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DATA ON THICK TARGET BREMSSTRAHLUNG PRODUCED  
BY ELECTRONS

February 1983

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A systematic set of calculated data on the bremsstrahlung produced by electrons normally incident on thick targets is presented. The data have been generated by the Monte Carlo code developed by Berger and Seltzer. The incident energies of electrons considered are 1, 3, 10, and 30 MeV; the target materials considered are C, Al, Fe, Cu, Mo, and W. Differential bremsstrahlung intensity spectra for various angles of emission are graphically shown, and numerical data on bremsstrahlung spectra and angular distributions are given in tables.

Keywords: Electron, Bremsstrahlung, Radiation Shielding

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\* Radiation Center of Osaka Prefecture

電子によって生成した厚いターゲットからの制動放射線のデータ

日本原子力研究所原子分子データ研究委員会・粒子一物質相互作用ワーキンググループ

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伊藤 琳典\*・中井 洋太・小沢 国夫

(1983年1月27日受理)

電子が厚いターゲットに垂直入射した場合の制動放射線の生成についての計算を系統的に行い、その結果をデータ集の形にまとめた。計算は、BergerとSeltzerによって開発されたモンテカルロコードを用いて行った。電子の入射エネルギーは1, 3, 10および30 MeVとし、ターゲットの物質としてC, Al, Fe, Cu, MoおよびWを選んだ。放射角度ごとの制動放射線強度分布を図に示し、制動放射線のスペクトルと角度分布をテーブルに示した。

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## Contents

1. Introduction .....	1
2. Description of Computation .....	2
3. Results and Discussion .....	4
Acknowledgement .....	5
References .....	6
4. Explanation of Figures and Tables .....	8
5. An Example of Use of Tables .....	9
6. Figures and Tables .....	10

## 目 次

1. はじめに .....	1
2. 計算方法 .....	2
3. 計算結果及び考察 .....	4
謝 辞 .....	5
参考文献 .....	6
4. 図及びテーブルの説明 .....	8
5. テーブルの使用法の一例 .....	9
6. 図及びテーブル .....	10

## 1. Introduction

When energetic electrons pass through matter, they are accelerated in Coulomb fields of nuclei and atomic electrons, emitting bremsstrahlung radiation. The intensity, energy spectrum, and angular distribution of bremsstrahlung depend on incident energy and angle of incidence of the electrons as well as on material and shape of the target.

For shielding and other application purposes, evaluation of the intensity of bremsstrahlung produced in thick targets is required, and this has long been the subject of theoretical and experimental studies. A review article on the bremsstrahlung process was published in 1959 by Koch and Motz<sup>1)</sup>. Formulas for bremsstrahlung cross-sections and related experimental data were presented in their article. Thereafter, experiment on bremsstrahlung produced by electrons in thick targets have been made by several authors. Rester and Dance<sup>2,3)</sup> have made measurements at the incident energies  $T_0 = 0.2\text{--}2.8$  MeV for the targets of Be, Al, Fe, Sn, and Au. Edelsack et al.<sup>4)</sup> have reported the results for the electrons of  $T_0 = 1.0, 1.5,$  and  $2.0$  MeV incident on the targets of polystyrene, Al, Cu, Ag, and Au. O'Dell et al.<sup>5)</sup> have made experiments at  $T_0 = 5.3\text{--}20.9$  MeV using the Au-W target. Levy et al.<sup>6)</sup> have obtained the result at  $T_0 = 25$  MeV for the Pb target.

Methods of analytical computation of bremsstrahlung intensities have been reported by Ferdinand et al.<sup>7)</sup> for  $T_0 = 1\text{--}25$  MeV, and by Matthews and Owens<sup>8)</sup> for  $T_0 > 30$  MeV. Shreve and Lonergan<sup>9)</sup> have reported an interpolation formula which well represents the experimental data for  $T_0 = 1\text{--}3$  MeV and for target atomic numbers  $Z = 4\text{--}79$ . Computer simulation has also been a useful tool to evaluate bremsstrahlung intensities, and general purpose programs called ETRAN<sup>10,11)</sup> and EGS<sup>12)</sup> have been developed. The results obtained by these programs have been reported to be

rather in good agreement with experimental data<sup>3,13)</sup>.

The purpose of this report is to present systematic data on bremsstrahlung intensities, spectra, and angular distributions for wide regions of  $T_0$  and Z; such presentation has been unavailable in previous publications. We have used the code ETRAN 16D for generating the data. The region of incident energies considered is from 1 to 30 MeV; the atomic numbers of the target materials considered range from 6 to 74.

## 2. Description of Computation

We have considered the most basic configuration of a pencil beam of electrons normally incident on the target (see Fig. 1). The target has been assumed to be an infinite slab of thickness equal to the mean range of the electrons. The incident energies  $T_0$  selected are 1, 3, 10, and 30 MeV. The cut-off energies for electrons and photons at which trace of the history is stopped have been chosen as 0.03, 0.05, 0.3, and 0.5 MeV both for electrons and photons corresponding to the four values of  $T_0$ . Six kinds of target materials have been considered: C, Al, Fe, Cu, Mo, and W. Parameters for the targets used are given in Table 1.

The code ETRAN makes a simulation as close as possible to actual passage of electrons through matter, and secondary electrons and photons (bremsstrahlung and K X-rays) generated in the target can be traced. Most of the input data required in ETRAN are computed by the associated program DATAPAC. Input data for DATAPAC and ETRAN have been carefully chosen by referring to the reports by Berger and Seltzer<sup>10,11,13)</sup> and to the paper by Rester and Dance<sup>3)</sup> in which results of ETRAN have been compared with experimental data. Cross-sections for photons have been taken from Storm and Israel<sup>14)</sup>; K-shell ionization data from Halbleib and Morel<sup>15)</sup> and from Storm and Israel<sup>14)</sup>; adjusted mean excitation

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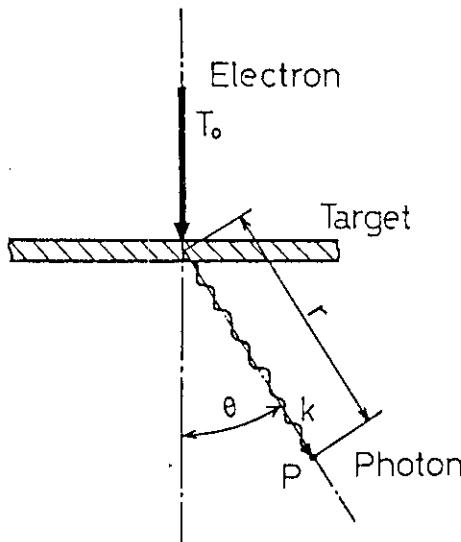


Fig. 1 Configuration for Computation

Table 1 Description of Targets

Element	Z	A	density (g/cm <sup>3</sup> )	$I_{adj}^*$ (eV)	$T_0$ (MeV)	Thickness g/cm <sup>2</sup>
C	6	12.01115	2.25	78	1	$4.895 \times 10^{-1}$
					3	$1.704 \times 10^0$
					10	$5.615 \times 10^0$
					30	$1.501 \times 10^1$
Al	13	26.9815	2.70	163.0	1	$5.508 \times 10^{-1}$
					3	$1.873 \times 10^0$
					10	$5.899 \times 10^0$
					30	$1.459 \times 10^1$
Fe	26	55.847	7.86	285.4	1	$6.066 \times 10^{-1}$
					3	$2.016 \times 10^0$
					10	$6.036 \times 10^0$
					30	$1.364 \times 10^1$
Cu	29	63.54	8.98	314.1	1	$6.250 \times 10^{-1}$
					3	$2.066 \times 10^0$
					10	$6.118 \times 10^0$
					30	$1.360 \times 10^1$
Mo	42	95.94	10.22	438.8	1	$6.726 \times 10^{-1}$
					3	$2.168 \times 10^0$
					10	$6.149 \times 10^0$
					30	$1.291 \times 10^1$
W	74	183.85	19.3	748.2	1	$7.658 \times 10^{-1}$
					3	$2.363 \times 10^0$
					10	$6.219 \times 10^0$
					30	$1.199 \times 10^1$

\*  $I_{adj}$ : Adjusted mean excitation energy

energies from Sternheimer and Peierls<sup>16)</sup>.

Computations have been made for 10,000 histories of incident electrons, and about 1,000,000 secondary photons have been traced in each case except the case of the lowest incident energy of 1 MeV, in which the number of histories sampled has been doubled.

### 3. Results and Discussion

Computed results are given at the end of this report. For the convenience of the reader, each numerical table is followed by the corresponding graph on the next page.

In the case of 1-MeV electrons incident on the W target, the yield of K X-rays is included in the computed intensity. In the other cases, energies of K X-rays are lower than the cut-off energies so that the yield of K X-rays is not included.

In the computed intensities for the angles of emission 90-180°, rather large fluctuations have been caused by poor statistics. The results for the angles of emission 0-10° at the incident energy of 1 MeV also have fluctuations due to the same reason.

It is difficult precisely to evaluate the errors in the computed results because of scarcity of experimental data. According to Berger and Seltzer<sup>13)</sup>, main source of errors in the computation is the uncertainty in the bremsstrahlung cross-section formula; for  $T_0 = 0.1-2$  MeV the uncertainty is 20-30% for high Z materials, and for  $T_0 \geq 10$  MeV theoretical cross-sections are accurate to 5% or better. They have also reported that the differences between the results of ETRAN and the experimental data of O'Dell et al.<sup>5)</sup> for 10- and 20.9-MeV electrons incident on the W-Au target are within combined theoretical and experimental uncertainties (statistical uncertainty in the results of ETRAN is about 10% and

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the uncertainty in the experimental data is 5-10%). Rester and Dance<sup>3)</sup> have reported that the results of ETRAN 15 is lower for photon energies  $k > 0.3T_0$  by about 30% than their experimental data for 1-MeV electrons incident on the Au target. The same amount of error is considered to exist in the present results for the case of 1-MeV electrons incident on the W target, because the code we have used is essentially the same as the one used in the aforementioned comparison.

Several parts of this work are carried out at Irradiation Service Section of Takasaki Radiation Chemistry Research Establishment.

#### Acknowledgement

The authors would like to thank Mr. Tsuneo Tsutsui of Reactor System Laboratory, Division of Reactor Engineering, for his valuable aid in using ETRAN and DATAPAC.

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## 4. Explanation of Figures and Tables

Figures show the differential bremsstrahlung intensity spectra, i.e.  $kd^2n/dkd\Omega$  as a function of  $k$ , for various angles of emission  $\theta$ . The unit for  $kd^2n/dkd\Omega$  is MeV/MeV·sr·electron.

Tables show bremsstrahlung spectra, i.e.  $d^2n/dkd\Omega$  as a function of  $k$ , and bremsstrahlung angular distribution, i.e.  $dk/d\Omega$  as a function of  $\theta$ . The unit for  $d^2n/dkd\Omega$  is  $(\text{MeV}\cdot\text{sr}\cdot\text{electron})^{-1}$ , and the unit for  $dk/d\Omega$  is MeV/sr·electron.

$T_0$  kinetic energy of the incident electron (in MeV).

$k$  energy of the emitted photon (in MeV).

$\theta_0$  angle of incidence of the electron.

$\theta$  angle of emission of the photon.

$Z$  atomic number of target material.

## 5. An Example of Use of Tables

As an example of use of the tables, the equation to calculate the dose rate given by bremsstrahlung is given here, assuming that electronic equilibrium condition is established. The absorbed dose rate in an absorber located at the point P shown in Fig. 1 can be approximately calculated by the following relation:

$$\dot{D} = 1.6 \times 10^{-10} \int_{k_{\text{cut-off}}}^{k=T_0} \frac{\mu_{\text{en}}(k)N}{r^2} k \frac{d^2n}{dkd\Omega} dk \quad (\text{Gy/s})$$

$$\doteq 1.6 \times 10^{-10} \frac{N}{r^2} \sum_{j=1}^J \mu_{\text{en}}(\bar{k}_j) \bar{k}_j \left( \frac{d^2n}{dkd\Omega} \right)_j \Delta k_j$$

where meanings of the symbols are:

$\mu_{\text{en}}(\bar{k})$  mass energy absorption coefficient of the absorber for the photon of energy  $\bar{k}$  (in  $\text{cm}^2/\text{g}$ )

$N$  fluence rate of the incident electrons (in electrons/s)

$\bar{k}_j$  average energy of the photons in the  $j$ th energy bin (in MeV)

$\Delta k_j$  bin width of the photon energy (in MeV)

$(d^2n/dkd\Omega)_j$  differential photon number at the  $j$ th energy bin and the angle of emission  $\theta$  (in  $/\text{MeV}\cdot\text{sr}\cdot\text{electron}$ ) (to be taken from the tables)

$r$  distance from the point of emission of bremsstrahlung photons to the point P (in cm).

6. Figures and Tables

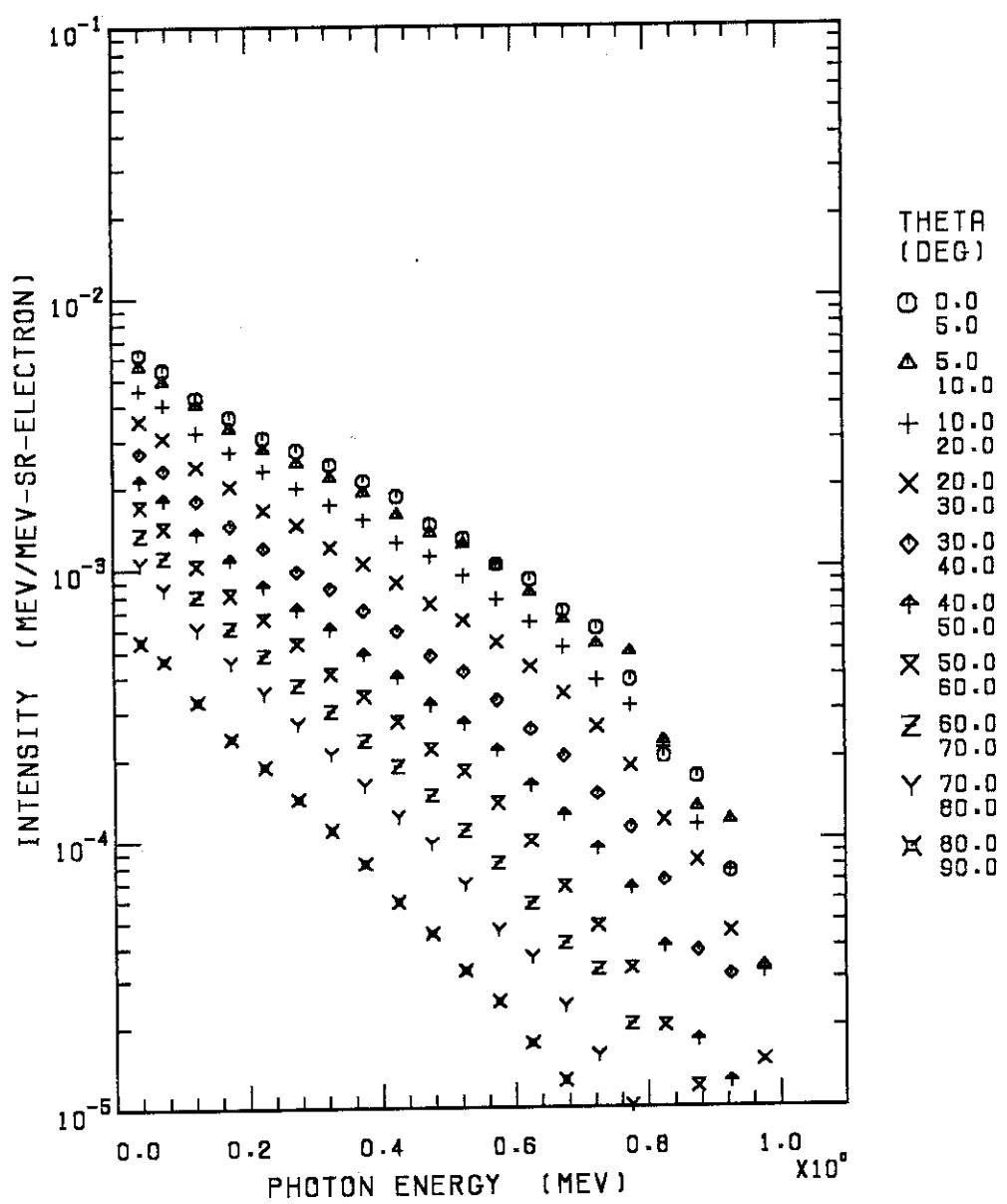
Fig. 1  $Z = 6 \quad T_0 = 1.0 \text{ MeV}$

Table 1 Z=6 T<sub>0</sub>=1.0 MeV

K (MeV)	THETA=	0.0	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000
		5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000
1.00	-	0.9500	0.0	3.42E-05	3.28E-05	1.53E-05	6.58E-06	1.87E-06	8.00E-07	0.0	1.22E-07
0.95	-	0.9000	8.19E-05	1.26E-04	8.28E-05	4.90E-05	3.37E-05	1.34E-05	4.80E-06	1.89E-06	4.16E-07
0.90	-	0.8500	1.94E-04	1.50E-04	1.29E-04	9.54E-05	4.37E-05	2.03E-05	1.36E-05	5.94E-06	3.36E-06
0.85	-	0.8000	2.45E-04	2.80E-04	2.64E-04	1.43E-04	8.55E-05	4.84E-05	2.43E-05	1.12E-05	6.82E-06
0.80	-	0.7500	5.01E-04	6.32E-04	4.02E-04	2.42E-04	1.43E-04	8.52E-05	4.24E-05	2.63E-05	1.31E-05
0.75	-	0.7000	8.28E-04	7.24E-04	5.31E-04	3.60E-04	2.04E-04	1.28E-04	6.59E-05	4.50E-05	2.15E-05
0.70	-	0.6500	1.03E-03	9.51E-04	7.59E-04	5.13E-04	3.02E-04	1.83E-04	9.93E-05	6.10E-05	3.54E-05
0.65	-	0.6000	1.45E-03	1.30E-03	1.01E-03	6.94E-04	4.08E-04	2.55E-04	1.58E-04	9.31E-05	5.82E-05
0.60	-	0.5500	1.79E-03	1.77E-03	1.34E-03	9.31E-04	5.70E-04	3.73E-04	2.38E-04	1.43E-04	8.01E-05
0.55	-	0.5000	2.43E-03	2.33E-03	1.79E-03	1.22E-03	7.93E-04	5.15E-04	3.43E-04	2.07E-04	1.30E-04
0.50	-	0.4500	3.04E-03	2.84E-03	2.33E-03	1.56E-03	1.01E-03	6.66E-04	4.57E-04	3.09E-04	2.05E-04
0.45	-	0.4000	4.33E-03	3.70E-03	2.92E-03	2.09E-03	1.39E-03	9.40E-04	6.45E-04	4.43E-04	2.87E-04
0.40	-	0.3500	5.59E-03	5.08E-03	4.02E-03	2.78E-03	1.87E-03	1.30E-03	9.08E-04	6.24E-04	4.26E-04
0.35	-	0.3000	7.44E-03	6.66E-03	5.28E-03	3.69E-03	2.61E-03	1.85E-03	1.27E-03	9.24E-04	6.42E-04
0.30	-	0.2500	9.99E-03	8.96E-03	7.23E-03	5.26E-03	3.56E-03	2.59E-03	1.93E-03	1.36E-03	9.80E-04
0.25	-	0.2000	1.36E-02	1.23E-02	1.02E-02	7.31E-03	5.31E-03	3.85E-03	2.92E-03	2.15E-03	1.56E-03
0.20	-	0.1500	2.08E-02	1.90E-02	1.55E-02	1.15E-02	8.24E-03	6.17E-03	4.61E-03	3.47E-03	2.59E-03
0.15	-	0.1000	3.44E-02	3.24E-02	2.57E-02	1.91E-02	1.43E-02	1.08E-02	8.22E-03	6.37E-03	4.82E-03
0.10	-	0.0500	7.24E-02	6.60E-02	5.39E-02	4.09E-02	3.09E-02	2.40E-02	1.88E-02	1.13E-02	6.19E-03
0.05	-	0.0300	1.55E-01	1.41E-01	1.15E-01	8.86E-02	6.76E-02	5.30E-02	4.24E-02	3.35E-02	2.62E-02
(MEV/SR/ELEC)		1.71E-03	1.58E-03	1.26E-03	9.11E-04	6.40E-04	4.65E-04	3.41E-04	2.51E-04	1.83E-04	9.67E-05

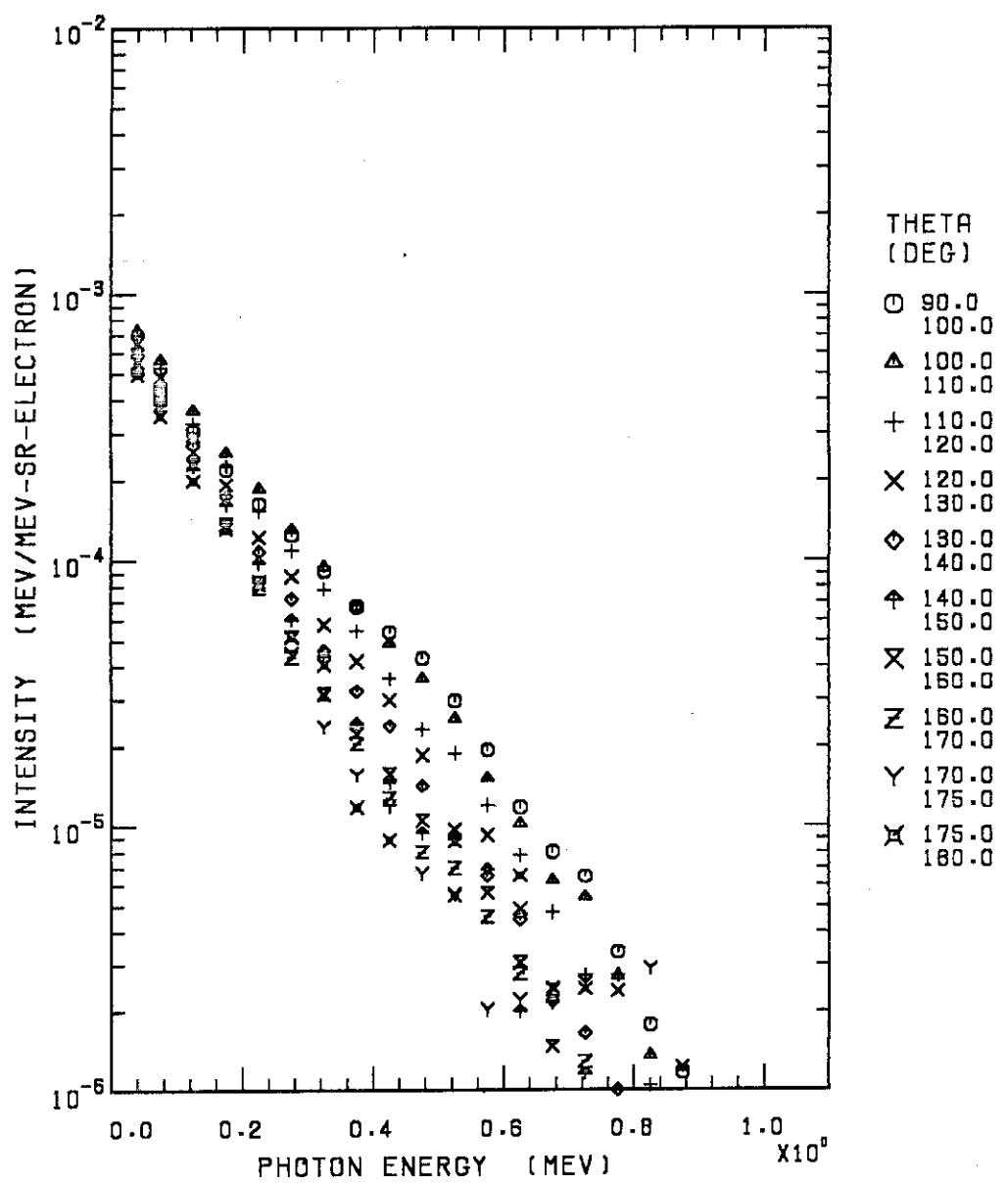
Fig. 2  $Z = 6 \quad T_0 = 1.0 \text{ MeV}$

Table 2 Z= 6 T<sub>0</sub>= 1.0 MeV

K (MEV)	THETA= 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000
	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000	180.000
1.00 -	0.9500	0.0	2.38E-07	2.54E-07	0.0	0.0	4.02E-07	0.0	0.0	0.0
0.95 -	0.9000	1.87E-07	2.36E-07	0.0	0.0	3.25E-07	4.01E-07	0.0	8.87E-07	0.0
0.90 -	0.8500	1.34E-06	7.08E-07	7.61E-07	1.40E-06	3.25E-07	0.0	5.44E-07	8.85E-07	0.0
0.85 -	0.8000	2.15E-06	1.64E-06	1.26E-06	8.38E-07	9.76E-07	1.20E-06	0.0	0.0	3.51E-06
0.80 -	0.7500	4.31E-06	3.51E-06	3.52E-06	3.07E-06	1.30E-06	1.20E-06	1.08E-06	8.90E-07	0.0
0.75 -	0.7000	8.93E-06	7.45E-06	3.75E-06	3.34E-06	2.26E-06	1.60E-06	5.39E-07	1.77E-06	3.53E-06
0.70 -	0.6500	1.19E-05	9.25E-05	7.00E-06	3.61E-06	3.23E-06	3.19E-06	2.17E-06	3.54E-06	0.0
0.65 -	0.6000	1.89E-05	1.63E-05	1.24E-05	7.78E-06	7.11E-06	3.19E-06	4.87E-06	4.43E-06	3.52E-06
0.60 -	0.5500	3.37E-05	2.64E-05	2.09E-05	1.61E-05	1.13E-05	1.19E-05	9.71E-06	7.93E-06	3.53E-06
0.55 -	0.5000	5.64E-05	4.86E-05	3.59E-05	1.85E-05	1.74E-05	1.70E-05	1.67E-05	1.33E-05	1.05E-05
0.50 -	0.4500	9.01E-05	7.57E-05	4.88E-05	3.91E-05	2.99E-05	1.98E-05	2.21E-05	1.68E-05	1.39E-05
0.45 -	0.4000	1.26E-04	1.15E-04	8.46E-05	7.03E-05	5.63E-05	3.44E-05	3.71E-05	2.99E-05	2.80E-05
0.40 -	0.3500	1.79E-04	1.79E-04	1.45E-04	1.11E-04	8.59E-05	6.48E-05	5.96E-05	5.45E-05	4.17E-05
0.35 -	0.3000	2.82E-04	2.92E-04	2.40E-04	1.77E-04	1.41E-04	1.34E-04	9.64E-05	9.71E-05	7.30E-05
0.30 -	0.2500	4.52E-04	4.76E-04	3.97E-04	3.18E-04	2.61E-04	2.18E-04	1.88E-04	1.57E-04	1.63E-04
0.25 -	0.2000	7.22E-04	8.23E-04	6.79E-04	5.42E-04	4.81E-04	4.34E-04	3.70E-04	3.51E-04	3.70E-04
0.20 -	0.1500	1.25E-03	1.45E-03	1.29E-03	1.10E-03	9.94E-04	9.23E-04	7.80E-04	7.61E-04	7.72E-04
0.15 -	0.1000	2.44E-03	2.92E-03	2.61E-03	2.37E-03	2.17E-03	1.95E-03	1.85E-03	1.86E-03	1.82E-03
0.10 -	0.0500	5.75E-03	7.52E-03	7.04E-03	6.50E-03	6.01E-03	5.58E-03	5.42E-03	5.15E-03	5.01E-03
0.05 -	0.0300	1.28E-02	1.82E-02	1.75E-02	1.64E-02	1.55E-02	1.47E-02	1.40E-02	1.38E-02	1.40E-02
	(MEV/SR/ELEC)	8.70E-05	1.02E-04	9.04E-05	7.87E-05	7.08E-05	6.43E-05	5.93E-05	5.71E-05	5.60E-05
										5.23E-05

