
1408	1408		4.2±0.5		3.0±0.5			3.3±0.5		4.4±0.5	3.5±0.5

^aNot corrected for relative abundances of the isotopes.^bProbably includes transition from higher lying state for $E_n > 6$ MeV.^cAppears to be a doublet in same spectra.^dMay include data for the 2604 keV transition from the 3450-keV level.^eData for $\theta_{\gamma} = 55^{\circ}$, $E_n = 5.35$, 5.85, and 6.40 MeV are in Table 4.

TABLE 3. ELEMENTAL DIFFERENTIAL CROSS SECTIONS FOR GAMMA-RAY PRODUCTION
DUE TO NEUTRON INTERACTIONS WITH IRON^a

$E_{\gamma}^{(b)}$ (keV)	Incident Neutron Energy and Energy Spread (MeV)									
	$\theta_{\gamma} = 35^{\circ}$	$\theta_{\gamma} = 55^{\circ}$	$\theta_{\gamma} = 75^{\circ}$	$\theta_{\gamma} = 90^{\circ}$	$\theta_{\gamma} = 55^{\circ}$	$\theta_{\gamma} = 90^{\circ}$	$\theta_{\gamma} = 55^{\circ}$	$\theta_{\gamma} = 90^{\circ}$	$\theta_{\gamma} = 55^{\circ}$	$\theta_{\gamma} = 90^{\circ}$
⁵⁶ Fe Isotope										
847	89.0 ± 9.3	84.6 ± 8.5	82.1 ± 8.5	77.5 ± 7.8	94.6 ± 9.5	84.2 ± 8.4	92.4 ± 9.4	84.1 ± 8.5	94.0 ± 10.5	82.8 ± 9.0
1038	6.3 ± 0.7	6.3 ± 0.7	5.7 ± 0.7	5.8 ± 0.7	7.0 ± 0.8	5.3 ± 0.6	7.9 ± 0.8	6.4 ± 0.7	7.4 ± 0.8	6.3 ± 0.8
1171 }		1.9 ± 0.3	1.5 ± 0.3	1.8 ± 0.3	2.6 ± 0.3	1.8 ± 0.3	2.2 ± 0.3	1.9 ± 0.3	1.8 ± 0.4	1.8 ± 0.3
1175 }										
1238	30.7 ± 3.5	29.6 ± 3.0	28.2 ± 2.8	27.5 ± 2.8	33.2 ± 3.4	27.2 ± 2.7	34.5 ± 3.5	31.1 ± 3.1	35.5 ± 4.3	30.0 ± 3.5
1303		3.4 ± 0.6	3.2 ± 0.4	2.7 ± 0.4	3.4 ± 0.5	3.0 ± 0.4	4.2 ± 0.5	3.3 ± 0.4	4.0 ± 0.5	3.2 ± 0.4
1336		1.29 ± 0.27	1.40 ± 0.35	0.82 ± 0.20	1.24 ± 0.27	0.60 ± 0.25			0.82 ± 0.19	0.65 ± 0.25
1575		1.7 ± 0.5	1.5 ± 0.4	1.5 ± 0.4	1.5 ± 0.4				1.6 ± 0.3	1.0 ± 0.4
1771	1.7 ± 0.3	1.9 ± 0.3	2.1 ± 0.3	2.2 ± 0.3	2.0 ± 0.3	2.0 ± 0.3	2.3 ± 0.3	2.3 ± 0.3	2.4 ± 0.4	1.8 ± 0.3
1811	8.3 ± 1.0	9.6 ± 1.0	8.9 ± 0.9	8.2 ± 0.9	9.6 ± 1.0	8.1 ± 0.9	9.2 ± 1.0	8.5 ± 0.9	8.5 ± 1.0	8.0 ± 0.9
1852		1.5 ± 0.3	2.1 ± 0.3	1.5 ± 0.3	1.46 ± 0.26	1.49 ± 0.26			1.05 ± 0.20	
1964		1.8 ± 0.3	1.5 ± 0.2	1.35 ± 0.20	1.31 ± 0.23	1.32 ± 0.23	1.5 ± 0.2	1.00 ± 0.18		
2008 }		1.04 ± 0.20	1.00 ± 0.22	0.85 ± 0.20	0.99 ± 0.20	1.05 ± 0.23	1.10 ± 0.23	1.05 ± 0.22^c		
2015c										
2035	2.1 ± 0.3	2.2 ± 0.3	2.5 ± 0.4	2.5 ± 0.4	2.0 ± 0.3	1.4 ± 0.2	2.8 ± 0.4	2.2 ± 0.3	2.3 ± 0.4	2.2 ± 0.4
2082			1.3 ± 0.3	1.2 ± 0.3		0.8 ± 0.3	1.2 ± 0.3	1.2 ± 0.3		
2095		1.8 ± 0.3	1.1 ± 0.3	0.9 ± 0.3		0.9 ± 0.3	1.5 ± 0.3	0.9 ± 0.3		
2114	3.7 ± 0.5	4.2 ± 0.5	4.2 ± 0.6	4.2 ± 0.5	4.3 ± 0.5	3.7 ± 0.5	4.1 ± 0.5	3.7 ± 0.5	4.1 ± 0.5	3.9 ± 0.6
2274	2.5 ± 0.4	2.5 ± 0.3	2.7 ± 0.4	2.8 ± 0.4	2.3 ± 0.3	2.0 ± 0.3	1.7 ± 0.2	1.6 ± 0.2	2.4 ± 0.3	1.5 ± 0.3
2524e	4.0 ± 0.6	3.4 ± 0.5	3.4 ± 0.5	2.7 ± 0.4	3.0 ± 0.4	2.2 ± 0.3	2.4 ± 0.5	2.2 ± 0.4	2.1 ± 0.4	1.8 ± 0.4
2599	4.4 ± 1.2	5.8 ± 0.7	6.0 ± 0.7	6.0 ± 0.7	5.5 ± 0.7	5.8 ± 0.7	5.8 ± 0.7	6.0 ± 0.7	4.4 ± 0.7	5.0 ± 0.7
2757		1.7 ± 0.3		1.7 ± 0.3	1.7 ± 0.3	1.5 ± 0.2	1.9 ± 0.3	1.4 ± 0.2	1.0 ± 0.2	1.1 ± 0.2
2982		1.2 ± 0.2		1.5 ± 0.3						
3202	1.7 ± 0.4	1.6 ± 0.2	1.6 ± 0.2	1.4 ± 0.2	1.9 ± 0.3	1.7 ± 0.3	2.2 ± 0.3	1.8 ± 0.3	2.1 ± 0.3	1.4 ± 0.2
3253					0.83 ± 0.21		1.0 ± 0.2			
3448 }										
3451		1.6 ± 0.3	2.1 ± 0.3	2.0 ± 0.3	2.2 ± 0.3	2.4 ± 0.4	1.8 ± 0.3	1.6 ± 0.3	2.3 ± 0.4	1.2 ± 0.3
3548 }		1.5 ± 0.2	1.6 ± 0.3	2.2 ± 0.3	1.10 ± 0.23	1.55 ± 0.25	2.0 ± 0.3	1.4 ± 0.2		
3599	1.6 ± 0.4	1.8 ± 0.3	2.0 ± 0.3	1.6 ± 0.3	1.5 ± 0.3	1.4 ± 0.2	1.6 ± 0.3	1.2 ± 0.2	1.2 ± 0.2	1.2 ± 0.2

TABLE 3

$E_{\gamma}^{(b)}$	Incident Neutron Energy and Energy Spread (MeV)									
	7.45 \pm 0.15			7.95 \pm 0.10			8.50 \pm 0.10			9.0 \pm 0.1
	$\theta_{\gamma} = 35^{\circ}$	$\theta_{\gamma} = 55^{\circ}$	$\theta_{\gamma} = 75^{\circ}$	$\theta_{\gamma} = 90^{\circ}$	$\theta_{\gamma} = 55^{\circ}$	$\theta_{\gamma} = 90^{\circ}$	$\theta_{\gamma} = 55^{\circ}$	$\theta_{\gamma} = 90^{\circ}$	$\theta_{\gamma} = 55^{\circ}$	$\theta_{\gamma} = 90^{\circ}$
3663		1.3 \pm 0.5		1.2 \pm 0.2		0.82 \pm 0.22		1.07 \pm 0.24		
3830		0.89 \pm 0.34		0.77 \pm 0.27						
3880		0.25 \pm 0.12		0.35 \pm 0.12						
<u>⁵⁴Fe Isotope</u>										
1130		1.6 \pm 0.3		1.3 \pm 0.2	2.1 \pm 0.3	1.5 \pm 0.3	1.6 \pm 0.3	1.3 \pm 0.2	1.4 \pm 0.2	1.3 \pm 0.2
1408	3.2 \pm 0.4	3.7 \pm 0.4		3.3 \pm 0.4	3.3 \pm 0.4	2.8 \pm 0.4	4.2 \pm 0.5	3.7 \pm 0.5	4.4 \pm 0.5	3.5 \pm 0.4

^aFootnotes to Table 2 apply to this table.

^bSee Table 2 for E_x of deexciting level.

^cAt $E_n = 8.50$ $\theta_{\gamma} = 90^{\circ}$. These peaks are nearly resolved yielding $d\sigma(E_{\gamma} = 2008)/d\omega = 0.45$ mb/sr and $d\sigma(E_{\gamma} = 2015)/d\omega = 0.60$ mb/sr.

TABLE 4. ISOTOPIC DIFFERENTIAL CROSS SECTIONS (IN mb/sr) FOR GAMMA PRODUCTION DUE TO NEUTRON INTERACTIONS WITH ^{54}Fe

E_{γ} (keV) ^a ^{54}Fe Residual Nucleus	E_x (keV)	Incident Neutron Energy and Energy Spread (MeV)			
		4.85 ± 0.15	5.40 ± 0.12	5.92 ± 0.12	6.45 ± 0.12
		$\theta_{\gamma} = 125^\circ$	$\theta_{\gamma} = 125^\circ$	$\theta_{\gamma} = 55^\circ$	$\theta_{\gamma} = 125^\circ$
411.4 ± 0.5	2949.4	0.40 ± 0.15	1.20 ± 0.50	(b)	2.00 ± 0.40
703.0 ± 0.3	4047.6	1.45 ± 0.21	2.05 ± 0.30	1.40 ± 0.40	1.95 ± 0.25
736.0 ± 0.4	4030.5	0.83 ± 0.12	1.30 ± 0.17	1.24 ± 0.16	1.34 ± 0.16
756.6 ± 0.3	3294.6	4.50 ± 0.50	5.74 ± 0.65	5.60 ± 0.80	6.05 ± 0.72
806.5 ± 0.3	3344.5	3.33 ± 0.44	3.82 ± 0.45	3.10 ± 0.55	3.10 ± 0.39
1129.9 ± 0.3	2538.0	17.2 ± 1.9	21.7 ± 2.3	22.7 ± 2.4	24.1 ± 2.8
1153.1 ± 0.3		3.54 ± 0.48	3.25 ± 0.40	1.89 ± 0.25	2.25 ± 0.28
1294.9 ± 0.4	3833.1	0.37 ± 0.07	0.33 ± 0.07	0.33 ± 0.10	0.40 ± 0.15
1355	4702		0.55 ± 0.20		
1360	4655	0.45 ± 0.09	0.55 ± 0.20	1.03 ± 0.20	0.85 ± 0.35
1408.1 ± 0.2	1408.1	65.3 ± 6.6	75.0 ± 7.5	70.0 ± 8.0	71.5 ± 7.7
1487.2 ± 0.9	4782.1		0.70 ± 0.14	0.44 ± 0.16	0.70 ± 0.15
1509.4 ± 0.8	4047.6 ^c	0.39 ± 0.08	1.05 ± 0.22	1.00 ± 0.20	1.12 ± 0.20
1550.7 ± 0.5	2959.1	4.5 ± 1.1	4.87 ± 0.53	5.01 ± 0.60	4.05 ± 0.50
1729.6 ± 0.4	4267.6	0.84 ± 0.13	1.59 ± 0.20	1.98 ± 0.22	1.77 ± 0.22
1757.6 ± 0.5	3165.8	1.84 ± 0.24	1.76 ± 0.21	1.39 ± 0.17	1.32 ± 0.20
1887	3294.6	1.00 ± 0.25	1.23 ± 0.15	1.39 ± 0.17	1.73 ± 0.22
1936.5 ± 0.4	3344.5	4.65 ± 0.60	5.52 ± 0.65	5.91 ± 0.73	5.68 ± 1.10
2162 ± 2	4702		0.42 ± 0.15	0.55 ± 0.25	0.47 ± 0.15
2244.1 ± 0.7	4782.1	0.14 ± 0.08	0.38 ± 0.14	0.48 ± 0.14	0.55 ± 0.15
2409	4948		0.63 ± 0.17	0.63 ± 0.28	0.82 ± 0.15
2425.2 ± 0.7	3833.1	2.42 ± 0.32	3.13 ± 0.40	2.55 ± 0.35	3.58 ± 0.43
2639.4 ± 0.4	4047.6	0.79 ± 0.12	0.76 ± 0.13	1.09 ± 0.16	1.20 ± 0.15
2662.7 ± 0.5	4070.8	2.42 ± 0.35	3.20 ± 0.36	3.30 ± 0.69	5.39 ± 0.63
2859.6 ± 0.6	4267.6	0.33 ± 0.10	0.23 ± 0.12		0.88 ± 0.15
2881.9 ± 1.0	4290.0	0.91 ± 0.14	1.06 ± 0.14	0.85 ± 0.22	0.92 ± 0.15
2959.4 ± 0.8	2959.1	5.80 ± 0.75	5.52 ± 0.70	4.40 ± 0.48	3.78 ± 0.43
3166.0 ± 1.0	3165.8 ^d		7.55 ± 0.95	{5.36 ± 0.85}	7.25 ± 0.90
3171	4579	8.20 ± 1.0		1.78 ± 0.55	
3288 ± 3	(4696) ^d		0.17 ± 0.09	0.33 ± 0.13	0.34 ± 0.14
3294 ± 3	4702		0.17 ± 0.09		
3373.9 ± 1.2	4782.1	0.32 ± 0.12	1.44 ± 0.18	1.38 ± 0.20	1.35 ± 0.22
3537 ± 5	4948		0.24 ± 0.10	0.44 ± 0.22	0.47 ± 0.22
3672 ± 5	5080		0.37 ± 0.11	0.57 ± 0.20	0.62 ± 0.20
3737 ± 6 ^e	5145			0.49 ± 0.19	0.48 ± 0.14
3840 ± 6	5248				0.39 ± 0.14
3867 ± 6	5275				0.41 ± 0.14
3984 ± 6	5392				0.15 ± 0.10
4044 ± 5	5482			0.37 ± 0.17	0.71 ± 0.14
4098 ± 6	5506				0.15 ± 0.10
4131 ± 6	5539				0.25 ± 0.14
4213 ± 6	5621				0.16 ± 0.11

TABLE 4 cont.

E_{γ} (keV) ^a	E_x (keV)	Incident Neutron Energy and Energy Spread (MeV)			
		4.85±0.15	5.40±0.12	5.92±0.12	6.45±0.12
		$\theta_{\gamma} = 125^\circ$	$\theta_{\gamma} = 125^\circ$	$\theta_{\gamma} = 55^\circ$	$\theta_{\gamma} = 125^\circ$
$^{54}\text{Fe Residual Nucleus}$					
4401	+7	5809			0.37±0.14
4420	+7	5828			0.19±0.13
4579	+2	4579	0.37±0.10	0.63±0.09	0.69±0.12
5080	+7	5080		0.16±0.08	0.23±0.07
5453	+7	5453			0.15±0.07
5955	+8	5955			0.06±0.04
6038	+8	6038			0.20±0.07
6124	+8	6124			0.33±0.07
$^{54}\text{Mn Residual Nucleus}$					
156.2±0.5		156.2	9.1 ±1.0	10.0 ±4.0	(b) (b)
211.4±0.5		367.6	2.00±0.30	2.75±0.75	(b) 4.15±0.60
251.3±0.5		407.5	3.00±0.40	3.95±0.45	(b) 4.00±0.50
407.5±0.5		407.5	0.80±0.15	1.8 ±0.6	(b) 1.81±0.40
471.4±0.5		839.0	0.59±0.25	0.80±0.15	(b) 0.92±0.20
839.0±0.6		839.0	0.69±0.20	1.02±0.20	1.00±0.20 1.12±0.22
854.3±1.0		1011.0	0.95±0.26	0.97±0.14	0.97±0.20 1.08±0.21
956.9±0.4		1011.0	1.17±0.20	1.3 ±0.18	1.27±0.18 1.49±0.19
1316	+1	1371	0.31±0.17	0.44±0.18	0.29±0.12 0.36±0.15
1319	+1	1374	0.38±0.17		
1371	+1	1371	0.80±0.25		
1374	+1	1374	0.91±0.25	1.52±0.40	1.85±0.25 1.80±0.23
1399		1453	2.1 ±0.9	2.4 ±1.1	1.8 ±0.8 1.8 ±0.8
1454 ^f		1453, 1506	1.15±0.20	0.96±0.15	0.95±0.15 1.02±0.15
1506		1506	0.36±0.08	0.25±0.08	0.20±0.10 0.22±0.11
1542		1542	0.8 ±0.3	0.50±0.18	1.2 ±0.4 0.75±0.30

^aEntries with associated uncertainties indicate energies determined from the present work. Entries without uncertainties indicate imprecise energies which could not unambiguously be determined.

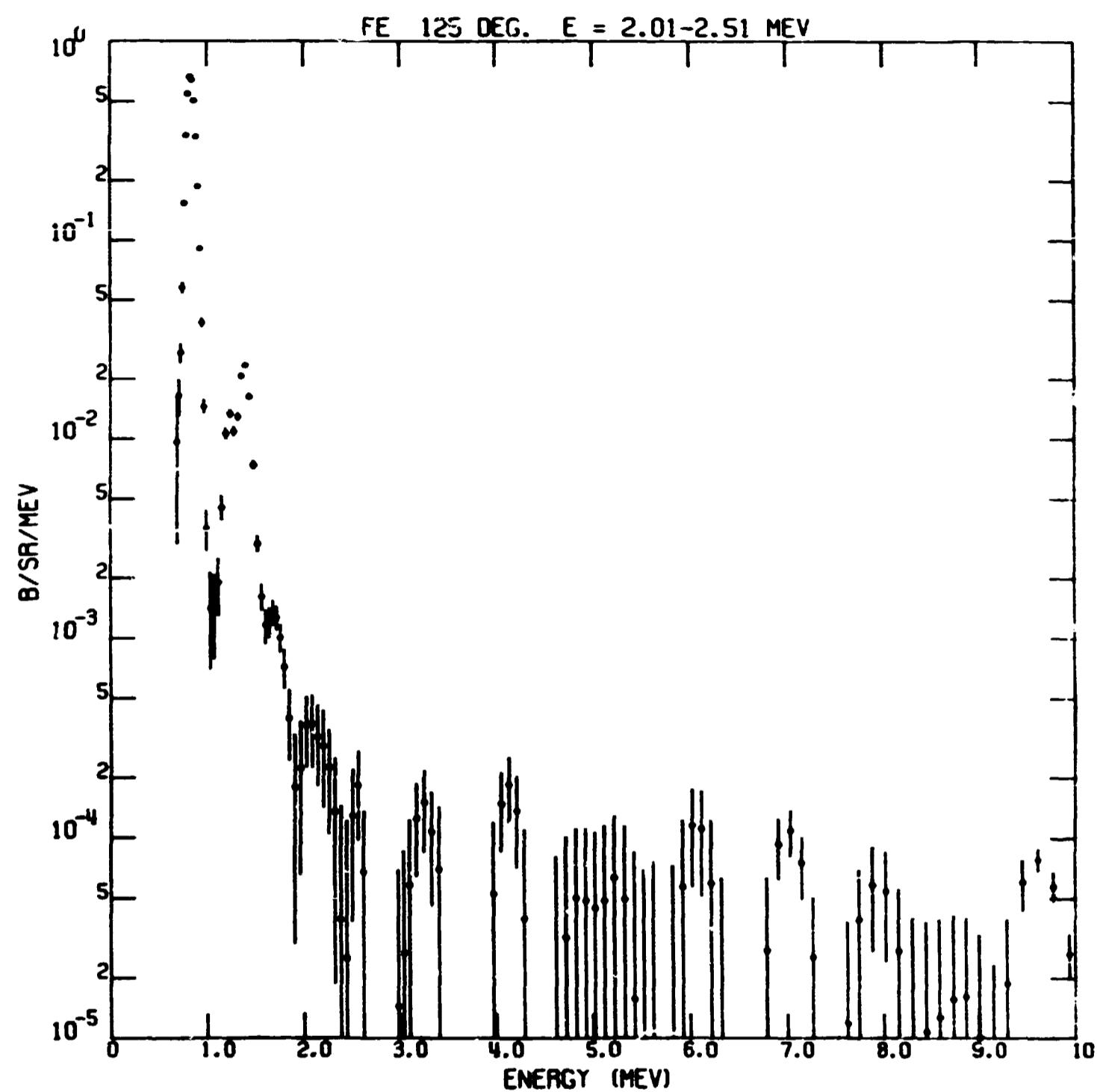
^bGamma rays not observed because of electronic bias settings for the spectra indicated.

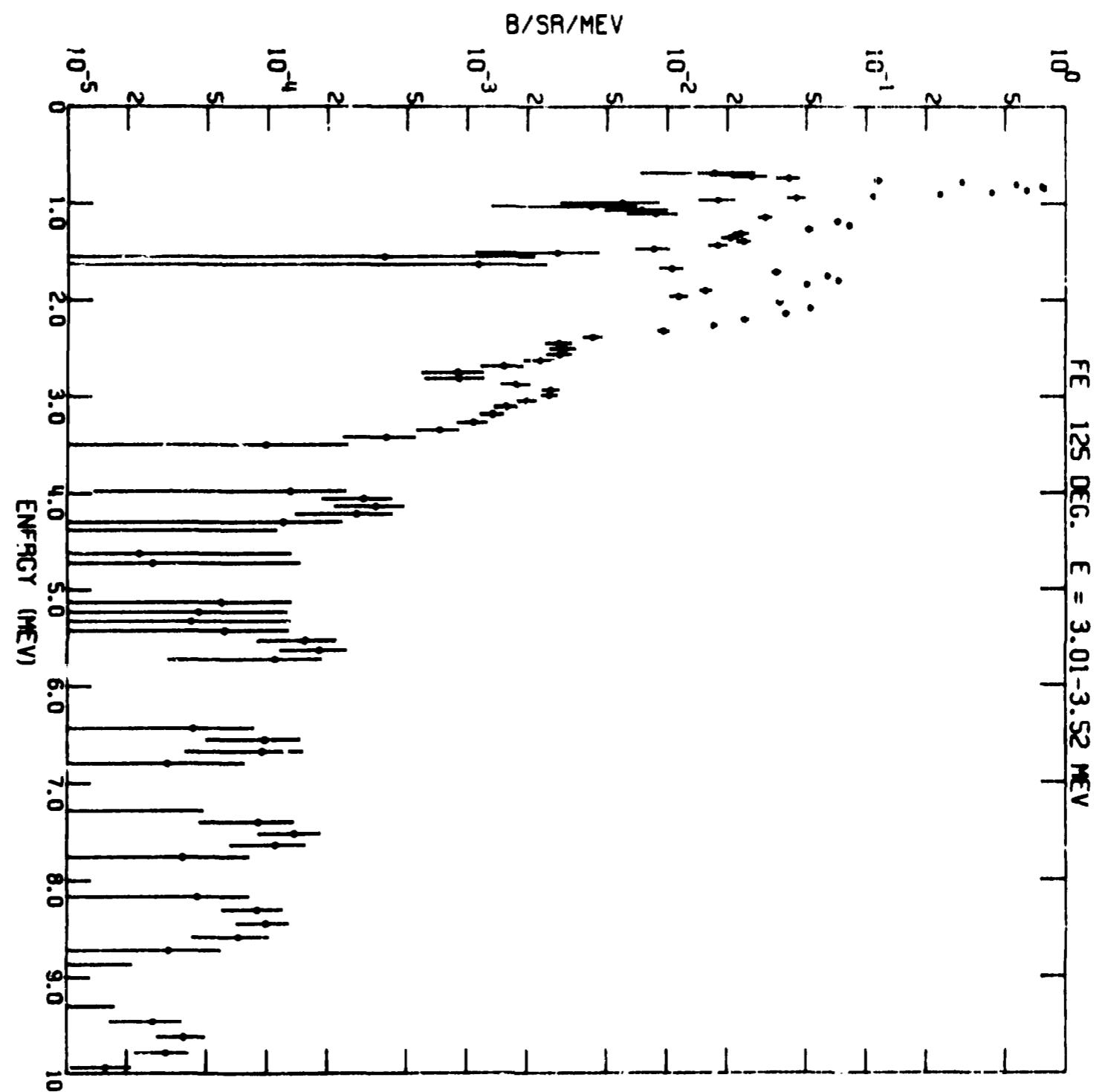
^cGamma-ray yield much larger than expected from previous branching ratio of 2% for the 4048-keV level. It is likely that the peak observed includes another transition, possibly in ^{54}Mn .

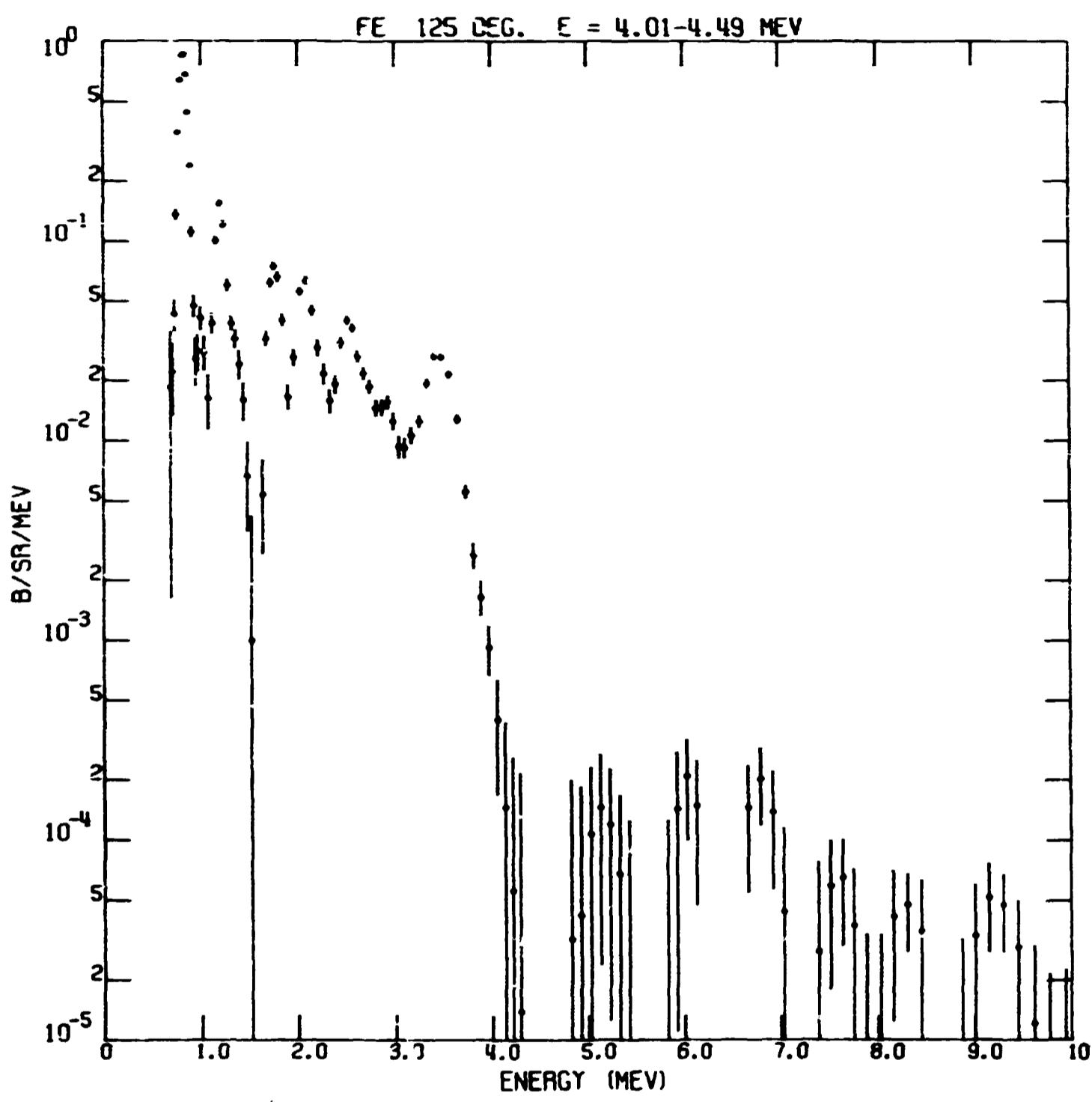
^dAt $E_n = 5.40$ MeV this peak is clearly a doublet of about equal intensity. Another energy level in ^{54}Fe nearly degenerate with the 4702-keV level is suggested.

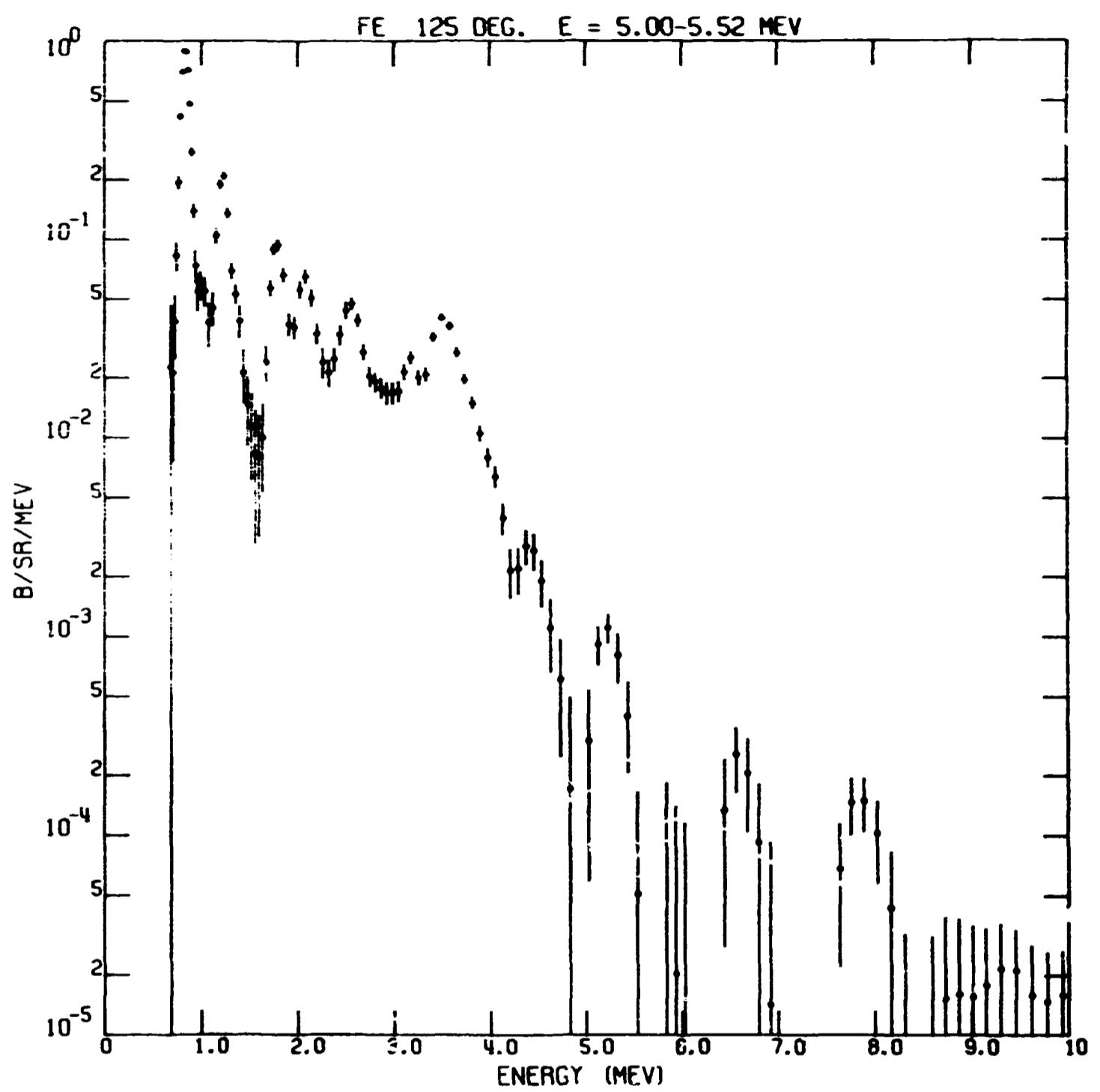
^eExcept for $E_{\gamma} = 4579$, all of the following energy uncertainties are due primarily to uncertainties in Doppler shift determinations because of lack of information on the lifetimes of the excited states.