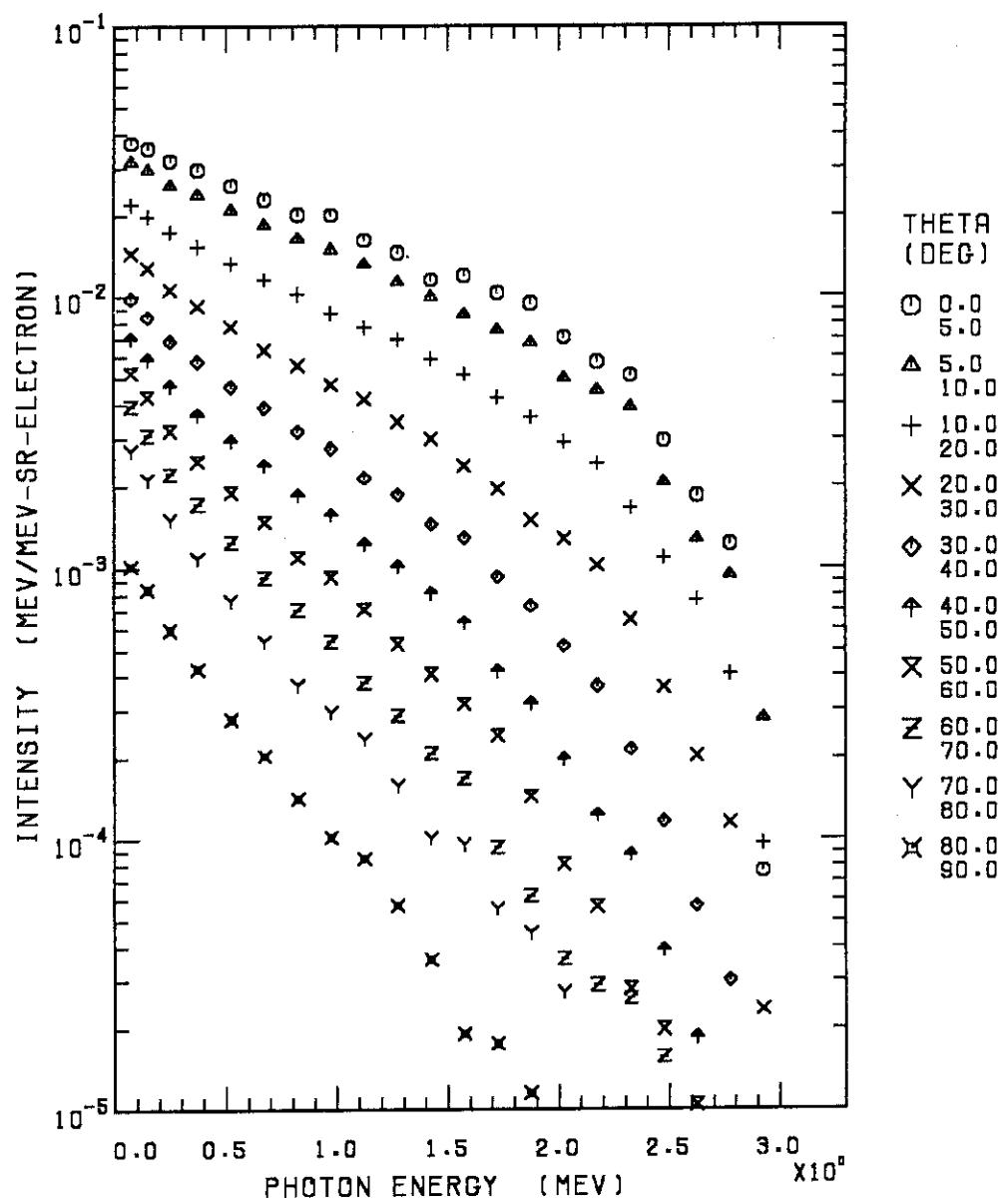
Fig. 3 Z= 6  $T_0 = 3.0$  MeV

Table 3 Z=6 T<sub>0</sub>=3.0 MeV

K (MEV)	THETA= 0.0	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000
3.00 -	2.8500	2.60E-05	9.55E-05	3.29E-05	8.02E-06	1.95E-06	0.0	6.69E-07	0.0	1.49E-06	0.0
2.85 -	2.7000	4.42E-04	3.39E-04	1.47E-04	4.14E-05	1.08E-05	2.34E-06	1.32E-06	5.91E-07	1.62E-06	0.0
2.70 -	2.5500	7.01E-04	4.86E-04	2.91E-04	7.76E-05	2.15E-05	7.08E-06	3.98E-06	2.30E-06	2.85E-06	0.0
2.55 -	2.4000	1.19E-03	8.32E-04	4.41E-04	1.47E-04	4.70E-05	1.57E-05	8.03E-06	6.35E-06	1.53E-06	1.03E-06
2.40 -	2.2500	2.20E-03	1.68E-03	7.13E-04	2.78E-04	9.29E-05	3.77E-05	1.20E-05	1.11E-05	4.56E-07	1.64E-06
2.25 -	2.1000	2.64E-03	2.06E-03	1.11E-03	4.71E-04	1.69E-04	5.65E-05	2.59E-05	1.33E-05	2.49E-06	1.87E-06
2.10 -	1.9500	3.48E-03	2.46E-03	1.43E-03	6.34E-04	2.55E-04	9.79E-05	3.99E-05	1.78E-05	1.34E-05	4.07E-06
1.95 -	1.8000	5.02E-03	3.59E-03	1.91E-03	7.96E-04	3.86E-04	1.69E-04	7.68E-05	3.29E-05	2.40E-05	6.17E-06
1.80 -	1.6500	5.95E-03	4.34E-03	2.46E-03	1.13E-03	5.38E-04	2.41E-04	1.41E-04	5.41E-05	3.21E-05	1.02E-05
1.65 -	1.5000	7.57E-03	5.45E-03	3.28E-03	1.51E-03	8.19E-04	4.00E-04	2.01E-04	1.07E-04	6.07E-05	1.21E-05
1.50 -	1.3500	8.06E-03	6.97E-03	4.15E-03	2.10E-03	1.02E-03	5.68E-04	2.86E-04	1.46E-04	7.09E-05	2.52E-05
1.35 -	1.2000	1.14E-02	8.86E-03	5.43E-03	2.71E-03	1.46E-03	7.95E-04	4.13E-04	2.25E-04	1.24E-04	4.46E-05
1.20 -	1.0500	1.43E-02	1.17E-02	6.83E-03	3.72E-03	1.90E-03	1.09E-03	6.27E-04	3.37E-04	2.09E-04	7.55E-05
1.05 -	0.9000	2.05E-02	1.53E-02	8.90E-03	4.85E-03	2.83E-03	1.61E-03	9.51E-04	5.53E-04	3.02E-04	1.04E-04
0.90 -	0.7500	2.43E-02	1.98E-02	1.24E-02	6.77E-03	3.86E-03	2.25E-03	1.33E-03	8.53E-04	4.50E-04	1.72E-04
0.75 -	0.6000	3.38E-02	2.73E-02	1.71E-02	9.44E-03	5.79E-03	3.54E-03	2.19E-03	1.37E-03	7.98E-04	3.03E-04
0.60 -	0.4500	4.91E-02	3.98E-02	2.52E-02	1.48E-02	8.86E-03	5.60E-03	3.61E-03	2.37E-03	1.45E-03	5.30E-04
0.45 -	0.3000	7.88E-02	6.34E-02	4.08E-02	2.46E-02	1.54E-02	9.80E-03	6.59E-03	4.59E-03	2.91E-03	1.14E-03
0.30 -	0.2000	1.28E-01	1.03E-01	6.93E-02	4.23E-02	2.74E-02	1.87E-02	1.28E-02	8.87E-03	6.03E-03	2.37E-03
0.20 -	0.1000	2.36E-01	1.97E-01	1.32E-01	8.53E-02	5.62E-02	3.93E-02	2.85E-02	2.05E-02	1.41E-02	5.59E-03
0.10 -	0.0500	4.94E-01	4.21E-01	2.92E-01	1.93E-01	1.31E-01	9.34E-02	7.00E-02	5.26E-02	3.61E-02	1.36E-02
(MEV/SR/ELEC)	4.05E-02	3.21E-02	1.98E-02	1.10E-02	6.40E-03	3.93E-03	2.51E-03	1.65E-03	1.04E-03	3.92E-04	

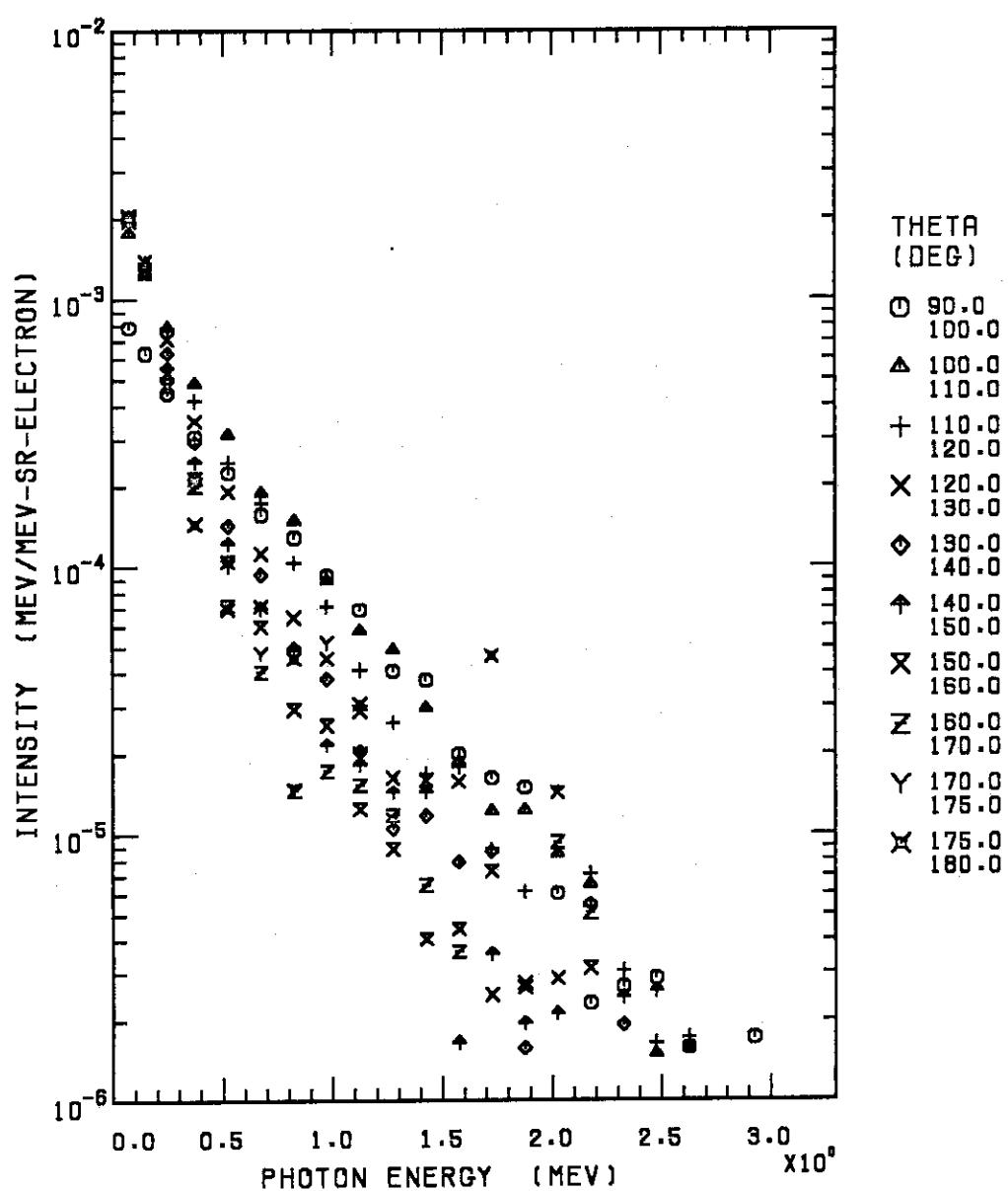


Fig. 4 Z = 6 T<sub>0</sub> = 3.0 MeV

Table 4 Z= 6 T<sub>0</sub>= 3.0 MeV

K (MeV)	THETA= 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000	180.000
3.00 -	2.8500	5.87E-07	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.85 -	2.7000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.70 -	2.5500	6.03E-07	6.04E-07	6.58E-07	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.55 -	2.4000	1.15E-06	6.06E-07	6.64E-07	0.0	0.0	1.04E-06	0.0	0.0	0.0	0.0
2.40 -	2.2500	1.15E-06	0.0	1.31E-06	0.0	8.27E-07	1.05E-06	0.0	0.0	0.0	0.0
2.25 -	2.1000	1.06E-06	2.99E-06	3.26E-06	0.0	2.51E-06	0.0	1.43E-06	2.32E-06	0.0	0.0
2.10 -	1.9500	2.97E-06	4.18E-06	0.0	1.41E-06	0.0	1.05E-06	7.07E-06	4.60E-06	0.0	0.0
1.95 -	1.8000	8.00E-06	6.55E-06	3.26E-06	1.46E-06	8.43E-07	1.04E-06	1.41E-06	0.0	0.0	0.0
1.80 -	1.6500	9.43E-06	7.08E-06	5.09E-06	1.44E-06	4.99E-06	2.05E-06	4.21E-06	0.0	0.0	2.68E-05
1.65 -	1.5000	1.26E-05	1.19E-05	1.14E-05	1.00E-05	5.00E-06	1.05E-06	2.79E-06	2.29E-06	0.0	0.0
1.50 -	1.3500	2.64E-05	2.08E-05	1.18E-05	1.12E-05	8.21E-06	1.01E-05	2.83E-06	4.53E-06	0.0	0.0
1.35 -	1.2000	3.18E-05	3.83E-05	2.05E-05	1.28E-05	8.22E-06	1.13E-05	6.90E-06	9.20E-06	8.89E-06	0.0
1.20 -	1.0500	6.12E-05	5.13E-05	3.64E-05	2.56E-05	1.81E-05	1.63E-05	1.10E-05	1.36E-05	1.77E-05	2.73E-05
1.05 -	0.9000	9.49E-05	9.13E-05	7.27E-05	4.63E-05	3.90E-05	2.22E-05	2.62E-05	1.77E-05	5.32E-05	0.0
0.90 -	0.7500	1.56E-04	1.80E-04	1.26E-04	7.82E-05	5.79E-05	6.00E-05	3.54E-05	1.77E-05	1.79E-05	5.47E-05
0.75 -	0.6000	2.32E-04	2.81E-04	2.57E-04	1.66E-04	1.39E-04	1.04E-04	8.84E-05	5.97E-05	7.01E-05	1.05E-04
0.60 -	0.4500	4.28E-04	5.97E-04	4.70E-04	3.64E-04	2.71E-04	2.33E-04	1.99E-04	1.36E-04	1.92E-04	1.32E-04
0.45 -	0.3000	8.17E-04	1.30E-03	1.12E-03	9.37E-04	7.85E-04	6.59E-04	5.72E-04	5.34E-04	5.45E-04	3.85E-04
0.30 -	0.2000	1.79E-03	3.16E-03	3.13E-03	2.85E-03	2.53E-03	2.22E-03	2.12E-03	1.93E-03	1.94E-03	1.89E-03
0.20 -	0.1000	4.21E-03	8.55E-03	9.16E-03	9.22E-03	8.70E-03	8.81E-03	8.35E-03	8.51E-03	8.62E-03	8.51E-03
0.10 -	0.0500	1.05E-02	2.36E-02	2.69E-02	2.74E-02	2.72E-02	2.69E-02	2.68E-02	2.65E-02	2.57E-02	2.61E-02
(MEV/SR/ELEC)	3.07E-04	4.91E-04	4.67E-04	4.19E-04	3.78E-04	3.54E-04	3.32E-04	3.14E-04	3.21E-04	3.15E-04	3.15E-04

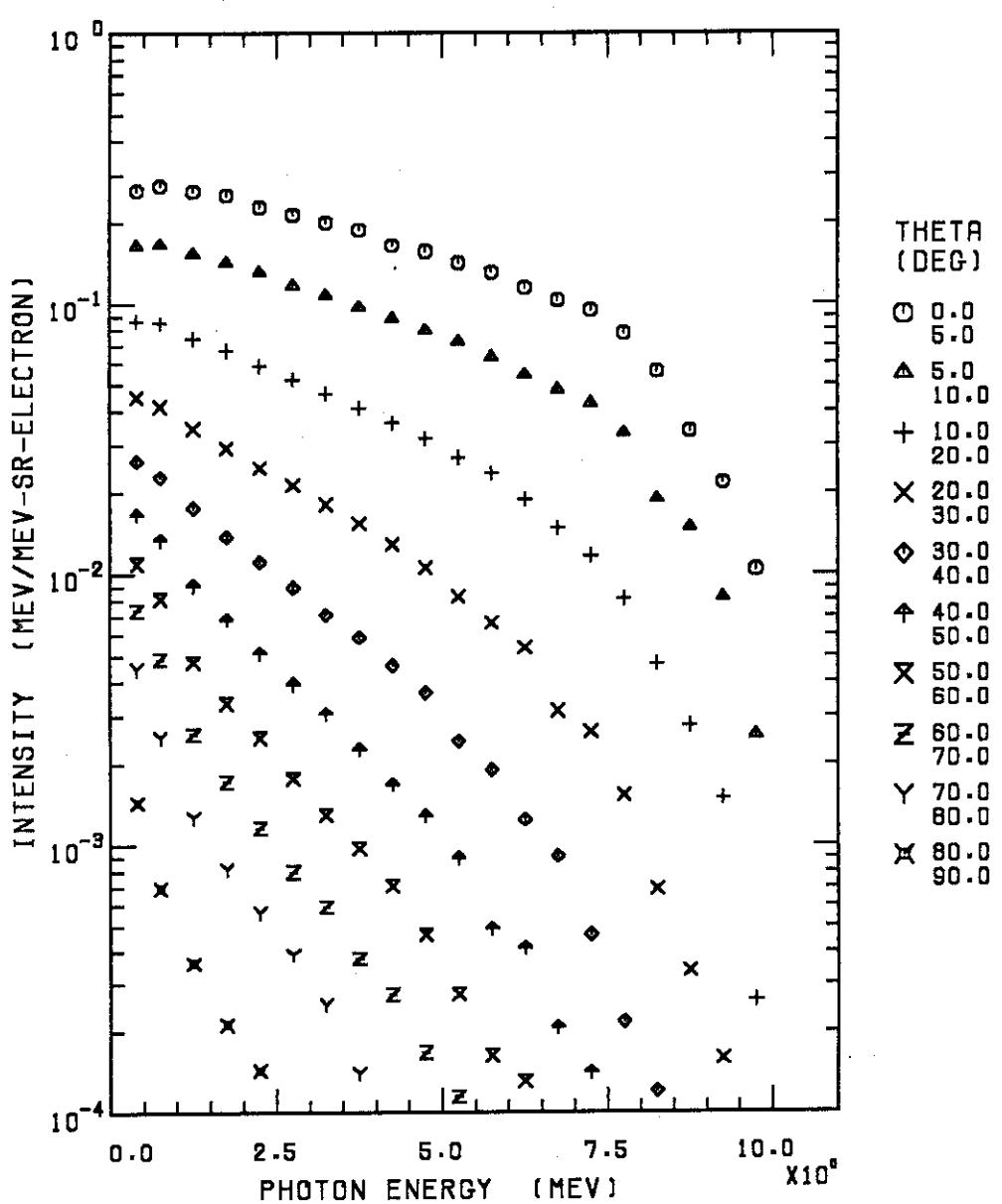
Fig. 5  $Z=6 \quad T_0=10.0 \text{ MeV}$

Table 5 Z=6 T<sub>0</sub>=10.0 MeV

K (MeV)	THETA= 0.0	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000
	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000
10.00	- 9.5000	1.06E-03	2.62E-04	2.67E-05	2.87E-06	6.96E-07	0.0	0.0	0.0	7.07E-08
9.50	- 9.0000	2.35E-03	8.85E-04	1.62E-04	1.72E-05	3.47E-06	5.55E-07	0.0	0.0	2.93E-07
9.00	- 8.5000	3.85E-03	1.69E-03	3.16E-04	3.83E-05	6.97E-06	1.66E-06	9.32E-07	0.0	2.75E-07
8.50	- 8.0000	6.78E-03	2.28E-03	5.66E-04	8.35E-05	1.47E-05	5.56E-06	1.84E-06	7.94E-07	3.37E-07
8.00	- 7.5000	9.97E-03	4.27E-03	1.05E-03	1.98E-04	2.80E-05	1.06E-05	4.18E-06	4.05E-07	7.48E-13
7.50	- 7.0000	1.30E-02	5.88E-03	1.60E-03	3.62E-04	6.39E-05	1.95E-05	6.95E-06	2.80E-06	9.78E-07
7.00	- 6.5000	1.52E-02	7.08E-03	2.18E-03	4.63E-04	1.35E-04	3.06E-05	9.35E-06	4.35E-06	0.0
6.50	- 6.0000	1.83E-02	8.68E-03	3.01E-03	8.55E-04	1.98E-04	6.58E-05	2.10E-05	9.01E-06	3.93E-06
6.00	- 5.5000	2.26E-02	1.10E-02	4.08E-03	1.15E-03	3.30E-04	8.48E-05	2.84E-05	1.33E-05	6.00E-06
5.50	- 5.0000	2.68E-02	1.37E-02	5.12E-03	1.57E-03	4.62E-04	5.21E-05	1.70E-05	5.21E-05	7.13E-06
5.00	- 4.5000	3.27E-02	1.67E-02	6.64E-03	2.22E-03	7.68E-04	2.70E-04	9.73E-05	3.53E-05	1.32E-05
4.50	- 4.0000	3.85E-02	2.07E-02	8.50E-03	3.02E-03	1.08E-03	3.95E-04	1.66E-04	6.43E-05	2.24E-05
4.00	- 3.5000	4.99E-02	2.58E-02	1.09E-02	4.08E-03	1.56E-03	6.03E-04	2.58E-04	9.97E-05	3.75E-05
3.50	- 3.0000	6.12E-02	3.30E-02	1.42E-02	5.55E-03	2.18E-03	9.39E-04	3.97E-04	1.81E-04	7.71E-05
3.00	- 2.5000	7.74E-02	4.26E-02	1.90E-02	7.73E-03	3.25E-03	1.43E-03	6.41E-04	2.89E-04	1.41E-04
2.50	- 2.0000	1.01E-01	5.80E-02	2.62E-02	1.10E-02	4.94E-03	2.27E-03	1.11E-03	5.15E-04	2.49E-04
2.00	- 1.5000	1.44E-01	8.10E-02	3.83E-02	1.67E-02	7.82E-03	3.90E-03	1.91E-03	9.84E-04	4.67E-04
1.50	- 1.0000	2.09E-01	1.22E-01	5.93E-02	2.76E-02	1.40E-02	7.28E-03	3.80E-03	2.06E-03	1.01E-03
1.00	- 0.5000	3.65E-01	2.21E-01	1.13E-01	5.57E-02	3.04E-02	1.78E-02	1.08E-02	6.48E-03	3.34E-03
0.50	- 0.3000	6.55E-01	4.10E-01	2.16E-01	1.13E-01	6.56E-02	4.14E-02	2.73E-02	1.12E-02	3.60E-03
(MeV/SR/ELEC)	1.40E+00	7.44E-01	3.16E-01	1.26E-01	5.54E-01	2.71E-02	1.41E-02	7.58E-03	3.83E-03	1.07E-03

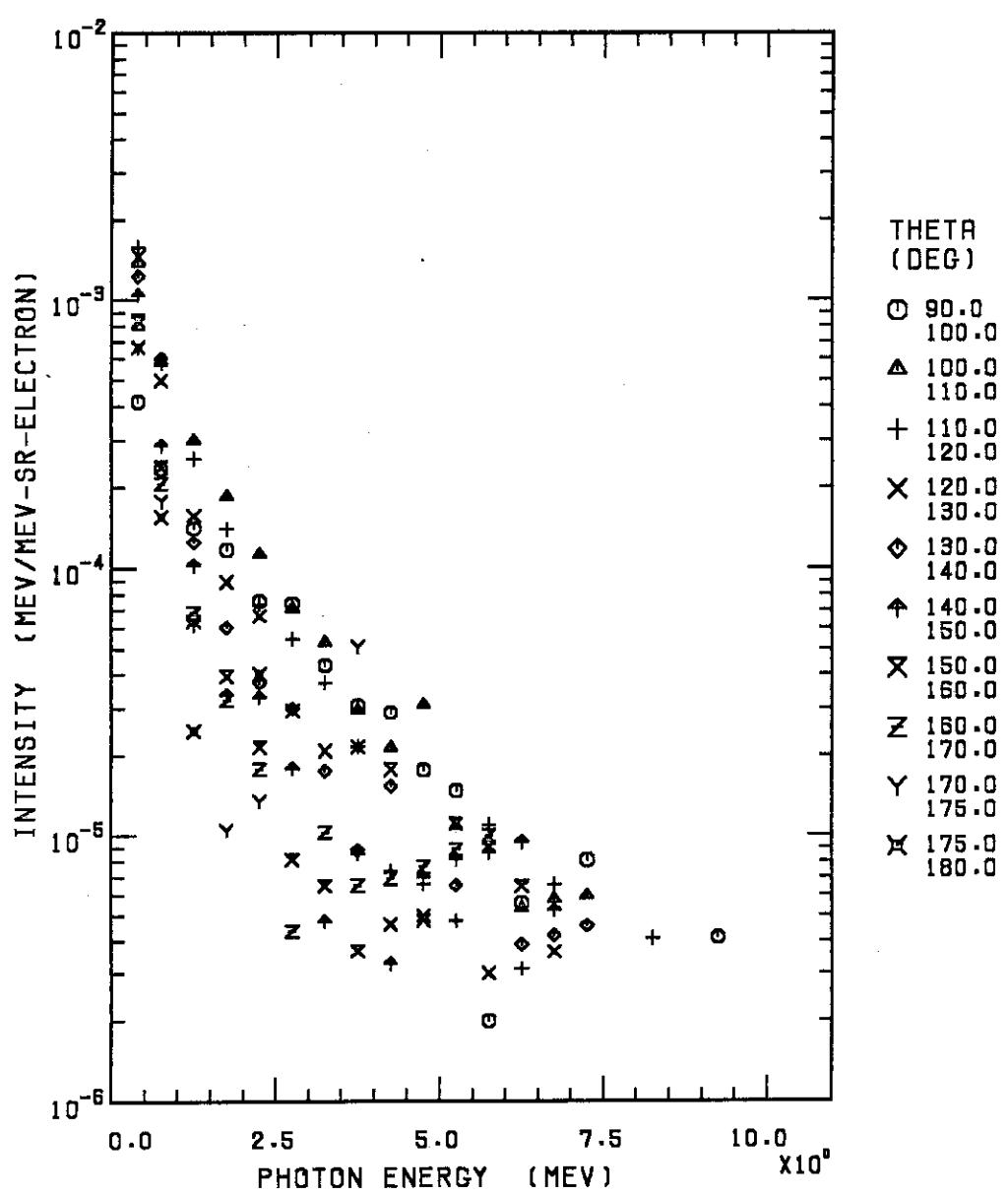
Fig. 6 Z= 6  $T_0 = 10.0$  MeV

Table 6 Z= 6 T<sub>0</sub>=10.0 MeV

K (MeV)	THETA = 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000
	100.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000	180.000	
10.00	-9.5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9.50	-9.0000	4.45E-07	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9.00	-8.5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.50	-8.0000	0.0	0.0	4.94E-07	0.0	0.0	0.0	0.0	0.0	0.0
8.00	-7.5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.50	-7.0000	1.11E-06	8.17E-07	0.0	0.0	6.29E-07	0.0	0.0	0.0	0.0
7.00	-6.5000	0.0	8.54E-07	9.72E-07	5.36E-07	6.19E-07	7.73E-07	0.0	0.0	0.0
6.50	-6.0000	8.91E-07	8.49E-07	4.98E-07	0.0	6.17E-07	1.51E-06	1.03E-06	0.0	0.0
6.00	-5.5000	3.47E-07	1.65E-06	1.90E-06	5.20E-07	0.0	1.50E-06	0.0	1.74E-06	0.0
5.50	-5.0000	2.81E-06	2.06E-06	9.05E-07	0.0	1.24E-06	1.54E-06	2.11E-06	1.69E-06	0.0
5.00	-4.5000	3.70E-06	6.50E-06	1.39E-06	1.04E-06	0.0	1.47E-06	1.01E-06	1.61E-06	0.0
4.50	-4.0000	6.80E-06	5.04E-06	1.73E-06	1.09E-06	3.61E-06	7.67E-07	4.16E-06	1.63E-06	0.0
4.00	-3.5000	8.17E-06	7.86E-06	5.75E-06	5.74E-06	2.34E-06	2.28E-06	9.70E-07	1.73E-06	1.36E-05
3.50	-3.0000	1.33E-05	1.63E-05	1.15E-05	6.41E-06	5.38E-06	1.46E-06	1.99E-06	3.15E-06	0.0
3.00	-2.5000	2.69E-05	2.58E-05	1.98E-05	1.07E-05	1.09E-05	6.49E-06	2.95E-06	1.58E-06	0.0
2.50	-2.0000	3.35E-05	5.01E-05	3.26E-05	2.95E-05	1.66E-05	1.47E-05	9.54E-06	7.89E-06	5.96E-06
2.00	-1.5000	6.68E-05	1.05E-04	8.00E-05	5.10E-05	3.44E-05	1.92E-05	2.25E-05	1.84E-05	5.97E-06
1.50	-1.0000	1.13E-04	2.41E-04	2.05E-04	1.25E-04	9.99E-05	8.21E-05	5.07E-05	5.47E-05	4.89E-05
1.00	-0.5000	3.12E-04	7.78E-04	7.72E-04	6.65E-04	8.04E-04	3.83E-04	3.18E-04	2.74E-04	2.37E-04
0.50	-0.3000	1.04E-03	3.43E-03	3.94E-03	3.63E-03	3.06E-03	2.61E-03	2.10E-03	2.05E-03	1.66E-03
(MEV/SR/ELEC)	4.63E-04	9.38E-04	8.64E-04	6.90E-04	6.26E-04	4.41E-04	3.48E-04	3.25E-04	2.74E-04	2.18E-04

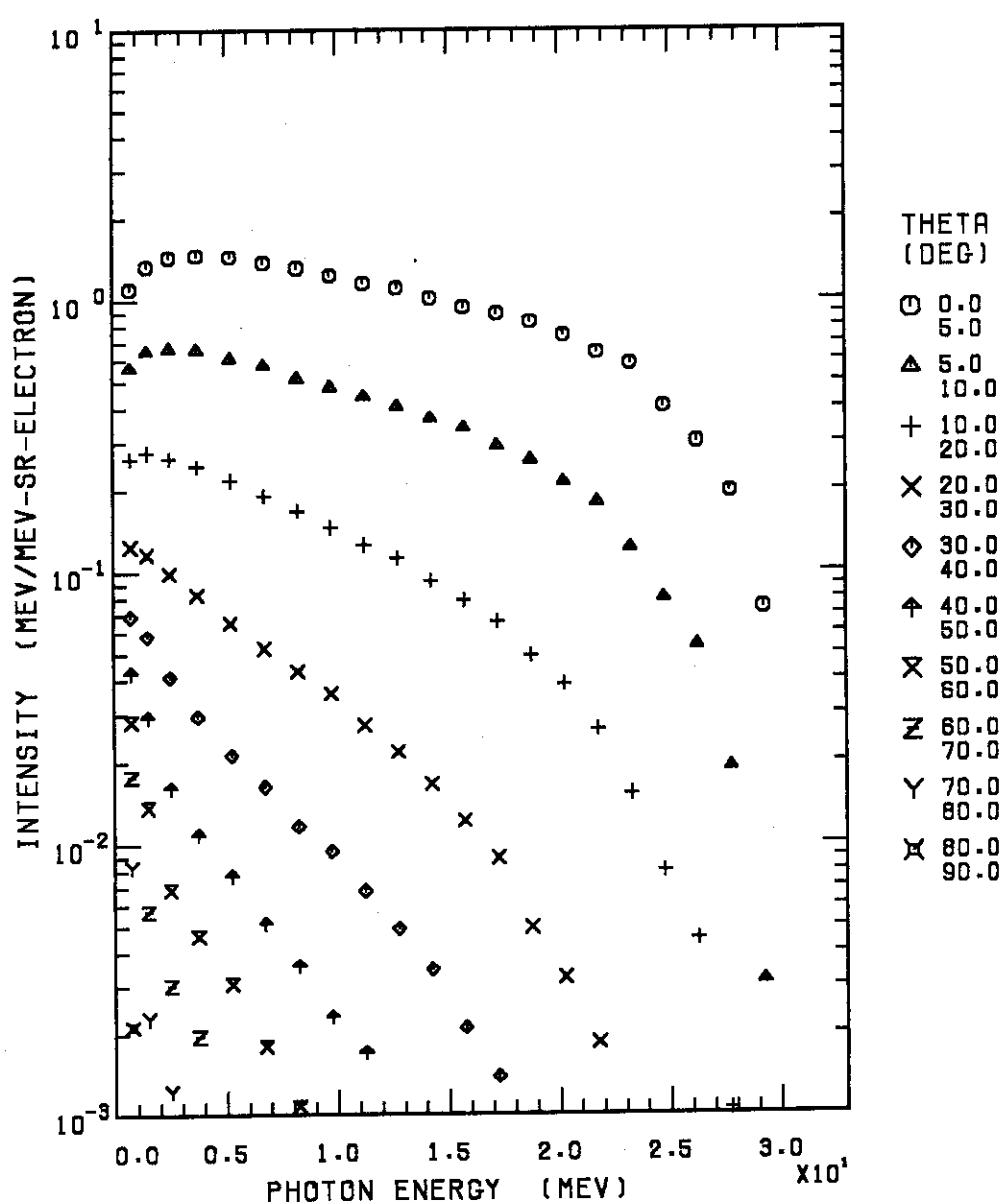
Fig. 7 Z=6  $T_0=30.0$  MeV

Table 7 Z=6  $T_0=30.0$  MeV

K (MeV)	THETA = 0.0	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000
		10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000
30.00	- 28.5000	2.50E-03	1.07E-04	7.13E-06	1.07E-06	0.0	0.0	0.0	0.0	0.0
28.50	- 27.0000	7.08E-03	6.85E-04	3.78E-05	3.23E-06	7.80E-07	0.0	0.0	0.0	0.0
27.00	- 25.5000	1.14E-02	2.02E-03	1.70E-04	6.55E-06	7.67E-07	6.15E-07	0.0	0.0	4.05E-08
25.50	- 24.0000	1.64E-02	3.20E-03	3.21E-04	1.99E-05	4.72E-06	0.0	4.58E-07	0.0	2.83E-07
24.00	- 22.5000	2.50E-02	5.22E-03	6.56E-04	3.79E-05	7.96E-06	6.01E-07	4.56E-07	4.23E-07	0.0
22.50	- 21.0000	2.93E-02	8.24E-03	1.21E-03	8.50E-05	8.82E-06	6.20E-06	9.88E-07	8.10E-07	5.74E-07
21.00	- 19.5000	3.63E-02	1.05E-02	1.89E-03	1.59E-04	1.94E-05	5.03E-06	4.50E-07	4.31E-07	2.82E-07
19.50	- 18.0000	4.40E-02	1.37E-02	2.61E-03	2.63E-04	4.59E-05	1.18E-05	6.48E-06	1.62E-06	0.0
18.00	- 16.5000	5.13E-02	1.68E-02	3.78E-03	5.14E-04	8.06E-05	1.73E-05	4.32E-06	4.81E-07	5.45E-07
16.50	- 15.0000	5.94E-02	2.14E-02	4.97E-03	7.71E-04	1.33E-04	2.32E-05	6.87E-06	5.36E-06	1.29E-06
15.00	- 13.5000	7.10E-02	2.57E-02	6.49E-03	1.17E-03	2.43E-04	3.95E-05	1.28E-05	5.89E-06	1.02E-06
13.50	- 12.0000	8.65E-02	3.19E-02	8.79E-03	1.70E-03	3.83E-04	7.81E-05	2.05E-05	4.84E-06	4.85E-06
12.00	- 10.5000	1.02E-01	3.94E-02	1.11E-02	2.42E-03	6.01E-04	1.52E-04	4.67E-05	2.01E-05	5.00E-06
10.50	- 9.0000	1.26E-01	4.91E-02	1.49E-02	3.66E-03	9.66E-04	2.38E-04	7.70E-05	2.42E-05	8.15E-06
9.00	- 7.5000	1.59E-01	6.25E-02	2.03E-02	5.22E-03	1.41E-03	4.33E-04	1.31E-04	4.36E-05	1.59E-05
7.50	- 6.0000	2.04E-01	8.54E-02	2.82E-02	7.74E-03	2.42E-03	7.59E-04	2.67E-04	1.01E-04	3.18E-05
6.00	- 4.5000	2.75E-01	1.16E-01	4.15E-02	1.24E-02	4.05E-03	1.47E-03	5.84E-04	1.87E-04	7.80E-05
4.50	- 3.0000	3.90E-01	1.75E-01	6.55E-02	2.20E-02	7.85E-03	2.90E-03	1.23E-03	5.22E-04	1.92E-04
3.00	- 2.0000	5.77E-01	2.66E-01	1.05E-01	3.96E-02	1.65E-02	6.46E-03	2.74E-03	1.21E-03	4.93E-04
2.00	- 1.0000	8.89E-01	4.33E-01	1.84E-01	7.77E-02	3.87E-02	1.95E-02	9.13E-03	3.80E-03	1.53E-03
1.00	- 0.5000	1.47E+00	7.53E-01	3.50E-01	1.66E-01	9.21E-02	5.69E-02	3.77E-02	2.37E-02	1.11E-02
(MEV/SR/ELEC)	2.67E+01	9.93E+00	3.01E+00	8.28E-01	2.89E-01	1.13E-01	5.09E-02	2.31E-02	9.46E-03	2.28E-03

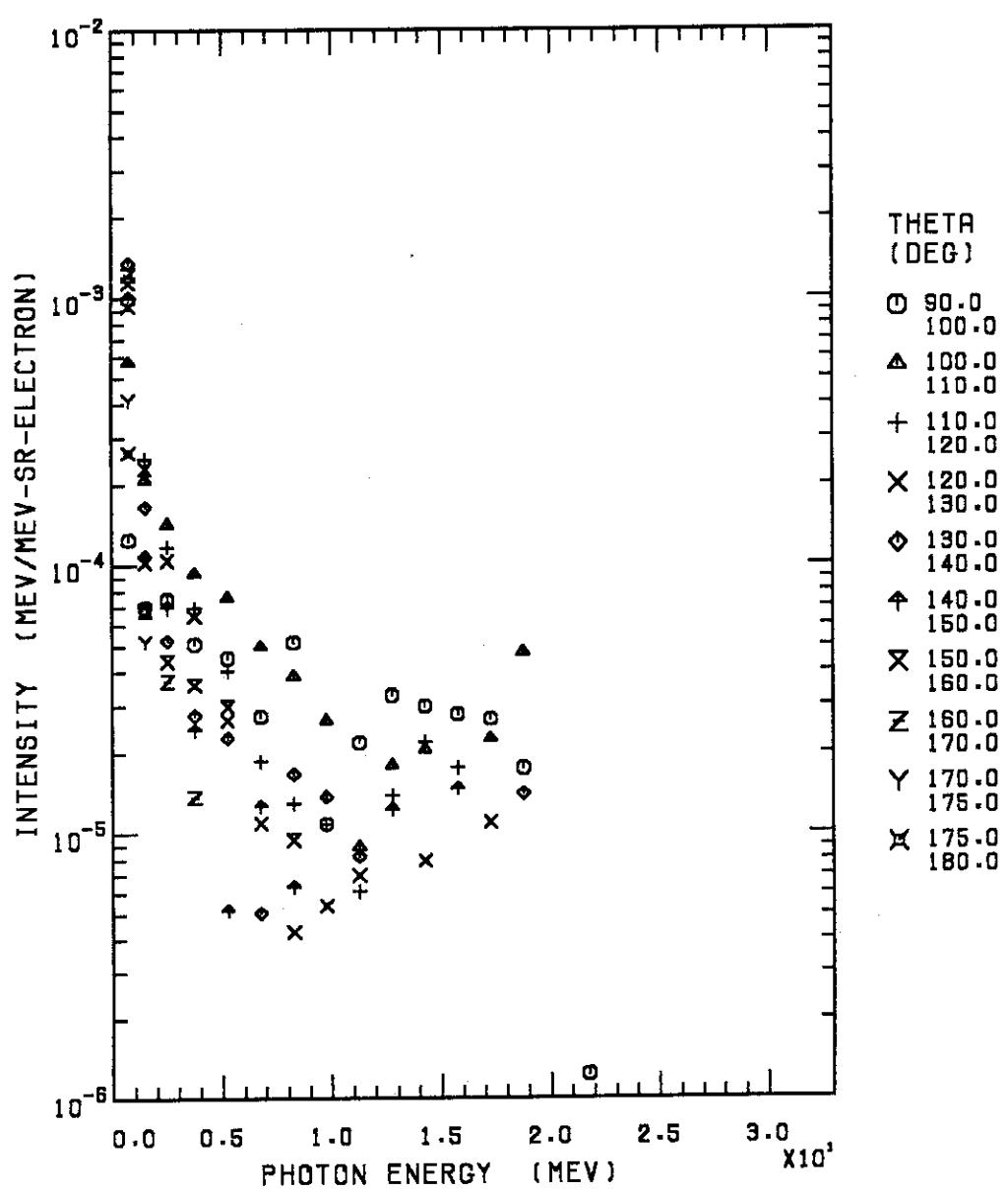
Fig. 8 Z= 6  $T_0 = 30.0$  MeV

Table 8 Z=6  $T_0=30.0$  MeV

K (MEV)	THETA = 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000
	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000	180.000
30.00	- 28.5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.50	- 27.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.00	- 25.5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.50	- 24.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.00	- 22.5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.50	- 21.0000	5.68E-08	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.00	- 19.5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19.50	- 18.0000	9.31E-07	2.50E-06	0.0	0.0	7.48E-07	0.0	0.0	0.0	0.0
18.00	- 16.5000	1.54E-06	1.30E-06	0.0	6.34E-07	0.0	0.0	0.0	0.0	0.0
16.50	- 15.0000	1.76E-06	0.0	1.11E-06	0.0	0.0	9.30E-07	0.0	0.0	0.0
15.00	- 13.5000	2.08E-06	1.44E-06	1.54E-06	5.52E-07	0.0	0.0	0.0	0.0	0.0
13.50	- 12.0000	2.55E-06	1.41E-06	1.09E-06	0.0	0.0	9.63E-07	0.0	0.0	0.0
12.00	- 10.5000	1.93E-06	7.90E-07	5.39E-07	6.18E-07	7.29E-07	0.0	0.0	0.0	0.0
10.50	- 9.0000	1.11E-06	2.70E-06	1.11E-06	5.50E-07	1.41E-06	0.0	0.0	0.0	0.0
9.00	- 7.5000	6.22E-06	4.68E-06	1.57E-06	5.18E-07	2.02E-06	7.64E-07	1.14E-06	0.0	0.0
7.50	- 6.0000	4.05E-06	7.36E-06	2.76E-06	1.62E-06	7.48E-07	1.88E-06	0.0	0.0	0.0
6.00	- 4.5000	8.58E-06	1.44E-05	7.70E-06	5.05E-06	4.33E-06	9.86E-07	5.68E-06	0.0	0.0
4.50	- 3.0000	1.35E-05	2.49E-05	1.85E-05	1.72E-05	7.37E-06	6.51E-06	9.55E-06	3.66E-06	0.0
3.00	- 2.0000	3.00E-05	5.69E-05	4.68E-05	4.17E-05	2.10E-05	2.80E-05	1.75E-05	1.48E-05	2.77E-05
2.00	- 1.0000	4.65E-05	1.40E-04	1.66E-04	1.53E-04	1.10E-04	7.18E-05	6.83E-05	4.51E-05	3.47E-05
1.00	- 0.5000	1.66E-04	7.69E-04	1.28E-03	1.24E-03	1.80E-03	1.34E-03	1.52E-03	1.63E-03	3.52E-04
(MEV/SR/ELEC)	7.03E-04	1.17E-03	1.05E-03	8.93E-04	8.76E-04	6.61E-04	6.77E-04	5.62E-04	2.85E-04	1.98E-04

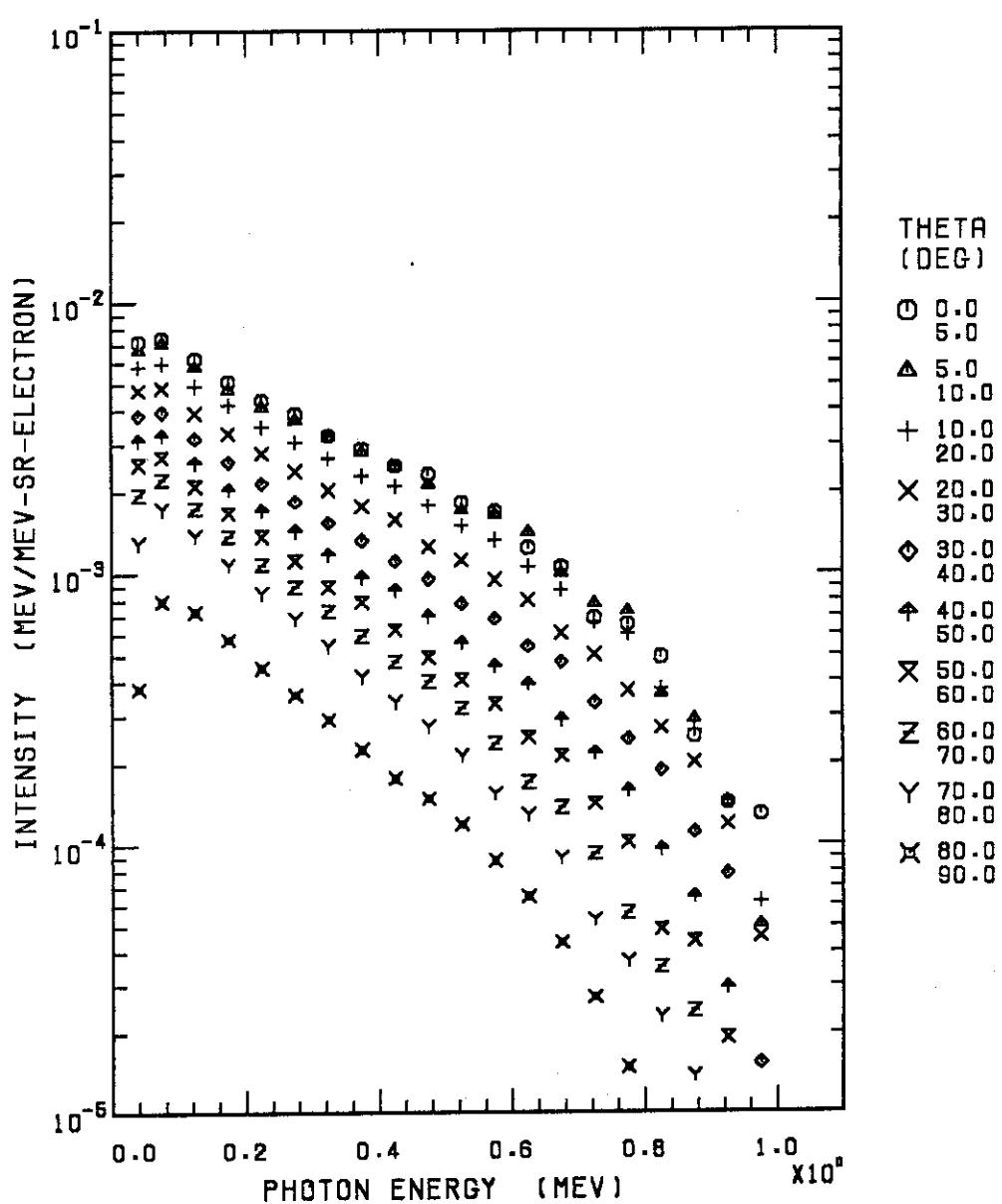
Fig. 9 Z=13  $T_0 = 1.0$  MeV

Table 9 Z=13 T<sub>0</sub> = 1.0 MeV

K (MEV)	THETA=	0.0	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000
		5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000
1.00	-	0.9500	1.33E-04	5.17E-05	4.66E-05	1.59E-05	7.40E-06	1.72E-06	5.05E-07	4.34E-07	0.0
0.95	-	0.9000	1.55E-04	1.56E-04	1.29E-04	8.43E-05	3.16E-05	8.65E-06	6.32E-06	1.97E-06	
0.90	-	0.8500	2.87E-04	3.32E-04	3.01E-04	2.31E-04	1.27E-04	7.34E-05	5.00E-05	2.74E-05	3.25E-06
0.85	-	0.8000	5.96E-04	4.35E-04	4.56E-04	3.27E-04	2.29E-04	1.16E-04	5.87E-05	4.23E-05	9.90E-06
0.80	-	0.7500	8.38E-04	9.36E-04	7.70E-04	4.77E-04	3.17E-04	2.05E-04	1.32E-04	7.23E-05	4.77E-05
0.75	-	0.7000	9.47E-04	1.07E-03	9.12E-04	6.92E-04	4.61E-04	3.02E-04	1.96E-04	1.28E-04	7.30E-05
0.70	-	0.6500	1.56E-03	1.48E-03	1.29E-03	8.93E-04	6.98E-04	4.29E-04	3.16E-04	2.04E-04	1.33E-04
0.65	-	0.6000	1.98E-03	2.26E-03	1.69E-03	1.28E-03	8.61E-04	6.26E-04	3.99E-04	2.74E-04	2.07E-04
0.60	-	0.5500	2.94E-03	2.85E-03	2.30E-03	1.65E-03	1.19E-03	7.93E-04	5.75E-04	4.13E-04	2.70E-04
0.55	-	0.5000	3.47E-03	3.25E-03	2.84E-03	2.13E-03	1.48E-03	1.06E-03	7.71E-04	6.10E-04	4.08E-04
0.50	-	0.4500	4.89E-03	4.48E-03	3.74E-03	2.64E-03	2.01E-03	1.47E-03	1.03E-03	8.43E-04	5.77E-04
0.45	-	0.4000	5.89E-03	5.87E-03	4.94E-03	3.70E-03	2.61E-03	2.05E-03	1.46E-03	1.12E-03	7.92E-04
0.40	-	0.3500	7.71E-03	7.51E-03	6.14E-03	4.72E-03	3.52E-03	2.58E-03	2.10E-03	1.57E-03	4.17E-04
0.35	-	0.3000	9.96E-03	9.85E-03	8.20E-03	6.26E-03	4.72E-03	3.61E-03	2.75E-03	2.25E-03	6.02E-04
0.30	-	0.2500	1.41E-02	1.35E-02	1.12E-02	8.71E-03	6.70E-03	5.21E-03	4.05E-03	3.26E-03	8.96E-04
0.25	-	0.2000	1.94E-02	1.83E-02	1.55E-02	1.24E-02	9.60E-03	7.60E-03	6.07E-03	4.80E-03	3.78E-03
0.20	-	0.1500	2.93E-02	2.74E-02	2.40E-02	1.89E-02	1.48E-02	1.18E-02	9.55E-03	7.83E-03	6.18E-03
0.15	-	0.1000	4.96E-02	4.64E-02	3.96E-02	3.14E-02	2.54E-02	2.06E-02	1.69E-02	1.39E-02	1.10E-02
0.10	-	0.0500	9.83E-02	9.46E-02	7.99E-02	5.27E-02	4.35E-02	3.59E-02	2.98E-02	2.31E-02	1.06E-02
0.05	-	0.0300	1.79E-01	1.67E-01	1.46E-01	1.19E-01	9.61E-02	7.81E-02	6.32E-02	4.89E-02	3.23E-02
	(MEV/SR/ELEC)	2.41E-03	2.32E-03	1.96E-03	1.52E-03	1.16E-03	8.99E-04	7.04E-04	5.60E-04	4.20E-04	2.11E-04

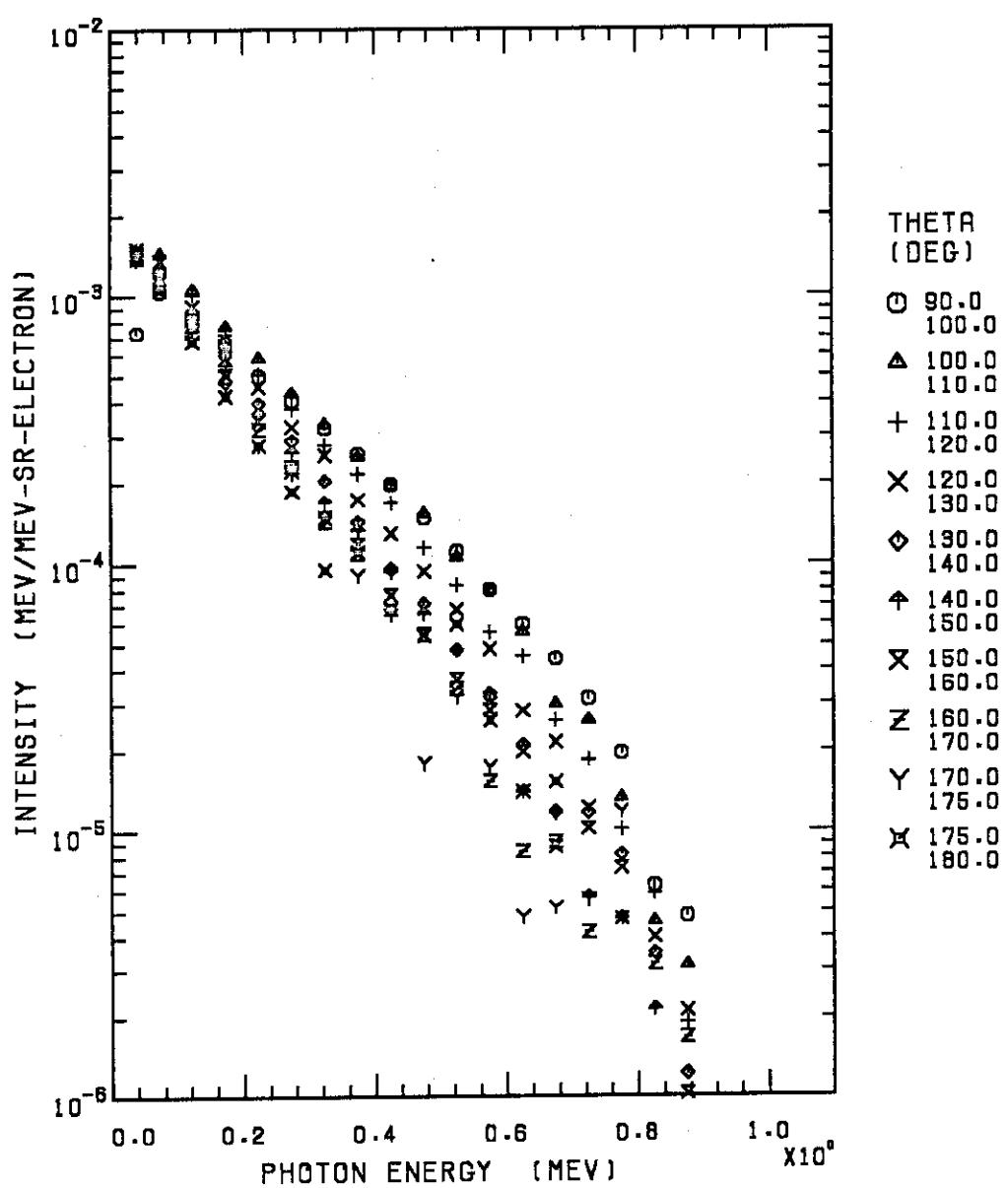
Fig. 10 Z=13  $T_0 = 1.0$  MeV

Table 10 Z=13 T<sub>0</sub> = 1.0 MeV

K (MeV)	THETA= 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000
	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000	180.000
1.00 -	0.9500	4.96E-07	0.0	5.49E-07	0.0	0.0	0.0	0.0	0.0	0.0
0.95 -	0.9000	0.0	5.14E-07	5.49E-07	0.0	7.03E-07	8.69E-07	0.0	0.0	0.0
0.90 -	0.8500	5.47E-06	3.57E-06	2.19E-06	2.42E-06	1.40E-06	0.0	1.17E-06	1.92E-06	0.0
0.85 -	0.8000	7.56E-06	5.54E-06	7.09E-06	4.84E-06	4.21E-06	2.60E-06	0.0	3.84E-06	0.0
0.80 -	0.7500	2.53E-05	1.72E-05	1.31E-05	6.04E-06	1.05E-05	6.05E-06	9.39E-06	0.0	1.52E-05
0.75 -	0.7000	4.31E-05	3.58E-05	2.55E-05	1.69E-05	1.61E-05	7.78E-06	1.41E-05	5.76E-06	7.62E-06
0.70 -	0.6500	6.51E-05	4.42E-05	3.19E-05	1.75E-05	1.72E-05	1.29E-05	1.29E-05	1.34E-05	7.62E-06
0.65 -	0.6000	9.49E-05	8.88E-05	7.19E-05	4.50E-05	3.35E-05	2.25E-05	3.17E-05	1.34E-05	2.25E-05
0.60 -	0.5500	1.39E-04	1.39E-04	9.63E-05	8.33E-05	5.51E-05	5.68E-05	4.92E-05	2.68E-05	3.01E-05
0.55 -	0.5000	2.11E-04	2.01E-04	1.59E-04	1.28E-04	9.05E-05	9.03E-05	7.00E-05	6.50E-05	6.03E-05
0.50 -	0.4500	3.11E-04	3.23E-04	2.41E-04	1.98E-04	1.49E-04	1.37E-04	1.13E-04	1.15E-04	1.13E-04
0.45 -	0.4000	4.63E-04	4.60E-04	3.96E-04	3.05E-04	2.26E-04	2.20E-04	1.80E-04	1.58E-04	1.51E-04
0.40 -	0.3500	6.84E-04	6.67E-04	5.76E-04	4.61E-04	3.81E-04	3.54E-04	3.16E-04	2.91E-04	2.42E-04
0.35 -	0.3000	9.89E-04	1.02E-03	8.55E-04	7.84E-04	6.28E-04	5.21E-04	4.56E-04	4.39E-04	4.45E-04
0.30 -	0.2500	1.48E-03	1.58E-03	1.38E-03	1.18E-03	1.05E-03	9.51E-04	8.08E-04	8.39E-04	7.89E-04
0.25 -	0.2000	2.23E-03	2.61E-03	2.27E-03	2.04E-03	1.76E-03	1.62E-03	1.52E-03	1.41E-03	1.23E-03
0.20 -	0.1500	3.78E-03	4.41E-03	4.11E-03	3.74E-03	3.44E-03	3.17E-03	2.92E-03	2.87E-03	2.59E-03
0.15 -	0.1000	6.84E-03	8.46E-03	8.13E-03	7.36E-03	6.77E-03	6.40E-03	6.26E-03	5.98E-03	5.41E-03
0.10 -	0.0500	1.39E-02	1.92E-02	1.89E-02	1.81E-02	1.70E-02	1.63E-02	1.58E-02	1.51E-02	1.41E-02
0.05 -	0.0300	1.82E-02	3.45E-02	3.74E-02	3.76E-02	3.67E-02	3.57E-02	3.46E-02	3.43E-02	3.63E-02
	(MeV/SR/ELEC)	2.48E-04	2.98E-04	2.77E-04	2.51E-04	2.26E-04	2.12E-04	1.99E-04	1.92E-04	1.82E-04

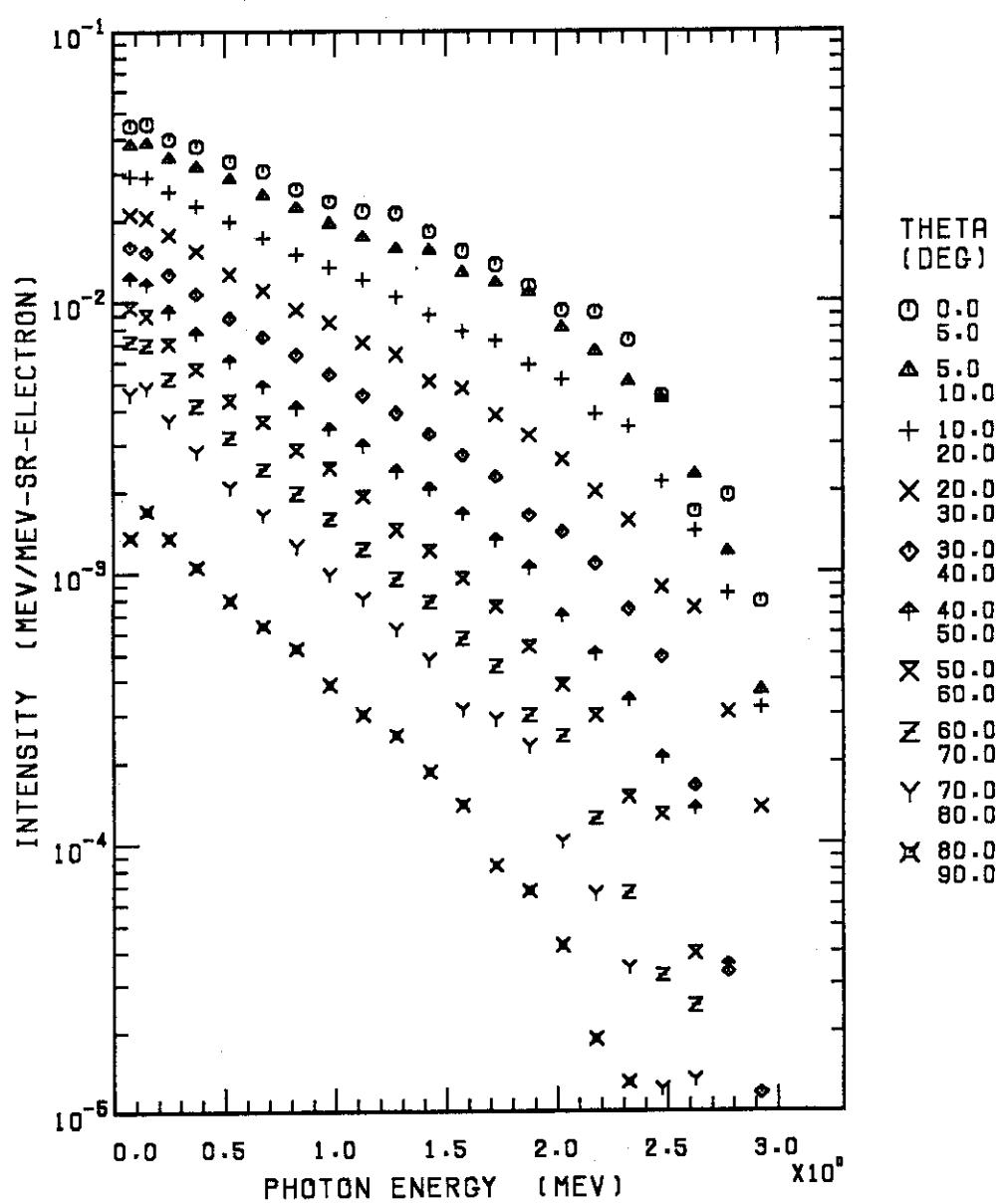
Fig. 11  $Z=13 \quad T_0 = 3.0 \text{ MeV}$