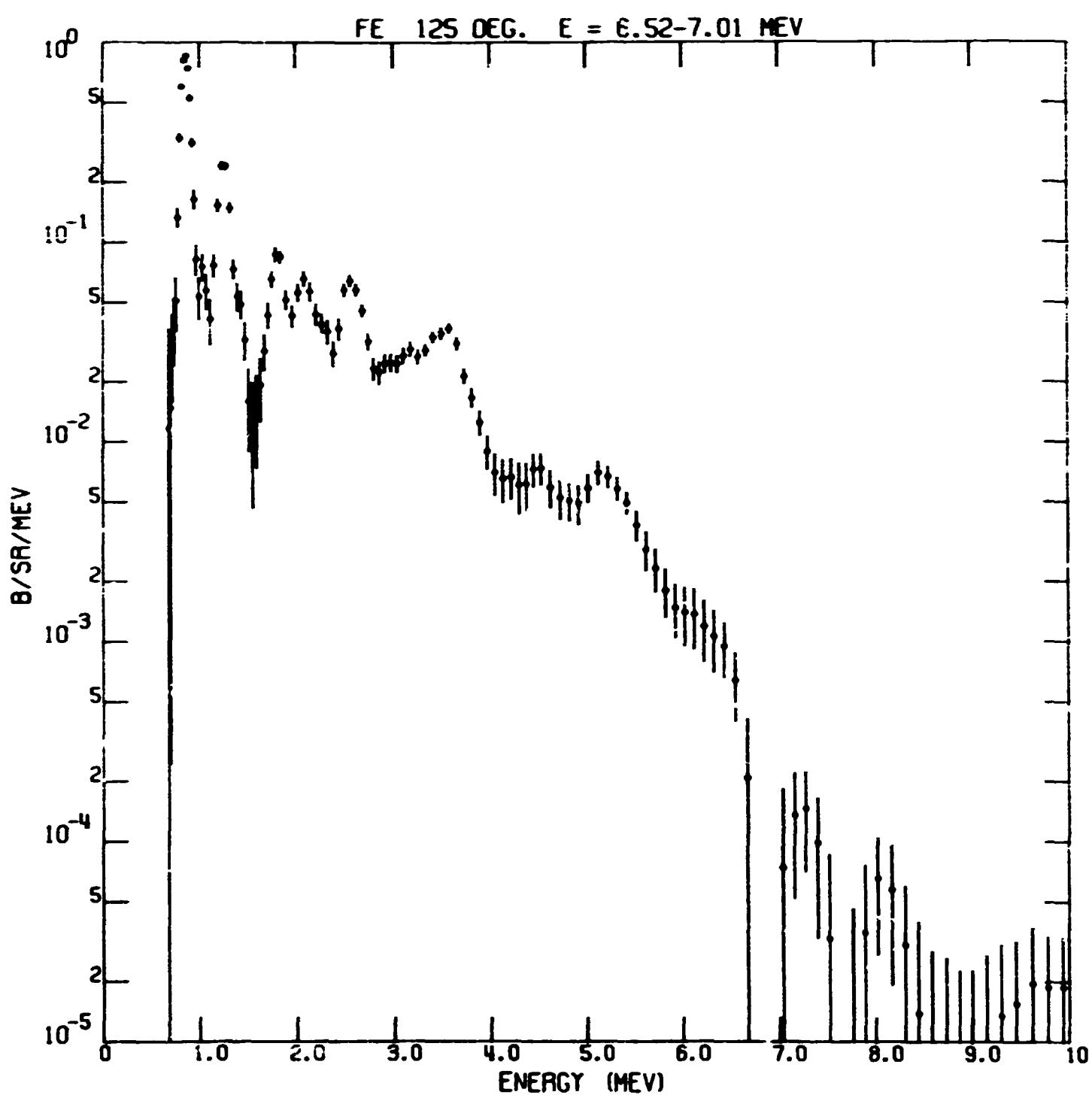
^f1454-keV peak contains at least two unresolved gamma rays.

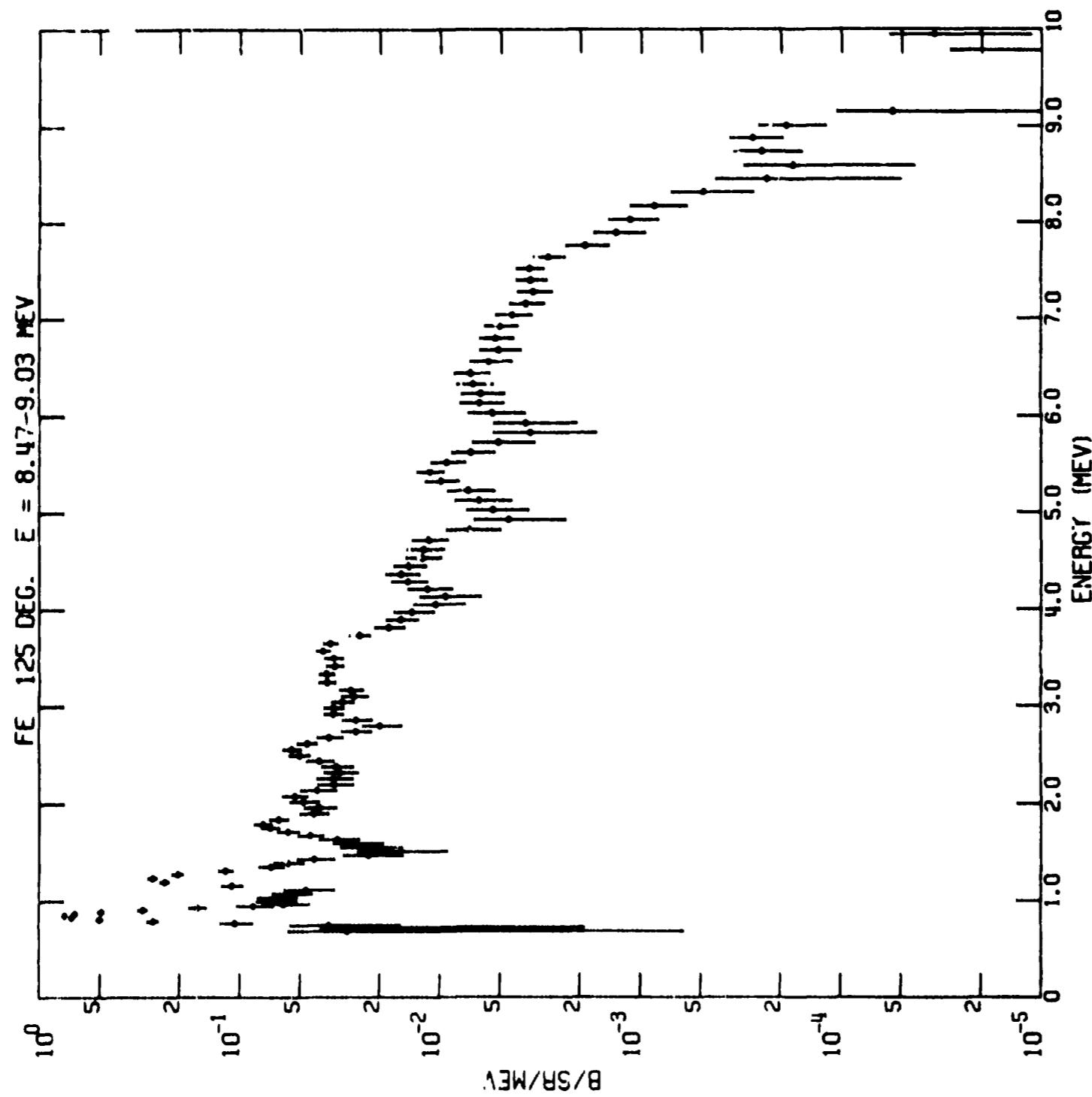


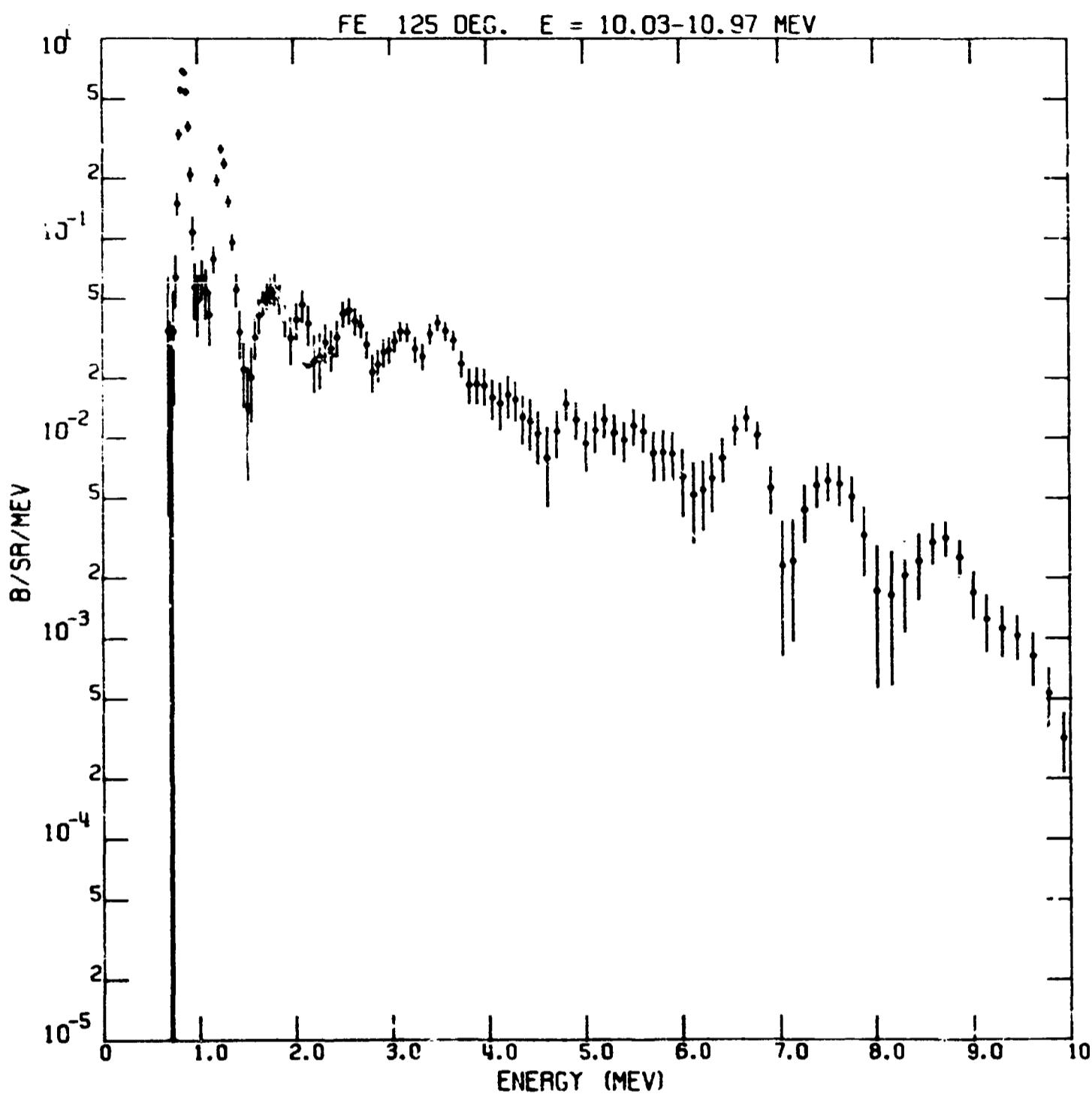


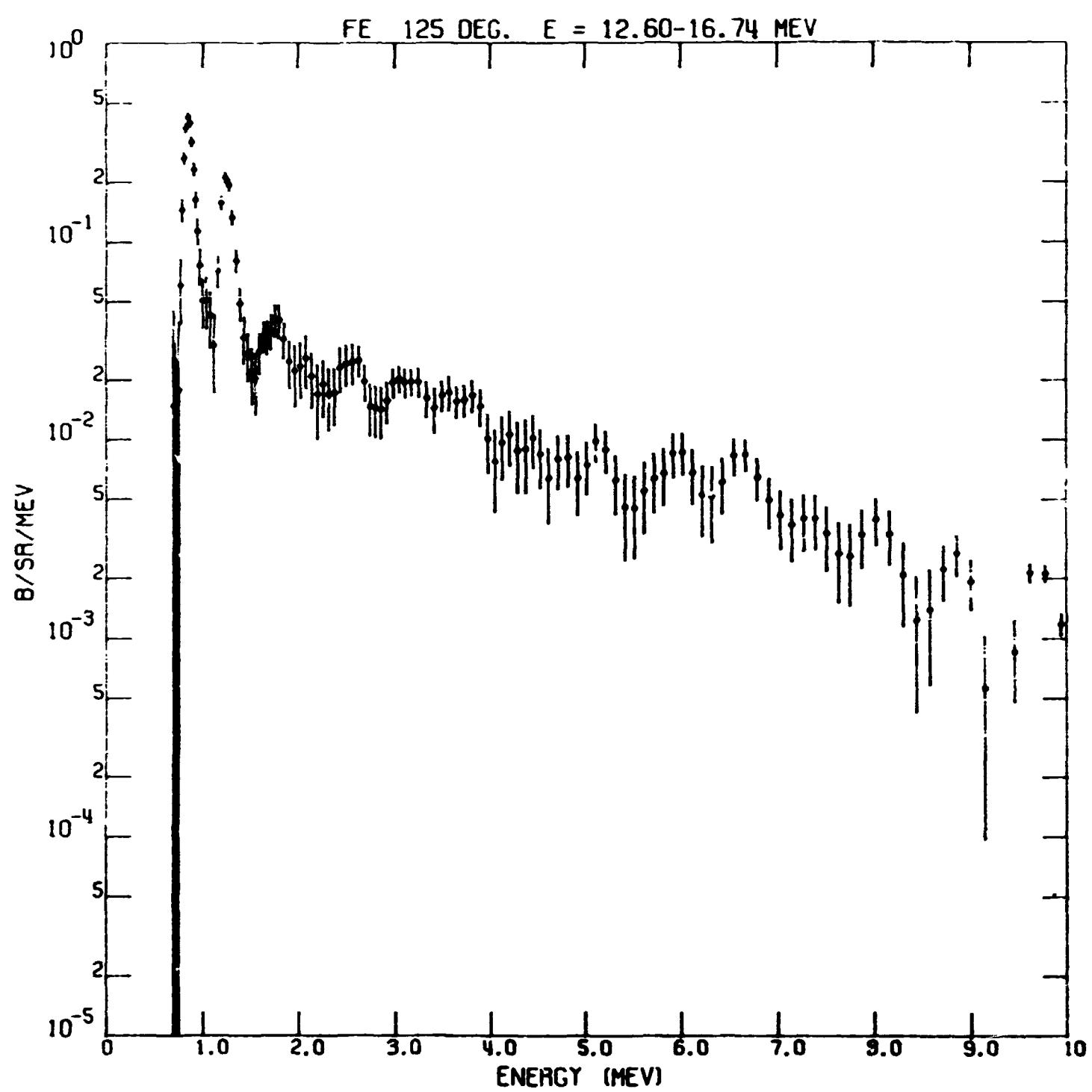












NEUTRON GAMMA RAY PRODUCTION CROSS SECTIONS FROM IRON. THE TABULATED VALUES ARE DIFFERENTIAL CROSS SECTIONS AT 125 DEGREES, IN MB/SR, FOR THE GAMMA RAY ENERGY INTERVALS, IN KEV, SHOWN IN THE LEFT-MOST COLUMN. THE ERRORS INDICATED ARE IN THE SAME UNITS AND DO NOT INCLUDE AN ESTIMATED 10% ERROR DUE TO THE ABSOLUTE FLUX MEASUREMENT. THE RELATIVE ERRORS FOR ADJACENT COLUMNS SHOULD BE LESS THAN 5%. THE COLUMN HEADINGS ARE, IN KEV, THE LOWER LIMIT OF THE NEUTRON ENERGY INTERVAL FOR THAT COLUMN. THE UPPER LIMIT FOR THE LAST NEUTRON ENERGY INTERVAL IS 5.003 KEV.

	0.800	1.011	1.500	2.008	2.505	3.009	3.516	4.009	4.494
707- 945	10.60 0.19	39.90 0.28	54.60 0.52	71.50 0.66	74.70 0.97	80.60 1.31	86.90 1.62	93.40 1.85	93.90 2.10
945-1194	0.20 0.03	0.40 0.05	1.85 0.12	1.34 0.19	2.90 0.39	3.53 0.70	6.80 1.03	10.60 1.25	13.90 1.47
1195-1423	0.02 0.03	0.17 0.03	1.42 0.08	3.76 0.14	7.83 0.30	10.90 0.56	13.40 0.80	16.60 0.99	19.90 1.11
1423-1662	0.02 0.02	0.10 0.02	1.13 0.05	1.16 0.07	1.35 0.17	1.19 0.25	1.10 0.44	0.95 0.23	1.72 0.85
1662-1901	0.01 0.00	0.01 0.02	0.06 0.02	0.20 0.04	4.42 0.16	10.90 0.42	10.90 0.59	12.30 0.74	14.20 0.84
1901-2140	0.02 0.03	0.02 0.02	0.01 0.00	0.07 0.04	0.40 0.07	7.59 0.33	9.26 0.55	10.60 0.69	11.10 0.81
2140-2379	0.02 0.01	0.01 0.01	0.03 0.02	0.05 0.03	0.27 0.06	4.69 0.21	6.91 0.47	6.12 0.60	6.40 0.71
2379-2610	0.02 0.02	-0.01 0.00	0.03 0.02	0.02 0.02	0.14 0.11	0.75 0.11	6.50 0.34	7.98 0.48	9.48 0.57
2610-2857	0.03 0.02	0.04 0.01	0.01 0.01	-0.01 0.01	0.06 0.03	0.33 0.08	2.96 0.22	4.71 0.35	5.03 0.44
2857-3056	0.04 0.02	0.02 0.01	0.02 0.01	-0.00 0.00	-0.00 0.01	0.55 0.06	1.11 0.17	3.09 0.29	3.56 0.37
3096-3335	0.01 0.02	0.02 0.01	0.01 0.01	0.03 0.02	0.00 0.01	0.29 0.05	1.57 0.15	2.94 0.24	5.19 0.32
3335-3579	0.03 0.02	0.02 0.01	-0.02 0.01	-0.02 0.02	-0.07 0.02	-0.02 0.03	3.53 0.15	6.04 0.22	7.83 0.29
3579-3813	0.01 0.02	-0.00 0.01	-0.02 0.01	-0.00 0.00	0.03 0.03	0.01 0.00	1.11 0.08	2.51 0.13	4.33 0.18
3813-4052	0.03 0.02	-0.01 0.01	0.04 0.02	-0.01 0.01	-0.01 0.02	0.01 0.03	0.09 0.05	0.34 0.07	0.79 0.11
4052-4290	0.01 0.02	-0.02 0.01	0.01 0.01	0.01 0.01	-0.01 0.01	0.00 0.03	0.01 0.04	0.03 0.05	0.10 0.08
4290-4529	-0.01 0.02	0.00 0.01	0.01 0.00	0.00 0.01	-0.01 0.02	0.00 0.02	0.03 0.04	-0.02 0.03	0.13 0.04
4529-4766	-0.00 0.01	0.01 0.02	0.01 0.01	0.02 0.01	-0.01 0.02	-0.01 0.02	-0.01 0.02	-0.02 0.03	0.18 0.05
4766-5007	0.03 0.02	0.02 0.02	0.02 0.02	0.01 0.01	-0.02 0.02	-0.02 0.01	-0.01 0.02	-0.01 0.03	0.22 0.01
5007-5246	0.02 0.02	0.01 0.01	0.01 0.01	0.01 0.01	-0.02 0.01	-0.01 0.01	-0.01 0.02	-0.01 0.03	0.22 0.02
5246-5485	0.01 0.02	-0.01 0.01	0.04 0.01	-0.01 0.01	-0.01 0.01	-0.01 0.01	-0.01 0.02	-0.01 0.03	-0.01 0.00
5485-5729	0.01 0.02	-0.00 0.00	0.01 0.01	0.00 0.01	0.02 0.01	0.04 0.02	0.01 0.02	-0.02 0.02	0.01 0.01
5724-5963	-0.00 0.02	0.02 0.03	0.01 0.01	0.01 0.01	-0.01 0.01	-0.01 0.01	-0.01 0.02	-0.01 0.02	0.05 0.02
5963-6202	-0.02 0.02	0.02 0.01	0.01 0.01	0.01 0.01	-0.01 0.01	-0.01 0.01	-0.01 0.02	-0.01 0.02	0.02 0.01
6202-6441	0.02 0.01	-0.01 0.01	0.01 0.01	-0.01 0.01	-0.01 0.01	-0.01 0.01	-0.01 0.02	-0.01 0.03	-0.01 0.00
6441-6680	-0.01 0.01	-0.01 0.01	-0.01 0.01	-0.01 0.01	-0.01 0.01	-0.01 0.01	-0.01 0.02	-0.01 0.03	-0.01 0.01
6680-6919	-0.00 0.01	0.01 0.01	0.01 0.01	0.01 0.01	0.01 0.01	0.01 0.01	0.01 0.01	-0.02 0.01	0.04 0.02
6919-7158	0.01 0.01	0.02 0.01	0.02 0.01	0.02 0.01	0.01 0.00	0.00 0.00	0.01 0.01	0.01 0.01	0.01 0.01
7158-7357	0.02 0.01	0.01 0.01	0.00 0.00	0.00 0.00	0.01 0.00	0.00 0.00	0.01 0.01	-0.02 0.01	-0.02 0.01
7357-7636	0.01 0.01	0.01 0.01	0.00 0.00	0.00 0.00	0.01 0.01	0.00 0.00	0.01 0.01	0.01 0.01	0.01 0.01
7636-7875	0.01 0.01	0.01 0.01	0.00 0.00	0.00 0.00	0.01 0.01	0.00 0.00	0.01 0.01	0.01 0.01	0.02 0.01

NEUTRON GAMMA RAY PRODUCTION CROSS SECTIONS FROM IRON. THE TABULATED VALUES ARE DIFFERENTIAL CROSS SECTIONS AT 125 DEGREES, IN MB/SR, FOR THE GAMMA RAY ENERGY INTERVALS, IN KEV, SHOWN IN THE LEFTMOST COLUMN. THE ERRORS INDICATED ARE IN THE SAME UNITS AND DO NOT INCLUDE AN ESTIMATED 10% ERROR DUE TO THE ABSOLUTE FLUX MEASUREMENT. THE RELATIVE ERRORS FOR ADJACENT COLUMNS SHOULD BE LESS THAN 5%. THE COLUMN HEADINGS ARE, IN KEV, THE LOWER LIMIT OF THE NEUTRON ENERGY INTERVAL FOR THAT COLUMN. THE UPPER LIMIT FOR THE LAST NEUTRON ENERGY INTERVAL IS 9.463 KEV.

	5.003	5.524	6.038	6.523	7.012	7.44	8.029	8.468	9.028
707- 945	97.30 3.26	94.90 3.63	92.00 3.91	90.50 3.94	89.10 4.06	85.50 4.07	82.30 4.71	80.50 4.49	77.10 4.81
945-1164	15.00 2.33	14.50 2.60	14.50 2.75	16.70 2.91	17.50 3.09	16.70 3.01	16.10 3.55	17.10 3.50	15.10 3.75
1164-1423	27.40 1.77	32.60 2.05	36.10 2.16	36.30 2.38	37.70 2.37	37.50 2.48	37.60 2.91	37.60 2.85	36.00 3.00
1423-1662	2.99 1.29	5.08 1.39	5.25 1.58	5.72 1.76	5.55 1.76	6.74 1.75	5.41 2.08	6.58 1.94	6.04 2.05
1662-1901	15.60 1.29	16.20 1.43	16.40 1.52	15.70 1.57	16.40 1.66	15.60 1.68	15.40 1.85	14.90 1.80	13.30 2.14
1901-2140	12.20 1.27	13.00 1.38	12.90 1.46	13.30 1.41	12.90 1.62	13.60 1.61	13.20 1.96	11.20 1.91	10.70 2.01
2140-2379	7.20 0.95	7.50 1.18	8.65 1.25	10.00 1.28	9.11 1.43	8.15 1.55	7.39 1.79	8.30 1.70	8.21 1.84
2379-2618	9.46 0.89	10.80 0.95	11.00 1.03	12.10 1.08	11.50 1.19	10.90 1.27	11.80 1.53	11.20 1.48	10.20 1.60
2618-2857	5.97 0.50	6.66 0.69	8.30 0.72	8.97 0.81	9.03 0.88	7.73 0.95	8.37 1.07	7.30 1.20	6.99 1.21
2857-3096	4.23 0.51	4.48 0.55	5.64 0.60	6.02 0.65	6.61 0.74	7.47 0.79	5.91 0.96	7.68 0.99	7.17 1.14
3096-3335	5.43 0.44	5.97 0.50	6.57 0.54	6.81 0.59	7.00 0.69	7.47 0.73	7.59 0.86	7.80 0.92	7.12 1.06
3335-3578	8.34 0.41	8.34 0.46	8.12 0.49	8.26 0.54	8.82 0.58	8.85 0.67	9.28 0.75	8.40 0.87	7.60 1.00
3578-3813	5.95 0.30	6.33 0.37	5.80 0.45	6.56 0.48	6.86 0.51	6.94 0.56	7.54 0.71	7.34 0.75	6.67 0.88
3813-4052	2.40 0.21	2.73 0.31	2.96 0.36	2.76 0.43	3.02 0.51	4.12 0.54	4.95 0.69	3.60 0.75	4.13 0.94
4052-4290	0.85 0.16	1.37 0.25	1.62 0.34	1.61 0.39	1.52 0.46	2.60 0.50	2.98 0.69	2.62 0.75	4.21 0.89
4290-4529	0.64 0.13	1.39 0.21	1.74 0.30	1.63 0.38	1.91 0.44	1.99 0.49	2.65 0.67	3.56 0.70	2.79 0.83
4529-4768	0.26 0.10	0.74 0.17	1.08 0.26	1.85 0.31	2.04 0.37	1.87 0.41	1.74 0.55	2.87 0.60	2.31 0.75
4768-5007	0.03 0.00	0.43 0.12	1.24 0.21	1.24 0.26	1.58 0.31	1.43 0.36	1.82 0.49	1.47 0.53	1.48 0.64
5007-5246	0.20 0.05	0.62 0.11	1.16 0.16	1.63 0.23	1.38 0.28	2.06 0.35	1.85 0.46	1.54 0.48	1.89 0.58
5246-5485	0.16 0.05	0.55 0.08	0.96 0.12	1.34 0.17	1.08 0.25	1.65 0.32	1.37 0.43	2.45 0.45	2.42 0.56
5485-5724	-0.01 0.01	0.25 0.06	0.43 0.10	0.78 0.15	1.18 0.22	1.23 0.31	1.24 0.42	1.86 0.43	1.70 0.55
5724-5963	0.00 0.02	0.03 0.05	0.17 0.08	0.47 0.12	1.58 0.20	1.20 0.30	1.11 0.40	0.94 0.44	1.58 0.55
5963-6292	-0.01 0.00	0.02 0.03	0.09 0.06	0.34 0.11	0.87 0.18	1.14 0.27	1.53 0.39	1.40 0.40	1.52 0.52
6292-6631	-0.00 0.02	0.02 0.03	-0.00 0.01	0.26 0.09	0.55 0.14	1.26 0.22	1.32 0.33	1.63 0.36	1.78 0.50
6631-6880	0.05 0.03	0.03 0.03	0.03 0.04	0.15 0.06	0.43 0.11	0.88 0.16	1.16 0.27	1.43 0.37	1.69 0.45
6880-7119	0.02 0.02	0.01 0.01	0.06 0.03	0.00 0.02	0.26 0.08	0.50 0.11	1.17 0.21	1.25 0.26	1.13 0.37
7119-7198	-0.00 0.1	-0.01 0.01	0.02 0.02	0.02 0.02	0.13 0.06	0.60 0.08	0.91 0.16	1.06 0.22	0.91 0.32
7198-7397	-0.02 0.32	0.01 0.01	-0.02 0.01	0.03 0.02	0.03 0.03	0.32 0.05	0.61 0.11	0.85 0.17	1.03 0.27
7397-7636	-0.01 0.01	0.01 0.01	-0.01 0.01	0.01 0.01	0.01 0.02	0.12 0.03	0.32 0.09	0.84 0.14	1.05 0.24
7636-7873	0.03 0.01	0.00 0.01	0.02 0.01	0.00 0.01	0.04 0.02	0.05 0.02	0.18 0.06	0.48 0.11	0.76 0.21

SECTION GAMMA RAY PRODUCTION CROSS SECTIONS FROM IRON. THE TABULATED VALUES ARE DIFFERENTIAL CROSS SECTIONS AT 125 DEGREES, IN MB/SR, FOR THE GAMMA RAY ENERGY INTERVALS, IN KEV, SHOWN IN THE LEFTHOST COLUMN. THE ERRORS INDICATED ARE IN THE SAME UNITS AND DO NOT INCLUDE AN ESTIMATED 10% ERROR DUE TO THE ABSOLUTE FLUX MEASUREMENT. THE RELATIVE ERRORS FOR ADJACENT COLUMNS SHOULD BE LESS THAN 5%. THE COLUMN HEADINGS ARE, IN KEV. THE LOWER LIMIT OF THE NEUTRON ENERGY INTERVAL FOR THAT COLUMN. THE UPPER LIMIT FOR THE LAST NEUTRON ENERGY INTERVAL IS 19.900 KEV.

	9.463	10.030	10.970	11.940	13.030	13.950	14.970	16.120	18.090
707- 945	77.20 4.88	76.00 4.83	70.50 5.06	61.20 6.37	53.80 6.12	48.10 3.44	44.40 5.60	36.70 5.63	36.30 6.09
545-1184	15.10 3.71	14.90 3.57	15.00 3.96	14.70 4.28	13.20 4.68	14.20 4.39	14.20 4.18	10.70 3.75	13.80 4.59
1184-1623	40.20 2.98	40.70 2.87	42.40 3.13	41.00 3.65	36.30 3.90	31.10 3.93	27.30 3.56	27.50 3.23	27.90 3.86
1623-1662	6.12 2.12	6.74 1.57	5.22 2.24	7.25 2.37	7.01 2.51	5.82 2.37	6.58 2.26	6.09 2.03	6.69 2.52
1662-1901	12.53 1.96	12.50 2.05	12.80 2.08	10.60 2.61	9.47 2.50	8.54 2.21	6.38 2.36	5.32 1.89	7.48 2.31
1901-2140	10.00 1.94	9.55 2.02	10.10 2.02	8.19 2.35	6.38 2.60	5.37 2.44	4.05 2.39	3.16 1.82	3.22 2.70
2140-2379	6.68 1.84	6.57 1.87	6.18 2.01	6.72 2.20	6.18 2.28	3.48 2.06	4.48 0.62	4.89 1.68	4.27 2.33
2379-2618	10.80 1.90	9.19 1.59	10.00 1.72	9.03 1.79	7.34 2.30	6.82 1.97	3.35 1.24	2.77 1.51	4.08 1.81
2618-2857	8.69 1.27	7.43 1.18	6.62 1.37	6.30 1.60	5.77 1.53	3.92 1.54	3.82 1.53	1.56 1.18	3.01 1.42
2857-3096	7.51 1.11	6.85 1.01	6.35 1.10	6.17 1.34	3.86 1.35	8.37 1.44	5.23 1.23	3.86 1.02	1.44 1.41
3096-3335	7.57 1.09	7.58 0.95	7.74 1.08	7.52 1.25	5.47 1.42	3.95 1.31	1.32 1.18	2.85 0.95	4.69 1.22
3335-3574	6.85 1.05	8.32 0.90	7.81 1.08	9.37 1.20	8.83 1.21	2.61 1.35	2.96 1.24	2.43 0.90	4.36 1.14
3574-3813	6.22 0.93	6.71 0.87	6.89 1.09	5.75 1.18	5.57 1.29	3.35 1.27	2.96 1.16	2.07 0.91	2.82 1.16
3813-4052	4.34 0.97	8.47 0.93	6.39 1.10	4.72 1.25	4.26 1.36	3.51 1.28	1.97 1.24	0.46 0.96	0.63 0.31
4052-4290	3.96 0.87	3.83 0.94	2.82 1.15	4.98 1.28	2.39 1.47	1.86 1.34	1.11 1.27	1.78 0.91	0.49 1.07
4290-4529	2.81 0.86	3.16 0.85	3.27 1.06	1.41 1.29	3.25 1.39	2.13 1.29	0.84 1.22	0.74 0.91	1.94 1.01
4529-4768	2.69 0.74	2.30 0.78	3.86 0.90	1.56 1.03	1.95 1.14	2.22 1.15	1.81 1.01	1.89 0.82	2.04 0.84
4768-5007	2.78 0.64	3.18 0.65	2.78 0.81	3.52 0.91	1.58 1.06	2.15 1.00	1.51 0.91	1.35 0.68	0.70 0.80
5007-5246	2.62 0.62	2.67 0.63	3.03 0.71	3.03 0.84	3.42 0.98	1.33 0.92	1.72 0.88	0.11 0.07	0.29 0.41
5246-5485	3.03 0.56	2.59 0.57	3.12 0.71	1.88 0.83	2.33 1.00	1.58 0.92	0.61 0.77	0.32 0.62	0.10 0.14
5485-5724	2.01 0.58	2.60 0.57	1.38 0.74	2.57 0.87	1.62 0.95	1.37 0.93	-0.16 0.49	0.28 0.58	1.27 0.67
5724-5963	1.64 0.57	2.05 0.57	1.85 0.72	2.75 0.86	1.42 1.03	1.23 0.95	1.78 0.80	1.21 0.60	0.39 0.65
5963-6202	2.09 0.57	1.45 0.56	3.86 0.73	2.28 0.84	1.78 0.95	2.03 0.94	1.30 0.78	1.50 0.62	0.85 0.65
6202-6441	1.54 0.53	1.95 0.50	3.45 0.68	2.70 0.79	1.25 0.98	1.08 0.88	0.93 0.76	0.46 0.57	0.20 0.45
6441-6680	1.82 0.48	2.61 0.46	1.82 0.63	2.00 0.70	2.84 0.83	2.05 0.78	1.01 0.69	0.22 0.50	0.02 0.34
6680-6919	1.60 0.42	2.40 0.40	0.86 0.56	1.36 0.63	2.31 0.74	1.74 0.65	0.95 0.57	0.65 0.46	0.53 0.51
6914-7158	0.76 0.38	0.70 0.36	2.04 0.49	2.01 0.56	1.69 0.67	0.03 0.19	0.81 0.57	0.87 0.43	0.63 0.38
7158-7397	1.09 0.36	1.05 0.34	1.96 0.47	1.89 0.53	0.69 0.62	0.49 0.53	0.95 0.50	0.25 0.41	0.19 0.33
7397-7636	1.30 0.32	1.46 0.32	0.99 0.45	1.53 0.50	0.30 0.59	0.71 0.51	0.88 0.51	0.20 0.35	0.08 0.28
7636-7975	0.53 0.28	1.20 0.31	1.21 0.42	0.86 0.47	0.95 0.57	0.66 0.49	0.31 0.42	0.43 0.34	0.20 0.25

NEUTRON GAMMA RAY PRODUCTION CROSS SECTIONS FROM IRON. THE TABULATED VALUES ARE DIFFERENTIAL CROSS SECTIONS AT 125 DEGREES, IN MB/SR, FOR THE GAMMA RAY ENERGY INTERVALS, IN KEV, SHOWN IN THE LEFTMOST COLUMN. THE ERRORS INDICATED ARE IN THE SAME UNITS AND DO NOT INCLUDE AN ESTIMATED 10% ERROR DUE TO THE ABSOLUTE FLUX MEASUREMENT. THE RELATIVE ERRORS FOR ADJACENT COLUMNS SHOULD BE LESS THAN 5%. THE COLUMN HEADINGS ARE, IN MEV, THE LOWER LIMIT OF THE NEUTRON ENERGY INTERVAL FOR THAT COLUMN. THE UPPER LIMIT FOR THE LAST NEUTRON ENERGY INTERVAL IS 16.740 MEV.