Table 11 Z=13 T<sub>0</sub>= 3.0 MeV

K (MeV)	THETA= 0.0	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000
		10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000
3.00 -	2.8500	2.67E-04	1.25E-04	1.08E-04	4.67E-05	4.02E-06	1.62E-06	1.36E-06	1.17E-06	1.07E-06
2.85 -	2.7000	6.95E-04	4.29E-04	3.02E-04	1.10E-04	1.21E-05	1.29E-05	2.75E-06	3.59E-06	5.39E-07
2.70 -	2.5500	6.41E-04	8.75E-04	5.40E-04	2.83E-04	6.23E-05	5.16E-05	1.50E-05	9.52E-06	6.59E-07
2.55 -	2.4000	1.81E-03	1.76E-03	8.72E-04	3.57E-04	1.97E-04	8.39E-05	5.18E-05	1.31E-05	1.32E-06
2.40 -	2.2500	3.09E-03	2.17E-03	1.49E-03	6.69E-04	3.15E-04	1.45E-04	6.40E-05	2.84E-05	5.56E-06
2.25 -	2.1000	4.19E-03	3.00E-03	1.78E-03	9.17E-04	4.95E-04	2.30E-04	1.36E-04	5.69E-05	8.66E-06
2.10 -	1.9500	4.57E-03	3.95E-03	2.55E-03	1.30E-03	6.95E-04	3.44E-04	1.90E-04	1.23E-04	5.03E-05
1.95 -	1.8000	6.08E-03	5.73E-03	3.11E-03	1.72E-03	8.67E-04	5.56E-04	2.83E-04	1.58E-04	2.08E-05
1.80 -	1.6500	7.91E-03	6.79E-03	4.15E-03	2.22E-03	1.31E-03	7.63E-04	4.35E-04	2.61E-04	4.82E-05
1.65 -	1.5000	9.72E-03	8.11E-03	4.93E-03	3.04E-03	1.73E-03	1.05E-03	6.04E-04	3.62E-04	8.84E-05
1.50 -	1.3500	1.27E-02	1.08E-02	6.28E-03	3.58E-03	2.29E-03	1.43E-03	8.47E-04	5.49E-04	1.29E-04
1.35 -	1.2000	1.66E-02	1.22E-02	8.15E-03	5.01E-03	3.06E-03	1.87E-03	1.12E-03	7.43E-04	4.83E-04
1.20 -	1.0500	1.91E-02	1.53E-02	1.07E-02	6.29E-03	4.01E-03	2.62E-03	1.70E-03	1.09E-03	7.14E-04
1.05 -	0.9000	2.40E-02	1.99E-02	1.37E-02	8.62E-03	5.55E-03	3.51E-03	2.50E-03	1.62E-03	3.95E-04
0.90 -	0.7500	3.16E-02	2.68E-02	1.81E-02	1.14E-02	7.74E-03	4.96E-03	3.45E-03	2.39E-03	6.36E-04
0.75 -	0.6000	4.51E-02	3.68E-02	2.55E-02	1.64E-02	1.10E-02	7.26E-03	5.38E-03	3.59E-03	2.42E-03
0.60 -	0.4500	6.30E-02	5.41E-02	3.77E-02	2.41E-02	1.67E-02	1.16E-02	8.25E-03	6.03E-03	9.46E-04
0.45 -	0.3000	1.00E-01	8.39E-02	6.02E-02	4.10E-02	2.86E-02	2.05E-02	1.51E-02	1.11E-02	2.81E-03
0.30 -	0.2000	1.60E-01	1.36E-01	1.02E-01	7.07E-02	5.06E-02	3.71E-02	2.81E-02	2.09E-02	5.38E-03
0.20 -	0.1000	3.04E-01	2.57E-01	1.93E-01	1.37E-01	1.02E-01	7.77E-02	5.94E-02	4.64E-02	1.13E-02
0.10 -	0.0500	5.96E-01	5.07E-01	3.89E-01	2.80E-01	2.12E-01	1.64E-01	1.27E-01	9.53E-02	1.80E-02
	(MEV/SR/ELEC)	5.31E-02	4.43E-02	3.02E-02	1.90E-02	1.25E-02	8.48E-03	5.97E-03	4.20E-03	2.78E-03

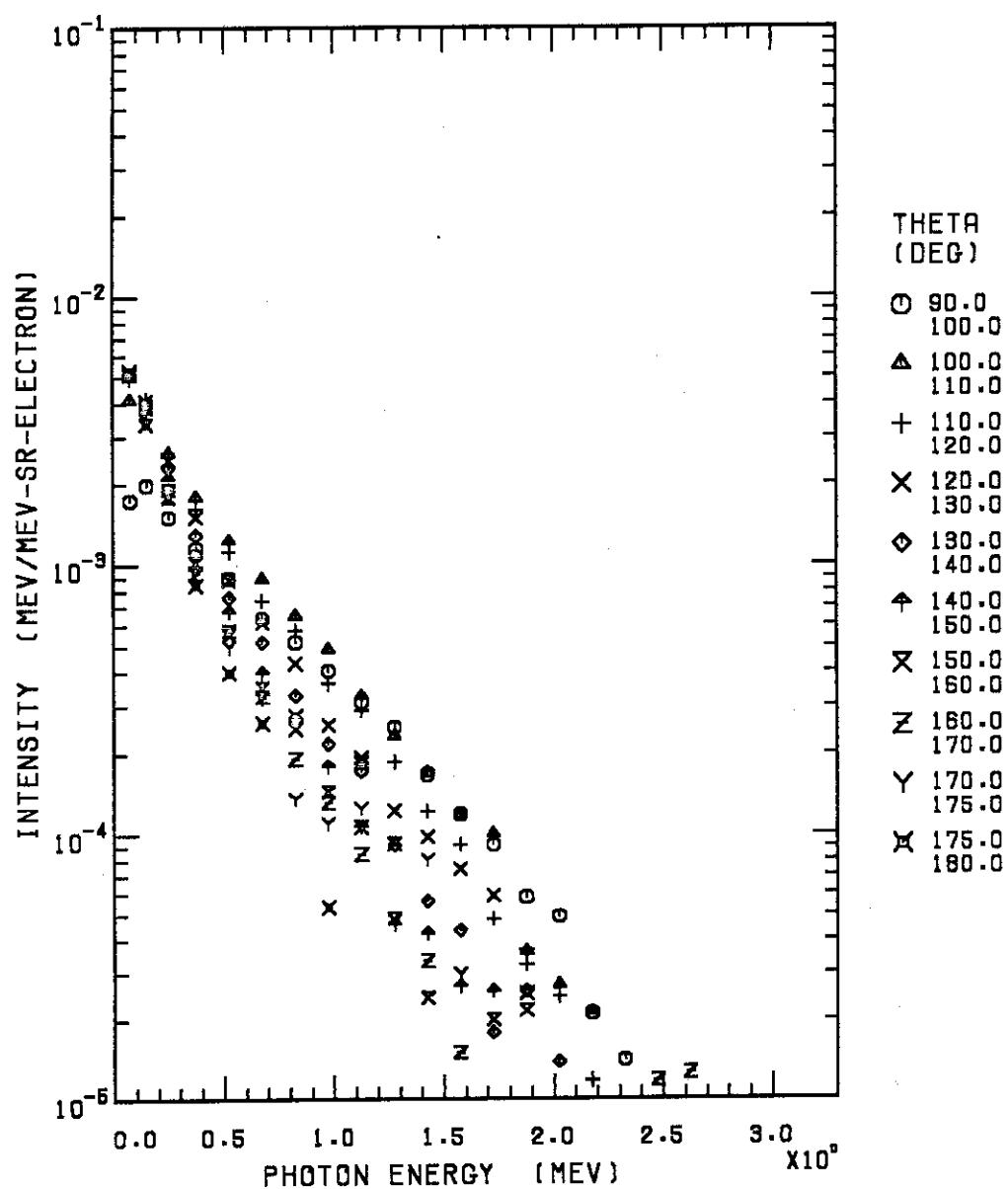
Fig. 12    Z=13     $T_0 = 3.0$  MeV

Table 12 Z=13 T<sub>0</sub>= 3.0 MeV

K (MEV)	THETA= 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000	180.000
3.00 -	2.8500	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.85 -	2.7000	0.0	0.0	0.0	1.52E-06	0.0	0.0	0.0	0.0	0.0	0.0
2.70 -	2.5500	1.17E-06	1.28E-06	0.0	0.0	0.0	0.0	0.0	4.81E-06	0.0	0.0
2.55 -	2.4000	3.39E-06	0.0	1.33E-06	0.0	1.76E-06	2.15E-06	0.0	4.77E-06	0.0	0.0
2.40 -	2.2500	6.08E-06	2.50E-06	2.71E-06	0.0	3.50E-06	0.0	0.0	0.0	0.0	0.0
2.25 -	2.1000	9.74E-06	9.87E-06	5.43E-06	2.97E-06	3.46E-06	0.0	0.0	0.0	0.0	0.0
2.10 -	1.9500	2.43E-05	1.34E-05	1.21E-05	4.49E-06	6.86E-06	2.16E-06	2.90E-06	0.0	0.0	0.0
1.95 -	1.8000	3.09E-05	1.94E-05	1.73E-05	1.34E-05	1.38E-05	2.11E-05	1.16E-05	0.0	1.86E-05	0.0
1.80 -	1.6500	5.30E-05	5.84E-05	2.79E-05	3.41E-05	1.04E-05	1.49E-05	1.16E-05	4.67E-06	0.0	0.0
1.65 -	1.5000	7.54E-05	7.50E-05	5.80E-05	4.71E-05	2.76E-05	1.71E-05	2.95E-06	9.57E-06	1.90E-05	0.0
1.50 -	1.3500	1.18E-04	1.19E-04	8.56E-05	6.88E-05	3.95E-05	2.97E-05	1.71E-05	2.35E-05	5.64E-05	0.0
1.35 -	1.2000	1.97E-04	1.83E-04	1.47E-04	9.63E-05	7.17E-05	3.61E-05	7.24E-05	3.79E-05	3.74E-05	0.0
1.20 -	1.0500	2.77E-04	2.92E-04	2.58E-04	1.73E-04	1.53E-04	9.51E-05	9.47E-05	7.52E-05	1.12E-04	1.65E-04
1.05 -	0.9000	4.16E-04	5.01E-04	3.74E-04	2.62E-04	2.24E-04	1.85E-04	1.49E-04	1.36E-04	1.13E-04	5.47E-05
0.90 -	0.7500	6.29E-04	7.87E-04	6.97E-04	5.25E-04	4.00E-04	3.28E-04	3.00E-04	2.32E-04	1.66E-04	3.36E-04
0.75 -	0.6000	9.39E-04	1.32E-03	1.09E-03	9.10E-04	7.69E-04	5.91E-04	5.21E-04	4.83E-04	4.79E-04	3.85E-04
0.60 -	0.4500	1.71E-03	2.36E-03	2.14E-03	1.69E-03	1.44E-03	1.28E-03	1.05E-03	1.09E-03	9.50E-04	7.60E-04
0.45 -	0.3000	3.08E-03	4.78E-03	4.31E-03	4.01E-03	3.46E-03	2.97E-03	2.72E-03	2.49E-03	2.50E-03	2.26E-03
0.30 -	0.2000	6.02E-03	1.05E-02	1.06E-02	9.86E-03	9.23E-03	8.37E-03	7.65E-03	7.20E-03	7.47E-03	7.17E-03
0.20 -	0.1000	1.32E-02	2.58E-02	2.78E-02	2.74E-02	2.68E-02	2.64E-02	2.58E-02	2.48E-02	2.50E-02	2.23E-02
0.10 -	0.0500	2.32E-02	5.53E-02	6.63E-02	6.83E-02	6.86E-02	6.79E-02	6.84E-02	6.87E-02	6.87E-02	6.87E-02
(MEV/SR/ELEC)	1.12E-03	1.73E-03	1.66E-03	1.50E-03	1.37E-03	1.24E-03	1.17E-03	1.12E-03	1.12E-03	1.12E-03	1.02E-03

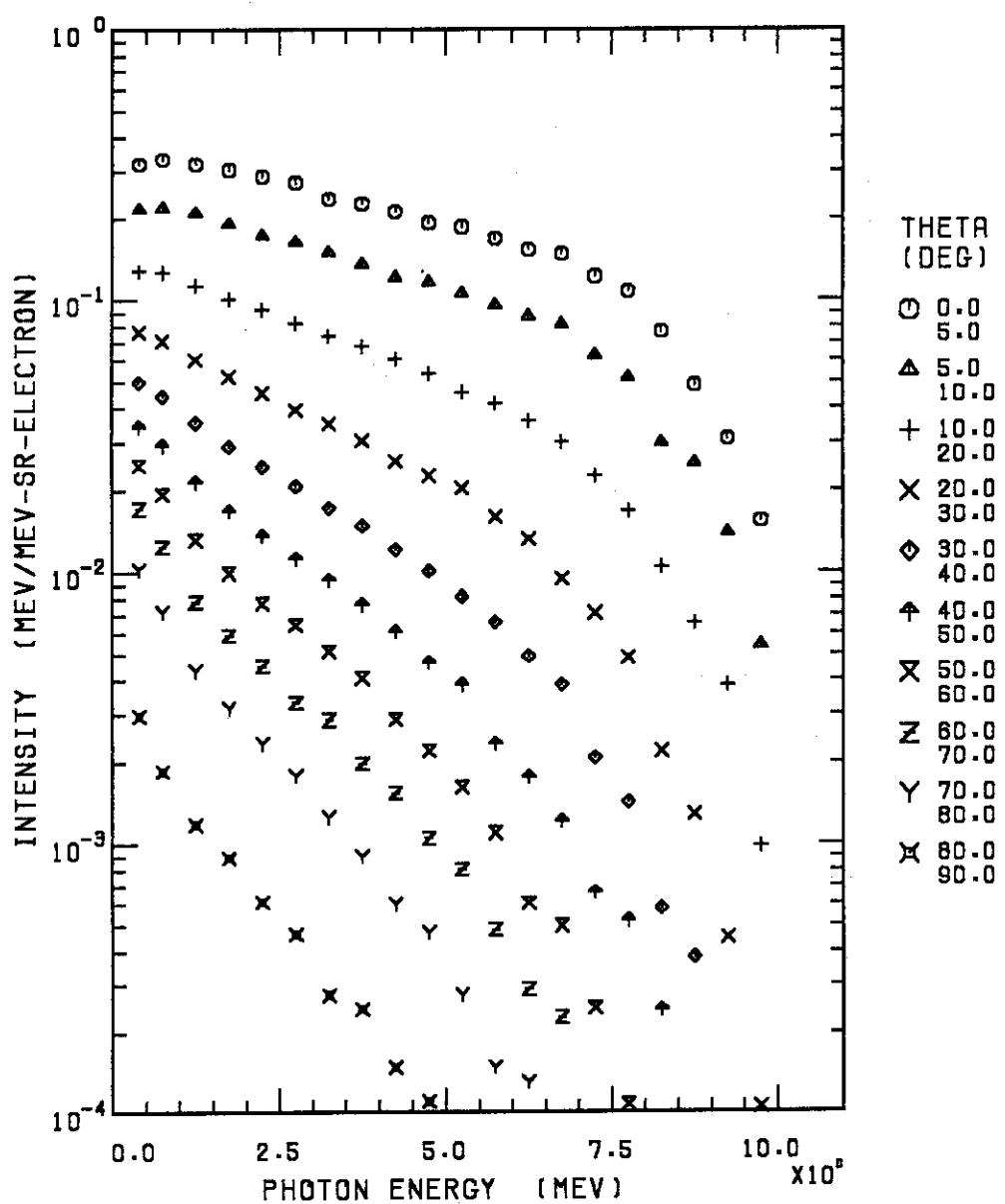
Fig. 13  $Z=13 \quad T_0=10.0 \text{ MeV}$

Table 13     $Z=13$      $T_0=10.0$  MeV

$K$ (MeV)	$\Theta\text{TA} =$	0.0	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000
10.00	-	9.5000	1.58E-03	5.52E-04	1.00E-04	1.08E-05	3.92E-06	0.0	0.0	0.0	0.0	0.0
9.50	-	9.0000	3.34E-03	1.50E-03	4.15E-04	4.86E-05	1.04E-05	4.12E-06	8.47E-07	0.0	0.0	3.11E-07
9.00	-	8.5000	5.55E-03	2.87E-03	7.45E-04	1.46E-04	4.34E-05	9.32E-06	2.55E-06	0.0	0.0	6.04E-07
8.50	-	8.0000	9.26E-03	3.62E-03	1.27E-03	2.67E-04	6.99E-05	2.94E-05	7.71E-06	7.13E-07	0.0	0.0
8.00	-	7.5000	1.39E-02	6.68E-03	2.15E-03	6.25E-04	1.84E-04	6.70E-05	1.39E-05	7.22E-06	1.67E-06	0.0
7.50	-	7.0000	1.68E-02	8.58E-03	3.10E-03	9.78E-04	2.86E-04	9.12E-05	3.40E-05	1.03E-05	7.95E-06	6.65E-08
7.00	-	6.5000	2.18E-02	1.20E-02	4.45E-03	1.40E-03	5.70E-04	1.79E-04	7.34E-05	3.38E-05	6.11E-06	1.44E-06
6.50	-	6.0000	2.44E-02	1.39E-02	5.74E-03	2.11E-03	7.83E-04	2.82E-04	9.62E-05	4.61E-05	2.09E-05	3.38E-06
6.00	-	5.5000	2.92E-02	1.66E-02	7.24E-03	2.76E-03	1.14E-03	4.07E-04	1.90E-04	8.35E-05	2.59E-05	8.01E-06
5.50	-	5.0000	3.53E-02	2.01E-02	8.70E-03	3.86E-03	1.55E-03	7.34E-04	3.07E-04	1.53E-04	5.25E-05	1.18E-05
5.00	-	4.5000	4.04E-02	2.45E-02	1.13E-02	4.75E-03	2.13E-03	9.77E-04	4.63E-04	2.21E-04	9.89E-05	2.33E-05
4.50	-	4.0000	4.97E-02	2.85E-02	1.42E-02	6.02E-03	2.84E-03	1.43E-03	6.75E-04	3.62E-04	1.41E-04	3.50E-05
4.00	-	3.5000	6.04E-02	3.62E-02	1.80E-02	8.12E-03	3.94E-03	2.04E-03	1.08E-03	5.27E-04	2.40E-04	6.51E-05
3.50	-	3.0000	7.25E-02	4.61E-02	2.26E-02	1.08E-02	5.28E-03	2.89E-03	1.57E-03	8.79E-04	3.85E-04	8.44E-05
3.00	-	2.5000	9.86E-02	5.94E-02	2.99E-02	1.43E-02	7.52E-03	4.08E-03	2.33E-03	1.20E-03	6.49E-04	1.69E-04
2.50	-	2.0000	1.27E-01	7.69E-02	4.09E-02	2.03E-02	1.09E-02	6.04E-03	3.43E-03	2.01E-03	1.05E-03	2.71E-04
2.00	-	1.5000	1.73E-01	1.09E-01	5.76E-02	3.00E-02	1.66E-02	9.60E-03	5.68E-03	3.36E-03	1.81E-03	5.09E-04
1.50	-	1.0000	2.55E-01	1.68E-01	9.05E-02	4.83E-02	2.84E-02	1.72E-02	1.05E-02	6.25E-03	3.48E-03	9.44E-04
1.00	-	0.5000	4.43E-01	2.92E-01	1.69E-01	9.43E-02	5.92E-02	3.92E-02	2.58E-02	1.65E-02	9.60E-03	2.48E-03
0.50	-	0.3000	7.99E-01	5.42E-01	3.20E-01	1.91E-01	1.25E-01	8.58E-02	6.16E-02	4.27E-02	2.56E-02	7.41E-03
	(MeV/SR/ELEC)	1.76E+00	1.05E+00	5.12E-01	2.40E-01	1.26E-01	7.08E-02	4.14E-02	2.44E-02	1.30E-02	3.44E-03	

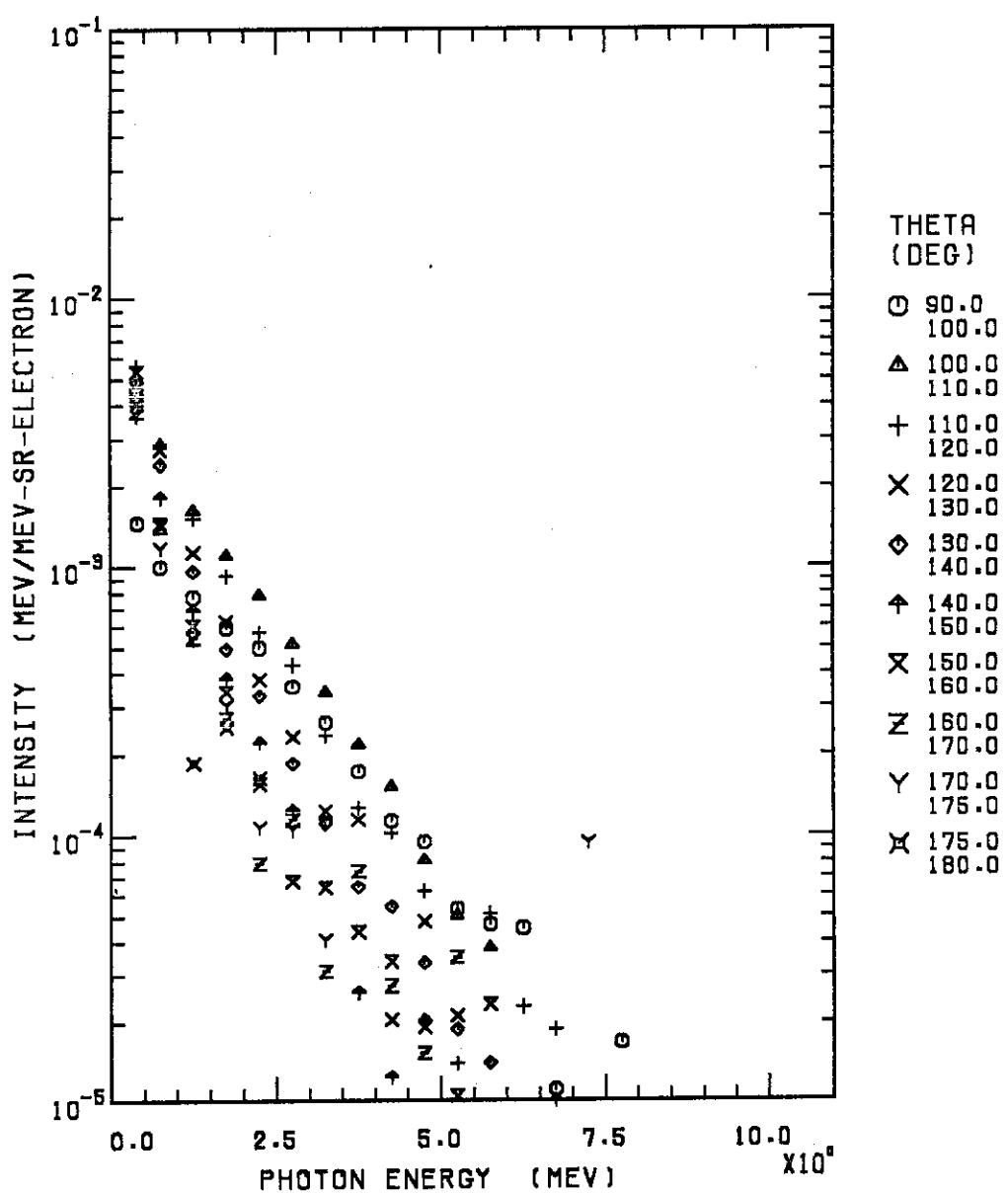
Fig. 14     $Z=13$      $T_0=10.0$  MeV

Table 14 Z=13  $\tau_0 = 10.0$  MeV

$K$ (MeV)	THETA= 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000	180.000
10.00	- 9.5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9.50	- 9.0000	0.0	0.0	9.50E-07	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9.00	- 8.5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.50	- 8.0000	1.20E-06	8.61E-07	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	- 7.5000	2.17E-06	8.93E-07	9.19E-07	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.50	- 7.0000	7.76E-07	8.35E-07	0.0	1.04E-06	0.0	0.0	0.0	0.0	1.30E-05	0.0
7.00	- 6.5000	1.64E-06	8.31E-07	2.79E-06	0.0	1.21E-06	1.49E-06	0.0	0.0	0.0	0.0
6.50	- 6.0000	7.21E-06	1.58E-06	3.67E-06	1.05E-06	0.0	0.0	0.0	0.0	0.0	0.0
6.00	- 5.5000	8.12E-06	6.60E-06	8.87E-06	1.05E-06	2.44E-06	0.0	4.05E-06	0.0	0.0	0.0
5.50	- 5.0000	1.01E-05	9.57E-06	2.65E-06	4.04E-06	3.58E-06	1.50E-06	2.00E-06	6.65E-06	0.0	0.0
5.00	- 4.5000	1.99E-05	1.71E-05	1.30E-05	1.00E-05	7.02E-06	4.27E-06	4.03E-06	3.23E-06	0.0	0.0
4.50	- 4.0000	2.66E-05	3.56E-05	2.41E-05	4.81E-06	1.28E-05	2.90E-06	7.92E-06	6.42E-06	0.0	0.0
4.00	- 3.5000	4.61E-05	5.79E-05	3.38E-05	3.05E-05	1.72E-05	6.88E-06	1.16E-05	1.96E-05	0.0	0.0
3.50	- 3.0000	8.09E-05	1.04E-04	7.24E-05	3.79E-05	3.42E-05	3.54E-05	1.97E-05	9.53E-06	1.25E-05	0.0
3.00	- 2.5000	1.29E-04	1.87E-04	1.56E-04	8.44E-05	6.73E-05	4.51E-05	2.45E-05	4.17E-05	3.82E-05	0.0
2.50	- 2.0000	2.21E-04	3.49E-04	2.53E-04	1.69E-04	1.46E-04	9.85E-05	6.91E-05	3.50E-05	4.75E-05	7.26E-05
2.00	- 1.5000	3.40E-04	6.30E-04	5.29E-04	3.57E-04	2.82E-04	2.19E-04	1.95E-04	1.56E-04	1.73E-04	1.44E-04
1.50	- 1.0000	6.18E-04	1.30E-03	1.21E-03	9.07E-04	7.71E-04	5.50E-04	4.82E-04	4.36E-04	4.32E-04	1.49E-04
1.00	- 0.5000	1.34E-03	3.82E-03	3.84E-03	3.65E-03	3.22E-03	2.42E-03	1.93E-03	1.88E-03	1.56E-03	1.90E-03
0.50	- 0.3000	3.64E-03	1.14E-02	1.40E-02	1.33E-02	1.23E-02	1.13E-02	1.02E-02	9.49E-03	9.17E-03	1.10E-02
	(MEV/SR/ELEC)	2.26E-03	4.61E-03	4.40E-03	3.57E-03	3.11E-03	2.45E-03	2.07E-03	1.92E-03	1.79E-03	1.74E-03

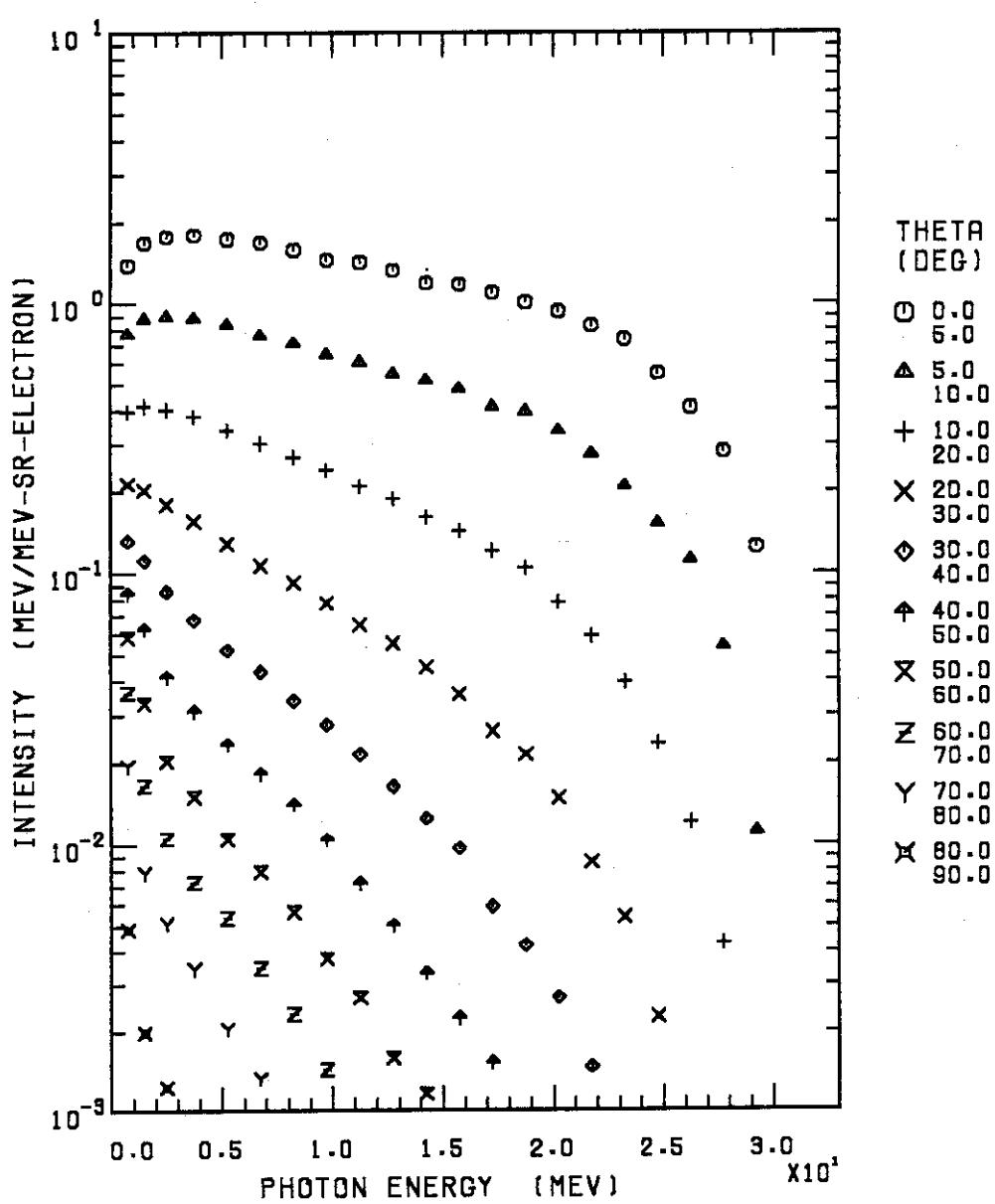
Fig. 15  $Z=13 \quad T_0=30.0 \text{ MeV}$

Table 15 Z=13  $T_0 = 30.0 \text{ MeV}$ 

K (MEV)	THETA= 0.0	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	
		10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	
30.00	- 28.5000	4.24E-03	3.81E-04	2.81E-05	5.08E-06	0.0	0.0	0.0	0.0	0.0	
28.50	- 27.0000	1.01E-02	1.93E-03	1.54E-04	1.19E-05	2.43E-06	9.08E-07	0.0	0.0	0.0	
27.00	- 25.5000	1.56E-02	4.24E-03	4.59E-04	3.47E-05	8.73E-06	2.85E-06	0.0	0.0	0.0	
25.50	- 24.0000	2.22E-02	6.11E-03	9.51E-04	9.14E-05	1.26E-05	4.81E-06	0.0	5.95E-07	0.0	
24.00	- 22.5000	3.15E-02	8.98E-03	1.70E-03	2.30E-04	3.09E-05	5.88E-06	0.0	2.20E-07	0.0	
22.50	- 21.0000	3.79E-02	1.27E-02	2.69E-03	3.93E-04	6.75E-05	1.86E-05	3.99E-06	3.10E-07	0.0	
21.00	- 19.5000	4.59E-02	1.66E-02	3.86E-03	7.32E-04	1.32E-04	3.48E-05	5.59E-06	2.39E-06	3.99E-07	
19.50	- 18.0000	5.36E-02	2.11E-02	5.54E-03	1.15E-03	2.24E-04	4.62E-05	1.21E-05	3.73E-06	6.44E-07	
18.00	- 16.5000	6.33E-02	2.38E-02	6.96E-03	1.52E-03	3.40E-04	8.84E-05	2.43E-05	1.03E-05	2.56E-06	
16.50	- 15.0000	7.44E-02	3.05E-02	9.04E-03	2.26E-03	6.13E-04	1.42E-04	5.80E-05	1.69E-05	5.28E-06	
15.00	- 13.5000	8.32E-02	3.63E-02	1.12E-02	3.15E-03	8.76E-04	2.32E-04	8.14E-05	2.66E-05	6.81E-06	
13.50	- 12.0000	1.04E-01	4.29E-02	1.47E-02	4.33E-03	1.29E-03	3.93E-04	1.24E-04	4.04E-05	1.39E-05	
12.00	- 10.5000	1.26E-01	5.38E-02	1.86E-02	5.73E-03	1.91E-03	6.40E-04	2.37E-04	8.79E-05	1.77E-06	
10.50	- 9.0000	1.48E-01	6.63E-02	2.47E-02	7.97E-03	2.85E-03	1.07E-03	3.84E-04	1.47E-04	5.60E-05	
9.00	- 7.5000	1.91E-01	8.61E-02	3.26E-02	1.12E-02	4.10E-03	1.71E-03	6.78E-04	2.81E-04	8.93E-05	
7.50	- 6.0000	2.48E-01	1.13E-01	4.47E-02	1.58E-02	6.41E-03	2.71E-03	1.17E-03	5.13E-04	1.97E-04	
6.00	- 4.5000	3.29E-01	1.59E-01	6.45E-02	2.44E-02	9.93E-03	4.47E-03	1.99E-03	1.02E-03	3.90E-04	
4.50	- 3.0000	4.79E-01	2.35E-01	1.02E-01	4.14E-02	1.80E-02	8.28E-03	4.01E-03	1.94E-03	9.16E-04	
3.00	- 2.0000	7.08E-01	3.59E-01	1.62E-01	7.17E-02	3.43E-02	1.65E-02	8.13E-03	4.22E-03	2.04E-03	
2.00	- 1.0000	1.12E+00	5.85E-01	2.78E-01	1.35E-01	7.42E-02	4.17E-02	2.21E-02	1.10E-02	5.25E-03	
1.00	- 0.5000	1.85E+00	1.03E+00	5.30E-01	2.85E-01	1.75E-01	1.12E-01	7.74E-02	4.84E-02	2.60E-02	
	(MEV/SR/ELEC)	3.28E+01	1.40E+01	4.98E+00	1.72E+00	6.97E-01	3.15E-01	1.51E-01	7.52E-02	3.38E-02	7.88E-03

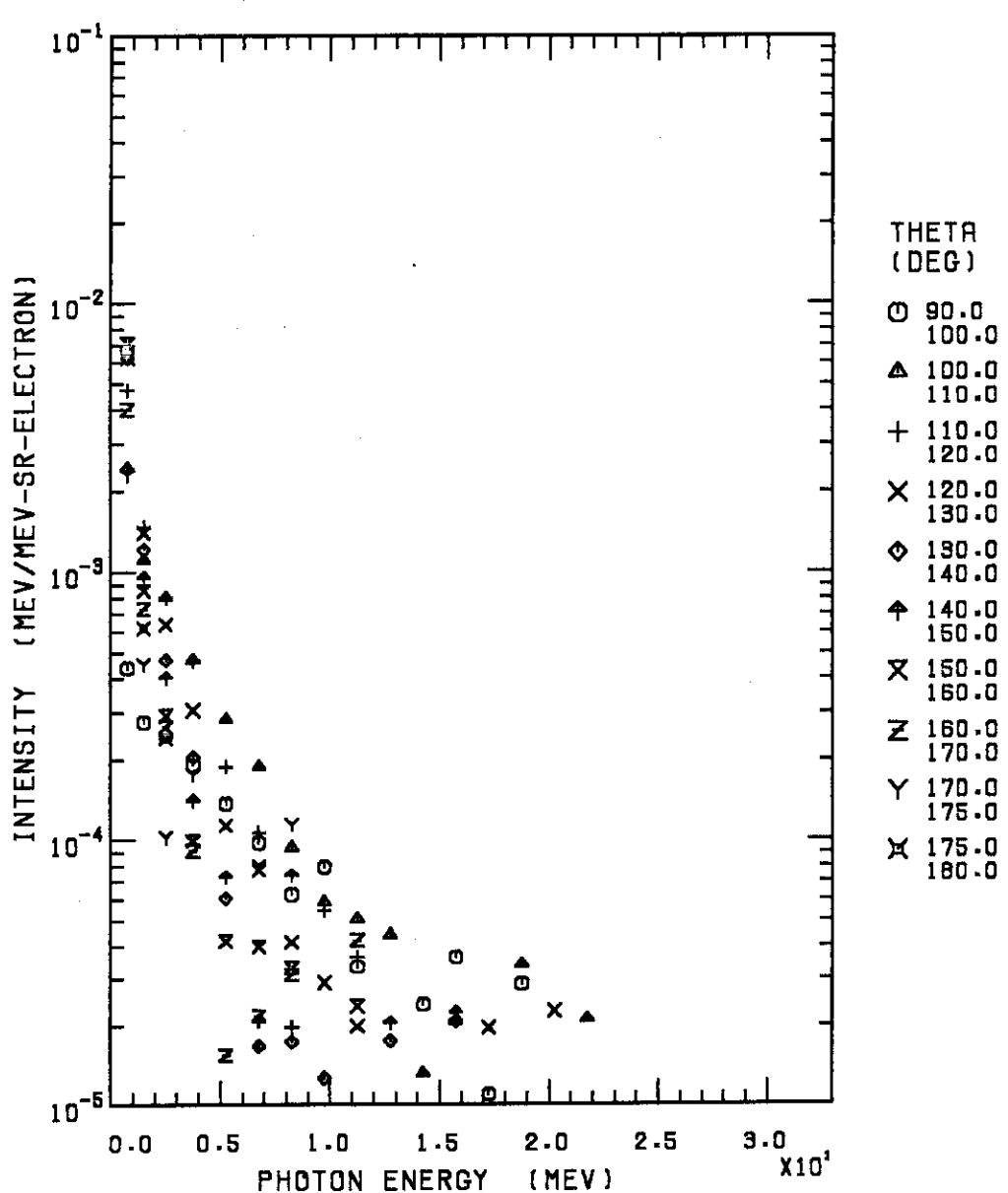
Fig. 16  $Z=13 \quad T_0=30.0 \text{ MeV}$

Table 16 Z=13  $T_0=30.0$  MeV

K (MEV)	THETA= 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000
	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000	180.000
30.00	-28.5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.50	-27.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.00	-25.5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.50	-24.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.00	-22.5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.50	-21.0000	0.0	9.75E-07	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.00	-19.5000	0.0	0.0	0.0	1.12E-06	0.0	0.0	0.0	0.0	0.0
19.50	-18.0000	1.53E-06	1.81E-06	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.00	-16.5000	6.36E-07	0.0	0.0	1.14E-06	0.0	0.0	0.0	0.0	0.0
16.50	-15.0000	2.30E-06	1.32E-06	0.0	0.0	1.32E-06	1.43E-06	0.0	0.0	0.0
15.00	-13.5000	1.69E-06	9.26E-07	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13.50	-12.0000	6.91E-07	3.44E-06	0.0	0.0	1.38E-06	1.61E-06	0.0	0.0	0.0
12.00	-10.5000	2.96E-06	4.50E-06	3.22E-06	1.77E-06	0.0	0.0	2.11E-06	3.72E-06	0.0
10.50	-9.0000	8.10E-06	6.02E-06	5.58E-06	2.98E-06	1.29E-06	0.0	0.0	0.0	0.0
9.00	-7.5000	7.56E-06	1.14E-05	2.40E-06	5.02E-06	2.11E-06	8.94E-06	4.01E-06	3.78E-06	1.38E-05
7.50	-6.0000	1.45E-05	2.80E-05	1.58E-05	1.15E-05	2.49E-06	3.10E-06	5.89E-06	3.22E-06	1.18E-05
6.00	-4.5000	2.61E-05	5.40E-05	3.59E-05	2.16E-05	1.15E-05	1.39E-05	7.94E-06	2.95E-06	0.0
4.50	-3.0000	5.11E-05	1.26E-04	1.25E-04	8.16E-05	5.45E-05	3.75E-05	2.65E-05	4.71E-05	0.0
3.00	-2.0000	9.82E-05	3.24E-04	3.22E-04	2.55E-04	1.88E-04	1.61E-04	1.17E-04	1.07E-04	4.09E-05
2.00	-1.0000	1.85E-04	7.42E-04	9.77E-04	9.34E-04	8.10E-04	6.37E-04	5.69E-04	4.87E-04	3.02E-04
1.00	-0.5000	5.85E-04	3.25E-03	6.32E-03	8.34E-03	8.75E-03	9.47E-03	5.35E-03	3.06E-03	8.80E-03
(MEV/SR/ELEC)	1.75E-03	4.79E-03	5.36E-03	5.32E-03	4.51E-03	4.54E-03	4.07E-03	2.80E-03	2.04E-03	3.17E-03

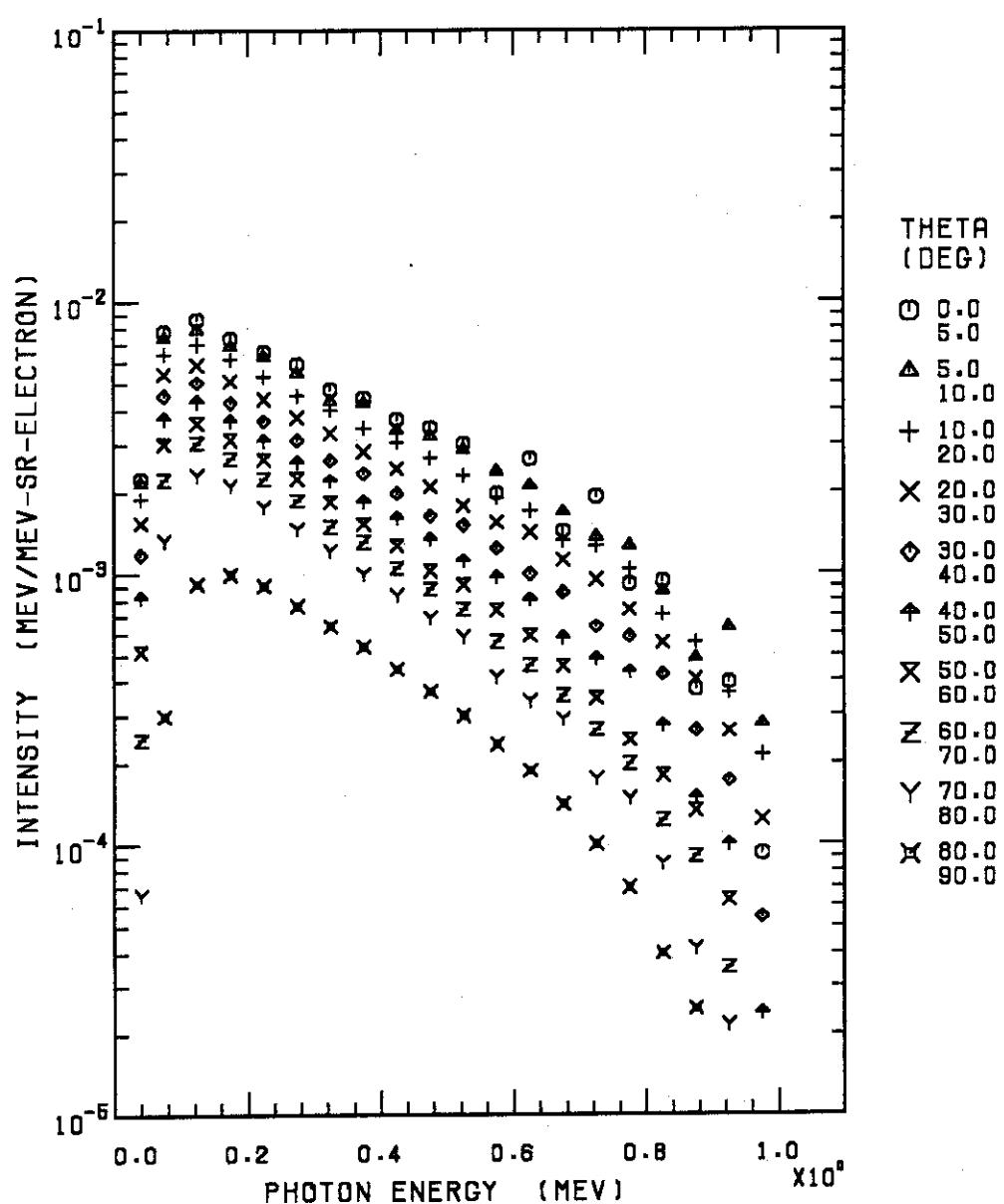
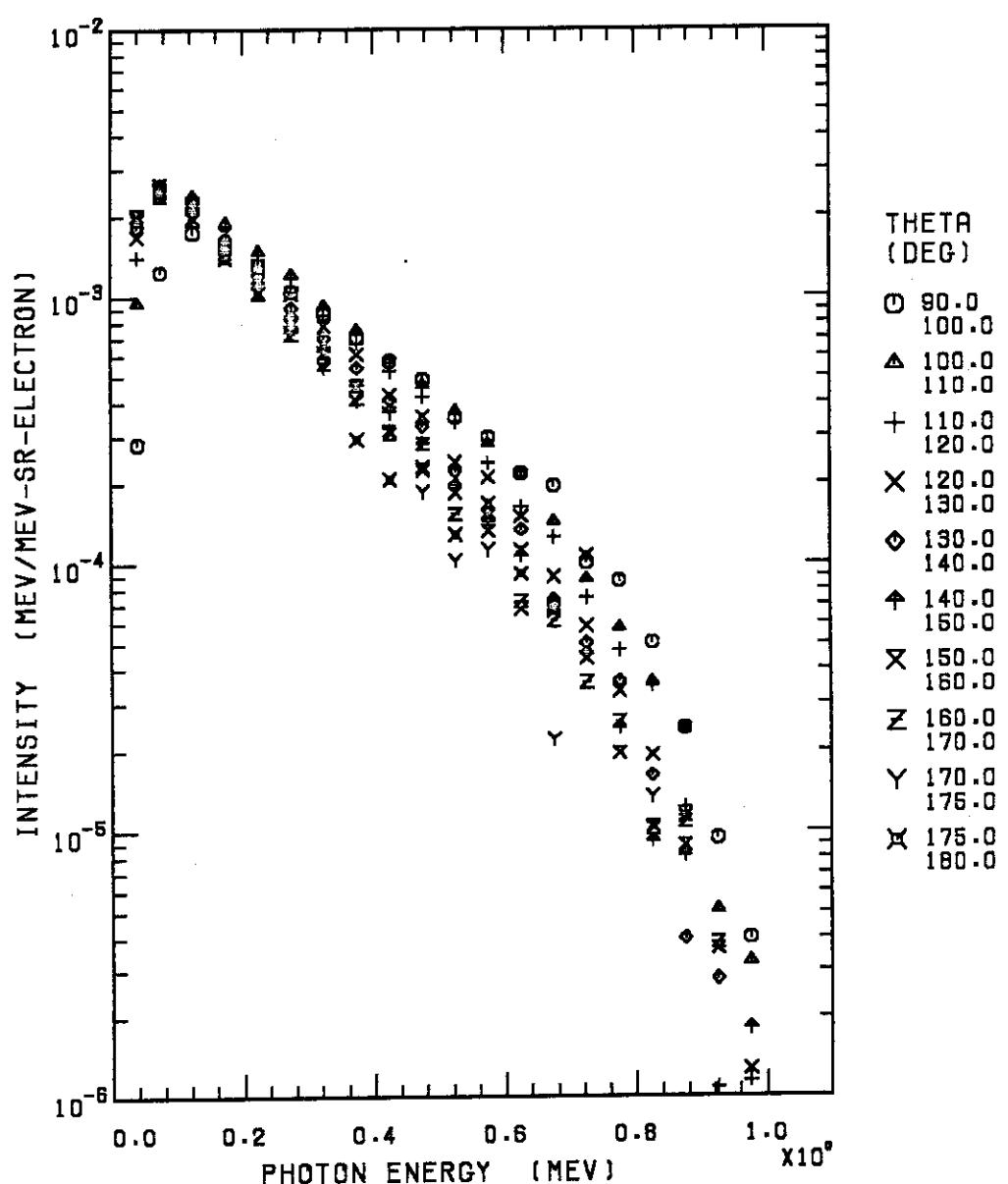
Fig. 17  $Z=26 \quad T_0 = 1.0 \text{ MeV}$

Table 17 Z=26 T<sub>0</sub> = 1.0 MeV

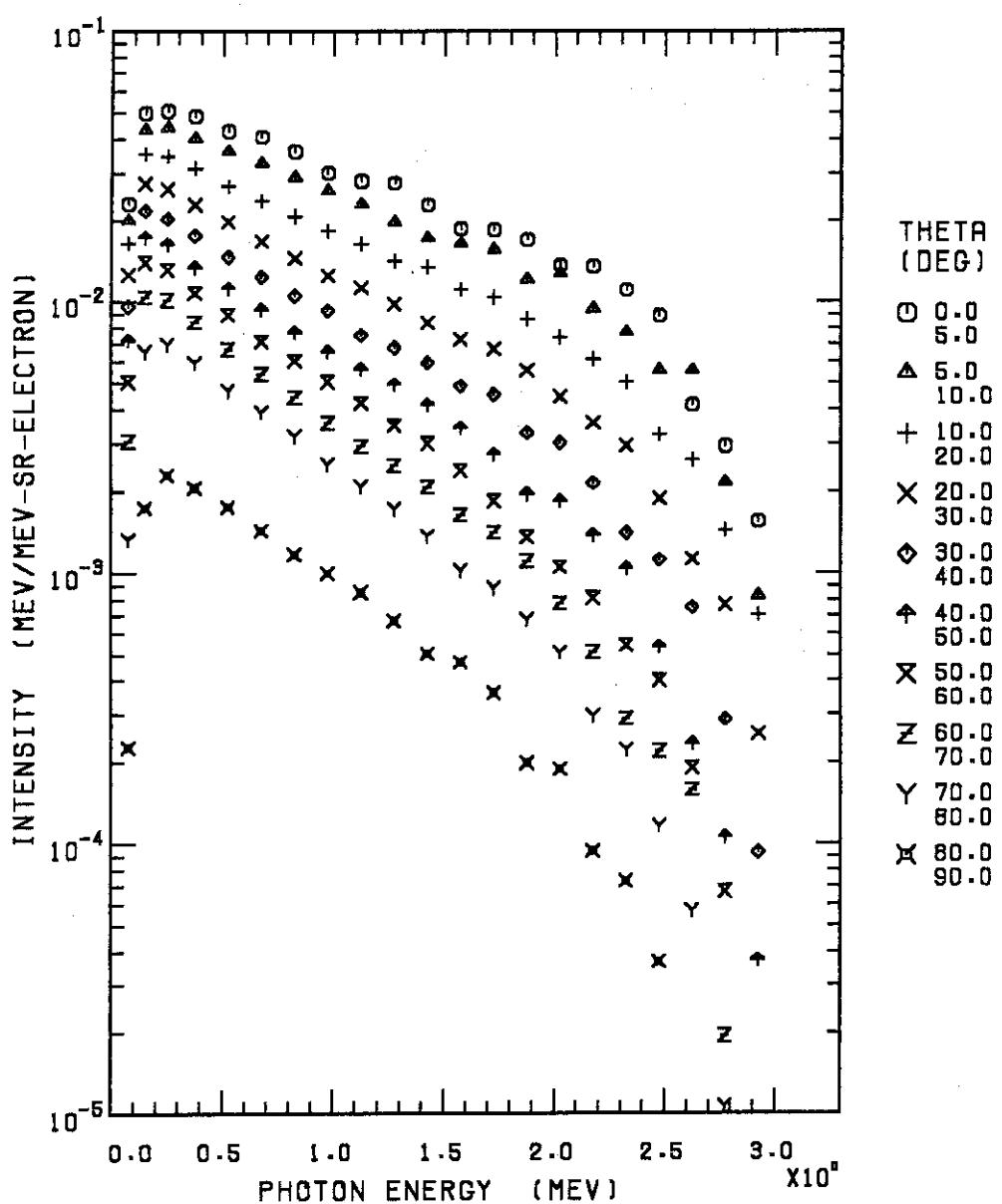
K (MEV)	THETA =	0.0	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000
(MEV/SR/ELEC)		3.33E-03	3.17E-03	2.72E-03	2.23E-03	1.81E-03	1.47E-03	1.20E-03	9.80E-04	7.40E-04	5.48E-04
1.00	-	0.9500	9.46E-05	2.84E-04	2.19E-04	1.27E-04	5.54E-05	2.44E-05	6.14E-06	2.88E-06	0.0
0.95	-	0.9000	4.26E-04	6.79E-04	3.90E-04	2.82E-04	1.86E-04	1.08E-04	6.75E-05	3.80E-05	9.58E-06
0.90	-	0.8500	4.25E-04	5.52E-04	6.33E-04	4.63E-04	3.00E-04	1.70E-04	1.52E-04	1.03E-04	2.83E-05
0.85	-	0.8000	1.13E-03	1.04E-03	8.56E-04	6.71E-04	5.11E-04	3.32E-04	2.17E-04	1.49E-04	1.03E-04
0.80	-	0.7500	1.18E-03	1.62E-03	1.33E-03	9.50E-04	7.53E-04	5.57E-04	3.13E-04	2.56E-04	1.91E-04
0.75	-	0.7000	2.64E-03	1.87E-03	1.74E-03	1.31E-03	8.75E-04	6.65E-04	4.75E-04	3.64E-04	2.41E-04
0.70	-	0.6500	2.12E-03	2.49E-03	1.96E-03	1.66E-03	1.26E-03	8.57E-04	6.72E-04	5.22E-04	4.29E-04
0.65	-	0.6000	4.23E-03	3.37E-03	2.72E-03	2.26E-03	1.59E-03	1.28E-03	9.40E-04	7.31E-04	5.41E-04
0.60	-	0.5500	3.43E-03	4.15E-03	3.31E-03	2.67E-03	2.15E-03	1.69E-03	1.27E-03	9.73E-04	7.19E-04
0.55	-	0.5000	5.73E-03	5.44E-03	4.38E-03	3.38E-03	2.86E-03	2.12E-03	1.73E-03	1.41E-03	1.11E-03
0.50	-	0.4500	7.26E-03	6.76E-03	5.60E-03	4.39E-03	3.42E-03	2.80E-03	2.15E-03	1.85E-03	1.44E-03
0.45	-	0.4000	8.70E-03	7.93E-03	7.17E-03	5.75E-03	4.64E-03	3.77E-03	2.98E-03	2.47E-03	1.97E-03
0.40	-	0.3500	1.17E-02	1.13E-02	9.17E-03	7.52E-03	6.25E-03	4.91E-03	4.05E-03	3.48E-03	2.66E-03
0.35	-	0.3000	1.46E-02	1.33E-02	1.24E-02	1.01E-02	8.08E-03	6.79E-03	5.65E-03	4.56E-03	3.73E-03
0.30	-	0.2500	2.15E-02	1.99E-02	1.64E-02	1.37E-02	1.13E-02	9.38E-03	8.14E-03	6.76E-03	5.31E-03
0.25	-	0.2000	2.91E-02	2.80E-02	2.36E-02	1.96E-02	1.63E-02	1.38E-02	1.18E-02	9.94E-03	7.84E-03
0.20	-	0.1500	4.18E-02	3.92E-02	3.52E-02	2.93E-02	2.45E-02	2.10E-02	1.78E-02	1.52E-02	1.21E-02
0.15	-	0.1000	6.92E-02	6.32E-02	5.59E-02	4.72E-02	4.05E-02	3.45E-02	2.88E-02	2.43E-02	1.85E-02
0.10	-	0.0500	1.04E-01	9.83E-02	8.60E-02	7.27E-02	6.04E-02	5.00E-02	4.01E-02	2.97E-02	1.76E-02
0.05	-	0.0300	5.60E-02	5.41E-02	4.71E-02	3.84E-02	2.94E-02	2.06E-02	1.29E-02	6.11E-03	1.64E-03

Fig. 18    Z=26     $T_0 = 1.0$  MeV

Z=26.00 K(MEV)=1.00 T(G/CM2)=0.607

Table 18    Z=26     $T_0 = 1.0 \text{ MeV}$ 

$K$ (MeV)	THETA= 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000	180.000
1.00	-0.9500	4.08E-06	3.32E-06	1.18E-06	1.31E-06	0.0	1.87E-06	0.0	0.0	0.0	0.0
0.95	-0.9000	1.02E-05	5.51E-06	1.18E-06	3.91E-06	3.01E-06	0.0	4.12E-06	0.0	0.0	0.0
0.90	-0.8500	2.77E-05	2.74E-05	1.41E-05	1.30E-05	4.53E-06	9.29E-06	1.01E-05	1.24E-05	1.24E-05	0.0
0.85	-0.8000	6.10E-05	4.36E-05	4.21E-05	2.33E-05	1.96E-05	1.12E-05	1.26E-05	1.26E-05	1.63E-05	0.0
0.80	-0.7500	1.11E-04	7.38E-05	6.08E-05	4.28E-05	4.66E-05	3.15E-05	2.52E-05	3.30E-05	0.0	0.0
0.75	-0.7000	1.39E-04	1.20E-04	1.03E-04	8.03E-05	6.92E-05	6.31E-05	6.06E-05	4.94E-05	6.53E-05	1.47E-04
0.70	-0.6500	2.89E-04	2.13E-04	1.85E-04	1.32E-04	1.08E-04	1.06E-04	1.03E-04	9.05E-05	3.27E-05	9.77E-05
0.65	-0.6000	3.48E-04	3.47E-04	2.60E-04	2.39E-04	2.13E-04	1.70E-04	1.70E-04	1.08E-04	1.15E-04	1.46E-04
0.60	-0.5500	5.17E-04	4.88E-04	4.13E-04	3.65E-04	2.76E-04	2.55E-04	2.29E-04	2.63E-04	1.95E-04	2.92E-04
0.55	-0.5000	6.75E-04	7.09E-04	6.49E-04	4.56E-04	4.21E-04	3.74E-04	3.50E-04	2.92E-04	1.95E-04	2.43E-04
0.50	-0.4500	1.03E-03	9.85E-04	8.87E-04	7.50E-04	6.87E-04	5.95E-04	4.70E-04	5.91E-04	3.90E-04	4.85E-04
0.45	-0.4000	1.35E-03	1.37E-03	1.23E-03	1.01E-03	9.67E-04	8.75E-04	7.38E-04	7.21E-04	8.61E-04	4.86E-04
0.40	-0.3500	1.88E-03	1.99E-03	1.79E-03	1.63E-03	1.44E-03	1.24E-03	1.23E-03	1.11E-03	1.09E-03	7.78E-04
0.35	-0.3000	2.65E-03	2.84E-03	2.63E-03	2.40E-03	2.16E-03	1.93E-03	1.90E-03	1.73E-03	1.67E-03	2.04E-03
0.30	-0.2500	3.79E-03	4.40E-03	3.97E-03	3.72E-03	3.30E-03	3.06E-03	2.89E-03	2.64E-03	2.68E-03	2.85E-03
0.25	-0.2000	5.79E-03	6.59E-03	6.15E-03	5.69E-03	5.33E-03	5.03E-03	4.62E-03	4.60E-03	4.61E-03	5.05E-03
0.20	-0.1500	8.87E-03	1.08E-02	1.04E-02	9.93E-03	9.36E-03	8.61E-03	8.39E-03	8.12E-03	8.10E-03	7.94E-03
0.15	-0.1000	1.39E-02	1.91E-02	1.87E-02	1.80E-02	1.73E-02	1.67E-02	1.58E-02	1.56E-02	1.58E-02	1.73E-02
0.10	-0.0500	1.65E-02	3.11E-02	3.48E-02	3.51E-02	3.49E-02	3.42E-02	3.38E-02	3.31E-02	3.20E-02	3.36E-02
0.05	-0.0300	7.05E-03	2.38E-02	3.51E-02	4.20E-02	4.53E-02	4.78E-02	4.87E-02	5.04E-02	5.00E-02	4.88E-02
	(MEV/SR/ELEC)	5.45E-04	6.74E-04	6.57E-04	6.20E-04	5.86E-04	5.53E-04	5.27E-04	5.16E-04	5.06E-04	5.24E-04

Fig. 19    Z=26     $T_0 = 3.0 \text{ MeV}$ 

Z=26.00 K(MEV)=3.00 T(G/CM2)=2.016

Table 19 Z=26 T<sub>0</sub>= 3.0 MeV

K (MeV)	THETA= 0.0	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000
3.00 -	2.8500	5.29E-04	2.83E-04	2.40E-04	8.69E-05	3.18E-05	1.27E-05	2.69E-06	0.0	0.0	0.0
2.85 -	2.7000	1.06E-03	7.78E-04	5.17E-04	2.77E-04	1.03E-04	3.81E-05	2.40E-05	7.02E-06	3.88E-06	1.25E-06
2.70 -	2.5500	1.59E-03	2.12E-03	9.98E-04	4.29E-04	2.86E-04	8.91E-05	7.25E-05	6.02E-05	2.16E-05	5.85E-07
2.55 -	2.4000	3.59E-03	2.25E-03	1.31E-03	7.61E-04	4.53E-04	2.17E-04	1.62E-04	8.88E-05	4.70E-05	1.48E-05
2.40 -	2.2500	4.74E-03	3.31E-03	2.17E-03	1.27E-03	6.04E-04	4.48E-04	2.33E-04	1.24E-04	9.55E-05	3.14E-05
2.25 -	2.1000	6.20E-03	4.33E-03	2.82E-03	1.65E-03	9.83E-04	6.32E-04	3.73E-04	2.36E-04	1.36E-04	4.33E-05
2.10 -	1.9500	6.71E-03	6.29E-03	3.64E-03	2.20E-03	1.49E-03	9.10E-04	5.19E-04	3.83E-04	2.52E-04	9.31E-05
1.95 -	1.8000	9.02E-03	6.44E-03	4.59E-03	2.97E-03	1.75E-03	1.04E-03	7.21E-04	5.91E-04	3.60E-04	1.06E-04
1.80 -	1.6500	1.07E-02	9.01E-03	5.99E-03	3.87E-03	2.63E-03	1.59E-03	1.07E-03	8.16E-04	5.10E-04	2.09E-04
1.65 -	1.5000	1.18E-02	1.04E-02	7.03E-03	4.60E-03	3.09E-03	2.17E-03	1.51E-03	1.04E-03	6.48E-04	2.97E-04
1.50 -	1.3500	1.60E-02	1.20E-02	9.41E-03	5.86E-03	4.18E-03	2.92E-03	2.10E-03	1.45E-03	9.56E-04	3.53E-04
1.35 -	1.2000	2.16E-02	1.54E-02	1.11E-02	7.67E-03	5.30E-03	3.87E-03	2.74E-03	1.95E-03	1.35E-03	5.23E-04
1.20 -	1.0500	2.48E-02	2.03E-02	1.45E-02	9.98E-03	6.67E-03	5.01E-03	3.75E-03	2.60E-03	1.85E-03	7.57E-04
1.05 -	0.9000	3.08E-02	2.65E-02	1.87E-02	1.28E-02	9.49E-03	6.71E-03	5.18E-03	3.66E-03	2.58E-03	1.02E-03
0.90 -	0.7500	4.36E-02	3.51E-02	2.50E-02	1.75E-02	1.27E-02	9.33E-03	7.33E-03	5.37E-03	3.86E-03	1.42E-03
0.75 -	0.6000	6.05E-02	4.82E-02	3.49E-02	2.47E-02	1.83E-02	1.39E-02	1.05E-02	8.01E-03	5.79E-03	2.12E-03
0.60 -	0.4500	8.15E-02	6.88E-02	5.10E-02	3.76E-02	2.78E-02	2.13E-02	1.70E-02	1.27E-02	8.93E-03	3.33E-03
0.45 -	0.3000	1.29E-01	1.07E-01	8.34E-02	6.09E-02	4.67E-02	3.57E-02	2.86E-02	2.24E-02	1.59E-02	5.50E-03
0.30 -	0.2000	2.03E-01	1.77E-01	1.38E-01	1.05E-01	8.11E-02	6.51E-02	5.24E-02	4.05E-02	2.78E-02	9.18E-03
0.20 -	0.1000	3.32E-01	2.89E-01	2.35E-01	1.83E-01	1.44E-01	1.15E-01	9.28E-02	6.91E-02	4.35E-02	1.16E-02
0.10 -	0.0500	3.06E-01	2.67E-01	2.19E-01	1.68E-01	1.28E-01	9.58E-02	6.72E-02	4.08E-02	1.77E-02	3.03E-03
(MeV/SR/ELEC)	6.86E-02	5.61E-02	4.06E-02	2.82E-02	2.04E-02	1.50E-02	1.14E-02	8.44E-03	5.74E-03	2.03E-03	