	0.856	1.320	2.130	3.070	4.110	5.140	6.130	7.750	9.830	12.600
707- 945	32.00 0.22	54.20 0.45	74.20 0.74	84.00 1.28	91.70 1.73	95.10 3.28	90.30 3.54	80.40 3.94	71.10 4.60	49.00 4.67
945-1184	0.21 0.03	1.45 0.10	2.20 0.27	5.43 0.76	12.80 1.22	14.40 2.36	16.40 2.65	16.30 3.03	14.80 3.45	13.60 3.42
1184-1423	0.02 0.01	1.20 0.06	6.25 0.20	12.30 0.59	19.10 0.91	31.00 1.78	36.80 2.07	37.60 2.42	41.40 2.74	32.50 2.86
142- 1662	0.92 0.02	0.84 0.04	1.30 0.11	1.13 0.44	1.51 0.71	4.20 1.27	5.91 1.50	5.89 1.70	6.14 1.92	6.59 1.73
1662-1901	0.01 0.02	0.06 0.02	2.56 0.09	10.90 0.44	13.50 0.68	16.30 1.25	16.00 1.40	14.90 1.54	11.90 1.84	8.40 1.73
1901-2140	0.02 0.02	0.02 0.02	0.44 0.05	8.66 0.37	11.00 0.64	12.70 1.22	13.30 1.27	11.80 1.54	9.58 1.72	5.70 1.80
2140-2379	0.01 0.02	0.02 0.02	0.22 0.04	6.08 0.28	6.19 0.55	7.51 0.97	9.19 1.12	7.67 1.42	6.85 1.63	4.32 1.53
2379-2618	0.00 0.00	0.02 0.02	0.08 0.03	3.67 0.18	8.87 0.44	10.20 0.82	11.40 0.91	11.10 1.16	9.45 1.35	5.54 1.39
2618-2857	0.03 0.01	0.01 0.01	0.04 0.02	1.74 0.12	5.01 0.32	6.39 0.55	8.72 0.64	7.56 0.84	7.57 1.03	4.19 1.03
2857-3056	0.01 0.01	0.02 0.01	0.01 0.02	0.90 0.09	3.59 0.26	4.42 0.46	6.25 0.51	7.18 0.72	6.71 0.87	4.29 0.06
3096-3335	0.02 0.01	0.03 0.01	0.01 0.02	0.94 0.07	4.41 0.22	5.73 0.41	7.05 0.46	7.41 0.66	7.36 0.80	4.61 0.79
3335-3574	0.02 0.01	0.00 0.00	-0.01 0.01	1.88 0.07	7.28 0.20	8.23 0.37	8.95 0.39	8.21 0.61	7.19 0.75	3.79 0.81
3574-3813	0.01 0.01	-0.01 0.01	0.03 0.02	0.60 0.05	3.78 0.12	6.18 0.28	6.43 0.34	7.06 0.47	6.72 0.72	3.85 0.73
3813-4052	0.01 0.01	0.03 0.01	0.00 0.00	0.07 0.03	0.76 0.08	2.66 0.21	3.74 0.29	4.28 0.48	4.53 0.74	3.02 0.78
4052-4290	0.01 0.02	0.02 0.01	0.02 0.02	0.04 0.03	0.12 0.05	1.18 0.17	1.68 0.25	3.24 0.44	3.71 0.74	2.29 0.81
4290-4529	0.01 0.01	-0.01 0.01	-0.00 0.01	0.00 0.00	0.06 0.03	1.22 0.14	1.82 0.24	2.73 0.43	2.80 0.69	2.24 0.80
4529-4768	0.01 0.01	0.00 0.01	0.02 0.01	0.01 0.01	0.13 0.04	0.57 0.11	1.61 0.20	2.02 0.36	2.73 0.59	1.74 0.62
4768-50C7	0.01 0.01	0.02 0.01	0.01 0.01	-0.00 0.01	0.01 0.00	0.36 0.08	1.32 0.17	1.78 0.30	3.17 0.49	1.72 0.55
5007-5246	-0.00 0.01	0.02 0.01	-0.01 0.01	0.03 0.01	-0.01 0.02	0.40 0.07	1.51 0.14	1.99 0.27	2.15 0.45	2.16 0.52
5246-5485	0.03 0.01	-0.01 0.01	0.01 0.01	0.31 0.01	0.00 0.00	0.41 0.05	1.22 0.12	2.04 0.26	2.77 0.43	1.40 0.50
5485-5724	0.02 0.01	-0.01 0.01	0.02 0.01	0.01 0.01	0.01 0.01	0.12 0.05	0.80 0.11	1.60 0.24	2.25 0.44	1.27 0.51
5724-5963	-0.01 0.01	0.01 0.01	-0.00 0.00	-0.00 0.01	0.02 0.01	0.03 0.04	0.80 0.09	1.28 0.24	1.94 0.43	1.73 0.52
5963-6202	0.02 0.01	0.02 0.01	0.02 0.01	0.00 0.01	0.03 0.01	0.03 0.03	0.58 0.08	1.44 0.22	2.30 0.42	1.80 0.50
6202-6441	0.01 0.01	0.00 0.01	0.01 0.00	0.01 0.01	-0.02 0.01	0.01 0.02	0.37 0.07	1.47 0.20	2.36 1.38	1.29 0.51
5841-6680	-0.00 0.01	-0.01 0.01	-0.01 0.01	0.02 0.01	-0.00 0.00	0.03 0.02	0.25 0.05	1.33 0.17	2.17 0.35	1.86 0.42
6680-6919	0.01 0.01	0.01 0.00	0.00 0.00	0.00 0.01	0.03 0.01	0.01 0.01	0.14 0.04	1.17 0.14	1.67 0.30	1.58 0.36
6919-7158	0.01 0.01	0.02 0.01	0.02 0.01	-0.02 0.01	0.01 0.01	-0.02 0.01	0.12 0.03	0.95 0.11	1.25 0.27	1.01 0.33
7158-7397	0.01 0.01	0.01 0.00	0.01 0.01	0.01 0.01	-0.01 0.01	-0.01 0.01	0.04 0.01	0.77 0.09	1.46 0.25	0.94 0.30
7397-7636	0.01 0.01	-0.00 0.01	0.00 0.00	0.03 0.01	0.00 0.00	0.01 0.00	-0.01 0.01	0.62 0.08	1.39 0.24	0.80 0.29
7636-7875	0.01 0.01	0.01 0.00	0.00 0.00	0.00 0.01	0.02 0.00	0.02 0.01	0.01 0.01	0.38 0.07	1.06 0.22	0.65 0.27

POLY(1,4-CYCLOHEXENE) PRODUCTION CHOICES SECTION

0,60101 00 157 111-111-X 0,60001 00 157 111-111-X

HIGH ENERGY AND PRODUCTION CROSS SECTION

$2\pi - \text{Max} = 0.10112 \cdot 01 \text{ NFW}$ $\gamma_{\text{HEIA}} = 1125^\circ$, DEG

$B/\text{GeV} = 0.000002 \text{ GeV}$

$E - \text{GeV}$	DATA			$B/\text{SR}/\text{GeV}$
	D_{min}	D_{max}	D_{avg}	
5.271-03	5.303-03	1.985-03	9.11-04	
6.9002-01	6.9002-01	9.78-05	1.12-05	
7.7002-01	7.9002-01	9.688-02	1.143-02	
7.5002-01	7.5002-01	9.628-02	1.07-02	
7.168-02	7.168-02	9.572-02	1.298-01	
7.5002-02	7.5002-02	9.502-02	1.328-01	
8.057-02	8.057-02	9.492-02	1.452-01	
8.573-02	8.573-02	9.457-02	1.572-01	
9.022-02	9.022-02	9.422-02	1.682-01	
9.472-02	9.472-02	9.388-02	1.792-01	
9.822-02	9.822-02	9.358-02	1.892-01	
10.168-02	10.168-02	9.332-02	1.992-01	
10.502-02	10.502-02	9.308-02	2.092-01	
10.832-02	10.832-02	9.283-02	2.192-01	
11.158-02	11.158-02	9.258-02	2.292-01	
11.482-02	11.482-02	9.233-02	2.392-01	
11.805-02	11.805-02	9.208-02	2.492-01	
12.125-02	12.125-02	9.183-02	2.592-01	
12.443-02	12.443-02	9.158-02	2.692-01	
12.758-02	12.758-02	9.132-02	2.792-01	
13.071-02	13.071-02	9.106-02	2.892-01	
13.383-02	13.383-02	9.079-02	2.992-01	
13.692-02	13.692-02	9.052-02	3.092-01	
14.002-02	14.002-02	9.024-02	3.192-01	
14.311-02	14.311-02	8.996-02	3.292-01	
14.618-02	14.618-02	8.968-02	3.392-01	
14.925-02	14.925-02	8.940-02	3.492-01	
15.231-02	15.231-02	8.912-02	3.592-01	
15.536-02	15.536-02	8.884-02	3.692-01	
15.841-02	15.841-02	8.855-02	3.792-01	
16.145-02	16.145-02	8.827-02	3.892-01	
16.449-02	16.449-02	8.800-02	3.992-01	
16.752-02	16.752-02	8.772-02	4.092-01	
17.055-02	17.055-02	8.744-02	4.192-01	
17.357-02	17.357-02	8.717-02	4.292-01	
17.658-02	17.658-02	8.689-02	4.392-01	
18.060-02	18.060-02	8.660-02	4.492-01	
18.461-02	18.461-02	8.633-02	4.592-01	
18.862-02	18.862-02	8.604-02	4.692-01	
19.263-02	19.263-02	8.576-02	4.792-01	
19.664-02	19.664-02	8.547-02	4.892-01	
20.064-02	20.064-02	8.520-02	4.992-01	
20.465-02	20.465-02	8.492-02	5.092-01	
20.865-02	20.865-02	8.464-02	5.192-01	
21.266-02	21.266-02	8.437-02	5.292-01	
21.666-02	21.666-02	8.409-02	5.392-01	
22.067-02	22.067-02	8.382-02	5.492-01	
22.467-02	22.467-02	8.354-02	5.592-01	
22.867-02	22.867-02	8.327-02	5.692-01	
23.268-02	23.268-02	8.300-02	5.792-01	
23.668-02	23.668-02	8.273-02	5.892-01	
24.068-02	24.068-02	8.245-02	5.992-01	
24.469-02	24.469-02	8.218-02	6.092-01	
24.869-02	24.869-02	8.190-02	6.192-01	
25.269-02	25.269-02	8.163-02	6.292-01	
25.669-02	25.669-02	8.136-02	6.392-01	
26.069-02	26.069-02	8.108-02	6.492-01	
26.469-02	26.469-02	8.081-02	6.592-01	
26.869-02	26.869-02	8.053-02	6.692-01	
27.269-02	27.269-02	8.026-02	6.792-01	
27.669-02	27.669-02	8.000-02	6.892-01	
28.069-02	28.069-02	8.073-02	6.992-01	
28.469-02	28.469-02	8.045-02	7.092-01	
28.869-02	28.869-02	8.018-02	7.192-01	
29.269-02	29.269-02	8.090-02	7.292-01	
29.669-02	29.669-02	8.063-02	7.392-01	
30.069-02	30.069-02	8.036-02	7.492-01	
30.469-02	30.469-02	8.010-02	7.592-01	
30.869-02	30.869-02	8.083-02	7.692-01	
31.269-02	31.269-02	8.057-02	7.792-01	
31.669-02	31.669-02	8.030-02	7.892-01	
32.069-02	32.069-02	8.004-02	7.992-01	
32.469-02	32.469-02	8.077-02	8.092-01	
32.869-02	32.869-02	8.050-02	8.192-01	
33.269-02	33.269-02	8.024-02	8.292-01	
33.669-02	33.669-02	8.000-02	8.392-01	
34.069-02	34.069-02	8.073-02	8.492-01	
34.469-02	34.469-02	8.047-02	8.592-01	
34.869-02	34.869-02	8.021-02	8.692-01	
35.269-02	35.269-02	8.095-02	8.792-01	
35.669-02	35.669-02	8.070-02	8.892-01	
36.069-02	36.069-02	8.045-02	8.992-01	
36.469-02	36.469-02	8.020-02	9.092-01	
36.869-02	36.869-02	8.000-02	9.192-01	
37.269-02	37.269-02	8.077-02	9.292-01	
37.669-02	37.669-02	8.052-02	9.392-01	
38.069-02	38.069-02	8.028-02	9.492-01	
38.469-02	38.469-02	8.004-02	9.592-01	
38.869-02	38.869-02	8.081-02	9.692-01	
39.269-02	39.269-02	8.057-02	9.792-01	
39.669-02	39.669-02	8.033-02	9.892-01	
40.069-02	40.069-02	8.010-02	9.992-01	
40.469-02	40.469-02	8.087-02	1.092-01	
40.869-02	40.869-02	8.063-02	1.192-01	
41.269-02	41.269-02	8.040-02	1.292-01	
41.669-02	41.669-02	8.016-02	1.392-01	
42.069-02	42.069-02	8.000-02	1.492-01	
42.469-02	42.469-02	8.077-02	1.592-01	
42.869-02	42.869-02	8.052-02	1.692-01	
43.269-02	43.269-02	8.028-02	1.792-01	
43.669-02	43.669-02	8.004-02	1.892-01	
44.069-02	44.069-02	8.081-02	1.992-01	
44.469-02	44.469-02	8.057-02	2.092-01	
44.869-02	44.869-02	8.033-02	2.192-01	
45.269-02	45.269-02	8.010-02	2.292-01	
45.669-02	45.669-02	8.087-02	2.392-01	
46.069-02	46.069-02	8.063-02	2.492-01	
46.469-02	46.469-02	8.040-02	2.592-01	
46.869-02	46.869-02	8.016-02	2.692-01	
47.269-02	47.269-02	8.000-02	2.792-01	
47.669-02	47.669-02	8.077-02	2.892-01	
48.069-02	48.069-02	8.052-02	2.992-01	
48.469-02	48.469-02	8.030-02	3.092-01	
48.869-02	48.869-02	8.006-02	3.192-01	
49.269-02	49.269-02	8.083-02	3.292-01	
49.669-02	49.669-02	8.060-02	3.392-01	
50.069-02	50.069-02	8.036-02	3.492-01	
50.469-02	50.469-02	8.013-02	3.592-01	
50.869-02	50.869-02	8.000-02	3.692-01	
51.269-02	51.269-02	8.077-02	3.792-01	
51.669-02	51.669-02	8.052-02	3.892-01	
52.069-02	52.069-02	8.030-02	3.992-01	
52.469-02	52.469-02	8.006-02	4.092-01	
52.869-02	52.869-02	8.083-02	4.192-01	
53.269-02	53.269-02	8.060-02	4.292-01	
53.669-02	53.669-02	8.036-02	4.392-01	
54.069-02	54.069-02	8.013-02	4.492-01	
54.469-02	54.469-02	8.000-02	4.592-01	
54.869-02	54.869-02	8.077-02	4.692-01	
55.269-02	55.269-02	8.052-02	4.792-01	
55.669-02	55.669-02	8.03		

THE PRACTICAL APPROACH TO COUNSELING

IRON GAMMA RAY PRODUCTION CROSS SECTION

E _γ -MIN = 0.1500E 01 MEV	E _γ -MAX = 6.2000E 01 MEV	THETA = 125, DEG						
E-GAMMA MEV	DATA-B/SR B/SR/HEV	DATA-ERR B/SR/HEV	E-GAMMA MEV	DATA-B/SR B/SR/MEV	DATA-ERR B/SR/MEV	E-GAMMA MEV	DATA-B/SR B/SR/MEV	DATA-ERR B/SR/MEV
6.900E-01	1.17E-02	4.2E-03	2.150E 00	1.30E-04	1.0E-04	5.230E 00	-4.49E-05	3.3E-05
7.100E-01	1.05E-02	2.0E-03	2.210E 00	1.78E-04	9.7E-05	5.330E 00	-7.91E-05	3.7E-05
7.300E-01	1.25E-02	1.9E-03	2.270E 00	1.57E-04	9.4E-05	5.430E 00	-3.85E-05	3.8E-05
7.500E-01	1.89E-02	2.2E-03	2.330E 00	8.29E-05	8.3E-05	5.530E 00	-2.29E-05	3.9E-05
7.700E-01	4.06E-02	2.4E-03	2.390E 00	7.69E-05	8.3E-05	5.630E 00	-4.85E-05	3.1E-05
7.900E-01	1.12E-01	2.3E-03	2.450E 00	1.41E-04	7.9E-05	5.730E 00	-4.84E-05	3.0E-05
8.100E-01	2.53E-01	2.7E-03	2.510E 00	1.83E-04	7.3E-05	5.830E 00	-5.89E-05	3.5E-05
8.300E-01	4.18E-01	2.5E-03	2.570E 00	1.45E-04	7.3E-05	5.930E 00	-7.1E-05	3.7E-05
8.500E-01	5.192E-01	2.7E-03	2.630E 00	6.05E-05	6.3E-05	6.030E 00	7.57E-05	3.8E-05
8.700E-01	5.07E-01	2.1E-03	2.690E 00	2.12E-05	5.6E-05	6.130E 00	8.7E-05	3.6E-05
8.900E-01	4.04E-01	2.6E-03	2.750E 00	2.66E-05	5.9E-05	6.230E 00	-1.33E-05	3.5E-05
9.100E-01	2.68E-01	1.7E-03	2.810E 00	7.41E-05	5.6E-05	6.330E 00	-4.61E-05	3.7E-05
9.300E-01	1.502E-01	1.6E-03	2.870E 00	1.13E-04	5.8E-05	6.440E 00	-4.59E-05	3.7E-05
9.500E-01	7.612E-02	1.8E-03	2.930E 00	9.67E-05	5.5E-05	6.560E 00	-2.78E-05	3.6E-05
9.700E-01	2.78E-02	9.2E-04	2.990E 00	6.56E-05	5.6E-05	6.680E 00	3.63E-06	3.5E-05
9.900E-01	1.002E-01	2.682E-01	3.050E 00	6.01E-05	5.7E-05	6.800E 00	5.65E-05	3.3E-05
1.000E 00	2.583E-03	5.7E-04	3.110E 00	6.92E-05	5.2E-05	6.920E 00	9.34E-05	3.1E-05
1.040E 00	1.502E-03	4.5E-04	3.180E 00	7.19E-05	5.2E-05	7.040E 00	9.51E-05	3.0E-05
1.080E 00	7.802E-04	3.8E-04	3.260E 00	2.52E-05	4.9E-05	7.160E 00	5.58E-05	3.0E-05
1.120E 00	4.932E-04	3.4E-04	3.340E 00	-4.47E-05	5.7E-05	7.280E 00	7.55E-06	2.9E-05
1.160E 00	8.028E-04	3.2E-04	3.420E 00	-8.76E-05	5.8E-05	7.400E 00	-2.28E-05	2.9E-05
1.200E 00	7.042E-04	2.9E-04	3.500E 00	-5.7E-05	6.4E-05	7.520E 00	-2.9E-05	2.9E-05
1.240E 00	2.062E-04	3.0E-04	3.580E 00	-3.37E-05	6.2E-05	7.640E 00	-1.18E-05	2.9E-05
1.280E 00	2.562E-04	2.7E-04	3.660E 00	-5.06E-05	5.9E-05	7.760E 00	1.74E-05	2.9E-05
1.320E 00	3.862E-03	2.8E-04	3.740E 00	1.34E-04	6.4E-05	7.890E 00	4.58E-05	2.8E-05
1.360E 00	1.062E-02	3.6E-04	3.820E 00	1.01E-04	6.6E-05	8.030E 00	6.49E-05	2.7E-05
1.400E 00	7.74E-02	4.2E-04	3.900E 00	1.92E-04	6.4E-05	8.170E 00	6.55E-05	2.7E-05
1.440E 00	1.280E 00	3.9E-04	3.980E 00	1.62E-04	6.92E-05	8.310E 00	3.67E-05	2.5E-05
1.480E 00	3.202E 00	2.6E-04	4.060E 00	1.24E-04	6.6E-05	8.450E 00	-8.20E-05	2.4E-05
1.520E 00	3.242E-03	1.8E-04	4.140E 00	1.68E-05	6.4E-05	8.590E 00	-8.78E-06	2.2E-05
1.560E 00	1.512E-03	1.7E-04	4.220E 00	1.92E-04	6.2E-05	8.730E 00	1.65E-05	1.5E-05
1.600E 00	9.542E-04	1.3E-04	4.300E 00	4.380E 00	5.6E-05	8.910E 00	5.89E-05	1.6E-05
1.640E 00	6.32E-04	1.1E-04	4.460E 00	4.460E 00	5.0E-05	9.50E 00	5.91E-05	1.5E-05
1.680E 00	4.832E-04	1.0E-04	4.540E 00	4.540E 00	5.7E-05	9.30E 00	6.04E-05	1.3E-05
1.720E 00	2.22E-04	1.1E-04	4.620E 00	4.620E 00	5.0E-05	9.46E 00	6.34E-05	7.3E-06
1.760E 00	3.04E-04	1.1E-04	4.70E 00	4.70E 00	5.2E-05	9.62E 00	4.96E-05	6.4E-06
1.800E 00	6.00E-05	9.9E-05	4.78E 00	4.78E 00	5.5E-05	9.78E 00	2.54E-05	4.6E-06
1.840E 00	-6.23E-05	1.0E-04	4.86E 00	4.86E 00	5.7E-05	9.94E 00	8.43E-06	1.9E-06
1.880E 00	-3.51E-05	9.2E-05	4.93E 00	4.93E 00	5.1E-05	1.01E 01	4.89E-07	4.9E-07
2.030E 00	9.89E-05	9.9E-05	5.03E 00	5.03E 00	5.3E-05	5.130E 00	1.026E 01	2.95E-07
2.090E 00	1.29E-04	8.3E-05	-	-	-	-	-	7.9E-08

TICK GAMMA PAY PRODUCTION CROSS SECTION

EN-MIN = 0.2000E 01 MEV EN-MAX = 0.2505E 01 MEV THETA=125. DEG

E-GAMMA MEV	DATA B/SF/MEV	DATA B/SR/MEV	DATA-ERP B/SR/MEV	E-GAMMA MEV	DATA B/SR/MEV	DATA B/SR/MEV	E-GAMMA MEV	DATA B/SR/MEV	DATA-ERP B/SR/MEV
6.900E-01	9.63E-03	6.7E-03	3.0E-03	2.10E-01	2.270E-01	2.330E-01	2.390E-01	2.450E-01	2.510E-01
7.100E-01	4.712E-02	3.0E-03	3.42E-03	1.84E-01	1.90E-01	1.96E-01	2.02E-01	2.08E-01	2.14E-01
7.500E-01	5.78E-02	3.42E-03	3.42E-03	1.87E-01	1.92E-01	1.98E-01	2.04E-01	2.10E-01	2.16E-01
7.700E-01	1.90E-01	3.42E-03	3.42E-03	1.92E-01	1.98E-01	2.04E-01	2.10E-01	2.16E-01	2.22E-01
7.900E-01	3.38E-01	3.42E-03	3.42E-03	1.98E-01	2.04E-01	2.10E-01	2.16E-01	2.22E-01	2.28E-01
8.100E-01	5.47E-01	3.5E-03	3.2E-03	2.04E-01	2.10E-01	2.16E-01	2.22E-01	2.28E-01	2.34E-01
8.300E-01	6.68E-01	3.5E-03	3.2E-03	2.08E-01	2.14E-01	2.20E-01	2.26E-01	2.32E-01	2.38E-01
8.500E-01	6.43E-01	3.5E-03	3.32E-01	2.12E-01	2.18E-01	2.24E-01	2.30E-01	2.36E-01	2.42E-01
8.700E-01	6.700E-01	3.5E-03	3.32E-01	2.16E-01	2.22E-01	2.28E-01	2.34E-01	2.40E-01	2.46E-01
8.900E-01	6.900E-01	3.5E-03	3.32E-01	2.20E-01	2.26E-01	2.32E-01	2.38E-01	2.44E-01	2.50E-01
9.100E-01	7.100E-01	3.5E-03	3.32E-01	2.24E-01	2.30E-01	2.36E-01	2.42E-01	2.48E-01	2.54E-01
9.300E-01	7.300E-01	3.5E-03	3.32E-01	2.28E-01	2.34E-01	2.40E-01	2.46E-01	2.52E-01	2.58E-01
9.500E-01	7.500E-01	3.5E-03	3.32E-01	2.32E-01	2.38E-01	2.44E-01	2.50E-01	2.56E-01	2.62E-01
9.700E-01	7.700E-01	3.5E-03	3.32E-01	2.36E-01	2.42E-01	2.48E-01	2.54E-01	2.60E-01	2.66E-01
9.900E-01	7.900E-01	3.5E-03	3.32E-01	2.40E-01	2.46E-01	2.52E-01	2.58E-01	2.64E-01	2.70E-01
1.000E+00	8.100E-01	3.5E-03	3.32E-01	2.44E-01	2.50E-01	2.56E-01	2.62E-01	2.68E-01	2.74E-01
1.020E+00	8.300E-01	3.5E-03	3.32E-01	2.48E-01	2.54E-01	2.60E-01	2.66E-01	2.72E-01	2.78E-01
1.040E+00	8.500E-01	3.5E-03	3.32E-01	2.52E-01	2.58E-01	2.64E-01	2.70E-01	2.76E-01	2.82E-01
1.060E+00	8.700E-01	3.5E-03	3.32E-01	2.56E-01	2.62E-01	2.68E-01	2.74E-01	2.80E-01	2.86E-01
1.080E+00	8.900E-01	3.5E-03	3.32E-01	2.60E-01	2.66E-01	2.72E-01	2.78E-01	2.84E-01	2.90E-01
1.100E+00	9.100E-01	3.5E-03	3.32E-01	2.64E-01	2.70E-01	2.76E-01	2.82E-01	2.88E-01	2.94E-01
1.120E+00	9.300E-01	3.5E-03	3.32E-01	2.68E-01	2.74E-01	2.80E-01	2.86E-01	2.92E-01	2.98E-01
1.140E+00	9.500E-01	3.5E-03	3.32E-01	2.72E-01	2.78E-01	2.84E-01	2.90E-01	2.96E-01	3.02E-01
1.160E+00	9.700E-01	3.5E-03	3.32E-01	2.76E-01	2.82E-01	2.88E-01	2.94E-01	3.00E-01	3.06E-01
1.180E+00	9.900E-01	3.5E-03	3.32E-01	2.80E-01	2.86E-01	2.92E-01	2.98E-01	3.04E-01	3.10E-01
1.200E+00	1.010E+00	3.5E-03	3.32E-01	2.84E-01	2.90E-01	2.96E-01	3.02E-01	3.08E-01	3.14E-01
1.220E+00	1.020E+00	3.5E-03	3.32E-01	2.88E-01	2.94E-01	3.00E-01	3.06E-01	3.12E-01	3.18E-01
1.240E+00	1.030E+00	3.5E-03	3.32E-01	2.92E-01	2.98E-01	3.04E-01	3.10E-01	3.16E-01	3.22E-01
1.260E+00	1.040E+00	3.5E-03	3.32E-01	2.96E-01	3.02E-01	3.08E-01	3.14E-01	3.20E-01	3.26E-01
1.280E+00	1.050E+00	3.5E-03	3.32E-01	3.00E-01	3.06E-01	3.12E-01	3.18E-01	3.24E-01	3.30E-01
1.300E+00	1.060E+00	3.5E-03	3.32E-01	3.04E-01	3.10E-01	3.16E-01	3.22E-01	3.28E-01	3.34E-01

TICKN GAMMA RAY PRODUCTION CROSS SECTION

EN-MIN = 0.2505E 01 HEV	EN-MAX = 0.3009E 01 HEV	THETA = 125. DEG						
E-GAMMA HEV	DATA-B B/SR/MEV	DATA-ERR B/SR/MEV	E-GAMMA HEV	DATA-B B/SR/MEV	DATA-ERR B/SR/MEV	E-GAMMA HEV	DATA-B B/SR/MEV	DATA-ERR B/SR/MEV
6.9008E-01	1.01E-02	7.7E-03	2.150E .00	1.65E-03	3.2E-04	2.10E 00	1.38E-03	2.82E-04
7.100E-01	1.30E-02	3.82E-03	2.210E 00	1.06E-03	2.6E-04	2.270E 00	7.92E-04	2.32E-04
7.300E-01	2.39E-02	3.48E-03	2.330E 00	5.20E-04	2.0E-04	2.390E 00	4.09E-04	1.98E-04
7.500E-01	4.55E-02	4.18E-03	2.450E 00	5.12E-04	1.88E-04	2.510E 00	7.56E-04	1.88E-04
7.700E-01	1.05E-01	4.38E-03	2.570E 00	7.18E-04	1.98E-04	2.630E 00	6.71E-04	1.98E-04
7.900E-01	2.43E-01	4.52E-03	2.690E 00	8.10E-04	1.68E-04	2.750E 00	1.56E-04	1.28E-04
8.100E-01	4.52E-C1	4.9E-03	2.810E 00	2.48E-05	9.6E-05	2.870E 00	2.46E-05	9.52E-05
8.300E-01	6.41E-01	4.7E-03	2.930E 00	3.80E-04	1.6E-04	2.990E 00	1.62E-05	1.0E-04
8.500E-01	8.500E-01	4.88E-03	3.050E 00	4.87E-05	1.0E-04	3.050E 00	5.41E-07	1.0E-04
8.700E-01	6.22E-01	3.78E-03	3.10E 00	5.42E-05	9.8E-05	3.110E 00	3.89E-05	1.1E-04
8.900E-01	4.49E-01	4.42E-03	3.160E 00	6.02E-05	1.0E-04	3.180E 00	7.04E-06	9.8E-05
9.100E-01	7.07E-01	3.42E-03	3.260E 00	7.62E-05	1.0E-04	3.280E 00	8.3E-05	1.0E-04
9.300E-01	9.500E-01	5.0E-03	3.360E 00	9.2E-05	1.0E-04	3.380E 00	9.8E-05	1.1E-04
9.500E-01	1.42E-01	1.52E-03	3.460E 00	1.0E-03	1.3E-03	3.420E 00	1.0E-03	1.0E-03
9.700E-01	6.44E-02	3.42E-03	3.500E 00	1.0E-03	1.0E-03	3.580E 00	1.0E-04	8.2E-05
9.900E-01	2.60F-02	2.28E-03	3.660E 00	1.0E-03	1.0E-03	3.740E 00	2.94E-04	1.0E-04
1.00E 00	3.99E-03	1.78E-03	3.820E 00	1.0E-03	1.0E-03	3.820E 00	2.26E-04	1.2E-04
1.00E 00	6.39E-03	1.52E-03	3.980E 00	1.0E-03	1.0E-03	3.980E 00	1.40E-04	1.0E-04
1.00E 00	1.04E-00	1.65E-03	4.16E-02	1.0E-03	1.0E-03	4.16E-02	3.26E-04	9.8E-05
1.120E 00	5.01E-03	1.32E-03	4.20E 00	1.52E-02	1.52E-02	4.20E 00	1.52E-04	9.5F-05
1.160E 00	2.09E-02	1.62E-02	4.320E 00	1.4E-02	1.4E-02	4.320E 00	1.07E-04	8.5E-05
1.20E 00	1.240E 00	5.08E-02	4.44E-02	1.2E-02	1.2E-02	4.44E-02	2.44E-04	1.2E-04
1.280E 00	3.67E-02	1.2E-03	4.560E 00	1.81E-C2	1.1E-03	4.560E 00	9.03E-03	7.9E-03
1.320E 00	2.16E-02	1.0E-03	4.680E 00	1.81E-C2	1.1E-03	4.680E 00	9.03E-03	7.9E-03
1.360E 00	1.4E-02	1.1E-03	4.80E 00	1.81E-C2	1.1E-03	4.80E 00	9.03E-03	7.9E-03
1.40E 00	2.12E-02	1.1E-03	4.94E-02	1.81E-C2	1.1E-03	4.94E-02	9.03E-03	7.9E-03
1.44E 00	1.81E-02	1.1E-03	5.120E 00	1.81E-C2	1.1E-03	5.120E 00	9.03E-03	7.9E-03
1.480E 00	1.52E-02	1.1E-03	5.320E 00	1.81E-C2	1.1E-03	5.320E 00	9.03E-03	7.9E-03
1.560E 00	1.24E-02	1.1E-03	5.520E 00	1.81E-C2	1.1E-03	5.520E 00	9.03E-03	7.9E-03
1.640E 00	9.04E-02	1.0E-04	5.720E 00	1.81E-C2	1.1E-03	5.720E 00	9.03E-03	7.9E-03
1.680E 00	6.04E-02	8.04E-03	5.920E 00	1.81E-C2	1.1E-03	5.920E 00	9.03E-03	7.9E-03
1.720E 00	3.65E-02	6.9E-04	6.120E 00	1.81E-C2	1.1E-03	6.120E 00	9.03E-03	7.9E-03
1.760E 00	1.62E-02	6.9E-04	6.320E 00	1.81E-C2	1.1E-03	6.320E 00	9.03E-03	7.9E-03
1.80E 00	8.66E-02	7.9E-04	6.520E 00	1.81E-C2	1.1E-03	6.520E 00	9.03E-03	7.9E-03
1.850E 00	1.87E-02	6.4E-04	6.720E 00	1.81E-C2	1.1E-03	6.720E 00	9.03E-03	7.9E-03
1.910E 00	5.55E-03	4.0E-04	6.920E 00	1.81E-C2	1.1E-03	6.920E 00	9.03E-03	7.9E-03
1.970E 00	1.4E-03	3.0E-04	7.120E 00	1.81E-C2	1.1E-03	7.120E 00	9.03E-03	7.9E-03
2.030E 00	2.9E-04	2.9E-04	7.320E 00	1.81E-C2	1.1E-03	7.320E 00	9.03E-03	7.9E-03
2.090E 00	1.25E-03	2.9E-04	7.520E 00	1.81E-C2	1.1E-03	7.520E 00	9.03E-03	7.9E-03

TFCN GAMMA PAY PRODUCTION CROSS SECTION

EN-MIN= 0.3009E+01 HEV

EN-MAX= 0.3516E+01 HEV

DATA-#EFS

B/SP/MEV

E-GAMMA
HEV
DATA-B/SR/MEV

B/SP/MEV

IRON GAMMA RAY PRODUCTION CROSS SECTION

EN-MIN= 0.3516E 01 NEV EN-MAX= 0.4009E 01 NEV

E-GAMMA MEV	DATA-BER B/SR/MEV	DATA-BER B/SR/MEV	DATA-ERR B/SR/MEV	E-GAMMA MEV	DATA-BER B/SR/MEV	DATA-ERR B/SR/MEV	E-GAMMA MEV	DATA-BER B/SR/MEV	DATA-ERR B/SR/MEV	E-GAMMA MEV	DATA-BER B/SR/MEV	DATA-ERR B/SR/MEV
6. 9003E-01	1. 82E-02	1. 3E-02	5. 05E-02	2. 150E 00	5. 05E-03	2. 4E-03	5. 230E 00	2. 28E-04	1. 3E-04	5. 230E 00	2. 41E-04	1. 2E-04
7. 100E-01	2. 30E-02	6. 3E-03	2. 210E 00	3. 57E-02	2. 4E-03	1. 9E-03	5. 330E 00	2. 41E-04	1. 2E-04	5. 330E 00	1. 82E-04	1. 2E-04
7. 3003E-01	3. 44E-02	6. 3E-03	2. 270E 00	2. 73E-02	1. 9E-03	5. 430E 00	1. 82E-04	1. 2E-04	5. 430E 00	9. 78E-05	9. 5E-05	9. 5E-05
7. 500E-01	7. 39E-02	7. 0E-03	2. 330E 00	1. 60E-02	1. 6E-03	5. 530E 00	9. 78E-05	9. 5E-05	5. 530E 00	9. 6E-05	9. 3E-05	9. 3E-05
7. 700E-01	1. 85E-01	7. 4E-03	2. 390E 00	1. 46E-02	1. 4E-03	5. 630E 00	9. 6E-05	9. 2E-05	5. 630E 00	9. 1E-05	8. 8E-05	8. 8E-05
7. 900E-01	4. 01E-01	7. 5E-03	2. 450E 00	2. 56E-02	1. 4E-03	5. 730E 00	8. 1E-05	7. 0E-05	5. 730E 00	6. 81E-05	6. 6E-05	6. 6E-05
8. 100E-01	6. 64E-01	7. 7E-03	2. 510E 00	3. 34E-02	1. 5E-03	5. 830E 00	6. 6E-05	6. 3E-05	5. 830E 00	-3. 49E-05	6. 2E-05	6. 2E-05
8. 3003E-01	8. 34E-01	7. 5E-03	2. 570E 00	3. 07E-02	1. 4E-03	5. 930E 00	6. 0E-05	6. 0E-05	5. 930E 00	1. 01E-05	6. 0E-05	6. 0E-05
8. 5003E-01	8. 09E-01	7. 3E-03	2. 630E 00	2. 3E-02	1. 1E-03	6. 030E 00	7. 11E-05	7. 11E-05	6. 030E 00	7. 0E-05	6. 6E-05	6. 6E-05
8. 700E-01	6. 23E-01	6. 6E-03	2. 690E 00	1. 58E-02	9. 9E-04	6. 130E 00	6. 11E-04	6. 11E-04	6. 130E 00	1. 1E-04	6. 0E-05	6. 0E-05
8. 900E-01	3. 93E-01	6. 6E-03	2. 750E 00	1. 04E-02	8. 2E-04	6. 230E 00	6. 0E-05	6. 0E-05	6. 230E 00	5. 93E-05	5. 92E-05	5. 92E-05
9. 100E-01	2. 07E-01	6. 3E-03	2. 810E 00	6. 59E-03	8. 0E-04	6. 330E 00	1. 3E-04	1. 3E-04	6. 330E 00	7. 0E-05	7. 0E-05	7. 0E-05
9. 3003E-01	9. 19E-02	5. 1E-03	2. 870E 00	5. 68E-03	7. 9E-04	6. 440E 00	1. 07E-04	1. 07E-04	6. 440E 00	7. 66E-05	7. 9E-05	7. 9E-05
9. 5003E-01	3. 72E-02	6. 3E-03	2. 930E 00	5. 13E-03	7. 3E-04	6. 560E 00	3. 53E-05	3. 53E-05	6. 560E 00	6. 6E-05	6. 6E-05	6. 6E-05
9. 700E-01	2. 66E-02	5. 2E-03	2. 990E 00	4. 42E-03	7. 4E-04	6. 680E 00	-3. 18E-05	6. 680E 00	6. 680E 00	6. 0E-05	6. 0E-05	6. 0E-05
9. 900E-01	1. 00E-00	2. 6E-02	3. 050E 00	3. 99E-03	6. 9E-04	6. 800E 00	-9. 04E-05	6. 800E 00	6. 800E 00	5. 0E-05	5. 0E-05	5. 0E-05
1. 040E 70	2. 52E-02	4. 3E-03	3. 110E 00	3. 78E-03	6. 5E-04	6. 920E 00	-7. 54E-05	7. 0E-05	7. 0E-05	7. 28E-05	3. 6E-05	3. 6E-05
1. 080E 00	1. 51E-02	4. 0E-03	3. 180E 00	3. 44. 83E-03	6. 4E-04	7. 040E 00	4. 43E-05	4. 43E-05	7. 040E 00	2. 8E-05	2. 8E-05	2. 8E-05
1. 120E 00	1. 63E-02	3. 8E-03	3. 260E 00	3. 97E-03	7. 7E-04	7. 160E 00	3. 732E-06	3. 732E-06	7. 160E 00	2. 41E-05	2. 2E-05	2. 2E-05
1. 160E 00	5. 44E-02	3. 7E-03	3. 340E 00	3. 7E-03	6. 6E-04	7. 280E 00	7. 00E-05	7. 00E-05	7. 280E 00	3. 92E-05	3. 92E-05	3. 92E-05
1. 200E 00	6. 64E-02	3. 9E-03	3. 420E 00	1. 60E-02	6. 6E-04	7. 400E 00	4. 16E-05	4. 16E-05	7. 400E 00	4. 432E-05	4. 432E-05	4. 432E-05
1. 240E 00	9. 79E-02	4. 0E-03	3. 500E 00	1. 55E-02	5. 8E-04	7. 520E 00	5. 92E-05	5. 92E-05	7. 520E 00	4. 7E-05	4. 7E-05	4. 7E-05
1. 280E 00	6. 30E-02	3. 4E-03	3. 580E 00	1. 12E-02	5. 0E-04	7. 640E 00	2. 42E-05	2. 42E-05	7. 640E 00	2. 6E-05	2. 6E-05	2. 6E-05
1. 320E 00	3. 68E-02	2. 7E-03	3. 660E 00	5. 83E-03	3. 6E-04	7. 760E 00	3. 26E-05	3. 26E-05	7. 760E 00	3. 6E-05	3. 6E-05	3. 6E-05
1. 360E 00	2. 73E-02	2. 8E-03	3. 740E 00	4. 26E-03	3. 0E-04	7. 890E 00	4. 16E-05	4. 16E-05	7. 890E 00	4. 5E-05	4. 5E-05	4. 5E-05
1. 400E 00	2. 47E-02	3. 4E-03	3. 820E 00	5. 74E-03	4. 2E-04	8. 030E 00	6. 41E-05	6. 41E-05	8. 030E 00	6. 7E-05	6. 7E-05	6. 7E-05
1. 440E 00	1. 71E-02	3. 0E-03	3. 900E 00	3. 13E-03	1. 8E-04	8. 170E 00	6. 26E-05	6. 26E-05	8. 170E 00	6. 1E-05	6. 1E-05	6. 1E-05
1. 480E 00	7. 56E-03	2. 5E-03	3. 980E 00	4. 0E-03	1. 7E-04	8. 310E 00	6. 12E-05	6. 12E-05	8. 310E 00	6. 0E-05	6. 0E-05	6. 0E-05
1. 520E 00	2. 00E-03	2. 6E-03	4. 060E 00	4. 140E 00	1. 6E-04	8. 450E 00	5. 36E-06	5. 36E-06	8. 450E 00	5. 1E-06	5. 1E-06	5. 1E-06
1. 560E 00	2. 03E-03	2. 6E-03	4. 140E 00	4. 220E 00	1. 6E-04	8. 590E 00	1. 40E-05	1. 40E-05	8. 590E 00	1. 91E-05	1. 91E-05	1. 91E-05
1. 600E 00	3. 0E-04	2. 4E-03	4. 220E 00	5. 612E-03	1. 9E-04	8. 70E 00	7. 13E-07	7. 13E-07	8. 70E 00	7. 82E-06	7. 82E-06	7. 82E-06
1. 640E 00	4. 0E-04	2. 3E-03	4. 300E 00	3. 13E-03	1. 3E-04	8. 870E 00	7. 20E-06	7. 20E-06	8. 870E 00	7. 4E-06	7. 4E-06	7. 4E-06
1. 680E 00	1. 21E-02	2. 3E-03	4. 380E 00	4. 49E-03	1. 0E-04	8. 960E 00	7. 12E-05	7. 12E-05	8. 960E 00	7. 32E-06	7. 32E-06	7. 32E-06
1. 720E 00	4. 02E-02	2. 3E-03	4. 460E 00	4. 642E-03	1. 8E-04	9. 010E 00	7. 0E-05	7. 0E-05	9. 010E 00	7. 5E-06	7. 5E-06	7. 5E-06
1. 760E 00	6. 85E-02	2. 3E-03	4. 540E 00	4. 742E-03	2. 2E-04	9. 150E 00	6. 92E-06	6. 92E-06	9. 150E 00	7. 0E-06	7. 0E-06	7. 0E-06
1. 800E 00	7. 45E-02	2. 3E-03	4. 630E 00	4. 822E-03	2. 3E-04	9. 260E 00	6. 92E-06	6. 92E-06	9. 260E 00	7. 1E-06	7. 1E-06	7. 1E-06
1. 840E 00	7. 51E-02	2. 3E-03	4. 730E 00	4. 912E-03	2. 4E-04	9. 370E 00	6. 92E-06	6. 92E-06	9. 370E 00	7. 2E-06	7. 2E-06	7. 2E-06
1. 880E 00	7. 59E-02	2. 3E-03	4. 80E 00	4. 992E-03	2. 5E-04	9. 460E 00	7. 3E-06	7. 3E-06	9. 460E 00	7. 4E-06	7. 4E-06	7. 4E-06
1. 910E 00	7. 65E-02	2. 3E-03	4. 860E 00	5. 072E-03	2. 6E-04	9. 550E 00	7. 5E-06	7. 5E-06	9. 550E 00	7. 5E-06	7. 5E-06	7. 5E-06
1. 970E 00	1. 63E-02	2. 3E-03	4. 920E 00	5. 13E-03	2. 7E-04	9. 620E 00	7. 6E-06	7. 6E-06	9. 620E 00	7. 7E-06	7. 7E-06	7. 7E-06
2. 030E 00	4. 70E-02	2. 3E-03	4. 980E 00	5. 19E-03	2. 8E-04	9. 70E 00	7. 7E-06	7. 7E-06	9. 70E 00	7. 8E-06	7. 8E-06	7. 8E-06
2. 090E 00	2. 7E-02	2. 3E-03	5. 130E 00	5. 21E-03	2. 9E-04	9. 80E 00	7. 8E-06	7. 8E-06	9. 80E 00	7. 9E-06	7. 9E-06	7. 9E-06

IRCN GAMMA RAY PRODUCTION CROSS SECTION

EN-MIN= 0.4009E 01 MEV EN-MAX= 0.4494E 01 MEV THETA=125. DEG

E-GAMMA MEV	DATA B/SP/MEV	DATA-EPR B/SR/MEV	E-GAMMA MEV	DATA B/SR/MEV	DATA-EPR B/SF/MEV	E-GAMMA MEV	DATA B/SR/M2V	DATA-EPR B/SR/MEV
6.900E-01	1.65E-02	1.7E-02	2.150E 00	4.55E-02	2.9E-03	5.230E 00	1.21E-04	1.1E-04
7.100E-01	2.21E-02	8.7E-03	2.210E 00	2.97E-02	2.8E-03	5.330E 00	6.87E-05	1.0E-04
7.300E-01	4.31E-02	7.9E-03	2.270E 00	2.20E-02	2.6E-03	5.430E 00	1.09E-06	1.3E-04
7.500E-01	1.36E-01	8.6E-03	2.330E 00	1.61E-02	2.1E-03	5.530E 00	-5.26E-05	1.2E-04
7.700E-01	3.50E-01	9.0E-03	2.390E 00	1.95E-01	2.0E-03	5.630E 00	-7.34E-05	1.1E-04
7.900E-01	6.39E-01	8.8E-03	2.450E 00	3.16E-02	2.1E-03	5.730E 00	-1.06E-04	9.8E-05
8.100E-01	8.50E-01	8.6E-03	2.510E 00	4.07E-02	2.2E-03	5.830E 00	1.13E-06	1.3E-04
8.300E-01	8.59E-01	8.0E-03	2.570E 00	3.72E-02	1.9E-03	5.930E 00	1.45E-04	1.3E-04
8.500E-01	6.82E-01	7.6E-03	2.630E 00	2.69E-02	1.7E-03	6.030E 00	2.12E-04	1.1E-04
8.700E-01	4.40E-01	7.1E-03	2.690E 00	2.22E-02	1.5E-03	6.130E 00	1.51E-04	1.0E-04
8.900E-01	2.39E-01	6.9E-03	2.750E 00	1.90E-02	1.4E-03	6.230E 00	-1.31E-05	1.2E-04
9.100E-01	1.11E-01	6.7E-03	2.810E 00	1.89E-02	1.3E-03	6.330E 00	-1.43E-04	1.1E-04
9.300E-01	4.73E-02	6.0E-03	2.870E 00	1.50E-02	1.4E-03	6.440E 00	-1.57E-04	1.1E-04
9.500E-01	2.56E-02	6.9E-03	2.930E 00	1.59E-02	1.2E-03	6.560E 00	-1.46E-05	1.1E-04
9.700E-01	2.81E-02	5.9E-03	2.990E 00	1.27E-02	1.2E-03	6.680E 00	1.49E-04	9.3E-05
1.000E 00	4.14E-02	5.6E-03	3.050E 00	9.53E-03	1.1E-03	6.800E 00	2.06E-04	8.6E-05
1.040E 00	2.79E-02	5.4E-03	3.110E 00	9.42E-03	1.1E-03	5.920E 00	1.412E-04	9.4E-05
1.080E 00	1.64E-02	5.0E-03	3.180E 00	1.09E-02	1.0E-03	7.040E 00	4.48E-05	7.3E-05
1.120E 00	3.91E-02	4.6E-03	3.260E 00	1.28E-02	9.3E-04	7.160E 00	-4.38E-08	6.0E-05
1.160E 00	1.01E-01	4.9E-03	3.340E 00	1.97E-02	9.7E-04	7.280E 00	-1.17E-06	5.4E-05
1.200E 00	1.56E-01	5.3E-03	3.420E 00	2.68E-02	9.5E-04	7.400E 00	2.02E-05	5.1E-05
1.240E 00	1.22E-01	4.7E-03	3.500E 00	2.67E-02	9.2E-04	7.520E 00	6.31E-05	4.2E-05
1.290E 00	6.03E-02	4.2E-03	3.580E 00	2.19E-02	8.2E-04	7.640E 00	6.60E-05	3.6E-05
1.320E 00	3.90E-02	3.3E-03	3.660E 00	1.30E-01	6.1E-04	7.760E 00	3.30E-05	3.5E-05
1.360E 00	3.28E-02	3.5E-03	3.740E 00	5.66E-03	4.22E-04	7.890E 00	8.88E-06	2.6E-05
1.400E 00	2.44E-02	4.0E-03	3.820E 00	2.71E-03	3.9E-04	8.030E 00	4.43E-06	3.0E-05
1.440E 00	1.61E-02	3.4E-03	3.900E 00	1.68E-03	3.3E-04	8.170E 00	6.22E-05	3.0E-05
1.480E 00	6.70E-03	3.2E-03	3.980E 00	9.40E-04	2.6E-04	8.310E 00	4.95E-05	2.0E-05
1.520E 00	1.01E-03	3.2E-03	4.060E 00	4.07E-04	2.4E-04	8.450E 00	3.57E-05	2.9E-05
1.560E 00	-1.61E-03	3.2E-03	4.140E 00	1.48E-04	2.5E-04	8.490E 00	-1.01E-06	2.9E-05
1.600E 00	-4.05E-03	3.0E-03	4.220E 00	5.68E-05	2.1E-04	8.730E 00	-7.99E-06	2.5E-05
1.640E 00	5.43E-03	2.7E-03	4.300E 00	1.42E-05	2.0E-04	8.870E 00	7.22E-06	2.5E-05
1.680E 00	3.29E-02	2.9E-03	4.380E 00	-3.98E-05	2.0E-04	9.010E 00	3.38E-05	2.7E-05
1.720E 00	6.27E-02	3.3E-03	4.460E 00	-1.31E-04	1.8E-04	9.150E 00	5.28E-05	2.4E-05
1.760E 00	7.55E-02	3.6E-03	4.540E 00	-1.59E-04	1.9E-04	9.300E 00	4.85E-05	2.0E-05
1.800E 00	6.18E-02	3.5E-03	4.630E 00	-1.09E-04	1.7E-04	9.460E 00	2.96E-05	2.1E-05
1.850E 00	4.06E-02	2.7E-03	4.730E 00	-1.96E-05	1.6E-04	9.620E 00	1.23E-05	1.9E-05
1.910E 00	1.68E-02	2.4E-03	4.830E 00	3.24E-05	1.7E-04	9.780E 00	7.70E-06	1.4E-05
1.970E 00	2.66E-02	2.6E-03	4.930E 00	8.29E-05	1.8E-04	9.940E 00	9.93E-06	1.3E-05
2.030E 00	5.68E-02	2.9E-03	5.030E 00	1.09E-04	1.3E-04	1.010E 01	1.07E-05	1.2E-05
2.090E 00	6.41E-02	3.3E-03	5.130E 00	1.68E-04	1.22E-04	1.026E 01	1.12E-05	9.9E-06

13C NMR PRODUCTIVE CROSS SECTION

ENERGY (eV)	13C-NH3+	13C-NH4+	13C-CO	13C-CO2	13C-CO-NH3+	13C-CO-NH4+	13C-CO-CO	13C-CO-CO-NH3+	13C-CO-CO-NH4+	13C-CO-CO-CO	13C-CO-CO-CO-NH3+	13C-CO-CO-CO-NH4+	13C-CO-CO-CO-CO	13C-CO-CO-CO-CO-NH3+	13C-CO-CO-CO-CO-NH4+
2.0350E+02	2.48E-01	3.00E-02	3.57E-02	3.90E-02	1.37E-02	1.72E-02	2.08E-02	2.40E-02	2.69E-02	2.97E-02	3.25E-02	3.52E-02	3.79E-02	4.06E-02	4.32E-02
2.0360E+02	2.63E-01	3.20E-02	3.80E-02	4.10E-02	1.45E-02	1.80E-02	2.15E-02	2.47E-02	2.76E-02	3.04E-02	3.31E-02	3.58E-02	3.84E-02	4.10E-02	4.36E-02
2.0370E+02	2.78E-01	3.35E-02	3.95E-02	4.20E-02	1.52E-02	1.85E-02	2.19E-02	2.51E-02	2.80E-02	3.08E-02	3.35E-02	3.61E-02	3.87E-02	4.13E-02	4.39E-02
2.0380E+02	2.93E-01	3.50E-02	4.10E-02	4.40E-02	1.60E-02	1.90E-02	2.25E-02	2.57E-02	2.86E-02	3.14E-02	3.41E-02	3.67E-02	3.93E-02	4.19E-02	4.45E-02
2.0390E+02	3.08E-01	3.65E-02	4.25E-02	4.55E-02	1.68E-02	1.95E-02	2.30E-02	2.63E-02	2.92E-02	3.20E-02	3.47E-02	3.73E-02	3.99E-02	4.25E-02	4.51E-02
2.0400E+02	3.23E-01	3.80E-02	4.40E-02	4.70E-02	1.76E-02	2.02E-02	2.37E-02	2.70E-02	3.00E-02	3.28E-02	3.55E-02	3.81E-02	4.07E-02	4.33E-02	4.59E-02
2.0410E+02	3.38E-01	3.95E-02	4.55E-02	4.80E-02	1.84E-02	2.08E-02	2.43E-02	2.76E-02	3.06E-02	3.34E-02	3.61E-02	3.87E-02	4.13E-02	4.39E-02	4.65E-02
2.0420E+02	3.53E-01	4.10E-02	4.70E-02	4.90E-02	1.92E-02	2.14E-02	2.49E-02	2.82E-02	3.12E-02	3.40E-02	3.67E-02	3.93E-02	4.19E-02	4.45E-02	4.71E-02
2.0430E+02	3.68E-01	4.25E-02	4.85E-02	5.00E-02	2.00E-02	2.22E-02	2.57E-02	2.90E-02	3.20E-02	3.48E-02	3.75E-02	4.01E-02	4.27E-02	4.53E-02	4.79E-02
2.0440E+02	3.83E-01	4.40E-02	5.00E-02	5.10E-02	2.08E-02	2.30E-02	2.65E-02	2.98E-02	3.28E-02	3.56E-02	3.83E-02	4.09E-02	4.35E-02	4.61E-02	4.87E-02
2.0450E+02	3.98E-01	4.55E-02	5.15E-02	5.20E-02	2.16E-02	2.38E-02	2.73E-02	3.06E-02	3.36E-02	3.64E-02	3.91E-02	4.17E-02	4.43E-02	4.69E-02	4.95E-02
2.0460E+02	4.13E-01	4.70E-02	5.30E-02	5.30E-02	2.24E-02	2.46E-02	2.81E-02	3.14E-02	3.44E-02	3.72E-02	4.00E-02	4.26E-02	4.52E-02	4.78E-02	5.04E-02
2.0470E+02	4.28E-01	4.85E-02	5.45E-02	5.40E-02	2.32E-02	2.54E-02	2.89E-02	3.22E-02	3.52E-02	3.80E-02	4.07E-02	4.33E-02	4.59E-02	4.85E-02	5.11E-02
2.0480E+02	4.43E-01	5.00E-02	5.60E-02	5.50E-02	2.40E-02	2.62E-02	3.07E-02	3.40E-02	3.70E-02	4.08E-02	4.35E-02	4.61E-02	4.87E-02	5.13E-02	5.39E-02
2.0490E+02	4.58E-01	5.15E-02	5.75E-02	5.60E-02	2.48E-02	2.70E-02	3.15E-02	3.48E-02	3.78E-02	4.16E-02	4.43E-02	4.70E-02	4.96E-02	5.22E-02	5.48E-02
2.0500E+02	4.73E-01	5.30E-02	5.90E-02	5.70E-02	2.56E-02	2.78E-02	3.22E-02	3.55E-02	3.85E-02	4.23E-02	4.50E-02	4.77E-02	5.03E-02	5.29E-02	5.55E-02
2.0510E+02	4.88E-01	5.45E-02	6.05E-02	5.80E-02	2.64E-02	2.86E-02	3.39E-02	3.72E-02	4.02E-02	4.40E-02	4.67E-02	4.94E-02	5.20E-02	5.46E-02	5.72E-02
2.0520E+02	5.03E-01	5.60E-02	6.20E-02	6.00E-02	2.72E-02	2.94E-02	3.56E-02	3.89E-02	4.19E-02	4.57E-02	4.84E-02	5.11E-02	5.37E-02	5.63E-02	5.89E-02
2.0530E+02	5.18E-01	5.75E-02	6.35E-02	6.10E-02	2.80E-02	3.02E-02	3.73E-02	4.06E-02	4.36E-02	4.74E-02	5.01E-02	5.28E-02	5.54E-02	5.80E-02	6.06E-02
2.0540E+02	5.33E-01	5.90E-02	6.50E-02	6.20E-02	2.88E-02	3.10E-02	3.90E-02	4.23E-02	4.53E-02	4.91E-02	5.18E-02	5.45E-02	5.71E-02	5.97E-02	6.23E-02
2.0550E+02	5.48E-01	6.05E-02	6.65E-02	6.30E-02	2.96E-02	3.18E-02	4.07E-02	4.40E-02	4.70E-02	5.08E-02	5.35E-02	5.62E-02	5.88E-02	6.14E-02	6.40E-02
2.0560E+02	5.63E-01	6.20E-02	6.80E-02	6.40E-02	3.04E-02	3.26E-02	4.24E-02	4.57E-02	4.87E-02	5.25E-02	5.52E-02	5.79E-02	6.05E-02	6.31E-02	6.57E-02
2.0570E+02	5.78E-01	6.35E-02	6.95E-02	6.50E-02	3.12E-02	3.34E-02	4.41E-02	4.74E-02	5.04E-02	5.42E-02	5.69E-02	5.96E-02	6.22E-02	6.48E-02	6.74E-02
2.0580E+02	5.93E-01	6.50E-02	7.10E-02	6.60E-02	3.20E-02	3.42E-02	4.58E-02	4.91E-02	5.21E-02	5.59E-02	5.86E-02	6.13E-02	6.39E-02	6.65E-02	6.91E-02
2.0590E+02	6.08E-01	6.65E-02	7.25E-02	6.70E-02	3.28E-02	3.50E-02	4.75E-02	5.08E-02	5.38E-02	5.76E-02	6.03E-02	6.30E-02	6.56E-02	6.82E-02	7.08E-02
2.0600E+02	6.23E-01	6.80E-02	7.40E-02	6.80E-02	3.36E-02	3.58E-02	4.92E-02	5.25E-02	5.55E-02	5.93E-02	6.20E-02	6.47E-02	6.73E-02	7.00E-02	7.26E-02
2.0610E+02	6.38E-01	6.95E-02	7.55E-02	6.90E-02	3.44E-02	3.66E-02	5.09E-02	5.42E-02	5.71E-02	6.09E-02	6.36E-02	6.63E-02	6.89E-02	7.15E-02	7.41E-02
2.0620E+02	6.53E-01	7.10E-02	7.70E-02	7.00E-02	3.52E-02	3.78E-02	5.26E-02	5.59E-02	5.88E-02	6.26E-02	6.53E-02	6.80E-02	7.06E-02	7.32E-02	7.58E-02
2.0630E+02	6.68E-01	7.25E-02	7.85E-02	7.10E-02	3.60E-02	3.90E-02	5.43E-02	5.76E-02	6.05E-02	6.43E-02	6.70E-02	6.97E-02	7.23E-02	7.49E-02	7.75E-02
2.0640E+02	6.83E-01	7.40E-02	8.00E-02	7.20E-02	3.68E-02	4.08E-02	5.60E-02	5.93E-02	6.22E-02	6.60E-02	6.87E-02	7.14E-02	7.40E-02	7.66E-02	7.92E-02
2.0650E+02	6.98E-01	7.55E-02	8.15E-02	7.30E-02	3.76E-02	4.26E-02	5.77E-02	6.04E-02	6.33E-02	6.71E-02	7.08E-02	7.35E-02	7.61E-02	7.87E-02	8.13E-02
2.0660E+02	7.13E-01	7.70E-02	8.30E-02	7.40E-02	3.84E-02	4.44E-02	5.94E-02	6.21E-02	6.50E-02	6.88E-02	7.25E-02	7.52E-02	7.78E-02	8.04E-02	8.30E-02
2.0670E+02	7.28E-01	7.85E-02	8.45E-02	7.50E-02	3.92E-02	4.62E-02	6.11E-02	6.42E-02	6.71E-02	7.09E-02	7.46E-02	7.73E-02	8.00E-02	8.26E-02	8.52E-02
2.0680E+02	7.43E-01	8.00E-02	8.60E-02	7.60E-02	3.99E-02	4.80E-02	6.28E-02	6.61E-02	6.92E-02	7.30E-02	7.67E-02	8.03E-02	8.30E-02	8.56E-02	8.82E-02
2.0690E+02	7.58E-01	8.15E-02	8.75E-02	7.70E-02	4.07E-02	4.98E-02	6.45E-02	6.82E-02	7.13E-02	7.51E-02	7.88E-02	8.24E-02	8.51E-02	8.77E-02	9.03E-02
2.0700E+02	7.73E-01	8.30E-02	8.90E-02	7.80E-02	4.15E-02	5.16E-02	6.62E-02	7.01E-02	7.32E-02	7.70E-02	8.07E-02	8.54E-02	8.81E-02	9.07E-02	9.33E-02
2.0710E+02	7.88E-01	8.45E-02	9.05E-02	7.90E-02	4.23E-02	5.33E-02	6.79E-02	7.20E-02	7.51E-02	7.89E-02	8.26E-02	8.83E-02	9.10E-02	9.36E-02	9.62E-02
2.0720E+02	8.03E-01	8.60E-02	9.20E-02	8.00E-02	4.31E-02	5.51E-02	6.96E-02	7.41E-02	7.70E-02</						

POLY(1,4-PHENYLENE TEREPHTHALAMIDE) POLYESTER

EX-4254 0.50035 01 MCA 19-19XX 0.59248 01 MCA 19-19XX 0.59248 01 MCA

IRCN GAMMA RAY PRODUCTION CROSS SECTION

EIN-MAX= 0.5524E 01 NEV EIN-MIN= 0.6038E 01 NEV

E-GAMMA HEV	DATA-ERR B/SR/MEV	DATA B/SR/MEV	E-GAMMA HEV	DATA-ERR B/SR/MEV	E-GAMMA HEV	DATA-ERR B/SR/MEV	E-GAMMA HEV	DATA-ERR B/SR/MEV	E-GAMMA HEV	DATA-ERR B/SR/MEV
6.9002-01	9.92E-03	2.4E-02	2.150E 00	3.14E-02	6.22E-03	5.22E-02	1.98E-02	6.45E-03	2.64E-03	4.45E-04
7.1002-01	1.632E-02	1.3E-02	2.210E 00	1.98E-02	4.32E-03	5.3E-02	5.30E 00	2.07E-03	5.12E-03	3.45E-04
7.3002-01	3.49E-02	1.42E-02	2.270E 00	1.98E-02	4.44E-03	5.430E 00	5.30E 00	1.54E-03	2.5E-03	2.7E-04
7.5002-01	4.89E-02	1.52E-02	2.330E 00	1.98E-02	4.44E-03	5.30E 00	6.66E-04	2.6E-04	2.6E-04	2.6E-04
7.7002-01	8.33E-02	1.52E-02	2.390E 00	1.98E-02	4.02E-03	5.30E 00	3.35E-04	2.5E-04	2.5E-04	2.5E-04
7.9002-01	2.09E-01	1.52E-02	2.450E 00	1.98E-02	3.92E-03	5.30E 00	6.030E 00	8.35E-05	1.4E-04	1.4E-04
8.1002-01	4.60E-01	1.62E-02	2.510E 00	1.98E-02	3.12E-03	5.30E 00	6.130E 00	6.51E-05	1.32E-04	1.9E-04
8.3002-01	9.00E-01	1.62E-02	2.570E 00	1.98E-02	2.62E-03	5.30E 00	6.230E 00	6.88E-05	1.48E-04	1.48E-04
8.5002-01	1.60E-01	1.62E-02	2.630E 00	1.98E-02	2.42E-03	5.30E 00	6.440E 00	6.56E-05	1.2E-04	1.2E-04
8.7002-01	2.70E-01	1.72E-02	2.690E 00	1.98E-02	2.32E-03	5.30E 00	6.680E 00	1.22E-04	1.1E-04	1.1E-04
8.9002-01	4.44E-01	1.62E-02	2.750E 00	1.98E-02	2.03E-03	5.30E 00	6.80E 00	3.00E-05	6.3E-05	3.00E-05
9.1002-01	7.72E-01	1.72E-02	2.810E 00	1.98E-02	1.92E-03	5.30E 00	6.920E 00	-5.10E-05	5.8E-05	5.8E-05
9.3002-01	1.11E-01	1.3E-02	2.870E 00	1.98E-02	2.22E-03	5.30E 00	7.040E 00	-6.57E-05	4.62E-05	4.62E-05
9.5002-01	1.69E-01	1.72E-02	2.930E 00	1.98E-02	2.22E-03	5.30E 00	7.160E 00	-1.84E-05	3.2E-05	3.2E-05
9.7002-01	2.11E-01	1.72E-02	2.990E 00	1.98E-02	2.22E-03	5.30E 00	7.280E 00	-1.39E-05	3.45E-05	3.45E-05
9.9002-01	2.77E-01	1.62E-02	3.050E 00	1.98E-02	2.22E-03	5.30E 00	7.400E 00	-7.60E-05	3.2E-05	3.2E-05
1.0002-01	4.1E-01	1.62E-02	3.110E 00	1.98E-02	2.22E-03	5.30E 00	7.520E 00	1.46E-05	3.4E-05	3.4E-05
1.0102-01	6.77E-01	1.72E-02	3.170E 00	1.98E-02	2.22E-03	5.30E 00	7.640E 00	7.60E-05	3.4E-05	3.4E-05
1.0202-01	1.11E-01	1.72E-02	3.230E 00	1.98E-02	2.22E-03	5.30E 00	7.760E 00	8.890E 00	8.13E-06	2.2E-05
1.0302-01	1.69E-01	1.72E-02	3.290E 00	1.98E-02	2.22E-03	5.30E 00	7.880E 00	1.29E-05	1.7E-05	1.7E-05
1.0402-01	2.32E-01	1.62E-02	3.350E 00	1.98E-02	2.22E-03	5.30E 00	8.030E 00	4.03E-05	1.9E-05	1.9E-05
1.0502-01	4.34E-01	1.72E-02	3.410E 00	1.98E-02	2.22E-03	5.30E 00	8.170E 00	9.06E-06	1.6E-05	1.6E-05
1.0602-01	7.07E-01	1.72E-02	3.470E 00	1.98E-02	2.22E-03	5.30E 00	8.310E 00	1.60E-06	1.7E-05	1.7E-05
1.0702-01	1.19E-01	1.72E-02	3.530E 00	1.98E-02	2.22E-03	5.30E 00	8.450E 00	3.85E-06	1.5E-05	1.5E-05
1.0802-01	2.09E-01	1.72E-02	3.590E 00	1.98E-02	2.22E-03	5.30E 00	8.590E 00	1.40E-05	1.4E-05	1.4E-05
1.0902-01	3.32E-01	1.62E-02	3.650E 00	1.98E-02	2.22E-03	5.30E 00	8.730E 00	2.32E-05	1.2E-05	1.2E-05
1.1002-01	5.54E-01	1.72E-02	3.710E 00	1.98E-02	2.22E-03	5.30E 00	8.870E 00	9.02E 00	3.32E-05	1.1E-05
1.1102-01	1.11E-01	1.72E-02	3.770E 00	1.98E-02	2.22E-03	5.30E 00	8.970E 00	9.522E-06	1.5E-05	1.5E-05
1.1202-01	2.11E-01	1.72E-02	3.830E 00	1.98E-02	2.22E-03	5.30E 00	9.102E 00	9.460E 00	-3.30E-06	1.1E-05
1.1302-01	4.44E-01	1.62E-02	3.890E 00	1.98E-02	2.22E-03	5.30E 00	9.202E 00	9.620E 00	-5.68E-07	1.2E-05
1.1402-01	8.90E-01	1.72E-02	3.950E 00	1.98E-02	2.22E-03	5.30E 00	9.302E 00	9.780E 00	5.59E-06	1.1E-05
1.1502-01	1.69E-01	1.72E-02	4.010E 00	1.98E-02	2.22E-03	5.30E 00	9.460E 00	9.940E 00	1.2E-05	1.2E-05
1.1602-01	3.20E-01	1.62E-02	4.070E 00	1.98E-02	2.22E-03	5.30E 00	9.520E 00	1.012E 01	1.02E 01	1.02E 01