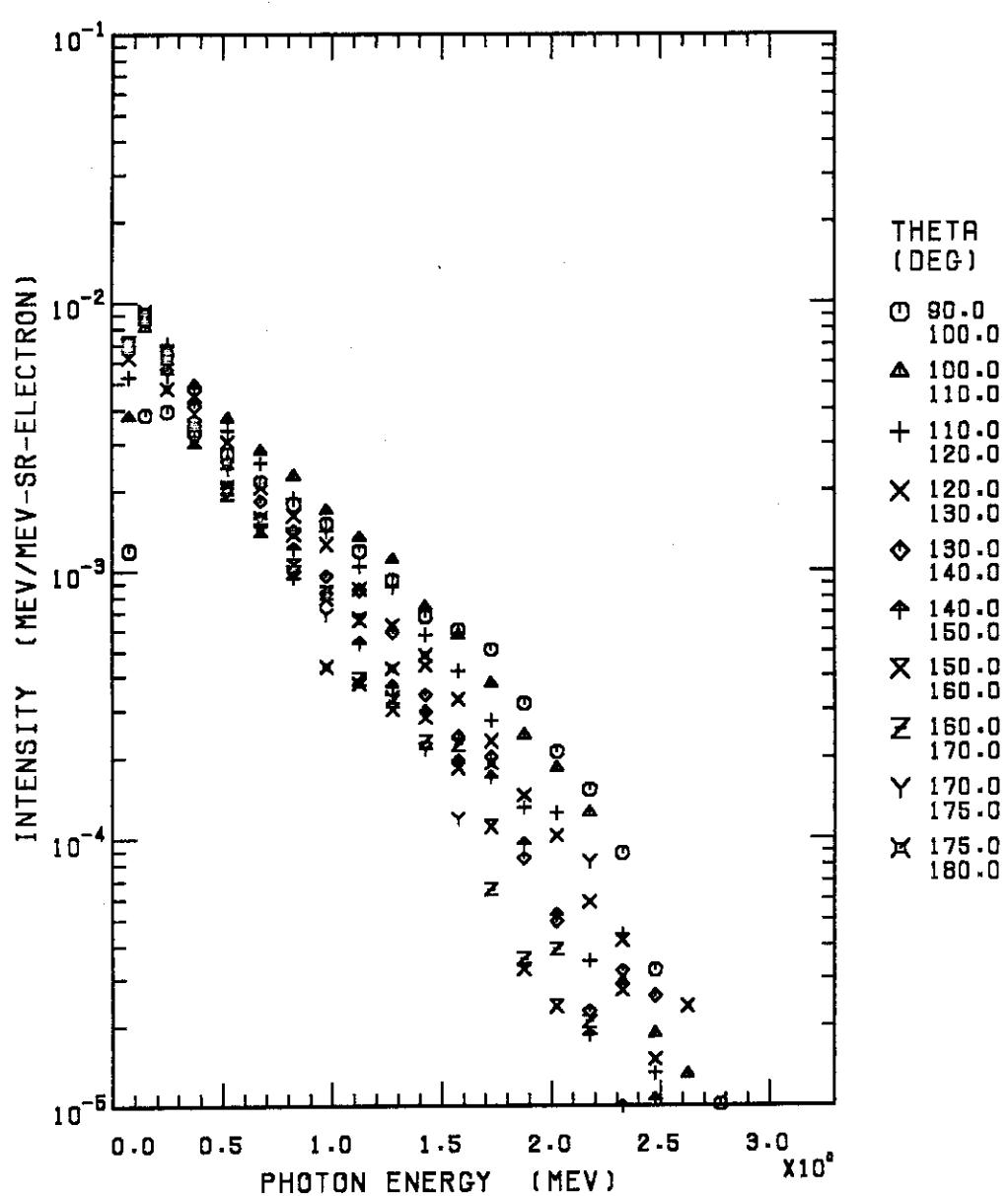
Fig. 20 Z=26  $T_0 = 3.0$  MeV

Table 20 Z=26 T<sub>0</sub>= 3.0 MeV

K (MeV)	THETA= 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000
	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000	180.000
3.00 -	2.8500	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.85 -	2.7000	3.67E-06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.70 -	2.5500	0.0	5.02E-06	2.74E-06	9.02E-06	3.48E-06	0.0	0.0	0.0	0.0
2.55 -	2.4000	1.30E-05	7.57E-06	5.37E-06	6.05E-06	1.04E-05	4.27E-06	0.0	0.0	0.0
2.40 -	2.2500	3.79E-05	1.25E-05	1.88E-05	1.80E-05	1.38E-05	4.30E-06	1.17E-05	0.0	0.0
2.25 -	2.1000	7.00E-05	5.72E-05	1.61E-05	2.68E-05	1.04E-05	8.53E-06	0.0	9.55E-06	3.77E-05
2.10 -	1.9500	1.04E-04	9.06E-05	6.14E-05	5.07E-05	2.43E-05	2.57E-05	1.17E-05	1.91E-05	0.0
1.95 -	1.8000	1.69E-04	1.29E-04	6.95E-05	7.71E-05	4.50E-05	5.11E-05	1.73E-05	1.89E-05	0.0
1.80 -	1.6500	2.94E-04	2.18E-04	1.58E-04	1.34E-04	1.17E-04	9.80E-05	6.43E-05	3.77E-05	0.0
1.65 -	1.5000	3.80E-04	3.63E-04	2.66E-04	2.10E-04	1.51E-04	1.23E-04	1.16E-04	1.42E-04	7.52E-05
1.50 -	1.3500	4.75E-04	5.16E-04	4.04E-04	3.09E-04	2.40E-04	2.08E-04	1.97E-04	1.61E-04	1.51E-04
1.35 -	1.2000	7.28E-04	8.66E-04	6.86E-04	4.91E-04	4.62E-04	2.89E-04	2.37E-04	2.55E-04	2.63E-04
1.20 -	1.0500	1.06E-03	1.19E-03	9.28E-04	7.65E-04	7.56E-04	4.77E-04	5.80E-04	3.48E-04	5.94E-04
1.05 -	0.9000	1.54E-03	1.73E-03	1.45E-03	1.29E-03	9.83E-04	8.47E-04	8.08E-04	8.55E-04	7.06E-04
0.90 -	0.7500	2.16E-03	2.76E-03	2.26E-03	1.96E-03	1.71E-03	1.47E-03	1.28E-03	1.20E-03	1.15E-03
0.75 -	0.6000	3.19E-03	4.19E-03	3.76E-03	3.06E-03	2.72E-03	2.34E-03	2.30E-03	2.12E-03	2.36E-03
0.60 -	0.4500	5.24E-03	7.09E-03	6.40E-03	5.80E-03	4.94E-03	4.62E-03	3.91E-03	3.71E-03	3.85E-03
0.45 -	0.3000	8.84E-03	1.32E-02	1.30E-02	1.21E-02	1.11E-02	9.84E-03	9.27E-03	8.19E-03	8.93E-03
0.30 -	0.2000	1.58E-02	2.71E-02	2.81E-02	2.63E-02	2.57E-02	2.39E-02	2.30E-02	2.15E-02	1.92E-02
0.20 -	0.1000	2.56E-02	5.41E-02	6.05E-02	6.19E-02	6.09E-02	6.04E-02	5.98E-02	5.91E-02	5.85E-02
0.10 -	0.0500	1.59E-02	5.05E-02	7.06E-02	8.35E-02	8.97E-02	9.24E-02	9.34E-02	9.54E-02	9.19E-02
(MEV/SR/ELEC)	3.24E-03	4.64E-03	4.12E-03	3.81E-03	3.49E-03	3.34E-03	3.18E-03	3.21E-03	3.08E-03	3.08E-03

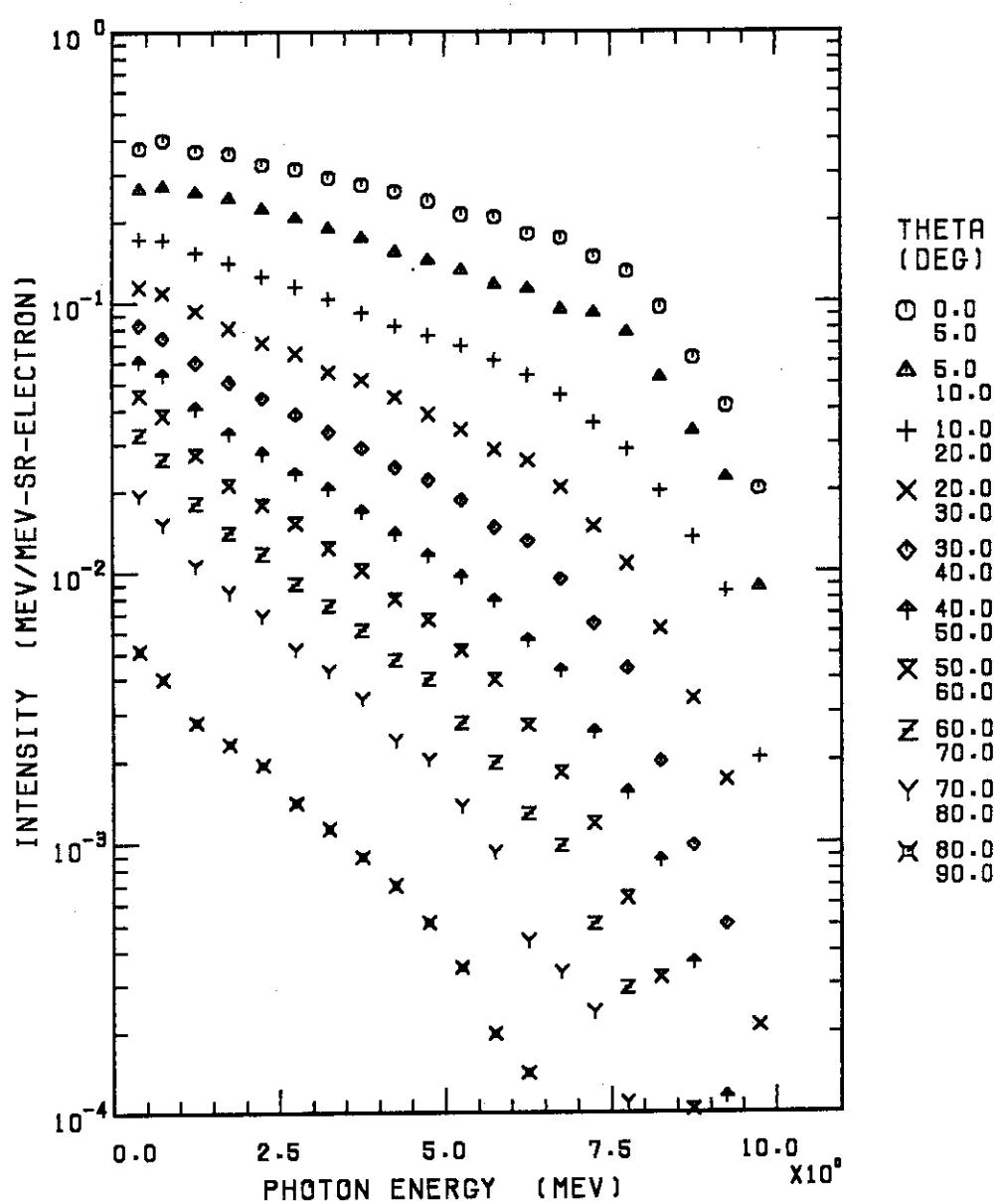
Fig. 21  $Z=26 \quad T_0=10.0 \text{ MeV}$

Table 21 Z=26 T<sub>0</sub>=10.0 MeV

K (MeV)	THETA= 0.0	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000
10.00	- 9.5000	2.08E-03	8.96E-04	2.10E-04	2.17E-05	2.22E-06	0.0	1.44E-06	0.0	0.0	0.0
9.50	- 9.0000	4.45E-03	2.41E-03	9.16E-04	1.85E-04	5.41E-05	1.24E-05	4.20E-06	1.23E-06	8.87E-07	3.73E-07
9.00	- 8.5000	7.10E-03	3.81E-03	1.53E-03	3.86E-04	1.12E-04	4.14E-05	1.18E-05	2.35E-06	8.43E-07	6.18E-07
8.50	- 8.0000	1.16E-02	6.37E-03	2.41E-03	7.47E-04	2.41E-04	1.05E-04	3.86E-05	1.11E-05	4.12E-06	5.11E-07
8.00	- 7.5000	1.67E-02	9.96E-03	3.68E-03	1.38E-03	5.63E-04	1.98E-04	8.11E-05	3.76E-05	1.42E-05	2.50E-06
7.50	- 7.0000	2.02E-02	1.25E-02	4.94E-03	2.03E-03	8.88E-04	3.52E-04	1.63E-04	6.95E-05	3.27E-05	6.27E-06
7.00	- 6.5000	2.55E-02	1.39E-02	6.71E-03	3.05E-03	1.39E-03	6.34E-04	2.68E-04	1.45E-04	4.94E-05	1.15E-05
6.50	- 6.0000	2.86E-02	1.79E-02	8.58E-03	4.15E-03	2.08E-03	8.92E-04	4.32E-04	2.05E-04	6.97E-05	2.26E-05
6.00	- 5.5000	3.58E-02	2.02E-02	1.06E-02	4.95E-03	2.54E-03	1.36E-03	6.88E-04	3.43E-04	1.61E-04	3.45E-05
5.50	- 5.0000	4.01E-02	2.50E-02	1.32E-02	6.43E-03	3.51E-03	1.83E-03	9.73E-04	5.24E-04	2.60E-04	6.62E-05
5.00	- 4.5000	4.98E-02	3.00E-02	1.58E-02	8.11E-03	4.62E-03	2.42E-03	1.40E-03	8.39E-04	4.24E-04	1.07E-04
4.50	- 4.0000	6.05E-02	3.61E-02	1.93E-02	1.05E-02	5.75E-03	3.26E-03	1.87E-03	1.11E-03	5.58E-04	1.64E-04
4.00	- 3.5000	7.26E-02	4.60E-02	2.44E-02	1.38E-02	7.69E-03	4.47E-03	2.70E-03	1.63E-03	9.00E-04	2.38E-04
3.50	- 3.0000	8.89E-02	5.76E-02	3.17E-02	1.70E-02	1.02E-02	6.26E-03	3.77E-03	2.30E-03	1.32E-03	3.48E-04
3.00	- 2.5000	1.13E-01	7.44E-02	4.16E-02	2.36E-02	1.40E-02	8.45E-03	5.51E-03	3.30E-03	1.88E-03	5.14E-04
2.50	- 2.0000	1.44E-01	9.80E-02	5.57E-02	3.16E-02	1.97E-02	1.23E-02	7.89E-03	5.20E-03	3.05E-03	8.61E-04
2.00	- 1.5000	2.03E-01	1.39E-01	8.02E-02	4.60E-02	2.90E-02	1.88E-02	1.20E-02	8.01E-03	4.83E-03	1.32E-03
1.50	- 1.0000	2.91E-01	2.05E-01	1.22E-01	7.46E-02	4.82E-02	3.25E-02	2.19E-02	1.44E-02	8.49E-03	2.22E-03
1.00	- 0.5000	5.33E-01	3.58E-01	2.28E-01	1.45E-01	9.89E-02	7.23E-02	5.10E-02	3.52E-02	2.01E-02	5.35E-03
0.50	- 0.3000	9.31E-01	6.58E-01	4.31E-01	2.86E-01	2.07E-01	1.52E-01	1.13E-01	8.12E-02	4.81E-02	1.28E-02
	(MEV/SR/ELEC)	2.09E+00	1.33E+00	7.23E-01	3.95E-01	2.36E-01	1.46E-01	9.32E-02	5.96E-02	3.38E-02	9.05E-03

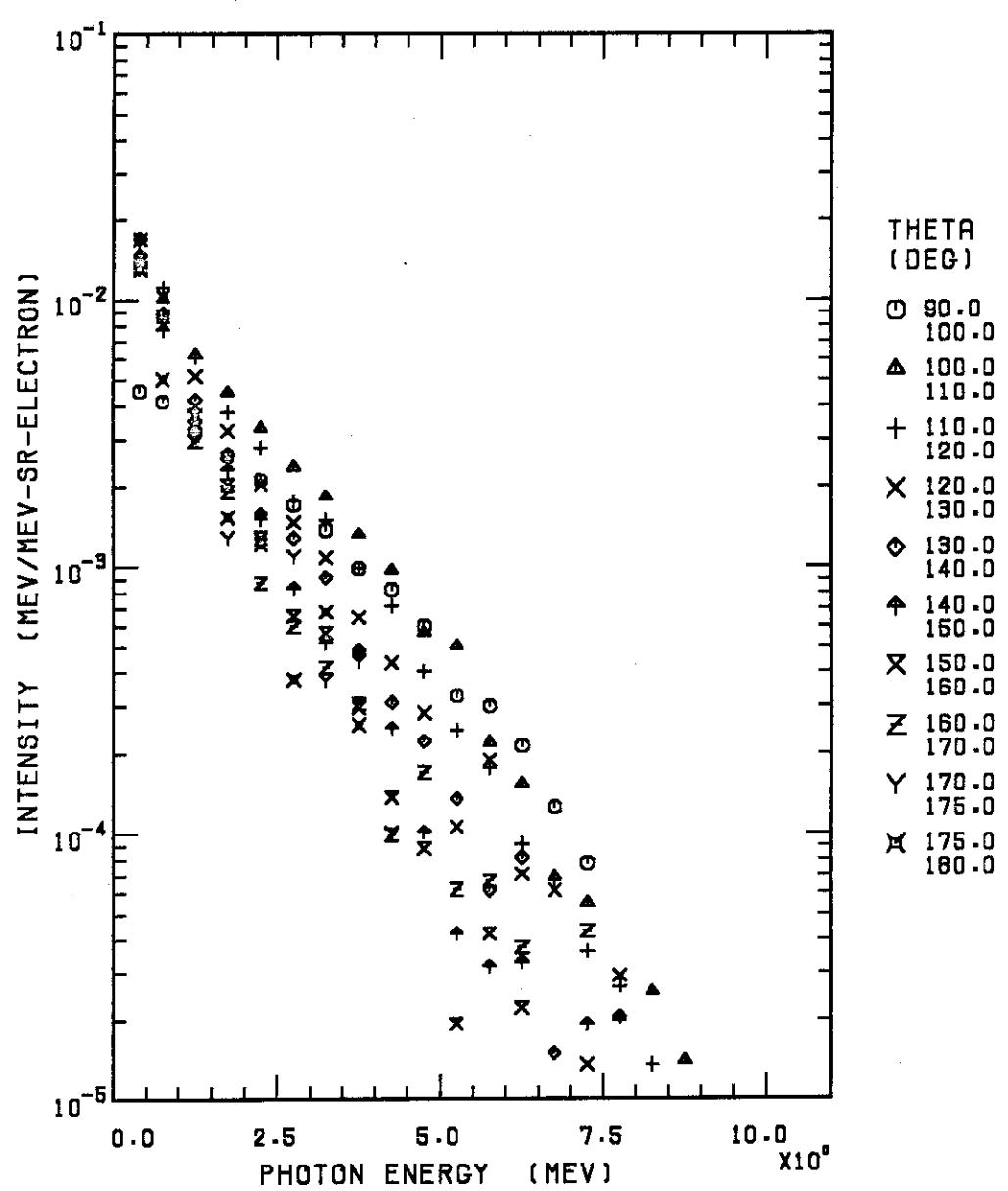
Fig. 22  $Z=26$   $T_0=10.0$  MeV

Table 22 Z=26  $T_0=10.0$  MeV

K (MeV)	THETA= 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000
	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000	180.000
10.00	- 9.5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9.50	- 9.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9.00	- 8.5000	0.0	1.60E-06	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.50	- 8.0000	9.23E-07	3.06E-06	1.64E-06	0.0	0.0	0.0	0.0	0.0	0.0
8.00	- 7.5000	1.08E-06	2.64E-06	3.41E-06	3.75E-06	0.0	2.64E-06	0.0	0.0	0.0
7.50	- 7.0000	1.07E-05	7.56E-06	4.95E-06	1.86E-06	0.0	2.65E-06	0.0	5.92E-06	0.0
7.00	- 6.5000	1.86E-05	1.03E-05	9.95E-06	9.04E-06	2.21E-06	0.0	0.0	0.0	0.0
6.50	- 6.0000	3.41E-05	2.45E-05	1.46E-05	1.13E-05	1.30E-05	5.26E-06	3.53E-06	5.96E-06	0.0
6.00	- 5.5000	5.20E-05	3.82E-05	3.08E-05	3.29E-05	1.06E-05	5.50E-06	7.29E-06	1.16E-05	0.0
5.50	- 5.0000	6.22E-05	9.62E-05	4.64E-05	2.02E-05	2.57E-05	8.02E-06	3.68E-06	1.17E-05	0.0
5.00	- 4.5000	1.26E-04	1.19E-04	8.49E-05	5.95E-05	4.68E-05	2.13E-05	1.85E-05	3.58E-05	0.0
4.50	- 4.0000	1.93E-04	2.29E-04	1.68E-04	1.02E-04	7.27E-05	5.82E-05	3.21E-05	2.32E-05	2.38E-05
4.00	- 3.5000	2.62E-04	3.54E-04	2.63E-04	1.73E-04	1.30E-04	1.28E-04	7.88E-05	8.14E-05	1.18E-04
3.50	- 3.0000	4.23E-04	5.66E-04	4.60E-04	3.32E-04	2.81E-04	1.60E-04	1.74E-04	1.28E-04	2.09E-04
3.00	- 2.5000	6.18E-04	8.60E-04	6.41E-04	5.33E-04	4.68E-04	3.03E-04	2.38E-04	2.17E-04	1.37E-04
2.50	- 2.0000	9.40E-04	1.47E-03	1.24E-03	9.11E-04	6.99E-04	6.71E-04	5.72E-04	3.87E-04	5.41E-04
2.00	- 1.5000	1.49E-03	2.58E-03	2.17E-03	1.85E-03	1.51E-03	1.32E-03	1.16E-03	1.09E-03	7.36E-04
1.50	- 1.0000	2.56E-03	5.02E-03	4.89E-03	4.15E-03	3.40E-03	3.05E-03	2.67E-03	2.38E-03	2.97E-03
1.00	- 0.5000	5.55E-03	1.35E-02	1.48E-02	1.38E-02	1.19E-02	1.03E-02	1.08E-02	1.12E-02	6.73E-03
0.50	- 0.3000	1.14E-02	3.43E-02	4.21E-02	4.22E-02	4.21E-02	3.69E-02	3.48E-02	3.33E-02	3.26E-02
(MEV/SR/ELEC)	9.99E-03	1.83E-02	1.75E-02	1.52E-02	1.32E-02	1.12E-02	1.04E-02	9.91E-03	9.86E-03	8.51E-03

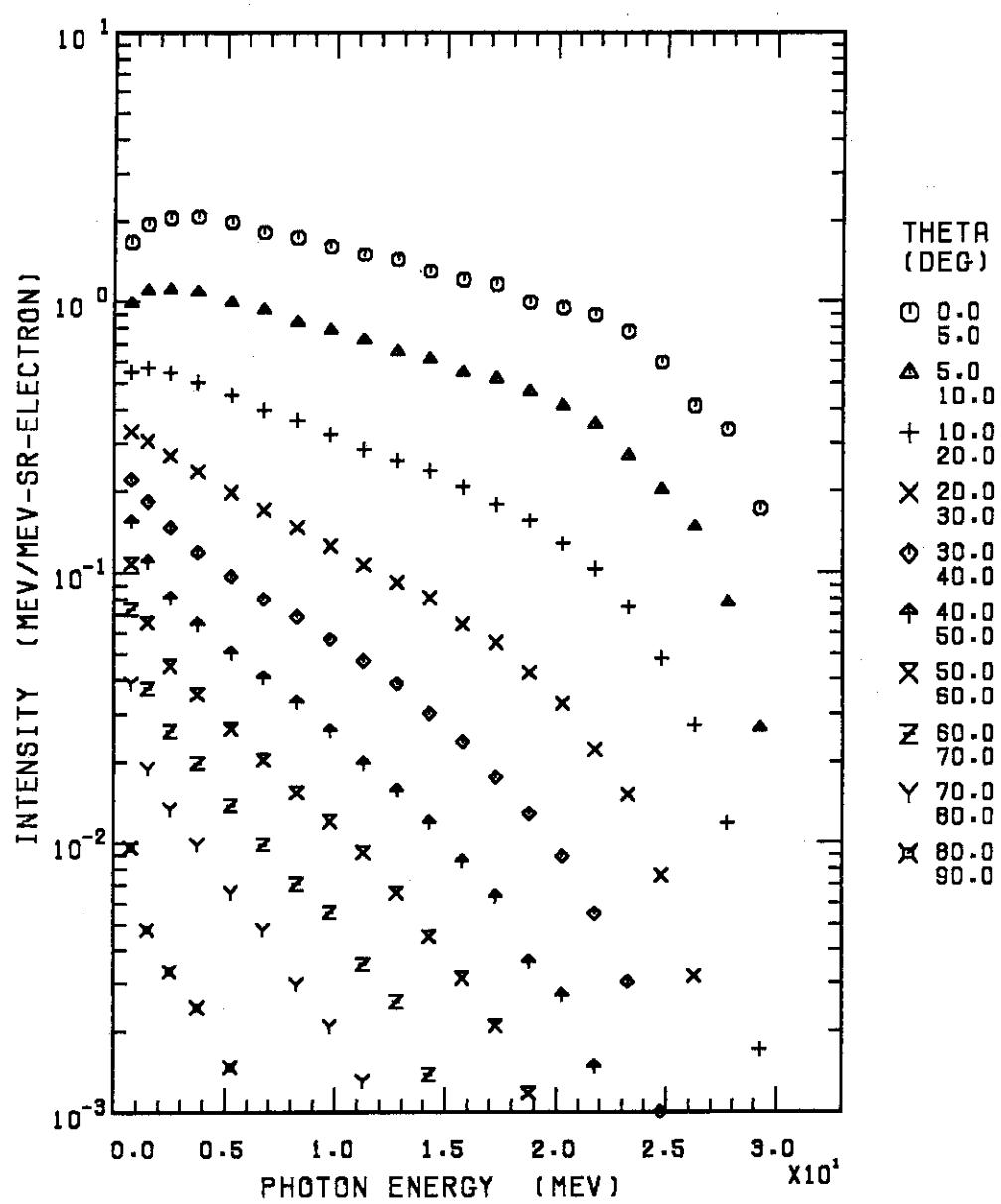
Fig. 23  $Z=26$   $T_0=30.0$  MeV

Table 23 Z=26  $\Psi_C = 35.0$  MeV

K (MEV)	THETA= 0.0	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000
		10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000
30.00	- 28.5000	5.86E-03	9.13E-04	5.84E-05	9.14E-06	0.0	1.20E-06	0.0	0.0	0.0
28.50	- 27.0000	1.21E-02	2.79E-03	4.23E-04	2.87E-05	3.31E-06	2.42E-06	0.0	0.0	0.0
27.00	- 25.5000	1.57E-02	5.60E-03	1.04E-03	1.21E-04	3.02E-05	1.15E-05	0.0	6.14E-07	0.0
25.50	- 24.0000	2.41E-02	8.13E-03	1.93E-03	3.04E-04	4.08E-05	1.34E-05	2.01E-06	2.62E-06	9.83E-07
24.00	- 22.5000	3.32E-02	1.16E-02	3.20E-03	6.45E-04	1.30E-04	3.72E-05	6.21E-06	2.55E-06	1.38E-06
22.50	- 21.0000	4.09E-02	1.62E-02	4.74E-03	1.02E-03	2.52E-04	6.84E-05	2.24E-05	3.63E-06	2.11E-06
21.00	- 19.5000	4.67E-02	2.03E-02	6.29E-03	1.62E-03	4.38E-04	1.34E-04	3.52E-05	6.39E-06	3.45E-06
19.50	- 18.0000	5.28E-02	2.48E-02	8.27E-03	2.27E-03	6.80E-04	1.92E-04	6.30E-05	2.16E-05	3.38E-06
18.00	- 16.5000	6.68E-02	3.00E-02	1.03E-02	3.17E-03	1.01E-03	3.67E-04	3.39E-05	3.39E-05	1.97E-06
16.50	- 15.0000	7.62E-02	3.46E-02	1.31E-02	4.07E-03	1.50E-03	5.42E-04	1.98E-04	6.05E-05	2.75E-05
15.00	- 13.5000	9.04E-02	4.30E-02	1.66E-02	5.66E-03	2.12E-03	8.34E-04	3.15E-04	9.74E-05	3.69E-05
13.50	- 12.0000	1.12E-01	5.13E-02	2.02E-02	7.22E-03	3.03E-03	1.22E-03	5.12E-04	2.02E-04	5.59E-05
12.00	- 10.5000	1.33E-01	6.39E-02	2.52E-02	9.47E-03	4.17E-03	1.75E-03	8.15E-04	3.13E-04	1.49E-05
10.50	- 9.0000	1.64E-01	8.01E-02	3.31E-02	1.28E-02	5.80E-03	2.68E-03	1.22E-03	5.68E-04	2.14E-04
9.00	- 7.5000	2.09E-01	1.01E-01	4.43E-02	1.78E-02	8.30E-03	4.01E-03	1.85E-03	8.55E-04	3.60E-04
7.50	- 6.0000	2.68E-01	1.38E-01	5.90E-02	2.52E-02	1.18E-02	6.05E-03	3.01E-03	1.46E-03	7.06E-04
6.00	- 4.5000	3.76E-01	1.89E-01	8.60E-02	3.75E-02	1.85E-02	9.59E-03	5.04E-03	2.61E-03	1.25E-03
4.50	- 3.0000	5.51E-01	2.88E-01	1.35E-01	6.30E-02	3.17E-02	1.72E-02	9.44E-03	5.27E-03	2.62E-03
3.00	- 2.0000	8.19E-01	4.41E-01	2.18E-01	1.08E-01	5.86E-02	3.24E-02	1.80E-02	1.04E-02	5.31E-03
2.00	- 1.0000	1.29E+00	7.30E-01	3.79E-01	2.04E-01	1.22E-01	7.34E-02	4.35E-02	2.48E-02	3.19E-03
1.00	- 0.5000	2.22E+00	1.31E+00	7.35E-01	4.42E-01	2.93E-01	2.06E-01	1.44E-01	9.72E-02	1.28E-02
(MEV/SR/ELEC)	3.59E+01	1.70E+01	6.95E+00	2.79E+00	1.33E+00	6.80E-01	3.58E-01	1.90E-01	9.16E-02	2.10E-02

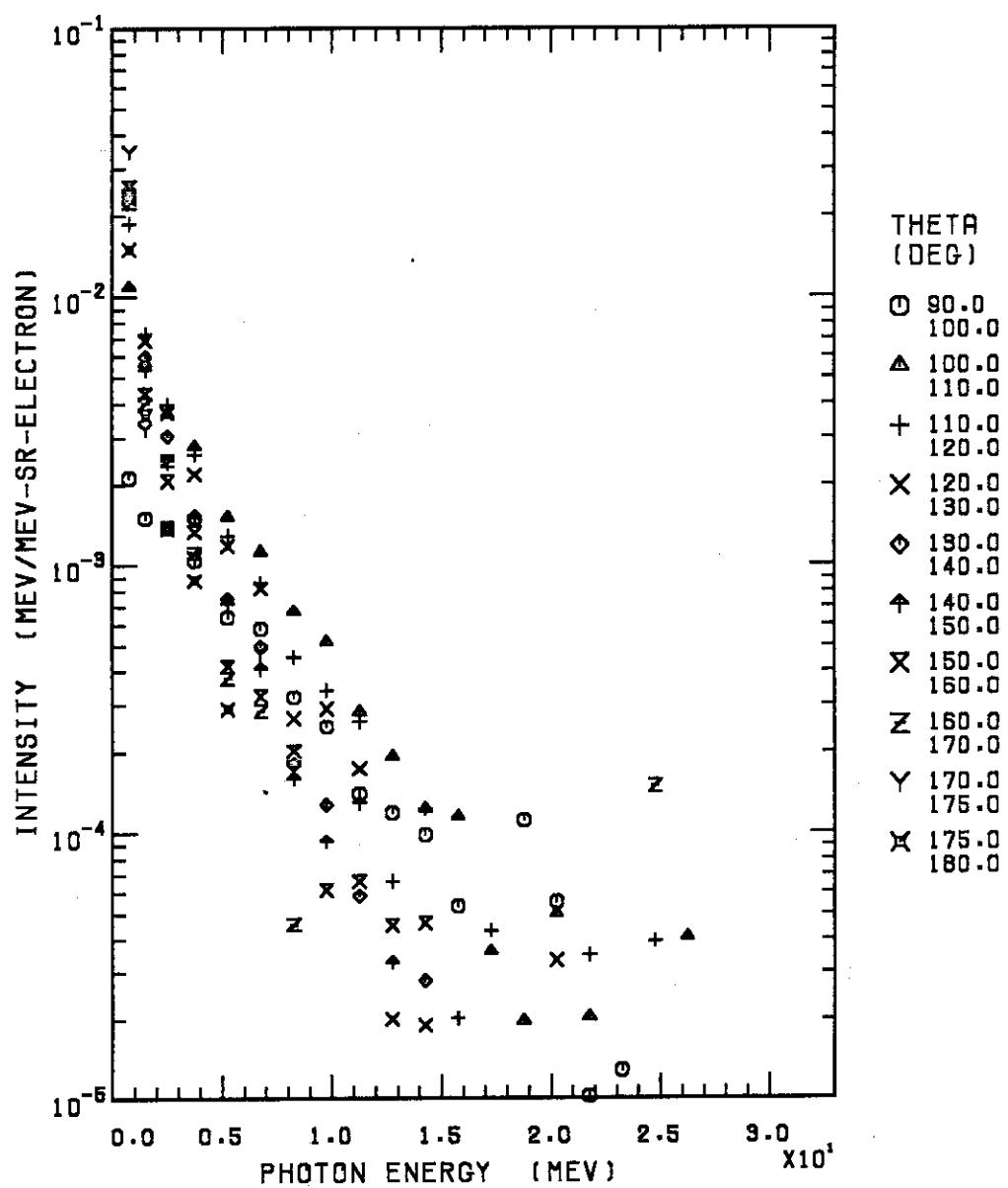
Fig. 24    Z=26     $T_0 = 30.0 \text{ MeV}$

Table 24 Z=26 T<sub>0</sub>=30.0 MeV

K (MeV)	THETA= 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000	180.000
30.00	- 28.5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.50	- 27.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.00	- 25.5000	0.0	1.55E-06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.50	- 24.0000	0.0	0.0	1.58E-06	0.0	0.0	0.0	0.0	0.0	6.03E-06	0.0
24.00	- 22.5000	5.55E-07	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.50	- 21.0000	4.71E-07	9.38E-07	1.60E-06	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.00	- 19.5000	2.73E-06	2.46E-06	0.0	1.64E-06	0.0	0.0	0.0	0.0	0.0	0.0
19.50	- 18.0000	5.94E-06	1.05E-06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.00	- 16.5000	3.93E-07	2.08E-06	2.50E-06	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16.50	- 15.0000	3.38E-06	7.30E-06	1.28E-06	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15.00	- 13.5000	6.89E-06	8.64E-06	8.63E-06	1.34E-06	1.96E-06	0.0	2.56E-06	3.23E-06	3.54E-06	0.0
13.50	- 12.0000	9.30E-06	1.51E-05	5.16E-06	1.57E-06	0.0	0.0	0.0	0.0	0.0	0.0
12.00	- 10.5000	1.24E-05	2.51E-05	2.31E-05	1.54E-05	5.17E-06	1.47E-05	1.45E-05	5.85E-06	0.0	0.0
10.50	- 9.0000	2.56E-05	5.28E-05	3.48E-05	2.98E-05	1.30E-05	9.51E-06	6.26E-06	0.0	0.0	0.0
9.00	- 7.5000	3.88E-05	8.11E-05	5.45E-05	3.24E-05	2.19E-05	1.94E-05	2.45E-05	5.51E-06	2.14E-05	0.0
7.50	- 6.0000	8.56E-05	1.66E-04	1.27E-04	1.21E-04	7.37E-05	6.06E-05	4.78E-05	4.22E-05	6.88E-05	0.0
6.00	- 4.5000	1.21E-04	2.88E-04	2.45E-04	2.25E-04	1.43E-04	1.37E-04	7.94E-05	7.17E-05	0.0	5.52E-05
4.50	- 3.0000	2.77E-04	7.45E-04	6.95E-04	5.84E-04	3.93E-04	4.06E-04	3.55E-04	2.96E-04	2.85E-04	2.34E-04
3.00	- 2.0000	5.53E-04	1.48E-03	1.59E-03	1.48E-03	1.22E-03	9.88E-04	8.27E-04	9.90E-04	9.72E-04	5.50E-04
2.00	- 1.0000	9.97E-04	3.78E-03	4.85E-03	4.57E-03	4.00E-03	3.58E-03	2.91E-03	2.68E-03	2.15E-03	2.40E-03
1.00	- 0.5000	2.83E-03	1.45E-02	2.49E-02	3.10E-02	3.32E-02	3.03E-02	3.43E-02	2.98E-02	4.61E-02	2.00E-02
(MEV/SR/ELEC)	8.83E-03	2.46E-02	2.75E-02	2.67E-02	2.30E-02	2.09E-02	1.98E-02	1.77E-02	2.05E-02	1.25E-02	1.05E-02

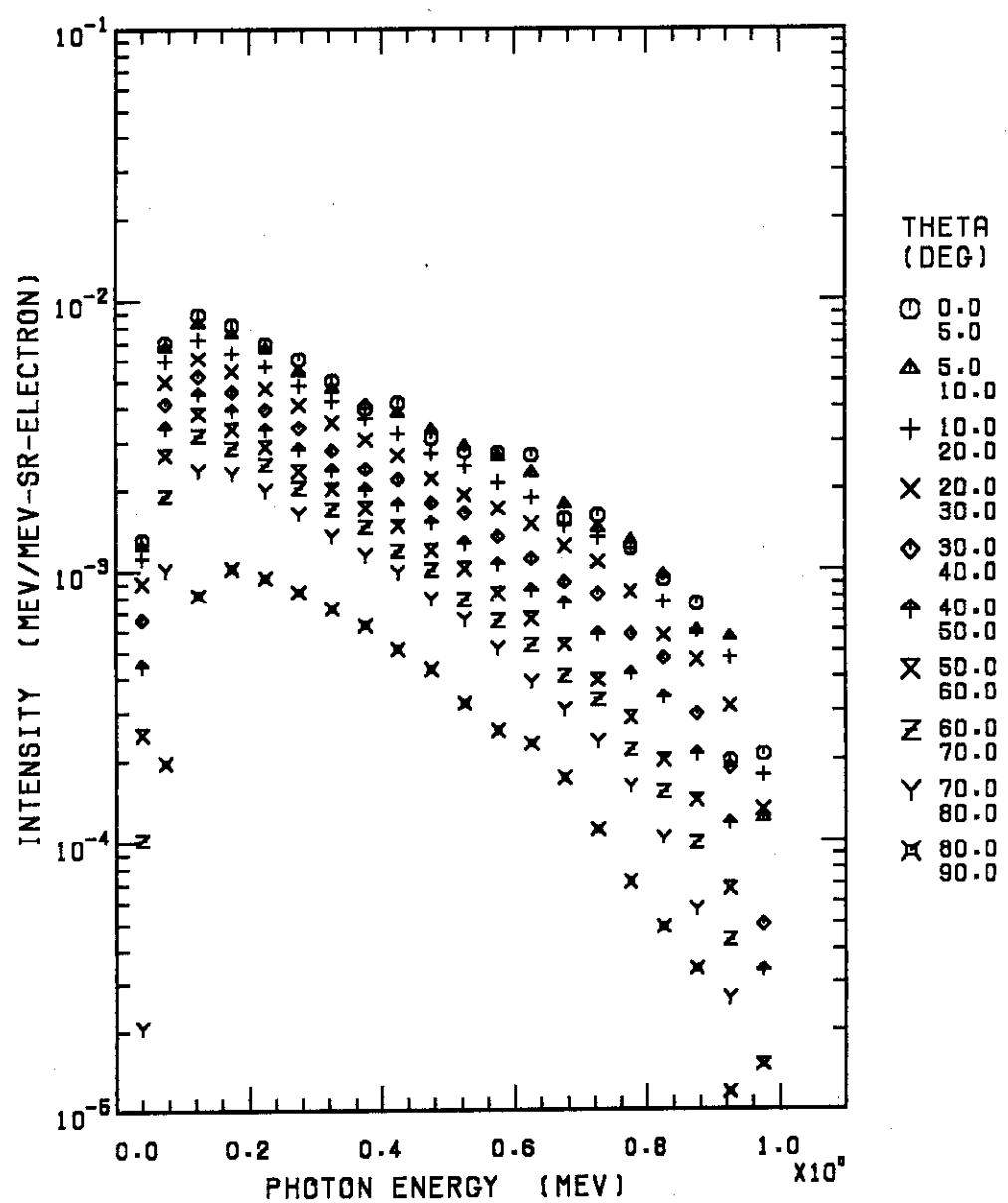
Fig. 25  $Z=29 \quad T_0 = 1.0 \text{ MeV}$

Table 25 Z=29  $\tau_0 = 1.0$  MeV

K (MeV)	THETA=	0.0	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000
		5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000
1.00	-	0.9500	2.14E-04	1.25E-04	1.80E-04	1.35E-04	5.05E-05	3.42E-05	1.53E-05	8.59E-06	3.22E-06
0.95	-	0.9000	2.14E-04	6.08E-04	5.09E-04	3.39E-04	2.02E-04	1.27E-04	7.22E-05	4.66E-05	2.84E-05
0.90	-	0.8500	8.55E-04	6.79E-04	6.80E-04	5.28E-04	3.35E-04	2.39E-04	1.63E-04	1.13E-04	6.43E-05
0.85	-	0.8000	1.12E-03	1.16E-03	9.23E-04	6.93E-04	5.69E-04	4.10E-04	2.41E-04	1.85E-04	1.25E-04
0.80	-	0.7500	1.55E-03	1.66E-03	1.55E-03	1.07E-03	7.46E-04	5.33E-04	3.67E-04	2.80E-04	2.07E-04
0.75	-	0.7000	2.19E-03	1.96E-03	1.82E-03	1.48E-03	1.13E-03	7.98E-04	5.40E-04	4.57E-04	3.22E-04
0.70	-	0.6500	2.29E-03	2.58E-03	2.16E-03	1.82E-03	1.34E-03	1.12E-03	7.83E-04	6.01E-04	4.52E-04
0.65	-	0.6000	4.26E-03	3.66E-03	2.97E-03	2.37E-03	1.77E-03	1.36E-03	1.05E-03	8.42E-04	6.17E-04
0.60	-	0.5500	4.72E-03	4.58E-03	3.67E-03	2.94E-03	2.32E-03	1.83E-03	1.43E-03	1.13E-03	8.90E-04
0.55	-	0.5000	5.25E-03	5.47E-03	4.63E-03	3.62E-03	3.09E-03	2.40E-03	1.93E-03	1.48E-03	1.25E-03
0.50	-	0.4500	6.51E-03	6.95E-03	5.70E-03	4.61E-03	3.73E-03	3.16E-03	2.50E-03	2.11E-03	1.65E-03
0.45	-	0.4000	9.76E-03	8.96E-03	7.57E-03	6.27E-03	5.11E-03	4.12E-03	3.43E-03	2.78E-03	2.32E-03
0.40	-	0.3500	1.06E-02	1.09E-02	9.74E-03	8.13E-03	6.31E-03	5.32E-03	4.52E-03	3.86E-03	3.04E-03
0.35	-	0.3000	1.55E-02	1.45E-02	1.30E-02	1.08E-02	8.58E-03	7.25E-03	6.17E-03	5.17E-03	4.12E-03
0.30	-	0.2500	2.21E-02	1.97E-02	1.76E-02	1.49E-02	1.23E-02	1.03E-02	8.48E-03	7.37E-03	5.90E-03
0.25	-	0.2000	3.07E-02	2.95E-02	2.54E-02	2.10E-02	1.75E-02	1.48E-02	1.28E-02	1.10E-02	8.82E-03
0.20	-	0.1500	4.65E-02	4.32E-02	3.66E-02	3.14E-02	2.63E-02	2.24E-02	1.91E-02	1.63E-02	1.31E-02
0.15	-	0.1000	7.10E-02	6.60E-02	5.78E-02	4.90E-02	4.21E-02	3.61E-02	3.05E-02	2.54E-02	1.88E-02
0.10	-	0.0500	9.33E-02	8.98E-02	7.97E-02	6.69E-02	5.53E-02	4.52E-02	3.57E-02	2.53E-02	1.34E-02
0.05	-	0.0300	3.24E-02	3.10E-02	2.78E-02	2.26E-02	1.65E-02	1.11E-02	6.25E-03	2.56E-03	5.17E-04
	(MeV/SR/ELEC)	3.40E-03	3.26E-03	2.83E-03	2.33E-03	1.89E-03	1.56E-03	1.28E-03	1.05E-03	1.05E-03	3.68E-04

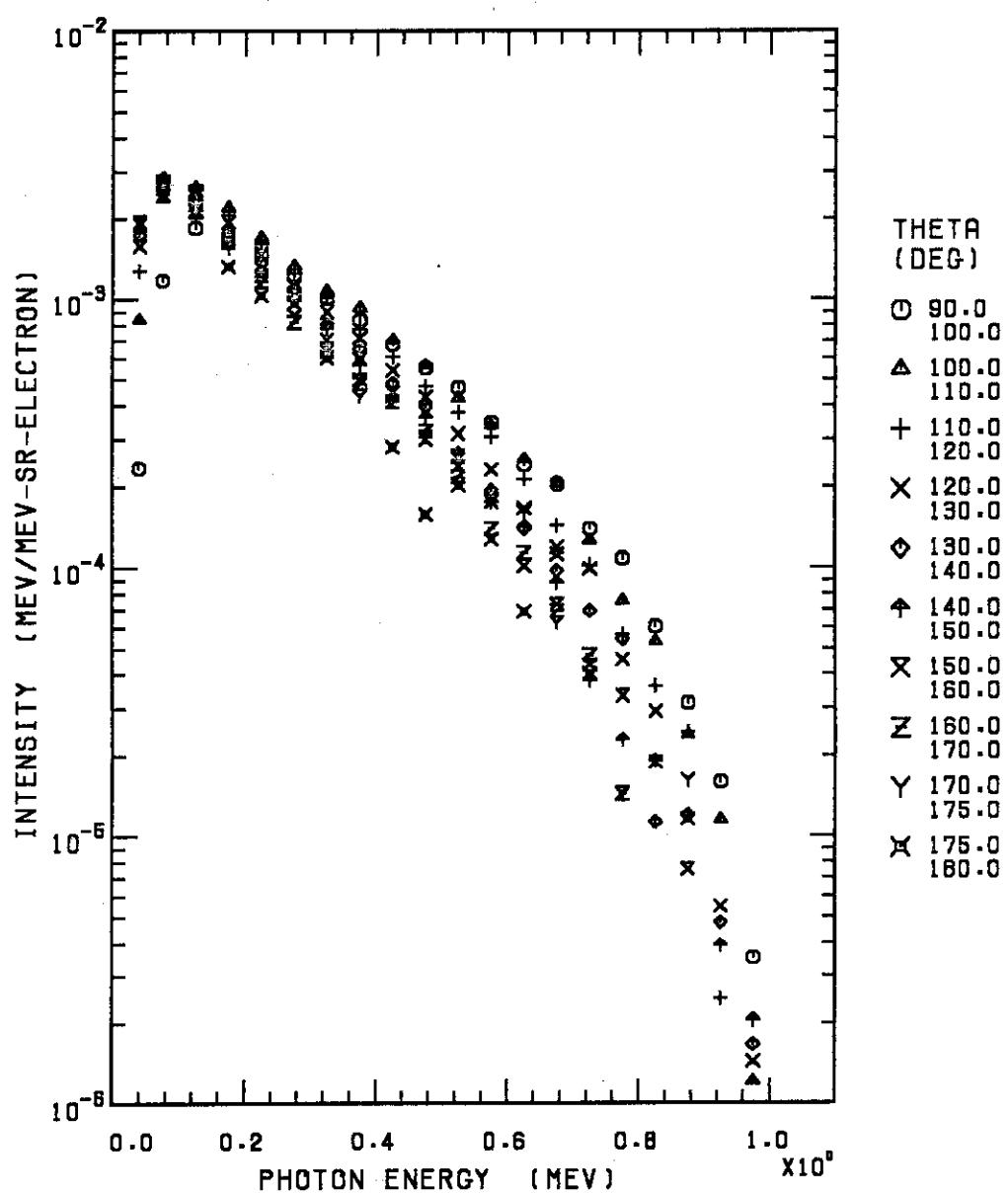
Fig. 26    Z=29     $T_0 = 1.0$  MeV

Table 26 Z=29  $T_0 = 1.0$  MeV

$K$ (MeV)	THETA= 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000
1.00	-0.9500	3.58E-06	1.25E-06	0.0	1.47E-06	1.71E-06	2.11E-06	0.0	0.0	0.0
0.95	-0.9000	1.72E-05	1.24E-05	2.67E-06	5.90E-06	5.13E-06	4.21E-06	0.0	0.0	0.0
0.90	-0.8500	3.58E-05	2.72E-05	2.78E-05	1.32E-05	1.36E-05	0.0	8.57E-06	0.0	1.85E-05
0.85	-0.8000	7.32E-05	6.42E-05	4.37E-05	3.53E-05	1.37E-05	2.31E-05	2.28E-05	0.0	0.0
0.80	-0.7500	1.39E-04	9.73E-05	7.27E-05	5.87E-05	6.98E-05	2.94E-05	4.28E-05	1.86E-05	1.85E-05
0.75	-0.7000	1.92E-04	1.73E-04	1.41E-04	1.36E-04	9.53E-05	5.25E-05	5.99E-05	6.52E-05	5.56E-05
0.70	-0.6500	3.02E-04	3.04E-04	2.12E-04	1.76E-04	1.44E-04	1.30E-04	1.08E-04	1.02E-04	1.24E-05
0.65	-0.6000	3.84E-04	4.03E-04	3.41E-04	2.65E-04	2.23E-04	2.26E-04	1.62E-04	1.81E-04	2.58E-04
0.60	-0.5500	6.01E-04	5.87E-04	5.31E-04	4.01E-04	3.36E-04	3.04E-04	3.05E-04	2.42E-04	3.13E-04
0.55	-0.5000	8.88E-04	8.13E-04	7.20E-04	5.98E-04	5.07E-04	4.67E-04	4.52E-04	4.14E-04	4.97E-04
0.50	-0.4500	1.17E-03	1.19E-03	9.91E-04	9.07E-04	8.33E-04	7.63E-04	6.31E-04	6.78E-04	6.44E-04
0.45	-0.4000	1.59E-03	1.65E-03	1.43E-03	1.28E-03	1.14E-03	9.75E-04	9.74E-04	1.06E-03	1.09E-03
0.40	-0.3500	2.22E-03	2.48E-03	2.06E-03	1.90E-03	1.75E-03	1.52E-03	1.33E-03	1.29E-03	1.16E-03
0.35	-0.3000	3.10E-03	3.29E-03	3.12E-03	2.76E-03	2.48E-03	2.39E-03	1.97E-03	2.01E-03	1.86E-03
0.30	-0.2500	4.48E-03	4.82E-03	4.55E-03	4.07E-03	3.96E-03	3.61E-03	3.51E-03	2.98E-03	3.18E-03
0.25	-0.2000	6.55E-03	7.53E-03	7.12E-03	6.54E-03	6.11E-03	5.70E-03	5.43E-03	5.14E-03	4.58E-03
0.20	-0.1500	9.84E-03	1.25E-02	1.18E-02	1.11E-02	1.05E-02	1.00E-02	9.62E-03	9.34E-03	8.89E-03
0.15	-0.1000	1.47E-02	2.10E-02	2.11E-02	2.03E-02	1.94E-02	1.87E-02	1.82E-02	1.70E-02	1.68E-02
0.10	-0.0500	1.56E-02	3.16E-02	3.62E-02	3.70E-02	3.78E-02	3.64E-02	3.61E-02	3.57E-02	3.59E-02
0.05	-0.0300	5.85E-03	2.10E-02	3.19E-02	3.94E-02	4.33E-02	4.59E-02	4.76E-02	4.83E-02	4.76E-02
	(MEV/SR/EL EC)	6.09E-04	7.60E-04	7.37E-04	6.95E-04	6.62E-04	6.25E-04	5.99E-04	5.74E-04	5.81E-04

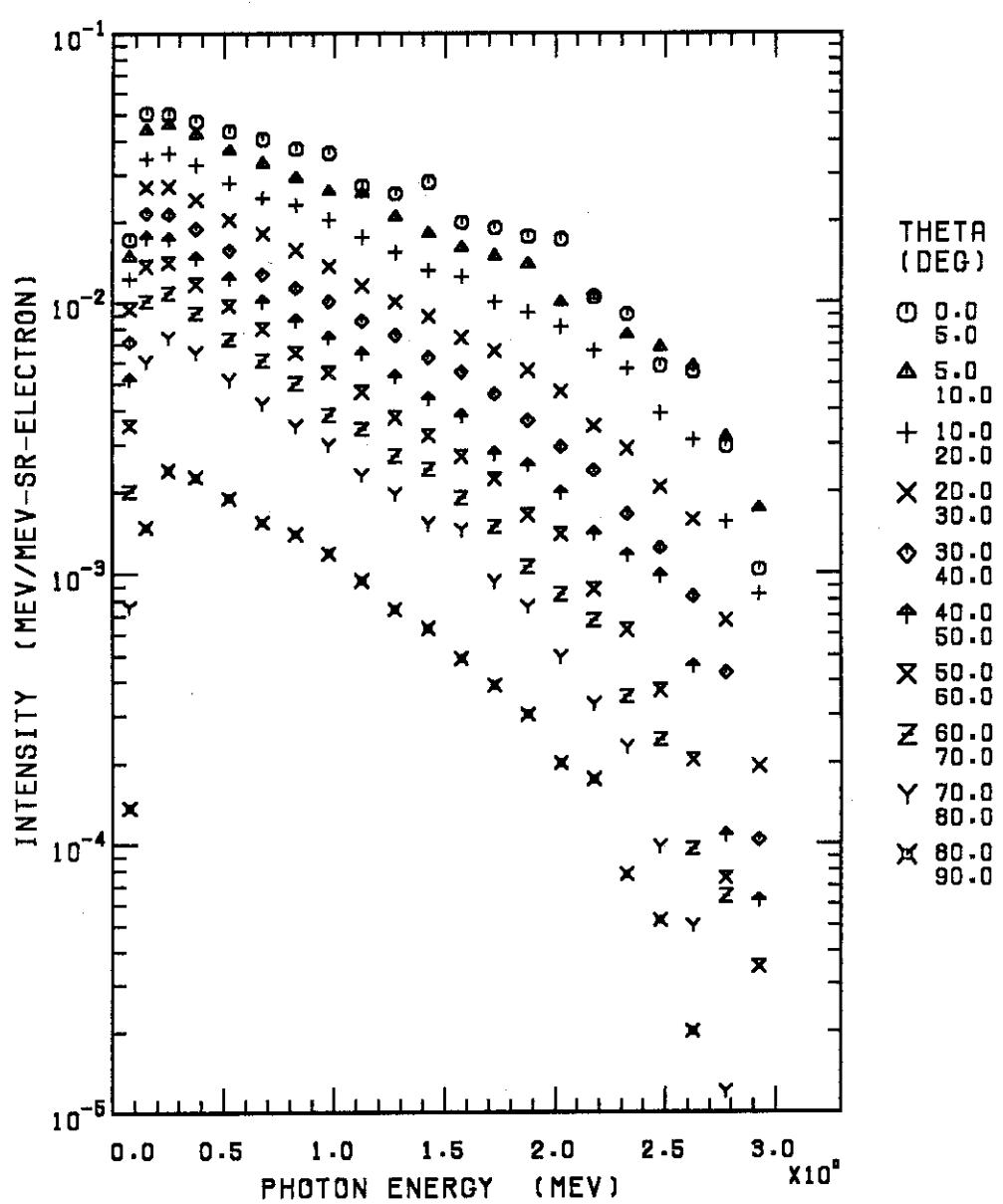
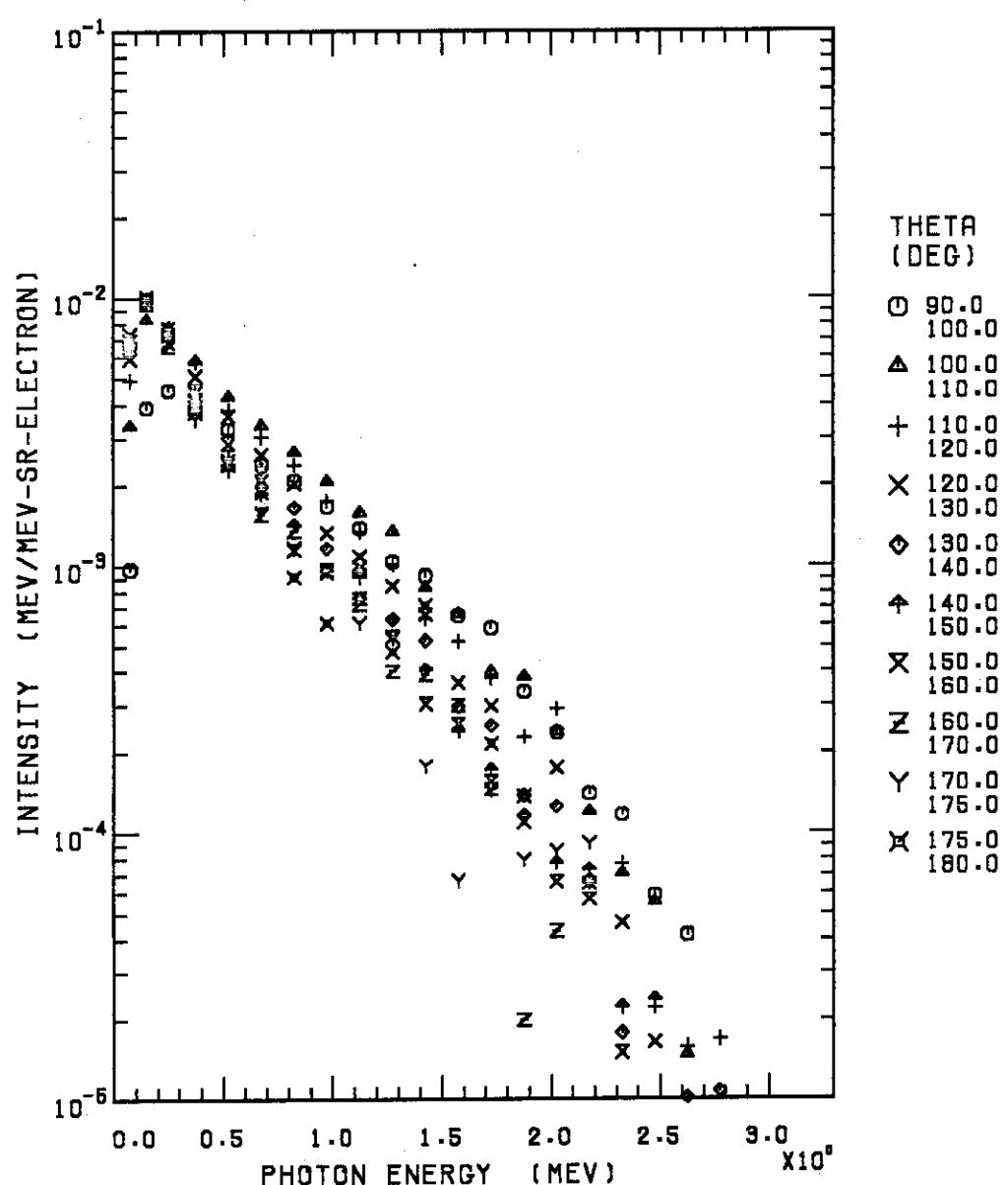
Fig. 27  $Z=29$   $T_0 = 3.0$  MeV