IRON CHIARA RAY PRODUCTION CROSS SECTION

EN-Nu - 0.6038E-01 MeV EN-Nu - 0.6523E-01 MeV THETA = 125. DEG

E-GAMMA MEV	DATA B/SR/MEV	DATA-ERR B/SR/MEV	E-GAMMA MEV	DATA B/SR/MEV	DATA-ERR B/SR/MEV	E-GAMMA MEV	DATA B/SR/MEV	DATA-ERR B/SR/MEV	E-GAMMA MEV	DATA B/SR/MEV	DATA-ERR B/SR/MEV
1.000E-01	9.900E-02	4.772E-02	2.000E-02	2.452E-02	1.952E-02	1.48E-02	3.12E-02	2.18E-02	3.378E-02	4.74E-02	6.28E-02
2.000E-01	7.500E-01	7.100E-01	4.74E-02	2.702E-02	4.39E-02	3.87E-02	7.90E-02	6.68E-02	9.10E-02	9.70E-02	1.06E-01
3.000E-01	6.900E-01	6.900E-01	6.20E-02	7.63E-02	7.63E-02	7.90E-02	6.90E-02	6.90E-02	7.69E-02	7.73E-02	7.73E-02
4.000E-01	6.300E-01	6.10E-01	5.10E-02	6.12E-02	6.12E-02	6.12E-02	5.10E-02	5.10E-02	6.08E-02	6.08E-02	6.08E-02
5.000E-01	5.700E-01	5.700E-01	4.10E-02	4.12E-02	4.12E-02	4.12E-02	4.10E-02	4.10E-02	4.10E-02	4.10E-02	4.10E-02
6.000E-01	5.100E-01	5.100E-01	3.10E-02	3.12E-02	3.12E-02	3.12E-02	3.10E-02	3.10E-02	3.10E-02	3.10E-02	3.10E-02
7.000E-01	4.500E-01	4.500E-01	2.10E-02	2.12E-02	2.12E-02	2.12E-02	2.10E-02	2.10E-02	2.10E-02	2.10E-02	2.10E-02
8.000E-01	3.900E-01	3.900E-01	1.10E-02	1.12E-02	1.12E-02	1.12E-02	1.10E-02	1.10E-02	1.10E-02	1.10E-02	1.10E-02
9.000E-01	3.300E-01	3.300E-01	7.00E-03	7.20E-03	7.20E-03	7.20E-03	7.00E-03	7.00E-03	7.00E-03	7.00E-03	7.00E-03
1.000E+00	2.700E-01	2.700E-01	4.00E-03	4.20E-03	4.20E-03	4.20E-03	4.00E-03	4.00E-03	4.00E-03	4.00E-03	4.00E-03
1.100E+00	2.100E-01	2.100E-01	2.10E-03	2.12E-03	2.12E-03	2.12E-03	2.10E-03	2.10E-03	2.10E-03	2.10E-03	2.10E-03
1.200E+00	1.500E-01	1.500E-01	8.00E-04	8.20E-04	8.20E-04	8.20E-04	8.00E-04	8.00E-04	8.00E-04	8.00E-04	8.00E-04
1.300E+00	1.000E-01	1.000E-01	4.00E-04	4.20E-04	4.20E-04	4.20E-04	4.00E-04	4.00E-04	4.00E-04	4.00E-04	4.00E-04
1.400E+00	6.000E-02	6.000E-02	2.00E-04	2.20E-04	2.20E-04	2.20E-04	2.00E-04	2.00E-04	2.00E-04	2.00E-04	2.00E-04
1.500E+00	3.900E-02	3.900E-02	1.00E-04	1.10E-04	1.10E-04	1.10E-04	1.00E-04	1.00E-04	1.00E-04	1.00E-04	1.00E-04
1.600E+00	2.700E-02	2.700E-02	5.00E-05	5.50E-05	5.50E-05	5.50E-05	5.00E-05	5.00E-05	5.00E-05	5.00E-05	5.00E-05
1.700E+00	1.500E-02	1.500E-02	2.00E-05	2.20E-05	2.20E-05	2.20E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05
1.800E+00	8.000E-03	8.000E-03	1.00E-05	1.10E-05	1.10E-05	1.10E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05
1.900E+00	4.000E-03	4.000E-03	5.00E-06	5.50E-06	5.50E-06	5.50E-06	5.00E-06	5.00E-06	5.00E-06	5.00E-06	5.00E-06
2.000E+00	2.000E-03	2.000E-03	2.00E-06	2.20E-06	2.20E-06	2.20E-06	2.00E-06	2.00E-06	2.00E-06	2.00E-06	2.00E-06
2.100E+00	1.000E-03	1.000E-03	1.00E-06	1.10E-06	1.10E-06	1.10E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
2.200E+00	5.000E-04	5.000E-04	5.00E-07	5.50E-07	5.50E-07	5.50E-07	5.00E-07	5.00E-07	5.00E-07	5.00E-07	5.00E-07
2.300E+00	2.500E-04	2.500E-04	2.50E-07	2.70E-07	2.70E-07	2.70E-07	2.50E-07	2.50E-07	2.50E-07	2.50E-07	2.50E-07
2.400E+00	1.200E-04	1.200E-04	1.20E-07	1.30E-07	1.30E-07	1.30E-07	1.20E-07	1.20E-07	1.20E-07	1.20E-07	1.20E-07
2.500E+00	6.000E-05	6.000E-05	6.00E-08	6.50E-08	6.50E-08	6.50E-08	6.00E-08	6.00E-08	6.00E-08	6.00E-08	6.00E-08
2.600E+00	3.000E-05	3.000E-05	3.00E-08	3.30E-08	3.30E-08	3.30E-08	3.00E-08	3.00E-08	3.00E-08	3.00E-08	3.00E-08
2.700E+00	1.500E-05	1.500E-05	1.50E-08	1.60E-08	1.60E-08	1.60E-08	1.50E-08	1.50E-08	1.50E-08	1.50E-08	1.50E-08
2.800E+00	7.500E-06	7.500E-06	7.50E-09	8.00E-09	8.00E-09	8.00E-09	7.50E-09	7.50E-09	7.50E-09	7.50E-09	7.50E-09
2.900E+00	3.750E-06	3.750E-06	3.75E-09	4.00E-09	4.00E-09	4.00E-09	3.75E-09	3.75E-09	3.75E-09	3.75E-09	3.75E-09
3.000E+00	1.875E-06	1.875E-06	1.875E-09	2.00E-09	2.00E-09	2.00E-09	1.875E-09	1.875E-09	1.875E-09	1.875E-09	1.875E-09
3.100E+00	9.375E-07	9.375E-07	9.375E-10	1.00E-09	1.00E-09	1.00E-09	9.375E-10	9.375E-10	9.375E-10	9.375E-10	9.375E-10
3.200E+00	4.6875E-07	4.6875E-07	4.6875E-10	5.00E-10	5.00E-10	5.00E-10	4.6875E-10	4.6875E-10	4.6875E-10	4.6875E-10	4.6875E-10
3.300E+00	2.34375E-07	2.34375E-07	2.34375E-10	2.50E-10	2.50E-10	2.50E-10	2.34375E-10	2.34375E-10	2.34375E-10	2.34375E-10	2.34375E-10
3.400E+00	1.171875E-07	1.171875E-07	1.171875E-10	1.25E-10	1.25E-10	1.25E-10	1.171875E-10	1.171875E-10	1.171875E-10	1.171875E-10	1.171875E-10
3.500E+00	6.009375E-08	6.009375E-08	6.009375E-11	6.25E-11	6.25E-11	6.25E-11	6.009375E-11	6.009375E-11	6.009375E-11	6.009375E-11	6.009375E-11
3.600E+00	3.0046875E-08	3.0046875E-08	3.0046875E-11	3.125E-11	3.125E-11	3.125E-11	3.0046875E-11	3.0046875E-11	3.0046875E-11	3.0046875E-11	3.0046875E-11
3.700E+00	1.50234375E-08	1.50234375E-08	1.50234375E-11	1.5625E-11	1.5625E-11	1.5625E-11	1.50234375E-11	1.50234375E-11	1.50234375E-11	1.50234375E-11	1.50234375E-11
3.800E+00	7.51171875E-09	7.51171875E-09	7.51171875E-12	7.7765625E-12	7.7765625E-12	7.7765625E-12	7.51171875E-12	7.51171875E-12	7.51171875E-12	7.51171875E-12	7.51171875E-12
3.900E+00	3.755859375E-09	3.755859375E-09	3.755859375E-12	3.947890625E-12	3.947890625E-12	3.947890625E-12	3.755859375E-12	3.755859375E-12	3.755859375E-12	3.755859375E-12	3.755859375E-12
4.000E+00	1.8779296875E-09	1.8779296875E-09	1.8779296875E-12	2.0694453125E-12	2.0694453125E-12	2.0694453125E-12	1.8779296875E-12	1.8779296875E-12	1.8779296875E-12	1.8779296875E-12	1.8779296875E-12
4.100E+00	9.38964765625E-10	9.38964765625E-10	9.38964765625E-13	1.054794453125E-12	1.054794453125E-12	1.054794453125E-12	9.38964765625E-13	9.38964765625E-13	9.38964765625E-13	9.38964765625E-13	9.38964765625E-13
4.200E+00	4.694823828125E-10	4.694823828125E-10	4.694823828125E-13	5.103201265625E-13	5.103201265625E-13	5.103201265625E-13	4.694823828125E-13	4.694823828125E-13	4.694823828125E-13	4.694823828125E-13	4.694823828125E-13
4.300E+00	2.3474119140625E-10	2.3474119140625E-10	2.3474119140625E-13	2.60359375E-13	2.60359375E-13	2.60359375E-13	2.3474119140625E-13	2.3474119140625E-13	2.3474119140625E-13	2.3474119140625E-13	2.3474119140625E-13
4.400E+00	1.17370586425E-10	1.17370586425E-10	1.17370586425E-13	1.30183896484375E-13	1.30183896484375E-13	1.30183896484375E-13	1.17370586425E-13	1.17370586425E-13	1.17370586425E-13	1.17370586425E-13	1.17370586425E-13
4.500E+00	6.0005294921875E-11	6.00052949218									

TEN CMM BAR PROCESSING CROSS SECTION	
0.70128 01 MM	70128-125.
0.70092 01 MM	70092-125.
0.70056 01 MM	70056-125.
0.70020 01 MM	70020-125.
0.70084 01 MM	70084-125.
0.70048 01 MM	70048-125.
0.70012 01 MM	70012-125.
0.70076 01 MM	70076-125.
0.70040 01 MM	70040-125.

Tech name	Tech description	Tech ID	Tech date
Tech-A	Tech-A description	Tech-A	2010-01-01
Tech-B	Tech-B description	Tech-B	2010-02-01
Tech-C	Tech-C description	Tech-C	2010-03-01
Tech-D	Tech-D description	Tech-D	2010-04-01
Tech-E	Tech-E description	Tech-E	2010-05-01
Tech-F	Tech-F description	Tech-F	2010-06-01
Tech-G	Tech-G description	Tech-G	2010-07-01
Tech-H	Tech-H description	Tech-H	2010-08-01
Tech-I	Tech-I description	Tech-I	2010-09-01
Tech-J	Tech-J description	Tech-J	2010-10-01
Tech-K	Tech-K description	Tech-K	2010-11-01
Tech-L	Tech-L description	Tech-L	2010-12-01

INCH GAMMA RAY PRODUCTION CROSS SECTION

EN-MIN= 0.829E 01 NEV EN-MAX= 0.846E 01 NEV

THETA=125. DEG

E-GAMMA
REV

DATA-EPR
B/SR/NEV

E-GAMMA
REV

DATA-EPR
B/SR/NEV

E-GAMMA
REV

DATA-EPR
B/SR/NEV

E-GAMMA
REV

6.900E-01	1.95E-02	3.1E-02	2.150E	3.47E-02	9.9E-01	3.220E	0.63E-03	1.9E-03
7.100E-01	2.17E-02	2.0E-02	2.210E	3.35E-02	7.0E-01	6.350E	0.56E-03	1.7E-03
7.300E-01	2.50E-02	1.6E-02	2.270E	3.07E-02	6.6E-01	6.830E	0.41E-03	1.9E-03
7.500E-01	3.13E-02	2.0E-02	2.330E	2.65E-02	6.8E-01	6.310E	0.28E-03	1.7E-03
7.700E-01	4.10E-01	2.0E-02	2.390E	2.37E-02	6.8E-01	5.910E	0.23E-03	1.8E-03
7.900E-01	2.66E-01	1.9E-02	2.450E	2.09E-02	6.8E-01	5.59E-03	1.59E-03	1.8E-03
8.100E-01	4.54E-01	2.1E-02	2.510E	1.81E-02	6.8E-01	5.29E-03	1.28E-03	1.8E-03
8.300E-01	7.07E-01	2.1E-02	2.570E	1.53E-02	6.8E-01	5.03E-03	9.52E-03	1.64E-03
8.500E-01	7.91E-01	2.1E-02	2.630E	1.25E-02	6.8E-01	4.91E-03	7.72E-03	1.57E-03
8.700E-01	7.00E-01	2.1E-02	2.690E	9.7E-03	6.8E-01	4.81E-03	6.13E-03	1.61E-03
8.900E-01	8.98E-01	2.0E-02	2.750E	7.0E-03	6.8E-01	4.72E-03	5.11E-03	1.58E-03
9.100E-01	2.91E-01	2.0E-02	2.810E	4.3E-03	6.8E-01	4.63E-03	4.56E-03	1.58E-03
9.300E-01	1.51E-01	1.8E-02	2.870E	1.6E-03	6.8E-01	4.54E-03	3.72E-03	1.52E-03
9.500E-01	7.95E-02	1.9E-02	2.930E	0.00	6.8E-01	4.45E-03	3.34E-03	1.46E-03
9.700E-01	5.03E-02	1.7E-02	2.990E	0.00	6.8E-01	4.36E-03	3.06E-03	1.42E-03
9.900E-01	5.69E-02	1.6E-02	3.050E	0.00	6.8E-01	4.27E-03	2.87E-03	1.38E-03
1.000E-01	5.94E-02	1.5E-02	3.110E	0.00	6.8E-01	4.18E-03	2.72E-03	1.34E-03
1.016E-01	6.60E-02	1.4E-02	3.170E	0.00	6.8E-01	4.10E-03	2.61E-03	1.31E-03
1.040E-01	1.04E-02	1.3E-02	3.230E	0.00	6.8E-01	4.01E-03	2.52E-03	1.28E-03
1.050E-01	1.08E-02	1.2E-02	3.290E	0.00	6.8E-01	3.93E-03	2.43E-03	1.25E-03
1.120E-01	2.75E-02	1.7E-02	3.350E	0.00	6.8E-01	3.84E-03	2.34E-03	1.22E-03
1.160E-01	1.04E-02	1.6E-02	3.410E	0.00	6.8E-01	3.75E-03	2.25E-03	1.19E-03
1.200E-01	2.50E-02	1.5E-02	3.470E	0.00	6.8E-01	3.67E-03	2.16E-03	1.16E-03
1.240E-01	2.76E-02	1.4E-02	3.530E	0.00	6.8E-01	3.58E-03	2.07E-03	1.13E-03
1.280E-01	2.07E-02	1.3E-02	3.590E	0.00	6.8E-01	3.50E-03	1.98E-03	1.10E-03
1.320E-01	2.04E-02	1.2E-02	3.650E	0.00	6.8E-01	3.41E-03	1.89E-03	1.07E-03
1.360E-01	2.00E-02	1.1E-02	3.710E	0.00	6.8E-01	3.32E-03	1.81E-03	1.04E-03
1.400E-01	1.24E-02	1.0E-02	3.770E	0.00	6.8E-01	3.23E-03	1.72E-03	1.01E-03
1.440E-01	1.44E-02	9.9E-02	3.830E	0.00	6.8E-01	3.14E-03	1.63E-03	9.8E-04
1.480E-01	1.52E-02	9.8E-02	3.890E	0.00	6.8E-01	3.05E-03	1.54E-03	9.5E-04
1.520E-01	2.15E-02	9.7E-02	3.950E	0.00	6.8E-01	2.96E-03	1.45E-03	9.2E-04
1.560E-01	3.00E-02	9.6E-02	4.010E	0.00	6.8E-01	2.87E-03	1.36E-03	8.9E-04
1.600E-01	4.40E-02	9.5E-02	4.070E	0.00	6.8E-01	2.78E-03	1.27E-03	8.6E-04
1.640E-01	5.20E-02	9.4E-02	4.130E	0.00	6.8E-01	2.69E-03	1.18E-03	8.3E-04
1.680E-01	4.40E-02	9.3E-02	4.190E	0.00	6.8E-01	2.60E-03	1.09E-03	8.0E-04
1.720E-01	1.63E-02	9.2E-02	4.250E	0.00	6.8E-01	2.51E-03	1.00E-03	7.7E-04
1.760E-01	7.76E-02	9.1E-02	4.310E	0.00	6.8E-01	2.42E-03	9.1E-04	7.4E-04
1.800E-01	8.68E-02	9.0E-02	4.370E	0.00	6.8E-01	2.33E-03	8.2E-04	7.1E-04
1.840E-01	7.71E-02	8.9E-02	4.430E	0.00	6.8E-01	2.24E-03	7.3E-04	6.8E-04
1.880E-01	8.02E-02	8.8E-02	4.490E	0.00	6.8E-01	2.15E-03	6.4E-04	6.5E-04
1.920E-01	9.71E-02	8.7E-02	4.550E	0.00	6.8E-01	2.06E-03	5.5E-04	6.2E-04
1.960E-01	6.64E-02	8.6E-02	4.610E	0.00	6.8E-01	1.97E-03	4.6E-04	5.9E-04
2.000E-01	1.64E-02	8.5E-02	4.670E	0.00	6.8E-01	1.88E-03	3.7E-04	5.6E-04
2.040E-01	1.03E-02	8.4E-02	4.730E	0.00	6.8E-01	1.79E-03	2.8E-04	5.3E-04
2.080E-01	2.32E-03	8.3E-02	4.790E	0.00	6.8E-01	1.70E-03	1.9E-04	5.0E-04
2.120E-01	2.12E-03	8.2E-02	4.850E	0.00	6.8E-01	1.61E-03	1.0E-04	4.7E-04
2.160E-01	9.32E-03	8.1E-02	4.910E	0.00	6.8E-01	1.52E-03	1.0E-04	4.4E-04
2.200E-01	1.92E-03	8.0E-02	4.970E	0.00	6.8E-01	1.43E-03	1.0E-04	4.1E-04
2.240E-01	8.22E-03	7.9E-02	5.030E	0.00	6.8E-01	1.34E-03	1.0E-04	3.8E-04
2.280E-01	6.02E-03	7.8E-02	5.090E	0.00	6.8E-01	1.25E-03	1.0E-04	3.5E-04
2.320E-01	6.32E-03	7.7E-02	5.150E	0.00	6.8E-01	1.16E-03	1.0E-04	3.2E-04
2.360E-01	2.32E-03	7.6E-02	5.210E	0.00	6.8E-01	1.07E-03	1.0E-04	2.9E-04
2.400E-01	2.02E-03	7.5E-02	5.270E	0.00	6.8E-01	9.8E-04	9.7E-05	2.6E-04
2.440E-01	2.42E-03	7.4E-02	5.330E	0.00	6.8E-01	8.9E-04	9.4E-05	2.3E-04
2.480E-01	1.82E-03	7.3E-02	5.390E	0.00	6.8E-01	8.0E-04	9.1E-05	2.0E-04
2.520E-01	1.22E-03	7.2E-02	5.450E	0.00	6.8E-01	7.1E-04	8.8E-05	1.7E-04
2.560E-01	6.22E-03	7.1E-02	5.510E	0.00	6.8E-01	6.2E-04	8.5E-05	1.4E-04
2.600E-01	6.52E-03	7.0E-02	5.570E	0.00	6.8E-01	5.3E-04	8.2E-05	1.1E-04
2.640E-01	9.62E-03	6.9E-02	5.630E	0.00	6.8E-01	4.4E-04	7.9E-05	8.9E-05
2.680E-01	9.92E-03	6.8E-02	5.690E	0.00	6.8E-01	3.5E-04	7.6E-05	6.7E-05
2.720E-01	8.22E-03	6.7E-02	5.750E	0.00	6.8E-01	2.6E-04	7.3E-05	4.5E-05
2.760E-01	6.62E-03	6.6E-02	5.810E	0.00	6.8E-01	1.7E-04	7.0E-05	2.3E-05
2.800E-01	6.92E-03	6.5E-02	5.870E	0.00	6.8E-01	8.7E-05	6.7E-05	0.00
2.840E-01	7.93E-03	6.4E-02	5.930E	0.00	6.8E-01	7.8E-05	6.4E-05	0.00
2.880E-01	6.94E-03	6.3E-02	5.990E	0.00	6.8E-01	6.9E-05	6.1E-05	0.00
2.920E-01	1.01E-02	6.2E-02	6.050E	0.01	6.8E-01	6.0E-05	5.8E-05	0.01

PRODUCTION COSTS SECTION

TRENCH GARNER IN PRODUCTION CROSS SECTION

TICK GAMMA RAY PRODUCTION CROSS SECTION

EN-MIN= 0.94638 01 MEV EN-MAX= 0.10032 02 MEV THETA=125. DEG

E-GAMMA MEV	DATA-ERR B/SR/MEV	DATA-ERR B/SR/MEV	E-GAMMA MEV	DATA B/SR/MEV	DATA B/SR/MEV	E-GAMMA MEV	DATA-ERR B/SR/MEV	DATA-ERR B/SR/MEV
2. 92E-02	2. 92E-02	7. 92E-03	5. 230E 00	1. 40E-02	2. 5E-02	5. 330E 00	1. 25E-02	2. 4E-02
2. 21E-02	2. 21E-02	8. 5E-03	5. 330E 00	1. 32E-02	2. 4E-03	5. 430E 00	1. 4E-02	2. 4E-03
2. 54E-02	2. 54E-02	7. 5E-03	5. 530E 00	1. 14E-02	2. 4E-03	5. 530E 00	1. 14E-02	2. 4E-03
1. 92E-02	1. 92E-02	7. 1E-03	5. 830E 00	5. 03E-03	2. 4E-03	5. 830E 00	5. 33E-03	2. 4E-03
2. 330E 00	2. 330E 00	6. 3E-03	6. 330E 00	6. 33E-03	2. 4E-03	6. 330E 00	6. 33E-03	2. 4E-03
5. 94E-02	5. 94E-02	5. 8E-03	6. 830E 00	6. 83E-03	2. 4E-03	6. 830E 00	6. 83E-03	2. 4E-03
5. 59E-02	5. 59E-02	6. 2E-03	6. 230E 00	6. 20E-03	2. 4E-03	6. 230E 00	6. 20E-03	2. 4E-03
4. 66E-02	4. 66E-02	6. 2E-03	6. 630E 00	6. 63E-03	2. 4E-03	6. 630E 00	6. 63E-03	2. 4E-03
2. 210E 00	2. 210E 00	7. 2E-03	7. 230E 00	7. 23E-03	2. 4E-03	7. 230E 00	7. 23E-03	2. 4E-03
2. 270E 00	2. 270E 00	7. 1E-03	7. 130E 00	7. 14E-03	2. 4E-03	7. 130E 00	7. 14E-03	2. 4E-03
2. 330E 00	2. 330E 00	7. 1E-03	7. 130E 00	7. 14E-03	2. 4E-03	7. 130E 00	7. 14E-03	2. 4E-03
5. 93E-02	5. 93E-02	6. 2E-03	6. 93E-02	6. 93E-03	2. 4E-03	6. 93E-02	6. 93E-03	2. 4E-03
5. 560E 00	5. 560E 00	6. 2E-03	6. 560E 00	6. 56E-03	2. 4E-03	6. 560E 00	6. 56E-03	2. 4E-03
6. 440E 00	6. 440E 00	6. 2E-03	6. 440E 00	6. 44E-03	2. 4E-03	6. 440E 00	6. 44E-03	2. 4E-03
6. 680E 00	6. 680E 00	6. 2E-03	6. 680E 00	6. 68E-03	2. 4E-03	6. 680E 00	6. 68E-03	2. 4E-03
6. 800E 00	6. 800E 00	6. 2E-03	6. 800E 00	6. 80E-03	2. 4E-03	6. 800E 00	6. 80E-03	2. 4E-03
7. 17E-03	7. 17E-03	6. 1E-03	7. 17E-03	7. 17E-03	2. 4E-03	7. 17E-03	7. 17E-03	2. 4E-03
7. 61E-03	7. 61E-03	6. 1E-03	7. 61E-03	7. 61E-03	2. 4E-03	7. 61E-03	7. 61E-03	2. 4E-03
7. 62E-03	7. 62E-03	6. 1E-03	7. 62E-03	7. 62E-03	2. 4E-03	7. 62E-03	7. 62E-03	2. 4E-03
7. 47E-03	7. 47E-03	6. 1E-03	7. 47E-03	7. 47E-03	2. 4E-03	7. 47E-03	7. 47E-03	2. 4E-03
4. 81E-03	4. 81E-03	6. 1E-03	4. 81E-03	4. 81E-03	2. 4E-03	4. 81E-03	4. 81E-03	2. 4E-03
5. 83E-03	5. 83E-03	6. 1E-03	5. 83E-03	5. 83E-03	2. 4E-03	5. 83E-03	5. 83E-03	2. 4E-03
5. 5E-03	5. 5E-03	6. 1E-03	5. 5E-03	5. 5E-03	2. 4E-03	5. 5E-03	5. 5E-03	2. 4E-03
7. 04E-03	7. 04E-03	6. 1E-03	7. 04E-03	7. 04E-03	2. 4E-03	7. 04E-03	7. 04E-03	2. 4E-03
7. 280E 00	7. 280E 00	6. 2E-03	7. 280E 00	7. 28E-03	2. 4E-03	7. 280E 00	7. 28E-03	2. 4E-03
7. 40E-03	7. 40E-03	6. 2E-03	7. 40E-03	7. 40E-03	2. 4E-03	7. 40E-03	7. 40E-03	2. 4E-03
7. 520E 00	7. 520E 00	6. 2E-03	7. 520E 00	7. 52E-03	2. 4E-03	7. 520E 00	7. 52E-03	2. 4E-03
7. 640E 00	7. 640E 00	6. 2E-03	7. 640E 00	7. 64E-03	2. 4E-03	7. 640E 00	7. 64E-03	2. 4E-03
7. 760E 00	7. 760E 00	6. 2E-03	7. 760E 00	7. 76E-03	2. 4E-03	7. 760E 00	7. 76E-03	2. 4E-03
7. 890E 00	7. 890E 00	6. 2E-03	7. 890E 00	7. 89E-03	2. 4E-03	7. 890E 00	7. 89E-03	2. 4E-03
8. 030E 00	8. 030E 00	6. 2E-03	8. 030E 00	8. 04E-03	2. 4E-03	8. 030E 00	8. 04E-03	2. 4E-03
8. 450E 00	8. 450E 00	6. 2E-03	8. 450E 00	8. 45E-03	2. 4E-03	8. 450E 00	8. 45E-03	2. 4E-03
8. 590E 00	8. 590E 00	6. 2E-03	8. 590E 00	8. 59E-03	2. 4E-03	8. 590E 00	8. 59E-03	2. 4E-03
8. 91E-03	8. 91E-03	6. 1E-03	8. 91E-03	8. 91E-03	2. 4E-03	8. 91E-03	8. 91E-03	2. 4E-03
9. 17E-03	9. 17E-03	6. 1E-03	9. 17E-03	9. 17E-03	2. 4E-03	9. 17E-03	9. 17E-03	2. 4E-03
9. 38E-03	9. 38E-03	6. 1E-03	9. 38E-03	9. 38E-03	2. 4E-03	9. 38E-03	9. 38E-03	2. 4E-03
9. 59E-03	9. 59E-03	6. 1E-03	9. 59E-03	9. 59E-03	2. 4E-03	9. 59E-03	9. 59E-03	2. 4E-03
9. 79E-03	9. 79E-03	6. 1E-03	9. 79E-03	9. 79E-03	2. 4E-03	9. 79E-03	9. 79E-03	2. 4E-03
9. 91E-03	9. 91E-03	6. 1E-03	9. 91E-03	9. 91E-03	2. 4E-03	9. 91E-03	9. 91E-03	2. 4E-03
1. 01E-02	1. 01E-02	6. 1E-03	1. 01E-02	1. 01E-02	2. 4E-03	1. 01E-02	1. 01E-02	2. 4E-03
1. 026E 01	1. 026E 01	6. 1E-03	1. 026E 01	1. 026E 01	2. 4E-03	1. 026E 01	1. 026E 01	2. 4E-03

TWO GAMMA RAY PRODUCTION CROSS SECTION

PN-MIN= 0.1003E 02 HEV PN-MAX= 0.1097E 02 HEV

E-GAMMA HEV	DATA-EPR B/SR/HEV	DATA-B B/SR/HEV	DATA-A B/SR/HEV	E-GAMMA HEV	DATA-B B/SR/HEV	DATA-A B/SR/HEV	E-GAMMA HEV	DATA-B B/SR/HEV	DATA-A B/SR/HEV
6.9002E-01	3.46E-02	3.1E-02	2.53E-02	2.150E 00	3.83E-02	8.7E-03	5.230E 00	1.27E-02	2.5E-03
7.1002E-01	1.52E-02	2.3E-02	2.0E-02	2.210E 00	2.53E-02	8.3E-03	5.330E 00	1.08E-02	2.4E-03
7.3002E-01	1.64E-02	2.0E-02	2.0E-02	2.270E 00	2.62E-02	8.3E-03	5.430E 00	9.97E-03	2.3E-03
7.5002E-01	1.86E-02	2.0E-02	2.0E-02	2.330E 00	3.12E-02	6.8E-03	5.530E 00	1.19E-02	2.4E-03
7.7002E-01	1.98E-02	1.9E-02	1.9E-02	2.390E 00	2.89E-02	6.7E-03	5.630E 00	1.11E-02	2.4E-03
7.9002E-01	1.51E-01	2.0E-02	2.0E-02	2.450E 00	3.28E-02	6.7E-03	5.730E 00	8.58E-03	2.4E-03
8.1002E-01	3.15E-01	2.0E-02	2.0E-02	2.510E 00	4.31E-02	6.4E-03	5.830E 00	8.67E-03	2.4E-03
8.3002E-01	5.54E-01	2.0E-02	2.0E-02	2.570E 00	4.48E-02	6.9E-03	5.930E 00	8.51E-03	2.3E-03
8.5002E-01	9.96E-01	2.0E-02	2.0E-02	2.630E 00	3.97E-02	6.0E-03	6.030E 00	6.51E-03	2.4E-03
8.7002E-01	6.602E-01	2.0E-02	2.0E-02	2.690E 00	3.75E-02	5.0E-03	6.130E 00	5.31E-03	2.3E-03
8.9002E-01	9.002E-01	2.0E-02	2.0E-02	2.750E 00	3.03E-02	4.6E-03	6.230E 00	5.61E-03	2.1E-03
9.1002E-01	1.002E-01	2.0E-02	2.0E-02	2.810E 00	2.20E-02	4.7E-03	6.330E 00	6.49E-03	2.1E-03
9.3002E-01	6.662E-01	2.0E-02	2.0E-02	2.870E 00	2.40E-02	4.5E-03	6.440E 00	6.09E-03	2.0E-03
9.5002E-01	2.11E-01	1.8E-02	2.0E-02	2.930E 00	2.76E-02	4.5E-03	6.560E 00	1.13E-02	2.0E-03
9.7002E-01	1.09E-01	1.9E-02	1.9E-02	2.990E 00	2.84E-02	4.3E-03	6.680E 00	1.28E-02	1.9E-03
9.9002E-01	5.75E-02	1.9E-02	1.9E-02	3.050E 00	3.14E-02	3.9E-03	6.800E 00	1.05E-02	1.7E-03
1.0002E-01	5.92E-02	1.7E-02	1.7E-02	3.110E 00	3.51E-02	4.0E-03	6.920E 00	5.72E-03	1.5E-03
1.0402E 00	6.40E-02	1.6E-02	1.6E-02	3.180E 00	3.47E-02	3.7E-03	7.04E 00	2.35E-03	1.5E-03
1.1202E 00	4.51E-02	1.3E-02	1.3E-02	3.260E 00	2.87E-02	4.2E-03	7.16E 00	2.47E-03	1.5E-03
1.1602E 00	8.00E-02	1.2E-02	1.2E-02	3.340E 00	2.632E-02	3.9E-03	7.28E 00	4.47E-03	1.4E-03
1.2002E 00	1.98E-01	1.4E-02	1.4E-02	3.420E 00	3.41E-02	3.9E-03	7.40E 00	5.93E-03	1.4E-03
1.2402E 00	2.94E-01	1.5E-02	1.5E-02	3.500E 00	3.87E-02	3.6E-03	7.520E 00	6.24E-03	1.3E-03
1.2802E 00	2.41E-01	1.5E-02	1.5E-02	3.580E 00	3.53E-02	3.8E-03	7.640E 00	6.01E-03	1.3E-03
1.3202E 00	1.98E-01	1.2E-02	1.2E-02	3.660E 00	3.17E-02	3.6E-03	7.76E 00	5.18E-03	1.3E-03
1.3602E 00	5.53E-02	1.6E-02	1.6E-02	3.740E 00	2.42E-02	3.6E-03	7.89E 00	3.32E-03	1.3E-03
1.4002E 00	2.11E-01	1.5E-02	1.5E-02	3.820E 00	1.89E-02	3.8E-03	8.03E 00	1.76E-03	1.2E-03
1.4402E 00	2.41E-01	1.5E-02	1.5E-02	3.900E 00	1.91E-02	4.0E-03	8.17E 00	2.47E-03	1.1E-03
1.4802E 00	1.98E-01	1.2E-02	1.2E-02	3.980E 00	1.88E-02	3.9E-03	8.31E 00	2.09E-03	1.0E-03
1.5202E 00	5.56E-02	1.6E-02	1.6E-02	4.060E 00	1.63E-02	3.7E-03	8.45E 00	3.06E-03	7.1E-04
1.5602E 00	2.11E-01	1.5E-02	1.5E-02	4.140E 00	2.27E-02	3.9E-03	8.61E 00	2.47E-03	6.3E-04
1.6002E 00	1.98E-01	1.2E-02	1.2E-02	4.220E 00	1.69E-02	3.6E-03	8.73E 00	3.23E-03	5.4E-04
1.6402E 00	5.55E-02	1.6E-02	1.6E-02	4.300E 00	1.60E-02	3.6E-03	8.87E 00	2.56E-03	5.4E-04
1.6802E 00	2.12E-01	1.5E-02	1.5E-02	4.380E 00	1.31E-02	3.6E-03	9.01E 00	1.72E-03	4.5E-04
1.7202E 00	1.98E-01	1.2E-02	1.2E-02	4.460E 00	1.24E-02	3.6E-03	9.15E 00	1.05E-03	2.6E-04
1.7602E 00	5.53E-02	1.6E-02	1.6E-02	4.540E 00	1.08E-02	3.2E-03	9.30E 00	1.3E-03	2.2E-04
1.8002E 00	2.11E-01	1.5E-02	1.5E-02	4.620E 00	1.0E-02	3.2E-03	9.46E 00	1.46E-03	2.0E-04
1.8402E 00	1.98E-01	1.2E-02	1.2E-02	4.70E 00	9.12E-03	2.9E-03	9.62E 00	8.30E-04	8.6E-05
1.8802E 00	5.56E-02	1.6E-02	1.6E-02	4.78E 00	8.05E-03	2.9E-03	9.78E 00	1.01E 01	1.3E-04
1.9202E 00	2.12E-01	1.5E-02	1.5E-02	4.86E 00	7.08E-03	2.7E-03	9.94E 00	1.2E-04	1.2E-04
1.9602E 00	1.98E-01	1.2E-02	1.2E-02	4.94E 00	6.02E-03	2.7E-03	1.01E 01	1.93E-04	8.6E-05
2.0002E 00	5.59E-02	1.6E-02	1.6E-02	5.02E 00	5.05E-03	2.7E-03	1.02E 01	1.02E 01	7.0E-04

IRON GAMMA RAY PRODUCTION CROSS SECTION

EN-MIN = 0.1C97E 02 MEV EN-MAX = 0.1194E 02 MEV THETA=125. DEG

E-GAMMA MEV	DATA-BER B/SR/MEV	DATA-BER B/SR/MEV	E-GAMMA MEV	DATA-BER B/SR/MEV	DATA-BER B/SR/MEV	E-GAMMA MEV	DATA-BER B/SR/MEV	DATA-BER B/SR/MEV
6.9002E-01	1.332E-02	3.32E-02	2.150E 00	3.16E-02	1.0E-02	5.230E 00	1.352E-02	3.0E-03
7.1002E-01	1.742E-02	2.45E-02	2.210E 00	2.32E-02	9.2E-03	5.330E 00	1.312E-02	2.8E-03
7.3002E-01	1.328E-02	1.95E-02	2.270E 00	2.15E-02	8.0E-03	5.430E 00	1.308E-02	3.1E-03
7.5002E-01	1.625E-02	2.15E-02	2.330E 00	2.77E-02	7.3E-03	5.530E 00	1.035E-02	5.0E-03
7.7002E-01	4.602E-02	2.0E-02	2.390E 00	3.12E-02	7.8E-03	5.630E 00	3.79E-02	3.5E-03
7.9002E-01	1.242E-01	1.9E-02	2.450E 00	3.28E-02	7.7E-03	5.730E 00	1.47E-03	3.0E-03
8.1002E-01	2.855E-01	2.1E-02	2.510E 00	4.49E-02	7.3E-03	5.830E 00	6.72E-03	3.0E-03
8.3002E-01	5.012E-01	2.3E-02	2.570E 00	5.35E-02	6.4E-03	5.930E 00	1.29E-02	3.0E-03
8.5002E-01	6.592E-01	2.4E-02	2.630E 00	4.39E-02	6.5E-03	6.030E 00	1.555E-02	3.2E-03
8.7002E-01	6.672E-01	2.4E-02	2.690E 00	2.97E-02	6.1E-03	6.130E 00	1.705E-02	3.0E-03
8.9002E-01	5.482E-01	2.2E-02	2.750E 00	2.39E-02	5.4E-03	6.230E 00	1.742E-04	2.9E-03
9.1002E-01	9.100E-01	2.2E-02	2.810E 00	2.15E-02	5.2E-03	6.330E 00	1.465E-04	2.9E-03
9.3002E-01	3.932E-01	2.2E-02	2.870E 00	2.20E-02	5.1E-03	6.440E 00	9.572E-03	2.8E-03
9.5002E-01	2.342E-01	1.8E-02	2.930E 00	2.53E-02	4.9E-03	6.560E 00	5.75E-03	2.6E-03
9.7002E-01	1.242E-01	2.2E-02	2.990E 00	2.78E-02	4.8E-03	6.680E 00	3.182E-03	2.5E-03
9.9002E-01	6.032E-01	1.9E-02	3.050E 00	2.88E-02	4.9E-03	6.800E 00	2.832E-03	2.4E-03
1.0002E 00	4.192E-02	1.7E-02	3.110E 00	2.89E-02	4.9E-03	6.920E 00	5.96E-03	2.2E-03
1.0402E 00	5.932E-02	1.7E-02	3.180E 00	2.99E-02	4.7E-03	7.040E 00	8.992E-03	2.1E-03
1.0802E 00	6.02E-02	1.6E-02	3.260E 00	3.46E-02	4.3E-03	7.16E2 00	9.38E-03	2.0E-03
1.1202E 00	4.312E-02	1.4E-02	3.340E 00	3.76E-02	4.3E-03	7.28E 00	5.40E-03	2.0E-03
1.1602E 00	8.14E-02	1.6E-02	3.42E-02	4.4E-02	4.6E-03	7.40E 00	6.32E-03	1.9E-03
1.2002E 00	1.99E-01	1.6E-02	3.50E 00	2.64E-02	4.4E-03	7.52E 00	3.73E-03	1.9E-03
1.2402E 00	2.93E-01	1.3E-02	3.58E 00	2.69E-02	5.0E-03	7.64E 00	5.22E-03	1.8E-03
1.2802E 00	2.79E-01	1.3E-02	3.66E 00	3.07E-02	4.1E-03	7.76E 00	7.64E-03	1.7E-03
1.3202E 00	1.69E-01	1.2E-02	3.74E 00	2.89E-02	4.4E-03	7.89E-00	6.35E-03	1.7E-03
1.3602E 00	8.56E-02	1.1E-02	3.82E 00	2.41E-02	4.7E-03	8.03E 00	4.68E-03	1.6E-03
1.4002E 00	5.43E-02	1.1E-02	3.90E 00	3.44E-02	5.6E-03	8.17E 00	2.75E-03	1.5E-03
1.4402E 00	3.99E-01	1.0E-02	4.22E 00	4.64E-02	5.0E-03	8.31E 00	4.01E-03	1.5E-03
1.4802E 00	2.92E-01	1.0E-02	4.40E 00	3.42E-02	5.2E-03	8.45E 00	2.28E-03	1.4E-03
1.5202E 00	1.69E-01	1.0E-02	4.58E 00	3.07E-02	5.2E-03	8.59E 00	4.04E-03	1.4E-03
1.5602E 00	7.46E-02	1.0E-02	4.76E 00	3.44E-02	5.2E-03	8.73E 00	2.98E-03	1.4E-03
1.6002E 00	2.13E-02	9.6E-03	4.94E 00	4.22E-02	5.2E-03	8.87E 00	3.65E-03	1.0E-03
1.6402E 00	2.01E-02	9.4E-03	5.12E 00	4.64E-02	4.9E-03	8.90E 00	9.73E-04	6.5E-04
1.6802E 00	1.01E-02	9.4E-03	5.30E 00	4.06E 00	4.9E-03	8.93E 00	2.17E-03	5.7E-04
1.7202E 00	3.90E-02	9.6E-03	5.48E 00	4.14E 00	5.2E-03	8.95E 00	6.90E-04	7.1E-04
1.7602E 00	5.42E-02	9.8E-03	5.66E 00	4.22E 00	5.2E-03	8.97E 00	2.98E-03	3.0E-04
1.8002E 00	6.61E-02	9.7E-03	5.84E 00	4.30E 00	5.2E-03	9.01E 00	1.54E-03	2.1E-04
1.8502E 00	6.45E-02	6.4E-03	5.92E 00	4.46E 00	5.2E-03	9.02E 00	5.22E-04	8.7E-05
1.9102E 00	1.91E-02	6.9E-03	6.00E 00	4.830E 00	5.2E-03	9.04E 00	1.01E 01	1.02E 01
1.9702E 00	3.69E-02	7.0E-03	6.18E 00	4.930E 00	5.2E-03	9.05E 00	1.92E 01	2.09E 00
2.0302E 00	4.75E-02	8.7E-03	6.36E 00	5.030E 00	5.2E-03	9.06E 00	1.20E 04	2.25E 05

BACK GAMMA RAY PRODUCTION CROSS SECTION

E_γ -MIN = 0.11194E 02 MeV	E_γ -MAX = 0.1303E 02 MeV	θ -MAX = 0.1303E 02 RAD	THETA=125. DEG
E-GAMMA	DATA	DATA	E-GAMMA
E2V	R/SR/HEV	B/SR/HEV	B/SR/HEV
6. 900E-01	1. 96E-02	3. 6E-02	2. 150E 00
7. 100E-01	8. 67E-03	2. 6E-02	2. 210E 00
7. 300E-01	4. 03E-03	2. 7E-02	3. 30E-02
7. 500E-01	2. C5E-02	2. 6E-02	2. 330E 00
7. 700E-01	5. 95E-02	2. 6E-02	2. 390E 00
7. 900E-01	1. 31E-01	2. 7E-02	2. 450E 00
8. 100E-01	2. 65E-01	2. 6E-02	2. 510E 00
8. 300E-01	4. 43E-01	2. 7E-02	2. 570E 00
8. 500E-01	5. 71E-01	2. 5E-02	2. 630E 00
8. 700E-01	5. 70E-01	2. 7E-02	2. 690E 00
8. 900E-01	4. 57E-01	2. 6E-02	2. 750E 00
9. 100E-01	3. 08E-01	2. 43E-02	2. 810E 00
9. 300E-01	1. 92E-01	2. 1E-02	2. 870E 00
9. 500E-01	1. 19E-01	2. 2E-02	2. 930E 00
9. 700E-01	7. 46E-02	2. 1E-02	2. 990E 00
9. 900E-00	4. 77E-02	2. 0E-02	3. 050E 00
1. 000E-00	5. 21E-02	1. 8E-02	3. 110E 00
1. 040E-00	4. 65E-02	1. 6E-02	3. 180E 00
1. 080E-00	4. 18E-02	1. 7E-02	3. 260E 00
1. 120E-00	8. 14E-02	1. 6E-02	3. 420E 00
1. 160E-00	1. 200E-01	1. 9E-02	3. 500E 00
1. 240E-00	2. 240E-00	1. 8E-02	3. 580E 00
1. 280E-00	2. 280E-00	1. 8E-02	3. 660E 00
1. 320E-00	1. 88E-01	1. 3E-02	3. 740E 00
1. 360E-00	1. 03E-01	1. 3E-02	3. 820E 00
1. 400E-00	5. 74E-02	1. 2E-02	3. 900E 00
1. 440E-00	4. 20E-02	1. 0E-02	3. 980E 00
1. 480E-00	3. 15E-02	1. 0E-02	4. 060E 00
1. 520E-00	2. 03E-02	1. 0E-02	4. 140E 00
1. 560E-00	1. 80E-02	9. 7E-03	4. 220E 00
1. 600E-00	2. 92E-02	9. 2E-03	4. 300E 00
1. 640E-00	4. 05E-02	9. 4E-03	4. 380E 00
1. 690E-00	3. 44E-02	9. 5E-03	4. 460E 00
1. 720E-00	4. 50E-02	9. 8E-03	4. 540E 00
1. 760E-00	1. 0E-02	1. 0E-02	4. 61E-03
1. 800E-00	4. 94E-02	9. 7E-03	4. 70E-03
1. 850E-00	4. 12E-02	1. 1E-02	4. 79E-03
1. 910E-00	3. 15E-02	9. 6E-03	4. 88E-03
1. 970E-00	9. 18E-02	9. 2E-03	4. 97E-03
2. 030E-00	1. 20E-02	9. 4E-03	5. 030E 00
2. 090E-00	3. 33E-02	1. 1E-02	5. 130E 00

IFCN GAMMA RAY PRODUCTION CROSS SECTION

EN-MIN= 0.1303E 02 MEV EN-MAX= 0.1395E 02 MEV THETA=125. DEG

E-GAMMA MEV	DATA B/SR/MEV	DATA-ERR B/SR/MEV	E-GAMMA MEV	DATA B/SR/MEV	DATA-ERR B/SR/MEV	E-GAMMA MEV	DATA B/SR/MEV	DATA-ERR B/SR/MEV
6.900E-01	1.96E-02	3.7E-02	2.150E 00	3.01E-02	9.4E-03	5.230E 00	1.51E-02	4.0E-03
7.100E-01	2.18E-02	2.9E-02	2.210E 00	1.662E-02	1.1E-02	5.330E 00	1.052E-02	4.3E-03
7.300E-01	1.87E-02	2.4E-02	2.270E 00	2.51E-02	9.7E-03	5.430E 00	7.55E-03	4.1E-03
7.500E-01	1.70E-02	2.6E-02	2.330E 00	3.34E-02	8.5E-03	5.530E 00	6.13E-03	4.1E-03
7.700E-01	4.12E-02	2.8E-02	2.390E 00	2.90E-02	8.3E-03	5.630E 00	6.87E-03	3.9E-03
7.900E-01	1.20E-01	2.7E-02	2.450E 00	2.99E-02	1.0E-02	5.730E 00	7.63E-03	4.2E-03
8.100E-01	2.60E-01	2.5E-02	2.510E 00	2.932E-02	9.7E-03	5.830E 00	5.69E-03	4.4E-03
8.300E-01	4.11E-01	2.8E-02	2.570E 00	3.30E-02	1.0E-02	5.930E 00	5.43E-03	4.2E-03
8.500E-01	4.87E-01	2.8E-02	2.630E 00	3.36E-02	7.3E-03	6.030E 00	7.77E-03	4.0E-03
8.700E-01	4.53E-01	2.7E-02	2.690E 00	1.957E-02	6.4E-03	6.130E 00	8.04E-03	4.0E-03
8.900E-01	3.61E-01	2.1E-02	2.750E 00	1.712E-02	6.3E-03	6.230E 00	4.82E-03	4.1E-03
9.100E-01	2.69E-01	2.4E-02	2.810E 00	2.97E-02	6.1E-03	6.330E 00	4.16E-03	4.3E-03
9.300E-01	1.95E-01	2.1E-02	2.870E 00	2.63E-02	5.6E-03	6.440E 00	9.15E-03	3.7E-03
9.500E-01	1.26E-01	2.3E-02	2.930E 00	1.195E-02	5.7E-03	6.560E 00	1.32E-02	3.5E-03
9.700E-01	6.50E-02	2.2E-02	2.990E 00	9.90E-03	5.8E-03	6.680E 00	1.12E-02	3.3E-03
1.000E 00	2.59E-02	2.0E-02	3.050E 00	1.44E-02	5.5E-03	6.800E 00	9.34E-03	3.1E-03
1.040E 00	5.89E-02	1.9E-02	3.110E 00	1.712E-02	5.9E-03	6.920E 00	8.92E-03	2.9E-03
1.080E 00	7.15E-02	1.8E-02	3.180E 00	2.34E-02	6.5E-03	7.040E 00	7.16E-03	2.8E-03
1.120E 00	3.08E-02	1.8E-02	3.260E 00	2.65E-02	5.6E-03	7.160E 00	4.68E-03	2.7E-03
1.160E 00	5.36E-02	1.9E-02	3.340E 00	1.73E-02	5.3E-03	7.280E 00	2.77E-03	2.6E-03
1.200E 00	1.68E-01	1.9E-02	3.420E 00	1.72E-02	5.0E-03	7.400E 00	1.38E-03	2.5E-03
1.240E 00	2.53E-01	1.9E-02	3.500E 00	2.35E-02	4.8E-03	7.520E 00	1.01E-03	2.4E-03
1.280E 00	2.27E-01	1.9E-02	3.580E 00	2.33E-02	4.2E-03	7.640E 00	1.86E-03	2.4E-03
1.320E 00	1.47E-01	1.4E-02	3.660E 00	2.00E-02	3.1E-03	7.760E 00	3.85E-03	2.4E-03
1.360E 00	8.52E-02	1.4E-02	3.740E 00	2.42E-02	5.4E-03	7.890E 00	7.23E-03	2.3E-03
1.400E 00	4.98E-02	1.3E-02	3.820E 00	3.21E-02	5.2E-03	8.030E 00	9.10E-03	2.1E-03
1.440E 00	2.44E-02	1.3E-02	3.900E 00	2.55E-02	5.6E-03	8.170E 00	6.21E-03	2.2E-03
1.480E 00	3.58E-02	1.0E-02	3.990E 00	5.7E-03	8.310E 00	1.98E-03	2.0E-03	
1.520E 00	3.40E-02	9.3E-03	4.060E 00	3.36E-03	6.4E-03	8.450E 00	-1.08E-04	1.6E-03
1.560E 00	1.82E-02	1.0E-02	4.140E 00	1.05E-02	6.4E-03	8.590E 00	5.11E-04	1.6E-03
1.600E 00	2.20E-02	1.0E-02	4.220E 00	1.26E-02	6.4E-03	8.730E 00	9.010E 00	1.5E-03
1.640E 00	3.80E-02	1.1E-02	4.300E 00	9.01E-03	6.5E-03	8.870E 00	2.23E-03	1.3E-03
1.680E 00	4.44E-02	1.1E-02	4.380E 00	1.16E-02	6.2E-03	8.970E 00	3.33E-03	1.3E-03
1.720E 00	4.11E-02	1.1E-02	4.460E 00	1.73E-02	5.4E-03	9.150E 00	2.41E-03	1.0E-03
1.760E 00	4.08E-02	1.1E-02	4.540E 00	5.82E-03	5.4E-03	9.300E 00	-5.27E-04	9.1E-04
1.800E 00	4.33E-02	9.9E-03	4.630E 00	6.82E-03	4.8E-03	9.460E 00	1.33E-03	6.3E-04
1.850E 00	3.68E-02	9.7E-03	4.730E 00	4.46E-03	4.5E-03	9.620E 00	3.23E-03	3.9E-04
1.910E 00	2.44E-02	1.1E-02	4.830E 00	8.21E-03	4.6E-03	9.780E 00	2.99E-03	3.8E-04
1.970E 00	2.21E-02	1.2E-02	4.930E 00	5.19E-03	4.4E-03	9.940E 00	1.58E-03	2.5E-04
2.030E 00	2.31E-02	1.0E-02	4.28E-03	6.76E-03	4.2E-03	5.030E 00	5.31E-04	9.5E-05
2.090E 00	3.40E-02	1.1E-02	4.46E-02	4.1E-03	4.1E-03	5.130E 00	1.65E-02	2.4E-05

IRCN GAMMA RAY PRODUCTION CROSS SECTION

EN-MIN= 0.1395E 02 MEV EN-MAX= 0.1497E 02 MEV THETA=125. DEG

E-GAMMA MEV	DATA B/SR/MEV	DATA-ERR B/SP/MEV	E-GAMMA MEV	DATA B/SR/MEV	DATA-ERR B/SP/MEV	E-GAMMA MEV	DATA B/SR/MEV	DATA-ERR B/SP/MEV
6.900E-01	2.54E-02	3.4E-02	2.150E 00	2.14E-02	9.3E-03	5.230E 00	6.55E-03	3.7E-03
7.100E-01	1.06E-02	2.4E-02	2.210E 00	1.09E-02	9.2E-03	5.330E 00	7.73E-03	3.8E-03
7.300E-01	-6.49E-03	2.3E-02	2.270E 00	1.36E-02	9.4E-03	5.430E 00	5.65E-03	3.9E-03
7.500E-01	-1.67E-03	2.6E-02	2.330E 00	1.64E-02	7.2E-03	5.530E 00	5.67E-03	3.8E-03
7.700E-01	5.55E-02	2.6E-02	2.390E 00	1.18E-02	7.8E-03	5.630E 00	6.20E-03	3.9E-03
7.900E-01	1.68E-01	2.4E-02	2.450E 00	1.82E-02	8.4E-03	5.730E 00	4.28E-03	4.0E-03
8.100E-01	2.89E-01	2.3E-02	2.510E 00	2.58E-02	7.9E-03	5.830E 00	3.80E-03	3.9E-03
8.300E-01	3.73E-01	2.5E-02	2.570E 00	2.11E-02	8.7E-03	5.930E 00	7.98E-03	4.0E-03
8.500E-01	4.05E-01	2.42E-02	2.630E 00	2.26E-02	7.7E-03	6.030E 00	1.01E-02	3.9E-03
8.700E-01	3.85E-01	2.2E-02	2.690E 00	2.62E-02	5.8E-03	6.130E 00	7.84E-03	3.9E-03
8.900E-01	3.18E-01	2.2E-02	2.750E 00	1.45E-02	6.6E-03	6.230E 00	4.78E-03	3.8E-03
9.100E-01	2.27E-01	2.2E-02	2.810E 00	5.30E-03	6.3E-03	6.330E 00	4.06E-03	3.7E-03
9.300E-01	1.53E-01	1.9E-02	2.870E 00	1.33E-02	6.9E-03	6.440E 00	5.42E-03	3.5E-03
9.500E-01	1.13E-01	2.0E-02	2.930E 00	2.13E-02	6.1E-03	6.560E 00	8.95E-03	3.3E-03
9.700E-01	9.36E-02	1.9E-02	2.990E 00	1.96E-02	5.8E-03	6.680E 00	1.08E-02	2.9E-03
1.000E 00	7.64E-02	1.7E-02	3.050E 00	1.67E-02	5.7E-03	6.800E 00	7.65E-03	2.7E-03
1.040E 00	5.98E-02	2.1E-02	3.110E 00	1.80E-02	6.0E-03	6.920E 00	2.39E-03	2.7E-03
1.080E 00	3.62E-02	1.7E-02	3.180E 00	1.68E-02	4.8E-03	7.040E 00	-4.31E-04	2.5E-03
1.120E 00	2.18E-02	1.8E-02	3.240E 00	1.58E-02	5.8E-03	7.160E 00	1.21E-04	2.0E-03
1.160E 00	6.17E-02	1.7E-02	3.340E 00	1.60E-02	5.6E-03	7.280E 00	2.19E-03	2.3E-03
1.200E 00	1.43E-01	1.7E-02	3.420E 00	1.17E-02	5.9E-03	7.400E 00	3.46E-03	2.2E-03
1.240E 00	2.16E-01	1.8E-02	3.500E 00	8.53E-03	5.5E-03	7.520E 00	3.04E-03	2.1E-03
1.280E 00	1.95E-01	1.6E-02	3.580E 00	9.83E-03	5.7E-03	7.640E 00	2.39E-03	2.1E-03
1.320E 00	1.31E-01	1.7E-02	3.660E 00	1.39E-02	5.3E-03	7.760E 00	2.72E-03	2.1E-03
1.360E 00	7.32E-02	1.6E-02	3.740E 00	1.61E-02	5.1E-03	7.890E 00	3.48E-03	2.0E-03
1.400E 00	4.28E-02	1.4E-02	3.820E 00	1.30E-02	5.6E-03	8.030E 00	3.56E-03	1.9E-03
1.440E 00	3.02E-02	1.2E-02	3.900E 00	1.38E-02	5.2E-03	8.170E 00	3.08E-03	2.0E-03
1.480E 00	2.92E-02	1.0E-02	3.980E 00	1.70E-02	5.3E-03	8.310E 00	2.56E-03	1.9E-03
1.520E 00	2.63E-02	9.3E-03	4.060E 00	1.23E-02	5.4E-03	8.450E 00	1.64E-03	1.6E-03
1.560E 00	1.57E-02	9.1E-03	4.140E 00	6.35E-03	5.8E-03	8.590E 00	7.71E-04	1.6E-03
1.600E 00	1.65E-02	1.0E-02	4.220E 00	7.07E-03	5.6E-03	8.730E 00	7.98E-04	1.3E-03
1.640E 00	2.78E-02	8.8E-03	4.300E 00	9.32E-03	5.7E-03	8.870E 00	1.80E-03	1.1E-03
1.680E 00	3.38E-02	8.6E-03	4.380E 00	9.38E-03	5.6E-03	9.010E 00	2.43E-03	1.0E-03
1.720E 00	3.69E-02	9.6E-03	4.460E 00	8.64E-03	5.2E-03	9.150E 00	1.76E-03	9.5E-04
1.760E 00	4.32E-02	1.0E-02	4.540E 00	7.56E-03	5.1E-03	9.300E 00	6.11E-04	8.7E-04
1.800E 00	4.20E-02	1.1E-02	4.630E 00	8.51E-03	4.9E-03	9.460E 00	6.98E-04	5.9E-04
1.850E 00	3.05E-02	8.1E-03	4.730E 00	1.14E-02	4.6E-03	9.620E 00	1.55E-03	4.0E-04
1.910E 00	2.80E-02	8.8E-03	4.830E 00	1.04E-02	4.42E-03	9.780E 00	1.59E-03	3.7E-04
1.970E 00	2.59E-02	1.0E-02	4.930E 00	8.10E-03	4.1E-03	9.940E 00	8.95E-04	2.2E-04
2.030E 00	2.54E-02	1.1E-02	5.030E 00	5.87E-03	3.9E-03	1.010E 01	3.13E-04	8.5E-05
2.090E 00	2.90E-02	1.1E-02	5.130E 00	5.01E-03	3.9E-03	1.026E 01	7.31E-05	2.1E-05

IRON GAMMA RAY PRODUCTION CROSS SECTION

EN-MIN= 0.1497E 02 MEV EN-MAX= 0.1612E 02 MEV THETA=125. DEG

E-GAMMA MEV	DATA B/SP/MEV	DATA-IRR B/SR/MEV	E-GAMMA MEV	DATA B/SP/MEV	DATA-IRR B/SR/MEV	E-GAMMA MEV	DATA B/SR/MEV	DATA-IRR B/SP/MEV
6.900E-01	8.10E-03	3.7E-02	2.150E 00	1.39E-02	9.3E-03	5.230E 00	4.65E-03	3.67E-03
7.100E-01	9.74E-03	2.7E-02	2.210E 00	1.43E-02	8.9E-03	5.330E 00	3.54E-03	3.62E-03
7.300E-01	1.35E-02	2.3E-02	2.270E 00	5.60E-03	7.6E-03	5.430E 00	3.31E-03	3.32E-03
7.500E-01	3.30E-02	2.5E-02	2.330E 00	-3.92E-03	8.7E-03	5.530E 00	-4.97E-04	3.42E-03
7.700E-01	8.58E-02	2.5E-02	2.390E 00	-3.79E-04	7.5E-03	5.630E 00	-2.34E-03	3.32E-03
7.900E-01	1.71E-01	2.1E-02	2.450E 00	9.55E-03	8.2E-03	5.730E 00	2.75E-03	3.12E-03
8.100E-01	2.67E-01	2.5E-02	2.510E 00	1.57E-02	7.3E-03	5.830E 00	6.21E-03	3.32E-03
8.300E-01	3.38E-01	2.9E-02	2.570E 00	2.25E-02	6.4E-03	5.930E 00	8.89E-03	3.42E-03
8.500E-01	3.75E-01	2.5E-02	2.630E 00	2.32E-02	5.6E-03	6.030E 00	6.44E-03	3.52E-03
8.700E-01	3.21E-01	2.3E-02	2.690E 00	1.44E-02	6.5E-03	6.130E 00	4.31E-03	3.12E-03
8.900E-01	2.61E-01	2.2E-02	2.750E 00	1.08E-02	7.0E-03	6.230E 00	3.57E-03	3.22E-03
9.100E-01	1.95E-01	2.1E-02	2.810E 00	1.74E-02	6.3E-03	6.330E 00	3.91E-03	3.22E-03
9.300E-01	1.17E-01	1.9E-02	2.870E 00	2.16E-02	5.2E-03	6.440E 00	4.36E-03	3.12E-03
9.500E-01	1.06E-01	2.2E-02	2.930E 00	2.30E-02	5.4E-03	6.560E 00	4.33E-03	3.02E-03
9.700E-01	8.93E-02	2.0E-02	2.990E 00	2.50E-02	5.2E-03	6.680E 00	3.89E-03	2.52E-03
1.000E 00	7.00E-02	1.8E-02	3.050E 00	2.04E-02	4.8E-03	6.800E 00	4.07E-03	2.3E-03
1.040E 00	3.14E-02	1.8E-02	3.110E 00	1.01E-02	5.0E-03	6.920E 00	3.90E-03	2.0E-03
1.080E 00	2.26E-02	1.8E-02	3.180E 00	2.35E-03	4.6E-03	7.040E 00	3.29E-03	2.02E-03
1.120E 00	4.14E-02	1.5E-02	3.260E 00	5.35E-03	4.7E-03	7.160E 00	3.19E-03	2.22E-03
1.160E 00	9.00E-02	1.6E-02	3.340E 00	6.72E-03	5.6E-03	7.280E 00	4.01E-03	2.01E-03
1.200E 00	1.54E-01	1.7E-02	3.420E 00	9.13E-03	5.4E-03	7.400E 00	4.64E-03	2.22E-03
1.240E 00	1.63E-01	1.8E-02	3.500E 00	1.53E-02	4.8E-03	7.520E 00	3.89E-03	2.22E-03
1.280E 00	1.41E-01	1.7E-02	3.580E 00	1.86E-02	5.0E-03	7.640E 00	2.15E-03	1.92E-03
1.320E 00	1.10E-01	1.3E-02	3.660E 00	1.46E-02	4.8E-03	7.760E 00	1.04E-03	1.72E-03
1.360E 00	7.61E-02	1.3E-02	3.740E 00	9.11E-03	4.7E-03	7.890E 00	1.21E-03	1.72E-03
1.400E 00	5.46E-02	1.2E-02	3.820E 00	7.15E-03	5.3E-03	8.030E 00	1.99E-03	1.72E-03
1.440E 00	4.66E-02	1.0E-02	3.900E 00	9.04E-03	5.0E-03	8.170E 00	1.36E-03	1.42E-03
1.480E 00	2.42E-02	1.1E-02	3.980E 00	8.66E-03	5.4E-03	8.310E 00	1.01E-03	1.22E-03
1.520E 00	1.89E-02	1.0E-02	4.060E 00	5.27E-03	5.1E-03	8.450E 00	1.87E-04	1.22E-03
1.560E 00	2.69E-02	9.8E-03	4.140E 00	5.04E-03	5.3E-03	8.590E 00	2.61E-04	1.22E-03
1.600E 00	3.07E-02	8.0E-03	4.220E 00	4.50E-03	5.6E-03	8.730E 00	1.39E-03	1.02E-03
1.640E 00	2.54E-02	7.9E-03	4.300E 00	2.68E-03	5.2E-03	8.870E 00	1.96E-03	9.4E-04
1.680E 00	2.54E-02	8.4E-03	4.380E 00	3.40E-03	5.3E-03	9.010E 00	2.05E-03	8.9E-04
1.720E 00	2.91E-02	9.1E-03	4.460E 00	4.07E-03	5.6E-03	9.150E 00	1.23E-03	7.2E-04
1.760E 00	2.62E-02	9.7E-03	4.540E 00	3.24E-03	4.3E-03	9.300E 00	4.73E-04	7.1E-04
1.800E 00	2.07E-02	1.2E-02	4.630E 00	6.81E-03	4.3E-03	9.460E 00	2.48E-04	5.7E-04
1.850E 00	1.77E-02	1.0E-02	4.730E 00	1.11E-02	4.1E-03	9.620E 00	3.58E-04	4.8E-04
1.910E 00	1.38E-02	8.6E-03	4.830E 00	7.22E-03	3.9E-03	9.780E 00	1.37E-04	3.9E-04
1.970E 00	1.54E-02	1.0E-02	4.930E 00	4.61E-03	3.8E-03	9.940E 00	4.98E-04	3.4E-04
2.030E 00	2.19E-02	1.0E-02	5.030E 00	7.62E-03	3.7E-03	1.010E 01	5.43E-04	2.9E-04
2.090E 00	1.72E-02	1.1E-02	5.130E 00	8.05E-03	3.7E-03	1.026E 01	4.29E-04	2.0E-04

IPCC GCMs AND PROJECTION CONSENSUS SIMULATION

DETAILED INFORMATION

ISCM GAMMA RAY PRODUCTION CROSS SECTION

E-GAMMA MEV	DATA B/SR/MEV	DATA-EXR B/SR/MEV	E-GAMMA MEV	DATA B/SR/MEV	DATA-PP B/SR/HEV	E-GAMMA MEV	DATA B/SR/HEV	DATA-EP B/SR/HEV
6. 900E-01	7.48E-C3	2.7E-03	8. 05E-05	9. 72E-05	5. 09E-05	5. 30E-00	5. 330E-00	5. 330E-04
7. 100E-01	1. 09E-02	1. 3E-03	2. 210E-00	4. 31E-05	9. 62E-05	5. 530E-00	5. 530E-04	4. 8E-05
7. 300E-01	2. 07E-02	1. 2E-03	2. 270E-00	5. 50E-05	8. 72E-05	5. 530E-00	5. 530E-04	4. 9E-05
7. 500E-01	5. 312-C2	1. 3E-03	2. 330E-00	5. 71E-05	7. 2E-05	5. 530E-00	5. 530E-04	4. 9E-05
7. 700E-01	1. 23E-01	1. 3E-03	2. 390E-00	4. 79E-06	7. 1E-05	5. 530E-00	5. 530E-04	4. 9E-05
7. 900E-01	2. 18E-C1	1. 4E-03	2. 450E-00	7. 40E-05	7. 1E-05	5. 530E-00	5. 530E-04	4. 9E-05
8. 100E-01	2. 91E-01	1. 3E-03	2. 510E-00	-3. 27E-06	6. 72E-05	5. 530E-00	5. 530E-04	4. 9E-05
8. 300E-01	3. 00E-01	1. 1E-03	2. 570E-00	-7. 66E-05	6. 2E-05	5. 530E-00	5. 530E-04	4. 9E-05
8. 500E-01	2. 48E-01	8. 7E-04	2. 630E-00	1. 52E-04	6. 1E-05	5. 530E-00	5. 530E-04	4. 9E-05
8. 700E-01	1. 32E-01	6. 3E-04	2. 690E-00	1. 44E-04	5. 4E-05	5. 530E-00	5. 530E-04	4. 9E-05
8. 900E-01	9. 81E-02	5. 1E-04	2. 750E-00	9. 32E-05	5. 5E-05	5. 530E-00	5. 530E-04	4. 9E-05
9. 100E-01	4. 90E-C2	3. 9E-04	2. 810E-00	9. 06E-05	5. 2E-05	5. 530E-00	5. 530E-04	4. 9E-05
9. 300E-01	2. 12E-02	2. 5E-04	2. 870E-00	1. 15E-04	5. 3E-05	5. 530E-00	5. 530E-04	4. 9E-05
9. 500E-01	7. 99E-03	3. 1E-04	2. 930E-00	8. 26E-05	5. 3E-05	5. 530E-00	5. 530E-04	4. 9E-05
9. 700E-01	7. 79E-03	2. 4E-04	2. 990E-00	1. 56E-05	5. 2E-05	5. 530E-00	5. 530E-04	4. 9E-05
9. 900E-01	6. 81E-03	1. 8E-04	3. 050E-00	1. 54E-05	5. 2E-05	5. 530E-00	5. 530E-04	4. 9E-05
1. 000E-01	4. 00E-01	1. 0E-04	3. 10E-00	7. 79E-05	4. 5E-05	5. 530E-00	5. 530E-04	4. 9E-05
1. 100E-01	9. 00E-01	2. 78E-04	3. 16E-00	1. 11E-04	4. 7E-05	5. 530E-00	5. 530E-04	4. 9E-05
1. 200E-01	9. 00E-05	1. 2E-04	3. 260E-00	5. 95E-05	5. 1E-05	5. 530E-00	5. 530E-04	4. 9E-05
1. 300E-01	9. 03E-05	1. 1E-04	3. 340E-00	2. 05E-05	5. 0E-05	5. 530E-00	5. 530E-04	4. 9E-05
1. 400E-01	1. 65E-04	1. 0E-04	3. 420E-00	5. 67E-05	5. 2E-05	5. 530E-00	5. 530E-04	4. 9E-05
1. 500E-01	2. 22E-04	1. 3E-04	3. 500E-00	1. 07E-04	5. 5E-05	5. 530E-00	5. 530E-04	4. 9E-05
1. 600E-01	1. 040E-00	1. 0E-04	3. 580E-00	7. 93E-05	5. 4E-05	5. 530E-00	5. 530E-04	4. 9E-05
1. 700E-01	1. 000E-00	1. 0E-04	3. 660E-00	2. 58E-05	5. 3E-05	5. 530E-00	5. 530E-04	4. 9E-05
1. 800E-01	7. 62E-04	1. 4E-04	3. 740E-00	5. 09E-05	5. 2E-05	5. 530E-00	5. 530E-04	4. 9E-05
1. 900E-01	2. 78E-04	1. 4E-04	3. 820E-00	8. 02E-05	5. 1E-05	5. 530E-00	5. 530E-04	4. 9E-05
2. 000E-01	9. 00E-05	1. 0E-04	3. 900E-00	4. 06E-05	4. 53E-05	5. 530E-00	5. 530E-04	4. 9E-05
2. 100E-01	1. 280E-00	1. 38E-04	3. 980E-00	4. 74E-05	4. 0E-05	5. 530E-00	5. 530E-04	4. 9E-05
2. 200E-01	1. 320E-00	2. 13E-05	4. 060E-00	2. 48E-05	3. 2E-05	5. 530E-00	5. 530E-04	4. 9E-05
2. 300E-01	1. 360E-00	4. 77E-05	4. 140E-00	4. 20E-05	6. 3E-05	5. 530E-00	5. 530E-04	4. 9E-05
2. 400E-01	3. 10E-05	9. 9E-05	4. 220E-00	3. 90E-05	6. 0E-05	5. 530E-00	5. 530E-04	4. 9E-05
2. 500E-01	1. 440E-00	4. 94E-C5	4. 300E-00	4. 06E-05	6. 4E-05	5. 530E-00	5. 530E-04	4. 9E-05
2. 600E-01	1. 480E-00	1. 01E-04	4. 380E-00	8. 6E-05	6. 0E-05	5. 530E-00	5. 530E-04	4. 9E-05
2. 700E-01	1. 520E-00	1. 10E-04	4. 440E-00	8. 6E-05	6. 3E-05	5. 530E-00	5. 530E-04	4. 9E-05
2. 800E-01	1. 560E-00	1. 13E-04	4. 52E-00	8. 42E-05	6. 4E-05	5. 530E-00	5. 530E-04	4. 9E-05
2. 900E-01	1. 600E-00	1. 25E-04	4. 60E-00	8. 42E-05	6. 5E-05	5. 530E-00	5. 530E-04	4. 9E-05
3. 000E-01	1. 640E-00	1. 13E-04	4. 68E-00	8. 6E-05	6. 6E-05	5. 530E-00	5. 530E-04	4. 9E-05
3. 100E-01	1. 680E-00	1. 6E-04	4. 76E-00	8. 8E-05	6. 7E-05	5. 530E-00	5. 530E-04	4. 9E-05
3. 200E-01	1. 720E-00	1. 03E-04	4. 84E-00	8. 42E-05	6. 8E-05	5. 530E-00	5. 530E-04	4. 9E-05
3. 300E-01	1. 760E-00	1. 18E-05	4. 92E-00	8. 1E-05	5. 77E-05	5. 530E-00	5. 530E-04	4. 9E-05
3. 400E-01	1. 800E-00	6. 49E-C5	4. 96E-00	8. 42E-05	5. 82E-05	5. 530E-00	5. 530E-04	4. 9E-05
3. 500E-01	1. 850E-00	7. 06E-05	5. 0E-05	4. 77E-05	5. 88E-05	5. 530E-00	5. 530E-04	4. 9E-05
3. 600E-01	1. 910E-00	7. 52E-05	5. 0E-05	4. 7E-05	5. 93E-06	5. 530E-00	5. 530E-04	4. 9E-05
3. 700E-01	1. 970E-00	7. 6E-05	5. 0E-05	4. 7E-05	5. 93E-06	5. 530E-00	5. 530E-04	4. 9E-05
3. 800E-01	2. 030E-00	1. 11E-04	4. 27E-04	9. 3E-03	1. 15E-07	5. 530E-00	5. 530E-04	4. 9E-05
3. 900E-01	2. 090E-00	1. 27E-04	4. 27E-04	9. 3E-03	1. 026E-01	5. 530E-00	5. 530E-04	4. 9E-05

IRCN GAMMA RAY PRODUCTION CROSS SECTION

EN-MIN= 0.1320E 01 MEV EN-MAX= 0.2140E 01 MEV THETA=125. DEG

E-GAMMA MEV	DATA B/SR/MEV	DATA-ERR B/SR/MEV	E-GAMMA MEV	DATA B/SR/MEV	DATA-EPR B/SR/MEV	E-GAMMA MEV	DATA B/SR/MEV	DATA-ERR B/SR/MEV
6.900E-01	1.10E-02	4.2E-03	2.150E 00	1.08E-04	8.6E-05	5.230E 00	2.27E-05	4.4E-05
7.100E-01	1.17E-02	2.0E-03	2.210E 00	1.38E-04	8.3E-05	5.330E 00	-4.22E-05	4.4E-05
7.300E-01	1.58E-02	1.8E-03	2.270E 00	8.06E-05	8.0E-05	5.430E 00	-6.33E-05	4.5E-05
7.500E-01	2.77E-02	2.1E-03	2.330E 00	2.94E-05	7.3E-05	5.530E 00	-5.59E-05	4.4E-05
7.700E-01	6.53E-02	2.1E-03	2.290E 00	3.67E-05	6.6E-05	5.630E 00	-3.91E-05	4.3E-05
7.900E-01	1.58E-01	2.1E-03	2.450E 00	6.31E-05	6.5E-05	5.730E 00	-1.04E-05	4.1E-05
8.100E-01	3.05E-01	2.4E-03	2.510E 00	9.45E-05	6.3E-05	5.830E 00	3.57E-05	4.3E-05
8.300E-01	4.47E-01	2.1E-03	2.570E 00	1.03E-04	6.5E-05	5.930E 00	8.52E-05	4.3E-05
8.500E-01	5.04E-01	2.2E-03	2.630E 00	7.63E-05	6.1E-05	6.030E 00	1.04E-04	4.3E-05
8.700E-01	4.65E-01	1.7E-03	2.690E 00	4.73E-05	6.0E-05	6.130E 00	8.10E-05	4.3E-05
8.900E-01	3.51E-01	2.0E-03	2.750E 00	3.60E-05	5.7E-05	6.230E 00	3.87E-05	4.2E-05
9.100E-01	2.23E-01	1.3E-03	2.810E 00	5.41E-05	5.5E-05	6.330E 00	8.55E-06	4.2E-05
9.300E-01	1.20E-01	1.2E-03	2.870E 00	8.92E-05	5.1E-05	6.440E 00	-1.41E-05	4.0E-05
9.500E-01	5.49E-02	1.4E-03	2.930E 00	9.67E-05	5.0E-05	6.560E 00	-3.33E-05	3.8E-05
9.700E-01	2.15E-02	7.0E-04	2.990E 00	6.62E-05	5.1E-05	6.680E 00	-2.91E-05	3.4E-05
1.000E 00	4.60E-03	4.5E-04	3.050E 00	5.15E-05	5.0E-05	6.800E 00	2.39E-05	3.2E-05
1.040E 00	1.20E-03	3.5E-04	3.110E 00	8.97E-05	5.1E-05	6.920E 00	8.59E-05	2.9E-05
1.080E 00	6.82E-04	3.0E-04	3.180E 00	1.36E-04	4.9E-05	7.040E 00	1.01E-04	2.8E-05
1.120E 00	4.39E-04	2.7E-04	3.260E 00	1.03E-04	4.9E-05	7.160E 00	6.74E-05	2.5E-05
1.160E 00	7.45E-04	2.5E-04	3.340E 00	4.82E-05	4.8E-05	7.280E 00	1.87E-05	2.4E-05
1.200E 00	7.14E-04	2.2E-04	3.420E 00	3.60E-05	5.2E-05	7.400E 00	-1.65E-05	2.5E-05
1.240E 00	2.32E-04	2.2E-04	3.500E 00	-6.26E-06	5.2E-05	7.520E 00	-2.56E-05	2.4E-05
1.280E 00	1.01E-03	2.2E-04	3.580E 00	-7.75E-05	5.4E-05	7.640E 00	-6.96E-06	2.4E-05
1.320E 00	3.92E-03	2.2E-04	3.660E 00	-8.94E-05	5.3E-05	7.760E 00	2.61E-05	2.4E-05
1.360E 00	9.36E-03	2.7E-04	3.740E 00	-1.83E-05	5.7E-05	7.890E 00	5.62E-05	2.4E-05
1.400E 00	1.37E-02	3.2E-04	3.820E 00	7.30E-05	5.7E-05	8.030E 00	6.94E-05	2.2E-05
1.440E 00	1.17E-02	2.7E-04	3.900E 00	1.04E-04	5.7E-05	8.170E 00	5.95E-05	2.3E-05
1.480E 00	6.13E-03	1.9E-04	3.980E 00	1.16E-04	5.7E-05	8.310E 00	3.19E-05	2.1E-05
1.520E 00	2.38E-03	1.3E-04	4.060E 00	1.47E-04	6.0E-05	8.450E 00	1.84E-06	2.0E-05
1.560E 00	1.03E-03	1.3E-04	4.140E 00	1.35E-04	5.3E-05	8.590E 00	-2.98E-06	1.9E-05
1.600E 00	6.15E-04	1.1E-04	4.220E 00	6.06E-05	6.0E-05	8.730E 00	1.92E-05	1.6E-05
1.640E 00	3.67E-04	9.6E-05	4.300E 00	-1.47E-05	5.9E-05	8.870E 00	4.55E-05	1.5E-05
1.680E 00	4.58E-04	9.1E-05	4.380E 00	-4.56E-05	5.9E-05	9.010E 00	5.68E-05	1.3E-05
1.720E 00	4.45E-04	8.9E-05	4.460E 00	-5.20E-05	5.6E-05	9.150E 00	5.61E-05	1.1E-05
1.760E 00	3.27E-04	8.6E-05	4.540E 00	-3.89E-05	5.4E-05	9.300E 00	5.06E-05	1.0E-05
1.800E 00	1.03E-04	8.4E-05	4.630E 00	3.37E-06	5.3E-05	9.460E 00	4.49E-05	8.0E-06
1.850E 00	7.50E-05	8.4E-05	4.730E 00	4.88E-05	4.9E-05	9.620E 00	3.95E-05	5.4E-06
1.910E 00	2.43E-05	8.4E-05	4.830E 00	7.23E-05	4.8E-05	9.780E 00	2.78E-05	4.4E-06
1.970E 00	4.23E-05	7.9E-05	4.930E 00	1.13E-04	4.9E-05	9.940E 00	1.36E-05	3.3E-06
2.030E 00	9.81E-05	8.3E-05	5.030E 00	1.42E-04	4.6E-05	1.010E 01	4.53E-06	1.4E-06
2.090E 00	8.76E-05	7.8E-05	5.130E 00	1.03E-04	4.6E-05	1.026E 01	1.05E-06	3.8E-07

IRCN GAMMA RAY PRODUCTION CROSS SECTION

EN-MIN= 0.2140E 61 HEV

EN-MAX= 0.3070E 01 HEV

THETA=125. DEG

E-GAMMA MEV	DATA B/SE/MEV	DATA-ERR B/SR/MEV	E-GAMMA MEV	DATA B/SE/MEV	DATA-ERR B/SR/MEV	E-GAMMA MEV	DATA B/SE/MEV	DATA-ERR B/SR/MEV
6.960E-01	1.08E-02	7.0E-03	2.150E 00	1.99E-03	2.1E-04	5.230E 00	-2.40E-05	4.63-05
7.100E-01	1.54E-02	3.4E-03	2.210E 00	1.17E-03	1.9E-04	5.330E 00	2.34E-05	4.5E-05
7.300E-01	2.51E-02	3.0E-03	2.270E 00	6.65E-04	1.6E-04	5.430E 00	7.69E-05	4.62-05
7.500E-01	5.06E-02	3.6E-03	2.330E 00	4.62E-04	1.5E-04	5.530E 00	1.04E-04	4.53-05
7.700E-01	1.29E-01	3.6E-03	2.390E 00	3.34E-04	1.3E-04	5.630E 00	7.91E-05	3.9E-05
7.900E-01	2.92E-01	3.6E-03	2.450E 00	2.57E-04	1.2E-04	5.730E 00	8.35E-06	3.5E-05
8.100E-01	5.05E-01	3.7E-03	2.510E 00	3.27E-04	1.1E-04	5.830E 00	-3.66E-05	3.1E-05
8.300E-01	6.64E-01	3.5E-03	2.570E 00	4.50E-04	1.2E-04	5.930E 00	9.17E-06	3.6E-05
8.500E-01	6.87E-01	3.4E-03	2.630E 00	3.89E-04	1.1E-04	6.030E 00	9.16E-05	3.7E-05
8.700E-01	5.75E-01	2.6E-03	2.690E 00	2.27E-04	1.1E-04	6.130E 00	1.30E-04	1.2E-05
8.900E-01	3.99E-01	3.1E-03	2.750E 00	1.14E-04	8.0E-05	6.230E 00	1.08E-04	3.0E-05
9.100E-01	2.34E-01	2.3E-03	2.310E 00	4.41E-05	7.5E-05	6.330E 00	5.21E-05	3.1E-05
9.300E-01	1.19E-01	2.1E-03	2.870E 00	1.36E-05	7.1E-05	6.440E 00	-2.42E-07	3.1E-05
9.500E-01	5.29E-02	2.3E-03	2.930E 00	3.91E-05	6.4E-05	6.560E 00	-3.90E-05	3.0E-05
9.700E-01	2.10E-02	1.5E-03	2.990E 00	7.35E-05	6.6E-05	6.680E 00	-2.92E-05	3.4E-05
1.000E 00	5.06E-03	1.2E-03	3.050E 00	6.05E-05	6.8E-05	6.800E 00	1.73E-05	3.1E-05
1.040E 00	1.48E-03	1.0E-03	3.110E 00	2.752E-05	6.8E-05	6.920E 00	7.07E-05	2.9E-05
1.080E 00	7.70E-04	1.0E-03	3.180E 00	4.51E-05	6.9E-05	7.040E 00	8.32E-05	2.7E-05
1.120E 00	3.51E-03	8.9E-04	3.260E 00	8.52E-05	6.2E-05	7.160E 00	5.72E-05	2.5E-05
1.160E 00	1.34E-02	9.4E-04	3.340E 00	3.43E-05	6.4E-05	7.280E 00	2.69E-05	2.4E-05
1.200E 00	2.95E-02	9.8E-04	3.420E 00	-5.17E-05	7.0E-05	7.400E 00	1.35E-05	2.4E-05
1.240E 00	3.59E-02	9.4E-04	3.500E 00	-4.74E-05	6.6E-05	7.520E 00	6.77E-06	2.5E-05
1.280E 00	2.58E-02	8.0E-04	3.580E 00	-7.54E-05	7.2E-05	7.640E 00	-6.46E-08	2.5E-05
1.320E 00	1.80E-02	6.8E-04	3.660E 00	1.82E-04	7.5E-05	7.760E 00	1.19E-05	2.6E-05
1.360E 00	2.23E-02	7.7E-04	3.740E 00	1.47E-04	7.6E-05	7.890E 00	4.90E-05	2.7E-05
1.400E 00	2.52E-02	7.7E-04	3.820E 00	3.87E-05	8.1E-05	8.030E 00	7.91E-05	2.8E-05
1.440E 00	1.80E-02	6.9E-04	3.900E 00	-1.232E-05	8.5E-05	8.170E 00	6.10E-05	2.6E-05
1.480E 00	8.56E-03	5.1E-04	3.980E 00	-2.22E-05	7.9E-05	8.310E 00	9.84E-06	2.6E-05
1.520E 00	3.32E-03	4.4E-04	4.06E-05	8.53E-05	7.9E-05	8.450E 00	-3.00E-05	2.6E-05
1.560E 00	1.28E-03	4.1E-04	4.140E 00	1.22E-04	8.3E-05	8.590E 00	-2.66E-05	2.4E-05
1.600E 00	9.84E-04	3.6E-04	4.220E 00	9.36E-05	8.1E-05	8.730E 00	2.04E-05	2.2E-05
1.640E 00	1.98E-03	3.2E-04	4.300E 00	-2.60E-05	7.9E-05	8.870E 00	6.31E-05	2.1E-05
1.680E 00	4.59E-03	3.3E-04	4.380E 00	-1.50E-05	7.1E-05	9.010E 00	6.08E-05	2.0E-05
1.720E 00	9.64E-03	4.0E-04	4.460E 00	-1.39E-05	6.5E-05	9.150E 00	2.74E-05	1.8E-05
1.760E 00	1.50E-02	4.2E-04	4.540E 00	1.91E-05	5.9E-05	9.300E 00	2.66E-06	1.6E-05
1.800E 00	1.62E-02	4.7E-04	4.630E 00	6.11E-05	5.9E-05	9.460E 00	4.43E-06	1.6E-05
1.850E 00	1.08E-02	3.6E-04	4.730E 00	9.78E-05	5.9E-05	9.620E 00	2.03E-05	1.6E-05
1.910E 00	3.18E-03	2.5E-04	4.830E 00	8.602E-05	5.6E-05	9.780E 00	4.37E-05	1.1E-05
1.970E 00	9.12E-04	2.2E-04	4.930E 00	-5.132E-05	5.2E-05	9.940E 00	5.38E-05	9.0E-06
2.030E 00	4.65E-03	2.2E-04	5.030E 00	1.026E 01	1.026E 01	4.56E-05	7.99E-06	2.46E-05
2.090E 00	2.33E-03	2.3E-04	5.130E 00	-6.28E-05	5.0E-05	5.02E-05	2.32E-04	2.32E-04

ISCN GAMMA RAY PRODUCTION CROSS SECTION

EN-MIN = 0.3070E 01 MEV EN-MAX = 0.4110E 01 MEV

E-GAMMA MEV	DATA B/SR/MEV	DATA-ERR B/SR/MEV	E-GAMMA MEV	DATA B/SR/MEV	DATA-ERR B/SR/MEV	E-GAMMA MEV	DATA B/SR/MEV	DATA-ERR B/SR/MEV
6. 900E-01	1. 65E-02	1. 1E-02	2. 150E 00	2. 210E 00	1. 6E-02	3. 19E-02	2. 39E-02	1. 4E-02
7. 100E-01	2. 67E-02	5. 3E-03	2. 270E 00	2. 330E 00	2. 0E-03	1. 34E-02	1. 34E-02	1. 1E-03
7. 300E-01	2. 93E-02	5. 2E-03	2. 390E 00	9. 78E-03	7. 5E-04	9. 0E-02	9. 0E-02	4. 7E-05
7. 500E-01	5. 44E-02	5. 6E-03	2. 450E 00	1. 83E-02	8. 0E-04	1. 47E-02	1. 47E-02	5. 1E-05
7. 700E-01	1. 56E-01	3. 9E-03	2. 510E 00	1. 68E-02	7. 7E-04	1. 78E-03	1. 78E-03	4. 9E-05
7. 900E-01	3. 62E-01	5. 9E-03	2. 570E 00	1. 26E-02	6. 2E-04	1. 72E-02	1. 72E-02	5. 0E-05
8. 100E-01	6. 24E-01	5. 9E-03	2. 630E 00	1. 48E-03	5. 5E-04	1. 48E-03	1. 48E-03	4. 9E-05
8. 300E-01	6. 00E-01	5. 8E-03	2. 690E 00	1. 08E-03	4. 4E-04	1. 08E-03	1. 08E-03	5. 0E-05
8. 500E-01	8. 50E-01	5. 7E-03	2. 750E 00	4. 44E-03	3. 9E-04	4. 44E-03	4. 44E-03	5. 1E-05
8. 700E-01	6. 26E-01	5. 1E-03	2. 810E 00	3. 80E-03	3. 8E-04	4. 10E-03	4. 10E-03	5. 2E-05
8. 900E-01	4. 06E-01	5. 5E-03	2. 870E 00	3. 60E-03	3. 6E-04	4. 42E-03	4. 42E-03	5. 3E-05
9. 100E-01	2. 20E-01	4. 9E-03	2. 930E 00	4. 08E-03	4. 0E-04	4. 72E-03	4. 72E-03	5. 4E-05
9. 300E-01	1. 00E-01	4. 1E-03	2. 990E 00	3. 67E-03	3. 67E-03	4. 42E-03	4. 42E-03	5. 5E-05
9. 500E-01	9. 50E-01	4. 7E-02	3. 050E 00	3. 050E 00	3. 050E 00	4. 17E-03	4. 17E-03	5. 6E-05
9. 700E-01	2. 07E-02	4. 0E-03	3. 110E 00	3. 260E 00	3. 260E 00	4. 42E-03	4. 42E-03	5. 7E-05
9. 900E-01	1. 00E-01	4. 4E-02	3. 170E 00	3. 40E-03	3. 40E-03	4. 72E-03	4. 72E-03	5. 8E-05
1. 040E 00	1. 040E 00	4. 8E-02	3. 230E 00	3. 56E-03	3. 56E-03	5. 0E-03	5. 0E-03	5. 9E-05
1. 120E 00	1. 38E-02	2. 7E-03	3. 290E 00	3. 82E-03	3. 82E-03	6. 0E-03	6. 0E-03	6. 0E-05
1. 160E 00	4. 58E-02	2. 7E-03	3. 350E 00	4. 60E-03	4. 60E-03	6. 6E-03	6. 6E-03	6. 1E-05
1. 200E 00	8. 89E-02	2. 9E-03	3. 420E 00	5. 60E-03	5. 60E-03	7. 1E-03	7. 1E-03	7. 2E-05
1. 240E 00	9. 25E-02	3. 0E-03	3. 500E 00	6. 00E-03	6. 00E-03	7. 7E-03	7. 7E-03	7. 8E-05
1. 280E 00	5. 68E-02	2. 5E-03	3. 580E 00	3. 19E-03	3. 19E-03	8. 3E-03	8. 3E-03	8. 4E-05
1. 320E 00	2. 82E-02	2. 1E-03	3. 660E 00	1. 08E-03	1. 08E-03	9. 9E-03	9. 9E-03	9. 9E-05
1. 360E 00	2. 42E-02	2. 1E-03	3. 740E 00	2. 96E-04	2. 96E-04	1. 6E-03	1. 6E-03	1. 6E-05
1. 400E 00	2. 50E-02	2. 3E-03	3. 920E 00	2. 64E-04	2. 64E-04	1. 5E-03	1. 5E-03	1. 5E-05
1. 440E 00	1. 79E-02	2. 2E-03	3. 90E-03	3. 09E-04	3. 09E-04	1. 32E-03	1. 32E-03	1. 32E-05
1. 480E 00	7. 38E-03	1. 8E-03	3. 980E 00	2. 25E-04	2. 25E-04	1. 42E-03	1. 42E-03	1. 42E-05
1. 520E 00	2. 10E-03	2. 0E-03	4. 0E-02	3. 09E-04	3. 09E-04	1. 52E-03	1. 52E-03	1. 52E-05
1. 560E 00	1. 72E-03	1. 9E-03	4. 14E-02	4. 0E-02	4. 0E-02	1. 42E-03	1. 42E-03	1. 42E-05
1. 600E 00	1. 61E-04	1. 7E-03	4. 22E-02	4. 0E-02	4. 0E-02	1. 0E-03	1. 0E-03	1. 0E-05
1. 640E 00	2. 64E-04	1. 5E-03	4. 30E-02	4. 0E-02	4. 0E-02	1. 0E-03	1. 0E-03	1. 0E-05
1. 680E 00	1. 19E-02	1. 6E-03	4. 38E-02	4. 0E-02	4. 0E-02	1. 0E-03	1. 0E-03	1. 0E-05
1. 720E 00	3. 87E-02	1. 8E-03	4. 46E-02	4. 0E-02	4. 0E-02	1. 0E-03	1. 0E-03	1. 0E-05
1. 760E 00	6. 64E-02	2. 0E-03	4. 54E-02	4. 0E-02	4. 0E-02	1. 0E-03	1. 0E-03	1. 0E-05
1. 800E 00	7. 30E-02	2. 2E-03	4. 63E-02	4. 0E-02	4. 0E-02	1. 0E-03	1. 0E-03	1. 0E-05
1. 850E 00	4. 80E-02	1. 7E-03	4. 73E-02	4. 0E-02	4. 0E-02	1. 0E-03	1. 0E-03	1. 0E-05
1. 910E 00	1. 42E-02	1. 4E-03	4. 83E-02	4. 0E-02	4. 0E-02	1. 0E-03	1. 0E-03	1. 0E-05
1. 970E 00	4. 34E-02	1. 5E-03	5. 03E-02	4. 0E-02	4. 0E-02	1. 0E-03	1. 0E-03	1. 0E-05
2. 030E 00	5. 92E-02	1. 8E-03	5. 13E-02	5. 03E-02	5. 03E-02	1. 0E-03	1. 0E-03	1. 0E-05
2. 090E 00	5. 3E-02	5. 3E-03	5. 27E-02	5. 03E-02	5. 03E-02	1. 0E-03	1. 0E-03	1. 0E-05

IRON GAMMA RAY PRODUCTION CROSS SECTION

EN-MIN= 0.4110E 01 MEV EN-MAX= 0.5140E 01 MEV THETA=125. DEG

E-GAMMA MEV	DATA R/SR/MEV	DATA-ERR B/SR/MEV	E-GAMMA MEV	DATA B/SR/MEV	DATA-ERR B/SR/MEV	E-GAMMA MEV	DATA B/SR/MEV	DATA-ERR B/SR/MEV
6.900E-01	1.73E-02	1.68-02	2.150E 00	2.72-03	5.72-05	5.230E 00	-4.67E-05	-1.71E-05
7.100E-01	2.57E-C2	8.0E-03	2.210E 00	2.5E-03	5.9E-05	5.330E 00	-6.50E-05	6.0E-05
7.300E-01	4.54E-02	7.4E-03	2.270E 00	2.3E-03	4.4E-05	5.430E 00	6.32E-05	4.4E-05
7.500E-01	1.323E-01	8.1E-03	2.330E 00	2.0E-03	5.5E-05	5.530E 00	4.81E-05	3.89E-05
7.700E-01	3.418E-01	8.2E-03	2.390E 00	1.92-03	5.6E-05	5.630E 00	3.69E-05	3.69E-05
7.900E-01	6.298E-01	7.9E-03	2.450E 00	1.92-03	5.6E-05	5.730E 00	3.66E-05	4.72-05
8.100E-01	8.552E-01	7.8E-03	2.510E 00	1.92-03	5.6E-05	5.830E 00	3.66E-05	2.68-05
8.300E-01	8.912E-01	7.4E-03	2.570E 00	1.72-03	5.6E-05	5.930E 00	1.34E-04	2.15E-04
8.500E-01	7.325E-01	7.4E-03	2.630E 00	1.68-03	5.6E-05	6.030E 00	1.51E-04	4.4E-05
8.700E-01	4.815E-01	6.7E-03	2.690E 00	1.42-02	5.5E-05	6.130E 00	9.05E-05	5.18-05
8.900E-01	2.612E-01	6.9E-03	2.750E 00	1.91E-02	5.6E-05	6.230E 00	1.09E-05	4.28-05
9.100E-01	9.103E-01	6.5E-03	2.810E 00	1.45E-02	5.6E-05	6.330E 00	1.21E-04	3.5E-05
9.300E-01	3.983E-02	5.2E-03	2.870E 00	1.43E-02	5.6E-05	6.440E 00	1.38E-04	4.28-05
9.500E-01	4.012E-02	6.7E-03	2.930E 00	1.18-03	5.6E-05	6.560E 00	2.08E-05	3.88-05
9.700E-01	3.752E-02	5.7E-03	2.990E 00	1.52E-02	5.6E-05	6.680E 00	1.21E-04	4.58E-05
9.900E-01	3.44652E-02	5.9E-03	3.050E 00	1.41E-02	5.6E-05	6.800E 00	1.53E-04	3.48E-05
1.000E 00	1.040E 00	5.2E-03	3.10E 00	1.54E-02	5.6E-05	6.920E 00	1.24E-04	3.55E-05
1.120E 00	2.32E-02	4.9E-03	3.16E 00	1.74E-02	5.6E-05	7.04E 00	6.34E-05	6.25E-05
1.160E 00	4.66E-02	4.5E-03	3.26E 00	1.89E-02	5.6E-05	7.16E 00	6.25E-06	5.6E-05
1.200E 00	1.13E-01	4.6E-03	3.34E 00	1.92E-02	5.6E-05	7.28E 00	7.40E 00	2.0E 00
1.240E 00	1.70E-01	4.42E-01	3.42E 00	2.47E-02	5.6E-04	7.40E 00	7.52E 00	2.2E 00
1.280E 00	7.1	1.52E-02	3.49E 00	3.07E-02	5.6E-04	7.52E 00	7.64E 00	2.4E 00
1.320E 00	4.42E-02	3.0E-03	3.56E 00	2.40E 00	5.6E-04	7.64E 00	7.76E 00	1.9E 00
1.360E 00	3.70E-02	3.32E-03	3.64E 00	1.89E-02	5.6E-04	7.89E 00	5.67E-05	1.7E 00
1.400E 00	2.79E-02	3.82E-C2	3.74E 00	1.03E-02	4.1E-04	7.99E 00	3.90E 00	3.90E 00
1.440E 00	1.52E-02	3.4E-03	3.82E 00	5.77E-03	5.82E-04	8.01E 00	8.10E 00	3.0E 00
1.480E 00	6.462E-03	3.0L-03	3.90E 00	3.42E-03	3.42E-04	8.17E 00	2.70E 00	2.70E 00
1.52E-03	3.0E-03	3.0E-03	3.98E 00	2.90E 00	2.90E 00	8.31E 00	3.07E 06	1.6E 00
1.56E-03	3.0E-03	3.0E-03	4.06E 00	1.89E-02	5.6E-04	8.45E 00	1.75E-05	2.1E 00
1.60E-02	6.490E 00	2.90E 00	4.22E 00	1.00E 00	1.00E 00	8.59E 00	1.75E-05	2.3E 00
1.64E-02	6.490E 00	2.90E 00	4.32E 00	1.00E 00	1.00E 00	8.70E 00	7.96E-05	2.2E 00
1.68E-02	6.490E 00	2.90E 00	4.42E 00	1.00E 00	1.00E 00	8.87E 00	1.59E-05	1.8E 00
1.72E 00	6.490E 00	2.90E 00	4.54E 00	1.00E 00	1.00E 00	8.97E 00	3.77E 05	1.71E 00
1.76E 00	6.490E 00	2.90E 00	4.66E 00	1.00E 00	1.00E 00	9.07E 00	4.46E 05	2.4E 00
1.80E 00	6.490E 00	2.90E 00	4.78E 00	1.00E 00	1.00E 00	9.17E 00	5.13E 06	1.38E 00
1.850E 00	6.490E 00	2.90E 00	4.90E 00	1.00E 00	1.00E 00	9.27E 00	6.56E 05	1.71E 00
1.910E 00	6.490E 00	2.90E 00	5.02E 00	1.00E 00	1.00E 00	9.37E 00	7.68E 00	3.71E 00
1.970E 00	6.490E 00	2.90E 00	5.14E 00	1.00E 00	1.00E 00	9.47E 00	8.94E 00	2.39E 00
2.030E 00	6.490E 00	2.90E 00	5.26E 00	1.00E 00	1.00E 00	9.57E 00	1.01E 02	1.02E 01

INTRODUCTION BY PRODUCTION COUNCIL SECRETARY

=NIN-NIN= 0.5140E 01 MEV PI-PIX = 0.6130E 01 MEV THETA=15. DEG

IPCM GAMMA RAY PRODUCTION CROSS SECTION

EN-MIN= 0.6130E 01 MEV EN-MAX= 0.7750E 01 MEV THETA= 125. DEG

E-GAMMA MEV	DATA B/SR/MEV	DATA-IRR B/SR/MEV	E-GAMMA MEV	DATA B/SR/MEV	DATA-IRR B/SR/MEV	E-GAMMA MEV	DATA B/SR/MEV	DATA-EPR B/SR/MEV
6.900E-01	2.53E-02	2.3E-02	2.150E 00	5.86E-02	5.6E-03	5.230E 00	6.58E-03	5.4E-04
7.100E-01	2.31E-02	1.4E-02	2.210E 00	4.09E-02	5.0E-03	5.330E 00	5.46E-03	5.3E-04
7.300E-01	2.67E-02	1.3E-02	2.470E 00	3.48E-02	4.7E-03	5.430E 00	4.36E-03	4.5E-04
7.500E-01	3.64E-02	1.4E-02	2.330E 00	3.12E-02	4.2E-03	5.530E 00	5.58E-03	4.6E-04
7.700E-01	6.99E-02	1.5E-02	2.390E 00	2.96E-02	3.7E-03	5.630E 00	3.16E-03	4.5E-04
7.900E-01	1.66E-01	1.4E-02	2.46E-02	3.76E-02	3.92E-03	5.730E 00	3.17E-03	4.2E-04
8.100E-01	3.65E-01	1.5E-02	2.510E 00	5.28E-02	3.87E-03	5.830E 00	3.40E-03	4.1E-04
8.300E-01	6.23E-01	1.5E-02	2.570E 00	6.11E-02	3.82E-03	5.930E 00	3.32E-03	3.6E-04
8.500E-01	8.17E-01	1.6E-02	2.630E 00	5.52E-02	3.52E-03	6.030E 00	2.74E-03	3.7E-04
8.700E-01	8.46E-01	1.5E-02	2.690E 00	4.25E-02	2.9E-03	6.130E 00	2.10E-03	3.5E-04
8.900E-01	7.12E-01	1.7E-02	2.750E 00	3.22E-02	2.5E-03	6.230E 00	1.71E-03	3.2E-04
9.100E-01	4.96E-01	1.7E-02	2.810E 00	2.65E-02	2.3E-03	6.330E 00	1.53E-03	3.0E-04
9.300E-01	2.93E-01	1.4E-02	2.870E 00	2.48E-02	2.3E-03	6.440E 00	1.35E-03	2.4E-04
9.500E-01	1.53E-01	1.7E-02	2.930E 00	2.58E-02	2.1E-03	6.560E 00	1.05E-03	2.1E-04
9.70E-01	7.99E-02	1.4E-02	2.990E 00	2.68E-02	2.1E-03	6.6680E 00	7.08E-04	1.9E-04
1.000E 00	5.71E-02	1.2E-02	3.050E 00	2.66E-02	2.0E-03	6.800E 00	5.30E-04	1.7E-04
1.040E 00	7.02E-02	1.1E-02	3.110E 00	2.68E-02	1.9E-03	6.920E 00	5.35E-04	1.6E-04
1.080E 00	5.98E-02	1.1E-02	3.170E 00	2.99E-02	1.8E-03	7.040E 00	5.41E-04	1.2E-04
1.120E 00	4.13E-02	9.6E-03	3.230E 00	3.02E-02	1.8E-03	7.160E 00	3.83E-04	1.0E-04
1.160E 00	7.60E-02	9.3E-03	3.290E 00	2.99E-02	1.7E-03	7.280E 00	3.0E-04	9.1E-05
1.200E 00	1.75E-01	9.7E-03	3.340E 00	3.02E-02	1.6E-03	7.400E 00	2.4E-04	8.1E-05
1.240E 00	2.55E-01	1.0E-02	3.40E 00	3.04E-02	1.6E-03	7.520E 00	1.7E-04	7.1E-05
1.280E 00	2.30E-01	9.4E-03	3.460E 00	3.04E-02	1.6E-03	7.640E 00	1.04E-05	6.1E-05
1.320E 00	1.36E-01	7.6E-03	3.520E 00	3.04E-02	1.5E-03	7.760E 00	5.49E-06	5.1E-05
1.360E 00	7.62E-02	7.4E-03	3.580E 00	3.04E-02	1.5E-03	7.840E 00	3.66E-05	4.1E-05
1.400E 00	6.02E-02	7.5E-03	3.640E 00	3.04E-02	1.5E-03	7.960E 00	2.42E-05	3.1E-05
1.440E 00	4.69E-02	7.1E-03	3.700E 00	3.04E-02	1.5E-03	8.030E 00	1.42E-05	2.1E-05
1.480E 00	2.81E-02	6.3E-03	3.760E 00	3.04E-02	1.5E-03	8.170E 00	5.97E-06	1.9E-05
1.520E 00	1.68E-02	6.3E-03	3.820E 00	3.04E-02	1.5E-03	8.310E 00	3.64E-05	4.8E-05
1.560E 00	1.45E-02	6.6E-03	3.900E 00	3.04E-02	1.5E-03	8.450E 00	2.44E-05	3.4E-05
1.600E 00	1.45E-02	6.6E-03	3.960E 00	3.04E-02	1.5E-03	8.590E 00	1.40E-05	2.7E-05
1.640E 00	1.82E-02	6.1E-03	4.020E 00	3.04E-02	1.5E-03	8.730E 00	7.95E-06	1.7E-05
1.680E 00	3.34E-02	5.3E-03	4.220E 00	3.04E-02	1.5E-03	8.870E 00	3.33E-05	4.4E-05
1.720E 00	4.59E-02	5.9E-03	4.380E 00	3.04E-02	1.5E-03	8.910E 00	1.95E-05	2.7E-05
1.760E 00	6.98E-02	5.8E-03	4.500E 00	3.04E-02	1.5E-03	9.010E 00	1.54E-05	2.3E-05
1.800E 00	9.12E-02	6.4E-03	4.630E 00	3.04E-02	1.5E-03	9.110E 00	1.16E-05	1.9E-05
1.850E 00	8.56E-02	5.8E-03	4.730E 00	3.04E-02	1.5E-03	9.210E 00	7.95E-06	1.5E-05
1.910E 00	4.94E-02	5.6E-03	4.8460E 00	3.04E-02	1.5E-03	9.300E 00	5.60E-05	1.1E-05
1.970E 00	3.92E-02	5.2E-03	4.930E 00	3.04E-02	1.5E-03	9.400E 00	3.65E-05	8.1E-06
2.030E 00	5.76E-02	5.3E-03	5.030E 00	3.04E-02	1.5E-03	9.500E 00	2.47E-05	5.9E-06
2.090E 00	7.21E-02	5.2E-03	5.130E 00	3.04E-02	1.5E-03	9.600E 00	1.47E-05	3.9E-06

IRON GAMMA RAY PRODUCTION CROSS SECTION

EN-MIN= 0.7750E 01 MEV EN-MAX= 0.9830E 01 MEV THETA= 125. DEG

Z-GAMMA MEV	DATA B/SR/MEV	DATA-ERR B/SR/MEV	Z-GAMMA MEV	DATA B/SR/MEV	DATA-ERR B/SR/MEV	Z-GAMMA MEV	DATA B/SR/MEV	DATA-ERR B/SR/MEV
6.900E-01	2.31E-02	2.7E-02	2.150E 00	3.83E-02	7.2E-03	5.230E 00	8.88E-03	1.1E-03
7.100E-01	2.15E-02	1.7E-02	2.210E 00	3.31E-02	6.2E-03	5.330E 00	8.99E-03	1.1E-03
7.300E-01	2.74E-02	1.6E-02	2.270E 00	3.08E-02	5.7E-03	5.430E 00	8.08E-03	1.0E-03
7.500E-01	4.51E-02	1.7E-02	2.330E 00	2.93E-02	5.4E-03	5.530E 00	7.47E-03	1.0E-03
7.700E-01	1.06E-01	1.8E-02	2.390E 00	3.12E-02	4.9E-03	5.630E 00	6.60E-03	1.0E-03
7.900E-01	2.54E-01	1.7E-02	2.450E 00	3.81E-02	5.0E-03	5.730E 00	5.01E-03	1.0E-03
8.100E-01	4.79E-01	1.7E-02	2.510E 00	5.24E-02	5.0E-03	5.830E 00	4.93E-03	1.0E-03
8.300E-01	6.82E-01	1.7E-02	2.570E 00	5.75E-02	4.6E-03	5.930E 00	6.25E-03	9.6E-04
8.500E-01	7.55E-01	1.6E-02	2.630E 00	4.59E-02	4.2E-03	6.030E 00	6.48E-03	9.9E-04
8.700E-01	6.71E-01	1.7E-02	2.690E 00	3.47E-02	3.8E-03	6.130E 00	5.70E-03	9.1E-04
8.900E-01	4.92E-01	1.7E-02	2.750E 00	2.79E-02	3.3E-03	6.230E 00	5.63E-03	8.8E-04
9.100E-01	3.03E-01	1.7E-02	2.810E 00	2.50E-02	3.2E-03	6.330E 00	6.37E-03	8.2E-04
9.300E-01	1.64E-01	1.5E-02	2.870E 00	2.78E-02	3.0E-03	6.440E 00	6.24E-03	7.9E-04
9.500E-01	8.63E-02	1.7E-02	2.930E 00	3.14E-02	3.1E-03	6.560E 00	5.38E-03	7.3E-04
9.700E-01	5.41E-02	1.4E-02	2.990E 00	3.10E-02	3.0E-03	6.680E 00	5.27E-03	6.2E-04
1.000E 00	5.74E-02	1.4E-02	3.050E 00	2.93E-02	2.9E-03	6.800E 00	4.97E-03	5.7E-04
1.040E 00	7.26E-02	1.2E-02	3.110E 00	2.87E-02	2.9E-03	6.920E 00	4.28E-03	5.2E-04
1.080E 00	5.78E-02	1.1E-02	3.180E 00	2.93E-02	2.8E-03	7.040E 00	3.95E-03	4.8E-04
1.120E 00	4.14E-02	1.1E-02	3.260E 00	3.27E-02	2.8E-03	7.160E 00	3.66E-03	4.2E-04
1.160E 00	1.01E-01	1.2E-02	3.340E 00	3.40E-02	2.4E-03	7.280E 00	3.20E-03	3.8E-04
1.200E 00	2.27E-01	1.2E-02	3.420E 00	3.31E-02	2.5E-03	7.400E 00	2.91E-03	3.5E-04
1.240E 00	2.73E-01	1.3E-02	3.500E 00	3.50E-02	2.7E-03	7.520E 00	2.65E-03	3.4E-04
1.290E 00	2.10E-01	1.1E-02	3.580E 00	3.69E-02	2.2E-03	7.640E 00	2.13E-03	3.2E-04
1.320E 00	1.21E-01	8.5E-03	3.660E 00	3.33E-02	1.9E-03	7.760E 00	1.56E-03	2.8E-04
1.360E 00	7.38E-02	8.7E-03	3.740E 00	2.58E-02	1.9E-03	7.890E 00	1.23E-03	2.4E-04
1.400E 00	5.62E-02	8.4E-03	3.820E 00	2.23E-02	2.0E-03	8.030E 00	1.11E-03	2.3E-04
1.440E 00	3.60E-02	8.0E-03	3.900E 00	1.93E-02	1.9E-03	8.170E 00	1.01E-03	2.0E-04
1.480E 00	2.13E-02	7.1E-03	3.980E 00	1.59E-02	2.1E-03	8.310E 00	8.21E-04	1.6E-04
1.520E 00	1.90E-02	7.4E-03	4.060E 00	1.35E-02	1.9E-03	8.450E 00	5.73E-04	1.4E-04
1.560E 00	1.91E-02	7.3E-03	4.140E 00	1.31E-02	1.9E-03	8.590E 00	4.01E-04	1.2E-04
1.600E 00	2.21E-02	6.8E-03	4.220E 00	1.40E-02	1.8E-03	8.730E 00	3.54E-04	8.5E-05
1.640E 00	3.10E-02	6.6E-03	4.300E 00	1.47E-02	1.9E-03	8.870E 00	3.19E-04	8.1E-05
1.680E 00	4.21E-02	6.1E-03	4.380E 00	1.31E-02	1.9E-03	9.010E 00	2.12E-04	7.2E-05
1.720E 00	5.54E-02	6.7E-03	4.460E 00	9.31E-03	1.7E-03	9.150E 00	7.81E-05	5.6E-04
1.760E 00	6.99E-02	6.5E-03	4.540E 00	7.16E-03	1.7E-03	9.300E 00	-1.16E-05	4.0E-05
1.800E 00	7.86E-02	6.9E-03	4.630E 00	8.49E-03	1.5E-03	9.460E 00	-3.03E-05	3.3E-05
1.850E 00	6.83E-02	6.1E-03	4.730E 00	9.12E-03	1.4E-03	9.620E 00	-1.88E-06	2.9E-05
1.910E 00	4.28E-02	6.4E-03	4.830E 00	7.19E-03	1.3E-03	9.780E 00	3.67E-05	2.3E-05
1.970E 00	4.55E-02	5.8E-03	4.930E 00	7.17E-03	1.3E-03	9.940E 00	6.12E-05	1.9E-05
2.030E 00	5.70E-02	6.6E-03	5.030E 00	7.99E-03	1.1E-03	1.010E 01	6.21E-05	1.6E-05
2.090E 00	5.22E-02	6.9E-03	5.130E 00	8.23E-03	1.2E-03	1.026E 01	4.45E-05	1.2E-05

HIGH ENERGY PRODUCTION CROSS SECTION

EN-MIN = 0.9830201 MEV EN-MAX = 0.1260202 MEV THETA=125. DEG

E-GAMMA MEV	DATA-TBAR B/SR/MEV	DATA-BAR B/SR/MEV														
6. 903E-01	3.02-02	2.2E-02	7. 500E-01	2.94E-02	1.9E-02	7. 700E-01	2.72E-02	1.92E-02	7. 900E-01	3.16E-01	2.02E-02	7. 8E-01	3.00E-01	2.08E-02	7. 700E-01	3.00E-01
8. 500E-01	5.24E-01	6.60E-01	9. 700E-01	5.26E-01	6.1E-01	9. 100E-01	5.61E-01	6.1E-01	9. 300E-01	2.14E-01	5.62E-02	9. 72E-01	2.08E-01	5.52E-02	9. 700E-01	2.08E-01
1. 0E-01	1.04E-00	1.08E-00	1. 2E-01	1.20E-00	1.2E-00	1. 4E-01	1.26E-00	1.2E-00	1. 6E-01	1.35E-01	1.3E-01	1. 8E-01	1.44E-01	1.5E-01	1. 6E-01	1.44E-01
1. 6E-01	1.60E-00	1.66E-00	1. 8E-01	1.72E-00	1.7E-00	2. 0E-01	1.82E-00	1.8E-00	2. 2E-01	1.95E-01	2.0E-01	2. 4E-01	2.18E-01	2.2E-01	2. 4E-01	2.18E-01
2. 4E-01	2.40E-00	2.46E-00	2. 6E-01	2.56E-00	2.5E-00	2. 8E-01	2.66E-00	2.6E-00	3. 0E-01	2.82E-01	2.8E-01	3. 2E-01	3.05E-01	3.1E-01	3. 2E-01	3.05E-01
3. 2E-01	3.20E-00	3.26E-00	3. 4E-01	3.36E-00	3.3E-00	3. 6E-01	3.46E-00	3.4E-00	3. 8E-01	3.65E-01	3.6E-01	4. 0E-01	3.9E-01	4.0E-01	4. 2E-01	3.9E-01
4. 0E-01	4.00E-00	4.06E-00	4. 2E-01	4.16E-00	4.2E-00	4. 4E-01	4.26E-00	4.3E-00	4. 6E-01	4.55E-01	4.6E-01	4. 8E-01	4.8E-01	4.9E-01	5. 1E-01	4.9E-01
4. 8E-01	4.80E-00	4.86E-00	5. 0E-01	5.16E-00	5.1E-00	5. 2E-01	5.26E-00	5.2E-00	5. 4E-01	5.45E-01	5.5E-01	5. 6E-01	5.6E-01	5.7E-01	5. 8E-01	5.7E-01
5. 6E-01	5.60E-00	5.66E-00	5. 8E-01	5.96E-00	6.0E-00	6. 0E-01	6.06E-00	6.1E-00	6. 2E-01	6.35E-01	6.4E-01	6. 4E-01	6.4E-01	6.5E-01	6. 6E-01	6.5E-01
6. 4E-01	6.40E-00	6.46E-00	6. 6E-01	6.76E-00	6.8E-00	6. 8E-01	6.86E-00	6.9E-00	6. 9E-01	7.05E-01	7.1E-01	7. 1E-01	7.1E-01	7.2E-01	7. 1E-01	7.1E-01
7. 2E-01	7.20E-00	7.26E-00	7. 4E-01	7.56E-00	7.6E-00	7. 6E-01	7.66E-00	7.7E-00	7. 7E-01	7.85E-01	7.9E-01	7. 9E-01	7.9E-01	8.0E-01	7. 9E-01	7.9E-01
8. 0E-01	8.00E-00	8.06E-00	8. 2E-01	8.36E-00	8.4E-00	8. 2E-01	8.42E-00	8.5E-00	8. 2E-01	8.55E-01	8.6E-01	8. 2E-01	8.6E-01	8.7E-01	8. 2E-01	8.7E-01
8. 8E-01	8.80E-00	8.86E-00	9. 0E-01	9.16E-00	9.2E-00	9. 0E-01	9.22E-00	9.3E-00	9. 0E-01	9.35E-01	9.4E-01	9. 0E-01	9.4E-01	9.5E-01	9. 0E-01	9.5E-01
9. 6E-01	9.60E-00	9.66E-00	1. 0E-01	1.06E-00	1.08E-00	1. 0E-01	1.02E-00	1.04E-00	1. 0E-01	1.05E-01	1.07E-01	1. 0E-01	1.07E-01	1.09E-01	1. 0E-01	1.09E-01
1. 1E-01	1.10E-00	1.16E-00	1. 2E-01	1.22E-00	1.24E-00	1. 2E-01	1.26E-00	1.28E-00	1. 2E-01	1.29E-01	1.31E-01	1. 2E-01	1.31E-01	1.33E-01	1. 2E-01	1.33E-01
1. 3E-01	1.30E-00	1.36E-00	1. 4E-01	1.42E-00	1.44E-00	1. 4E-01	1.46E-00	1.48E-00	1. 4E-01	1.49E-01	1.51E-01	1. 4E-01	1.51E-01	1.53E-01	1. 4E-01	1.53E-01
1. 5E-01	1.50E-00	1.56E-00	1. 6E-01	1.62E-00	1.64E-00	1. 6E-01	1.66E-00	1.68E-00	1. 6E-01	1.69E-01	1.71E-01	1. 6E-01	1.71E-01	1.73E-01	1. 6E-01	1.73E-01
1. 7E-01	1.70E-00	1.76E-00	1. 8E-01	1.82E-00	1.84E-00	1. 8E-01	1.86E-00	1.88E-00	1. 8E-01	1.89E-01	1.91E-01	1. 8E-01	1.91E-01	1.93E-01	1. 8E-01	1.93E-01
1. 9E-01	1.90E-00	1.96E-00	2. 0E-01	2.02E-00	2.04E-00	2. 0E-01	2.06E-00	2.08E-00	2. 0E-01	2.09E-01	2.11E-01	2. 0E-01	2.11E-01	2.13E-01	2. 0E-01	2.13E-01
2. 1E-01	2.10E-00	2.16E-00	2. 2E-01	2.22E-00	2.24E-00	2. 2E-01	2.26E-00	2.28E-00	2. 2E-01	2.29E-01	2.31E-01	2. 2E-01	2.31E-01	2.33E-01	2. 2E-01	2.33E-01
2. 3E-01	2.30E-00	2.36E-00	2. 4E-01	2.42E-00	2.44E-00	2. 4E-01	2.46E-00	2.48E-00	2. 4E-01	2.49E-01	2.51E-01	2. 4E-01	2.51E-01	2.53E-01	2. 4E-01	2.53E-01
2. 5E-01	2.50E-00	2.56E-00	2. 6E-01	2.62E-00	2.64E-00	2. 6E-01	2.66E-00	2.68E-00	2. 6E-01	2.69E-01	2.71E-01	2. 6E-01	2.71E-01	2.73E-01	2. 6E-01	2.73E-01
2. 7E-01	2.70E-00	2.76E-00	2. 8E-01	2.82E-00	2.84E-00	2. 8E-01	2.86E-00	2.88E-00	2. 8E-01	2.89E-01	2.91E-01	2. 8E-01	2.91E-01	2.93E-01	2. 8E-01	2.93E-01
2. 9E-01	2.90E-00	2.96E-00	3. 0E-01	3.02E-00	3.04E-00	3. 0E-01	3.06E-00	3.08E-00	3. 0E-01	3.09E-01	3.11E-01	3. 0E-01	3.11E-01	3.13E-01	3. 0E-01	3.13E-01
3. 2E-01	3.20E-00	3.26E-00	3. 3E-01	3.32E-00	3.34E-00	3. 3E-01	3.36E-00	3.38E-00	3. 3E-01	3.39E-01	3.41E-01	3. 3E-01	3.41E-01	3.43E-01	3. 3E-01	3.43E-01
3. 4E-01	3.40E-00	3.46E-00	3. 5E-01	3.52E-00	3.54E-00	3. 5E-01	3.56E-00	3.58E-00	3. 5E-01	3.59E-01	3.61E-01	3. 5E-01	3.61E-01	3.63E-01	3. 5E-01	3.63E-01
3. 6E-01	3.60E-00	3.66E-00	3. 7E-01	3.72E-00	3.74E-00	3. 7E-01	3.76E-00	3.78E-00	3. 7E-01	3.79E-01	3.81E-01	3. 7E-01	3.81E-01	3.83E-01	3. 7E-01	3.83E-01
3. 8E-01	3.80E-00	3.86E-00	3. 9E-01	3.92E-00	3.94E-00	3. 9E-01	3.96E-00	3.98E-00	3. 9E-01	3.99E-01	4.01E-01	3. 9E-01	4.01E-01	4.03E-01	3. 9E-01	4.03E-01
4. 0E-01	4.00E-00	4.06E-00	4. 1E-01	4.12E-00	4.14E-00	4. 1E-01	4.16E-00	4.18E-00	4. 1E-01	4.19E-01	4.21E-01	4. 1E-01	4.21E-01	4.23E-01	4. 1E-01	4.23E-01
4. 2E-01	4.20E-00	4.26E-00	4. 3E-01	4.32E-00	4.34E-00	4. 3E-01	4.36E-00	4.38E-00	4. 3E-01	4.39E-01	4.41E-01	4. 3E-01	4.41E-01	4.43E-01	4. 3E-01	4.43E-01
4. 4E-01	4.40E-00	4.46E-00	4. 5E-01	4.52E-00	4.54E-00	4. 5E-01	4.56E-00	4.58E-00	4. 5E-01	4.59E-01	4.61E-01	4. 5E-01	4.61E-01	4.63E-01	4. 5E-01	4.63E-01
4. 6E-01	4.60E-00	4.66E-00	4. 7E-01	4.72E-00	4.74E-00	4. 7E-01	4.76E-00	4.78E-00	4. 7E-01	4.79E-01	4.81E-01	4. 7E-01	4.81E-01	4.83E-01	4. 7E-01	4.83E-01
4. 8E-01	4.80E-00	4.86E-00	4. 9E-01	4.92E-00	4.94E-00	4. 9E-01	4.96E-00	4.98E-00	4. 9E-01	5.0E-01	5.02E-01	4. 9E-01	5.02E-01	5.04E-01	4. 9E-01	5.04E-01
5. 0E-01	5.00E-00	5.06E-00	5. 1E-01	5.12E-00	5.14E-00	5. 1E-01	5.16E-00	5.18E-00	5. 1E-01	5.19E-01	5.21E-01	5. 1E-01	5.21E-01	5.23E-01	5. 1E-01	5.23E-01
5. 2E-01	5.20E-00	5.26E-00	5. 3E-01	5.32E-00	5.34E-00	5. 3E-01	5.36E-00	5.38E-00	5. 3E-01	5.39E-01	5.41E-01	5. 3E-01	5.41E-01	5.43E-01	5. 3E-01	5.43E-01
5. 4E-01	5.40E-00	5.46E-00	5. 5E-01	5.52E-00	5.54E-00	5. 5E-01	5.56E-00	5.58E-00	5. 5E-01	5.59E-01	5.61E-01	5. 5E-01	5.61E-01	5.63E-01	5. 5E-01	5.63E-01
5. 6E-01	5.60E-00	5.66E-00	5													

IRON GAMMA RAY PRODUCTION CROSS SECTION

EN-MIN= 0.1260E 02 MEV EN-MAX= 0.1674E 02 MEV THETA=125. DEG

E-GAMMA MEV	DATA B/SR/MEV	DATA-ERR B/SR/MEV	E-GAMMA MEV	DATA B/SR/MEV	DATA-ERR B/SR/MEV	E-GAMMA MEV	DATA B/SR/MEV	DATA-ERR B/SP/MEV
6.900E-01	1.49E-02	3.1E-02	2.150E 00	2.10E-02	6.6E-03	5.230E 00	8.89E-03	2.2E-03
7.100E-01	6.77E-03	2.4E-02	2.210E 00	1.70E-02	7.0E-03	5.330E 00	6.25E-03	2.1E-03
7.300E-01	4.71E-03	2.1E-02	2.270E 00	1.91E-02	6.2E-03	5.430E 00	4.57E-03	2.1E-03
7.500E-01	1.79E-02	2.2E-02	2.330E 00	1.70E-02	6.0E-03	5.530E 00	4.52E-03	2.0E-03
7.700E-01	6.07E-02	2.2E-02	2.390E 00	1.73E-02	5.6E-03	5.630E 00	5.52E-03	2.2E-03
7.900E-01	1.46E-01	2.0E-02	2.450E 00	2.32E-02	6.1E-03	5.730E 00	6.36E-03	2.1E-03
8.100E-01	2.65E-01	1.9E-02	2.510E 00	2.43E-02	5.8E-03	5.830E 00	6.78E-03	2.2E-03
8.300E-01	3.77E-01	2.1E-02	2.570E 00	2.47E-02	5.9E-03	5.930E 00	8.55E-03	2.2E-03
8.500E-01	4.27E-01	2.0E-02	2.630E 00	2.52E-02	4.6E-03	6.030E 00	8.67E-03	2.1E-03
8.700E-01	3.98E-01	1.9E-02	2.690E 00	1.97E-02	4.2E-03	6.130E 00	8.81E-03	2.1E-03
8.900E-01	3.19E-01	1.9E-02	2.750E 00	1.47E-02	4.3E-03	6.230E 00	5.29E-03	2.1E-03
9.100E-01	2.32E-01	1.8E-02	2.810E 00	1.44E-02	4.2E-03	6.330E 00	5.18E-03	2.2E-03
9.300E-01	1.63E-01	1.6E-02	2.870E 00	1.42E-02	4.2E-03	6.440E 00	6.11E-03	1.9E-03
9.500E-01	1.14E-01	1.7E-02	2.930E 00	1.58E-02	3.9E-03	6.560E 00	8.26E-03	1.8E-03
9.700E-01	7.62E-02	1.6E-02	2.990E 00	1.96E-02	3.4E-03	6.680E 00	8.41E-03	1.5E-03
1.000E 00	5.08E-02	1.4E-02	3.050E 00	2.04E-02	3.2E-03	6.800E 00	6.45E-03	1.6E-03
1.040E 00	5.14E-02	1.5E-02	3.110E 00	1.95E-02	3.4E-03	6.920E 00	4.96E-03	1.4E-03
1.060E 00	4.27E-02	1.4E-02	3.180E 00	1.98E-02	3.1E-03	7.040E 00	4.16E-03	1.4E-03
1.120E 00	3.02E-02	1.3E-02	3.260E 00	1.96E-02	3.4E-03	7.160E 00	3.73E-03	1.3E-03
1.160E 00	7.19E-02	1.4E-02	3.340E 00	1.62E-02	3.4E-03	7.280E 00	3.98E-03	1.3E-03
1.200E 00	1.58E-01	1.3E-02	3.420E 00	1.44E-02	3.8E-03	7.400E 00	4.02E-03	1.2E-03
1.240E 00	2.12E-01	1.4E-02	3.500E 00	1.68E-02	3.0E-03	7.520E 00	3.38E-03	1.2E-03
1.280E 00	1.94E-01	1.4E-02	3.580E 00	1.74E-02	3.5E-03	7.640E 00	2.67E-03	1.2E-03
1.320E 00	1.33E-01	1.1E-02	3.660E 00	1.57E-02	2.9E-03	7.760E 00	2.59E-03	1.1E-03
1.360E 00	8.05E-02	1.1E-02	3.740E 00	1.59E-02	3.0E-03	7.890E 00	3.33E-03	1.1E-03
1.400E 00	4.91E-02	9.5E-03	3.820E 00	1.68E-02	3.2E-03	8.030E 00	3.96E-03	1.1E-03
1.440E 00	3.31E-02	9.0E-03	3.900E 00	1.48E-02	3.2E-03	8.170E 00	3.34E-03	1.0E-03
1.480E 00	2.72E-02	7.6E-03	3.980E 00	1.01E-02	3.8E-03	8.310E 00	2.08E-03	9.4E-04
1.520E 00	2.21E-02	7.1E-03	4.060E 00	7.73E-03	3.5E-03	8.450E 00	1.23E-03	8.1E-04
1.560E 00	2.04E-02	7.2E-03	4.140E 00	9.67E-03	3.4E-03	8.590E 00	1.40E-03	8.2E-04
1.600E 00	2.81E-02	6.8E-03	4.220E 00	1.06E-02	3.3E-03	8.730E 00	2.24E-03	7.0E-04
1.640E 00	3.36E-02	6.1E-03	4.300E 00	8.79E-03	3.4E-03	8.870E 00	2.67E-03	6.3E-04
1.680E 00	3.34E-02	6.7E-03	4.380E 00	8.98E-03	3.7E-03	9.010E 00	1.93E-03	5.5E-04
1.720E 00	3.57E-02	7.3E-03	4.460E 00	1.02E-02	3.1E-03	9.150E 00	5.63E-04	4.7E-04
1.760E 00	4.05E-02	7.6E-03	4.540E 00	8.47E-03	2.8E-03	9.300E 00	-6.88E-05	4.7E-04
1.800E 00	4.03E-02	8.1E-03	4.630E 00	6.40E-03	2.6E-03	9.460E 00	8.55E-04	3.8E-04
1.850E 00	3.23E-02	6.8E-03	4.730E 00	8.02E-03	2.4E-03	9.620E 00	2.13E-03	2.4E-04
1.910E 00	2.49E-02	6.9E-03	4.830E 00	8.14E-03	2.4E-03	9.780E 00	2.12E-03	2.1E-04
1.970E 00	2.23E-02	7.8E-03	4.930E 00	6.39E-03	2.3E-03	9.940E 00	1.18E-03	1.6E-04
2.030E 00	2.35E-02	7.5E-03	5.030E 00	7.46E-03	2.2E-03	1.010E 01	4.14E-04	6.5E-05
2.090E 00	2.59E-02	7.8E-03	5.130E 00	9.84E-03	2.2E-03	1.026E 01	9.73E-05	1.7E-05