Table 27 Z=29 T<sub>0</sub> = 3.0 MeV

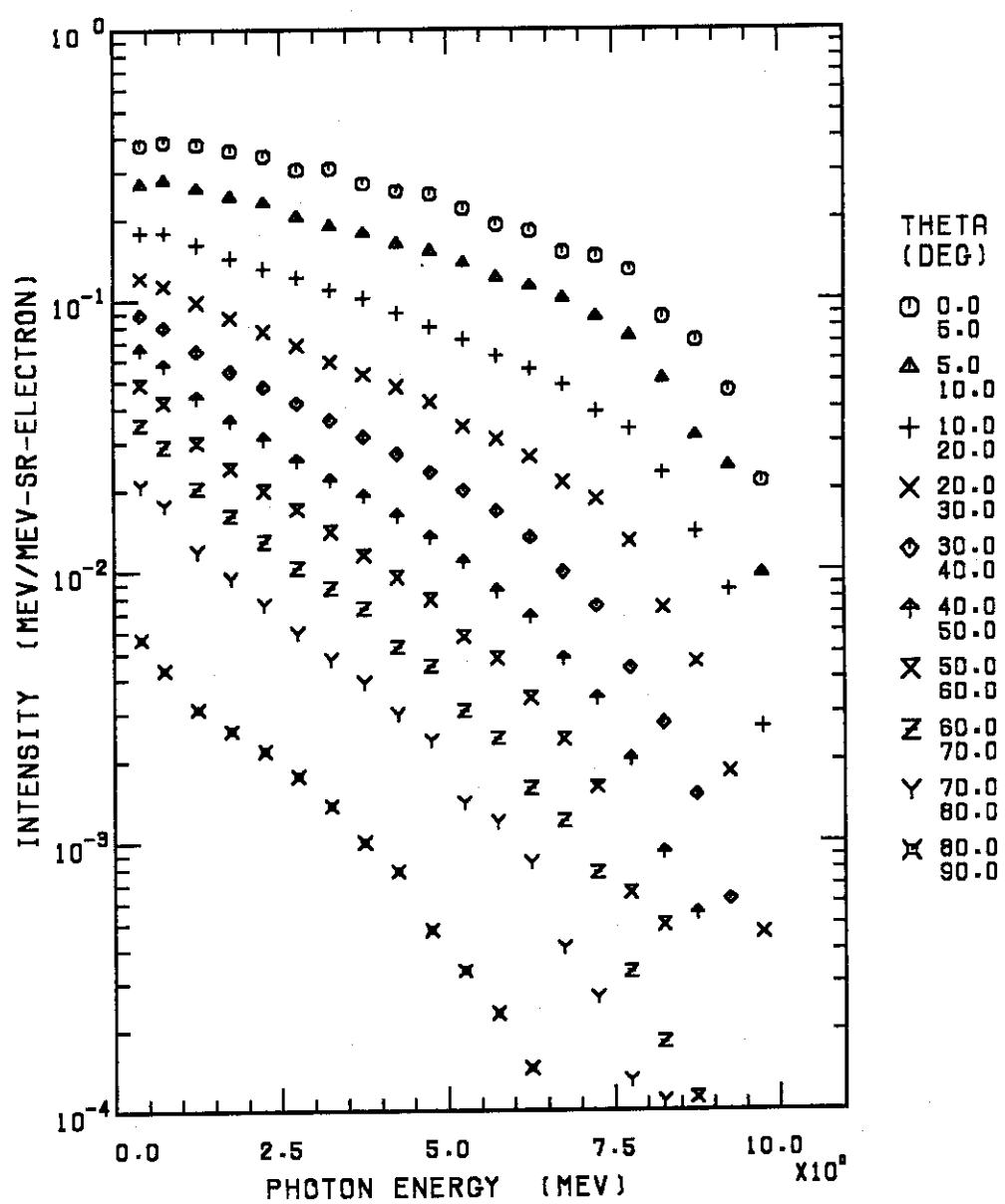
K (MeV)	THETA=	0.0	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000
		5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000
3.00 -	2.8500	3.53E-04	5.90E-04	2.87E-04	6.65E-05	3.54E-05	2.11E-05	1.19E-05	0.0	0.0	0.0
2.85 -	2.7000	1.06E-03	1.14E-03	5.55E-04	2.42E-04	1.55E-04	3.89E-05	2.69E-05	2.31E-05	4.32E-06	0.0
2.70 -	2.5500	2.11E-03	2.20E-03	1.18E-03	5.98E-04	3.14E-04	1.73E-04	7.82E-05	3.65E-05	1.89E-05	7.65E-06
2.55 -	2.4000	2.35E-03	2.75E-03	1.56E-03	8.39E-04	5.00E-04	3.96E-04	1.49E-04	9.85E-05	3.94E-05	2.11E-05
2.40 -	2.2500	3.87E-03	3.25E-03	2.44E-03	1.24E-03	7.07E-04	5.02E-04	2.66E-04	1.52E-04	9.87E-05	3.32E-05
2.25 -	2.1000	4.79E-03	4.86E-03	3.03E-03	1.60E-03	1.10E-03	6.43E-04	4.02E-04	3.08E-04	1.52E-04	8.02E-05
2.10 -	1.9500	8.42E-03	4.92E-03	4.00E-03	2.31E-03	1.44E-03	9.76E-04	6.85E-04	4.14E-04	2.43E-04	9.88E-05
1.95 -	1.8000	9.33E-03	7.37E-03	4.89E-03	2.98E-03	1.94E-03	1.33E-03	8.69E-04	5.64E-04	4.03E-04	1.61E-04
1.80 -	1.6500	1.09E-02	8.60E-03	5.78E-03	3.83E-03	2.65E-03	1.60E-03	1.29E-03	8.58E-04	5.39E-04	2.25E-04
1.65 -	1.5000	1.25E-02	1.01E-02	7.90E-03	4.68E-03	3.49E-03	2.41E-03	1.71E-03	1.20E-03	9.13E-04	3.08E-04
1.50 -	1.3500	1.96E-02	1.26E-02	9.19E-03	6.21E-03	4.37E-03	3.09E-03	2.25E-03	1.69E-03	1.06E-03	4.40E-04
1.35 -	1.2000	1.99E-02	1.63E-02	1.20E-02	7.88E-03	5.91E-03	4.16E-03	2.94E-03	2.12E-03	1.53E-03	5.79E-04
1.20 -	1.0500	2.41E-02	2.25E-02	1.55E-02	1.03E-02	7.55E-03	5.74E-03	4.13E-03	3.02E-03	2.04E-03	8.36E-04
1.05 -	0.9000	3.68E-02	2.66E-02	2.07E-02	1.40E-02	1.03E-02	7.57E-03	5.62E-03	3.92E-03	3.04E-03	1.21E-03
0.90 -	0.7500	4.51E-02	3.52E-02	2.78E-02	1.90E-02	1.37E-02	1.04E-02	7.87E-03	6.08E-03	4.23E-03	1.69E-03
0.75 -	0.6000	6.01E-02	4.88E-02	3.62E-02	2.66E-02	1.88E-02	1.49E-02	1.18E-02	9.02E-03	6.25E-03	2.28E-03
0.60 -	0.4500	8.28E-02	7.02E-02	5.30E-02	3.87E-02	2.97E-02	2.34E-02	1.84E-02	1.39E-02	9.84E-03	3.60E-03
0.45 -	0.3000	1.26E-01	1.13E-01	8.66E-02	6.42E-02	5.00E-02	3.90E-02	3.11E-02	2.44E-02	1.73E-02	6.03E-03
0.30 -	0.2000	2.01E-01	1.84E-01	1.44E-01	1.08E-01	8.49E-02	6.89E-02	5.62E-02	4.34E-02	2.96E-02	5.58E-03
0.20 -	0.1000	3.37E-01	2.94E-01	2.29E-01	1.79E-01	1.43E-01	1.16E-01	9.09E-02	6.74E-02	4.02E-02	9.84E-03
0.10 -	0.0500	2.28E-01	1.98E-01	1.63E-01	1.26E-01	1.16E-01	9.52E-02	6.93E-02	4.67E-02	2.67E-02	1.01E-02
	(MEV/SR/ELEC)	6.94E-02	5.76E-02	4.26E-02	2.92E-02	2.15E-02	1.62E-02	1.23E-02	9.11E-03	6.20E-03	2.22E-03

Fig. 28 Z=29  $T_0 = 3.0$  MeV

Z=29.00 K(MEV)=3.00 T(G/CM2)=2.066

Table 28 Z=29 T<sub>0</sub>= 3.0 MeV

K (MEV)	THETA= 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000	180.000
3.00	-2.8500	0.0	2.83E-06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.85	-2.7000	0.0	6.09E-06	0.0	3.89E-06	0.0	0.0	0.0	0.0	0.0	0.0
2.70	-2.5500	1.58E-05	5.67E-06	6.02E-06	3.88E-06	0.0	0.0	0.0	0.0	0.0	0.0
2.55	-2.4000	2.37E-05	2.22E-05	8.97E-06	6.66E-06	3.90E-06	9.60E-06	6.47E-06	0.0	0.0	0.0
2.40	-2.2500	5.02E-05	3.04E-05	3.29E-05	1.99E-05	7.66E-06	9.60E-06	6.47E-06	0.0	0.0	0.0
2.25	-2.1000	6.43E-05	5.51E-05	2.98E-05	2.98E-05	3.07E-05	3.34E-05	2.60E-05	0.0	4.20E-05	0.0
2.10	-1.9500	1.17E-04	1.18E-04	1.43E-04	8.63E-05	6.18E-05	3.81E-05	3.24E-05	2.12E-05	4.21E-05	0.0
2.00	-1.8000	1.79E-04	2.03E-04	1.21E-04	7.29E-05	7.34E-05	6.17E-05	5.84E-05	1.06E-05	4.23E-05	0.0
1.95	-1.80	-1.6500	3.37E-04	2.31E-04	2.18E-04	1.72E-04	1.46E-04	9.99E-05	9.02E-05	8.44E-05	8.38E-05
1.90	-1.65	-1.5000	4.12E-04	4.18E-04	3.29E-04	2.30E-04	1.88E-04	1.52E-04	1.62E-04	1.90E-04	4.21E-05
1.85	-1.50	-1.3500	6.42E-04	5.84E-04	4.42E-04	4.60E-04	3.67E-04	2.84E-04	2.12E-04	2.74E-04	1.25E-04
1.80	-1.35	-1.2000	8.10E-04	1.05E-03	7.95E-04	6.62E-04	4.92E-04	4.94E-04	4.24E-04	3.14E-04	4.18E-04
1.75	-1.20	-1.0500	1.23E-03	1.40E-03	1.19E-03	9.62E-04	8.54E-04	8.10E-04	6.72E-04	6.39E-04	5.40E-04
1.70	-1.05	-0.9000	1.71E-03	2.13E-03	1.79E-03	1.36E-03	1.19E-03	9.89E-04	9.72E-04	9.93E-04	9.96E-04
1.65	-0.90	-0.7500	2.52E-03	3.22E-03	2.89E-03	2.47E-03	2.00E-03	1.72E-03	1.38E-03	1.63E-03	1.41E-03
1.60	-0.75	-0.6000	3.58E-03	4.99E-03	4.50E-03	3.85E-03	3.42E-03	2.74E-03	2.79E-03	2.30E-03	2.34E-03
1.55	-0.60	-0.4500	6.19E-03	8.20E-03	7.30E-03	5.74E-03	5.74E-03	5.18E-03	4.57E-03	4.60E-03	4.35E-03
1.50	-0.45	-0.3000	1.04E-02	1.56E-02	1.53E-02	1.37E-02	1.25E-02	1.17E-02	1.01E-02	1.06E-02	1.10E-02
1.45	-0.30	-0.2000	1.82E-02	3.09E-02	3.10E-02	3.07E-02	3.00E-02	2.79E-02	2.73E-02	2.64E-02	2.90E-02
1.40	-0.20	-0.1000	2.61E-02	5.53E-02	6.51E-02	6.71E-02	6.62E-02	6.55E-02	6.34E-02	6.37E-02	6.50E-02
1.35	-0.10	-0.0500	1.30E-02	4.47E-02	6.58E-02	7.90E-02	8.67E-02	8.99E-02	9.25E-02	9.28E-02	8.73E-02
1.30	-0.05										
		3.69E-03	5.29E-03	5.12E-03	4.75E-03	4.36E-03	4.03E-03	3.77E-03	3.70E-03	3.63E-03	3.82E-03

Fig. 29     $Z=29$      $T_0 = 10.0$  MeV

## JAERI-M 83-019

Table 29 Z=29 T<sub>0</sub>=10.0 MeV

K (MeV)	THETA= 0.0	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000
		5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000
10.00	- 9.5000	2.18E-03	9.95E-04	2.73E-04	4.73E-05	7.27E-06	0.0	0.0	9.18E-07	0.0
9.50	- 9.0000	4.98E-03	2.62E-03	9.17E-04	1.97E-04	6.64E-05	9.62E-06	4.63E-06	0.0	5.77E-07
9.00	- 8.5000	8.05E-03	3.58E-03	1.58E-03	5.26E-04	1.71E-04	6.22E-05	1.28E-05	1.05E-05	2.06E-06
8.50	- 8.0000	1.04E-02	6.16E-03	2.78E-03	8.85E-04	3.33E-04	1.11E-04	5.96E-05	2.19E-05	1.32E-05
8.00	- 7.5000	1.66E-02	9.44E-03	4.30E-03	1.65E-03	5.64E-04	2.61E-04	8.39E-05	4.25E-05	1.68E-05
7.50	- 7.0000	1.99E-02	1.19E-02	5.35E-03	2.54E-03	1.02E-03	4.67E-04	2.21E-04	1.07E-04	3.65E-05
7.00	- 6.5000	2.21E-02	1.50E-02	7.19E-03	3.15E-03	1.46E-03	7.03E-04	3.56E-04	1.77E-04	6.02E-05
6.50	- 6.0000	2.87E-02	1.79E-02	8.89E-03	4.23E-03	2.12E-03	1.08E-03	5.42E-04	2.54E-04	1.35E-05
6.00	- 5.5000	3.28E-02	2.10E-02	1.08E-02	5.34E-03	2.88E-03	1.47E-03	8.26E-04	4.21E-04	2.07E-04
5.50	- 5.0000	4.13E-02	2.61E-02	1.36E-02	6.52E-03	3.76E-03	2.06E-03	1.09E-03	5.81E-04	2.67E-04
5.00	- 4.5000	5.17E-02	3.18E-02	1.67E-02	8.87E-03	4.87E-03	2.79E-03	1.65E-03	9.36E-04	5.01E-04
4.50	- 4.0000	5.93E-02	3.78E-02	2.10E-02	1.13E-02	6.37E-03	3.76E-03	2.23E-03	1.23E-03	6.97E-04
4.00	- 3.5000	7.19E-02	4.69E-02	2.70E-02	1.42E-02	8.33E-03	5.05E-03	3.05E-03	1.94E-03	1.03E-03
3.50	- 3.0000	9.45E-02	5.77E-02	3.36E-02	1.82E-02	1.11E-02	6.68E-03	4.29E-03	2.67E-03	1.45E-03
3.00	- 2.5000	1.11E-01	7.41E-02	4.43E-02	2.48E-02	1.53E-02	9.33E-03	6.14E-03	3.74E-03	2.15E-03
2.50	- 2.0000	1.52E-01	1.02E-01	5.83E-02	3.41E-02	2.13E-02	1.37E-02	8.82E-03	5.72E-03	3.35E-03
2.00	- 1.5000	2.04E-01	1.38E-01	8.20E-02	4.95E-02	3.12E-02	2.06E-02	1.37E-02	9.14E-03	5.39E-03
1.50	- 1.0000	3.02E-01	2.07E-01	1.29E-01	7.89E-02	5.19E-02	3.52E-02	2.39E-02	1.62E-02	9.48E-03
1.00	- 0.5000	5.15E-01	3.71E-01	2.37E-01	1.51E-01	1.06E-01	7.68E-02	5.62E-02	3.86E-02	2.33E-02
0.50	- 0.3000	9.38E-01	6.71E-01	4.45E-01	3.03E-01	2.22E-01	1.65E-01	1.22E-01	8.73E-02	5.19E-02
	(MEV/SR/ELEC)	2.10E+00	1.36E+00	7.64E-01	4.21E-01	2.55E-01	1.61E-01	1.05E-01	6.72E-02	3.84E-02

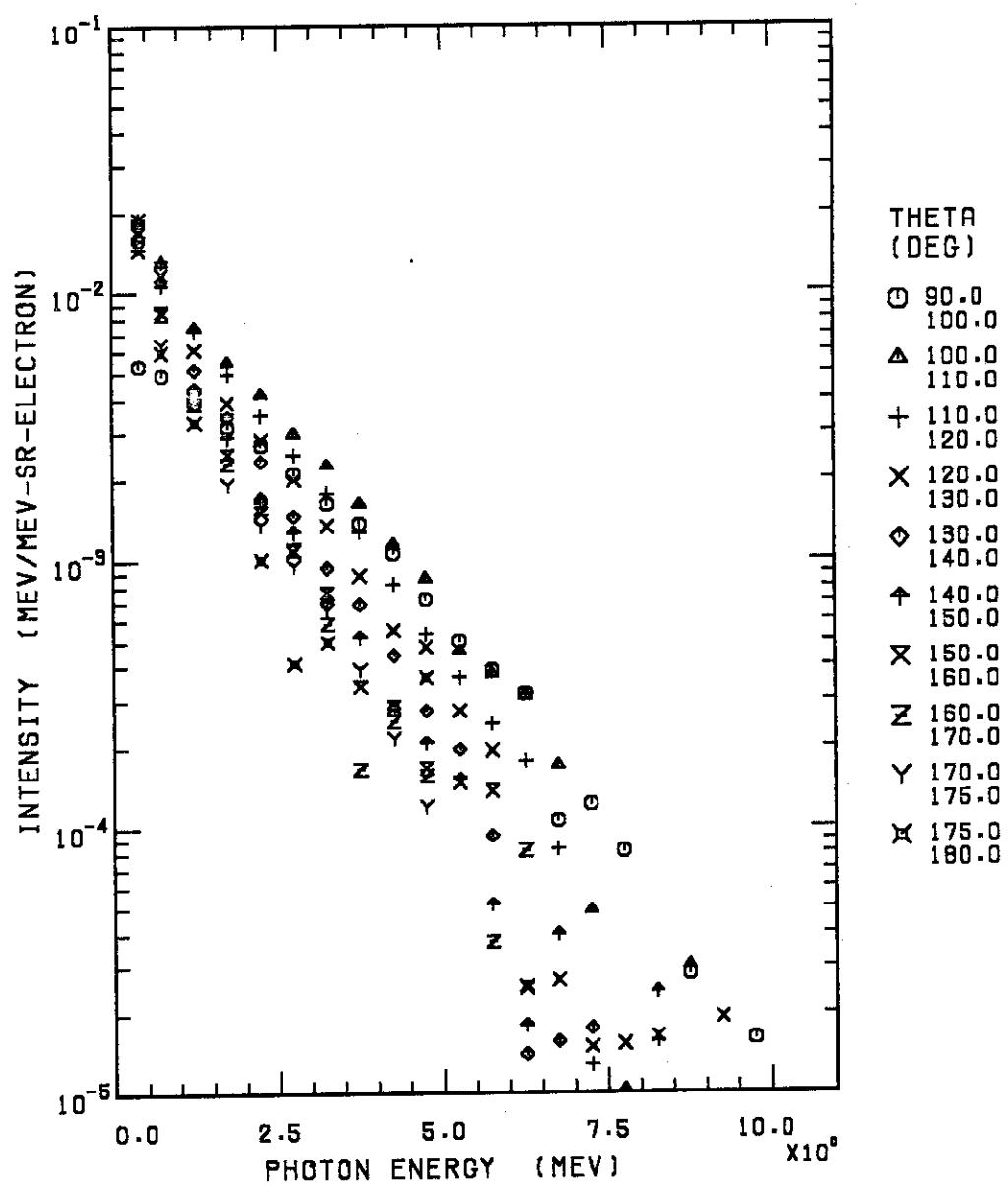
Fig. 30  $Z=29 \quad T_0=10.0 \text{ MeV}$

Table 30 Z=29 T<sub>0</sub>=10.0 MeV

K (MEV)	THETA= 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000	180.000
10.00	- 9.5000	1.64E-06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9.50	- 9.0000	0.0	0.0	0.0	2.09E-06	0.0	0.0	0.0	0.0	0.0	0.0
9.00	- 8.5000	3.21E-06	3.46E-06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.50	- 8.0000	1.21E-06	0.0	1.91E-06	1.99E-06	0.0	2.91E-06	0.0	0.0	0.0	0.0
8.00	- 7.5000	1.05E-05	1.33E-06	0.0	1.98E-06	0.0	0.0	0.0	0.0	0.0	0.0
7.50	- 7.0000	1.68E-05	6.72E-06	1.77E-06	2.07E-06	2.43E-06	0.0	0.0	0.0	0.0	0.0
7.00	- 6.5000	1.57E-05	2.53E-05	1.23E-05	3.94E-06	2.33E-06	5.87E-06	0.0	0.0	0.0	0.0
6.50	- 6.0000	5.09E-05	4.99E-05	2.84E-05	4.04E-06	2.25E-06	2.90E-06	3.98E-06	1.31E-05	0.0	0.0
6.00	- 5.5000	6.72E-05	6.52E-05	4.26E-05	3.38E-05	1.62E-05	8.96E-06	2.38E-05	6.47E-06	0.0	0.0
5.50	- 5.0000	9.54E-05	8.73E-05	6.94E-05	5.21E-05	3.74E-05	2.89E-05	2.81E-05	0.0	0.0	0.0
5.00	- 4.5000	1.51E-04	1.80E-04	1.12E-04	1.00E-04	5.77E-05	4.37E-05	3.52E-05	3.30E-05	2.51E-05	7.67E-05
4.50	- 4.0000	2.50E-04	2.70E-04	1.93E-04	1.29E-04	1.04E-04	6.62E-05	6.68E-05	5.87E-05	5.08E-05	0.0
4.00	- 3.5000	3.65E-04	4.34E-04	3.41E-04	2.35E-04	1.83E-04	1.38E-04	9.02E-05	4.43E-05	1.04E-04	0.0
3.50	- 3.0000	5.02E-04	7.01E-04	5.48E-04	4.15E-04	2.90E-04	2.15E-04	2.34E-04	1.78E-04	2.01E-04	1.53E-04
3.00	- 2.5000	7.68E-04	1.08E-03	9.05E-04	7.29E-04	5.34E-04	4.65E-04	3.95E-04	4.00E-04	3.49E-04	1.50E-04
2.50	- 2.0000	1.21E-03	1.86E-03	1.55E-03	1.26E-03	1.05E-03	7.59E-04	6.75E-04	7.04E-04	6.02E-04	4.48E-04
2.00	- 1.5000	1.81E-03	3.14E-03	2.84E-03	2.23E-03	1.96E-03	1.65E-03	1.43E-03	1.32E-03	1.10E-03	1.93E-03
1.50	- 1.0000	3.14E-03	5.96E-03	5.79E-03	4.90E-03	4.14E-03	3.52E-03	3.26E-03	3.10E-03	3.31E-03	2.64E-03
1.00	- 0.5000	6.58E-03	1.75E-02	1.77E-02	1.57E-02	1.48E-02	1.41E-02	1.11E-02	8.53E-03	7.97E-03	0.0
0.50	- 0.3000	1.34E-02	4.10E-02	4.72E-02	4.74E-02	4.57E-02	4.20E-02	3.85E-02	3.77E-02	3.65E-02	0.0
(MEV/SR/ELEC)	1.24E-02	2.26E-02	2.12E-02	1.82E-02	1.59E-02	1.41E-02	1.24E-02	1.16E-02	1.06E-02	9.98E-03	0.0

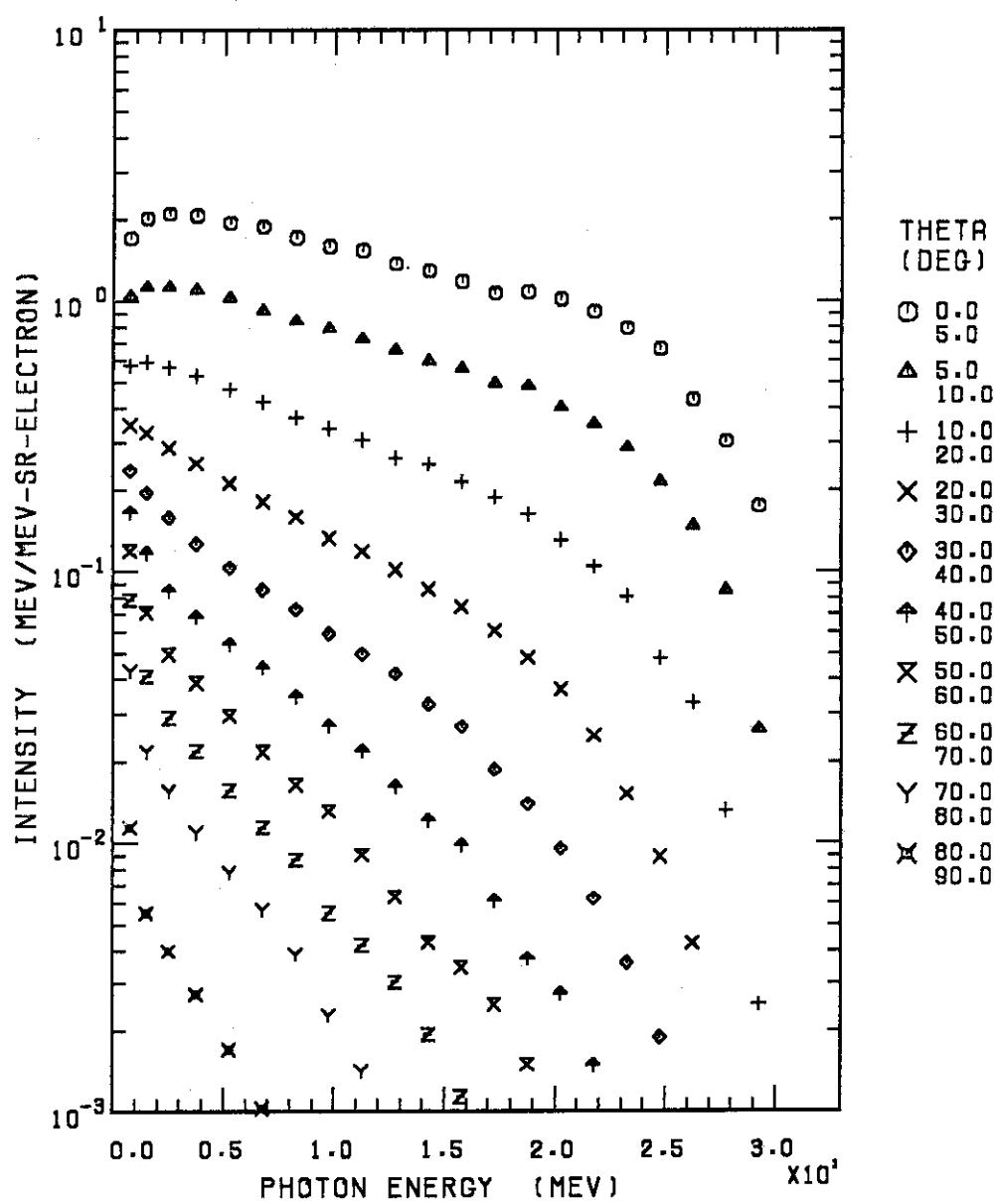
Fig. 31 Z=29  $T_0 = 30.0$  MeV

Table 31 Z=29 T<sub>0</sub>=30.0 MeV

K (MeV)	THETA= 0.0	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000
		10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000
30.00	- 28.5000	5.93E-03	8.98E-04	8.60E-05	7.25E-06	0.0	0.0	0.0	0.0	0.0
28.50	- 27.0000	1.09E-02	3.06E-03	4.74E-04	2.74E-05	8.68E-06	0.0	1.06E-06	0.0	0.0
27.00	- 25.5000	1.64E-02	5.57E-03	1.25E-03	1.62E-04	2.16E-05	6.59E-06	1.83E-06	5.28E-07	0.0
25.50	- 24.0000	2.68E-02	8.64E-03	1.93E-03	3.59E-04	7.65E-05	1.06E-05	6.97E-06	0.0	0.0
24.00	- 22.5000	3.41E-02	1.23E-02	3.47E-03	6.53E-04	1.54E-04	2.61E-05	1.12E-05	3.00E-06	7.62E-07
22.50	- 21.0000	4.20E-02	1.61E-02	4.78E-03	1.14E-03	2.86E-04	6.87E-05	8.20E-06	6.22E-06	1.43E-06
21.00	- 19.5000	5.00E-02	1.98E-02	6.41E-03	1.81E-03	4.70E-04	1.36E-04	3.12E-05	1.01E-05	4.31E-06
19.50	- 18.0000	5.74E-02	2.58E-02	8.61E-03	2.56E-03	7.43E-04	1.98E-04	7.99E-05	2.69E-05	5.51E-06
18.00	- 16.5000	6.18E-02	2.87E-02	1.08E-02	3.51E-03	1.08E-03	3.54E-04	1.45E-04	3.29E-05	1.32E-05
16.50	- 15.0000	7.47E-02	3.56E-02	1.36E-02	4.70E-03	1.71E-03	6.23E-04	2.18E-04	7.24E-05	2.93E-05
15.00	- 13.5000	9.04E-02	4.19E-02	1.74E-02	6.03E-03	2.27E-03	8.49E-04	3.01E-04	1.36E-04	4.65E-05
13.50	- 12.0000	1.07E-01	5.14E-02	2.05E-02	7.95E-03	3.29E-03	1.27E-03	4.94E-04	2.38E-04	7.65E-05
12.00	- 10.5000	1.36E-01	6.40E-02	2.72E-02	1.05E-02	4.40E-03	1.94E-03	8.03E-04	3.72E-04	1.26E-04
10.50	- 9.0000	1.62E-01	8.10E-02	3.45E-02	1.35E-02	6.06E-03	2.78E-03	1.34E-03	5.63E-04	2.34E-04
9.00	- 7.5000	2.07E-01	1.02E-01	4.49E-02	1.92E-02	8.80E-03	4.19E-03	1.99E-03	1.05E-03	4.68E-04
7.50	- 6.0000	2.77E-01	1.37E-01	6.25E-02	2.67E-02	1.27E-02	6.55E-03	3.21E-03	1.69E-03	8.37E-04
6.00	- 4.5000	3.69E-01	1.95E-01	8.95E-02	4.02E-02	1.97E-02	1.03E-02	5.61E-03	2.98E-03	1.48E-03
4.50	- 3.0000	5.50E-01	2.93E-01	1.41E-01	6.69E-02	3.36E-02	1.82E-02	1.04E-02	5.83E-03	2.92E-03
3.00	- 2.0000	8.37E-01	4.51E-01	2.27E-01	1.14E-01	6.31E-02	3.40E-02	1.98E-02	1.16E-02	6.21E-03
2.00	- 1.0000	1.34E+00	7.51E-01	3.96E-01	2.17E-01	1.30E-01	7.80E-02	4.72E-02	2.74E-02	3.67E-03
1.00	- 0.5000	2.27E+00	1.39E+00	7.68E-01	4.63E-01	3.15E-01	2.20E-01	1.58E-01	1.05E-01	5.73E-02
	(MEV/SR/EL/E)	3.61E+01	1.72E+01	7.25E+00	3.01E+00	1.42E+00	7.20E-01	3.88E-01	2.13E-01	1.06E-01
										2.43E-02

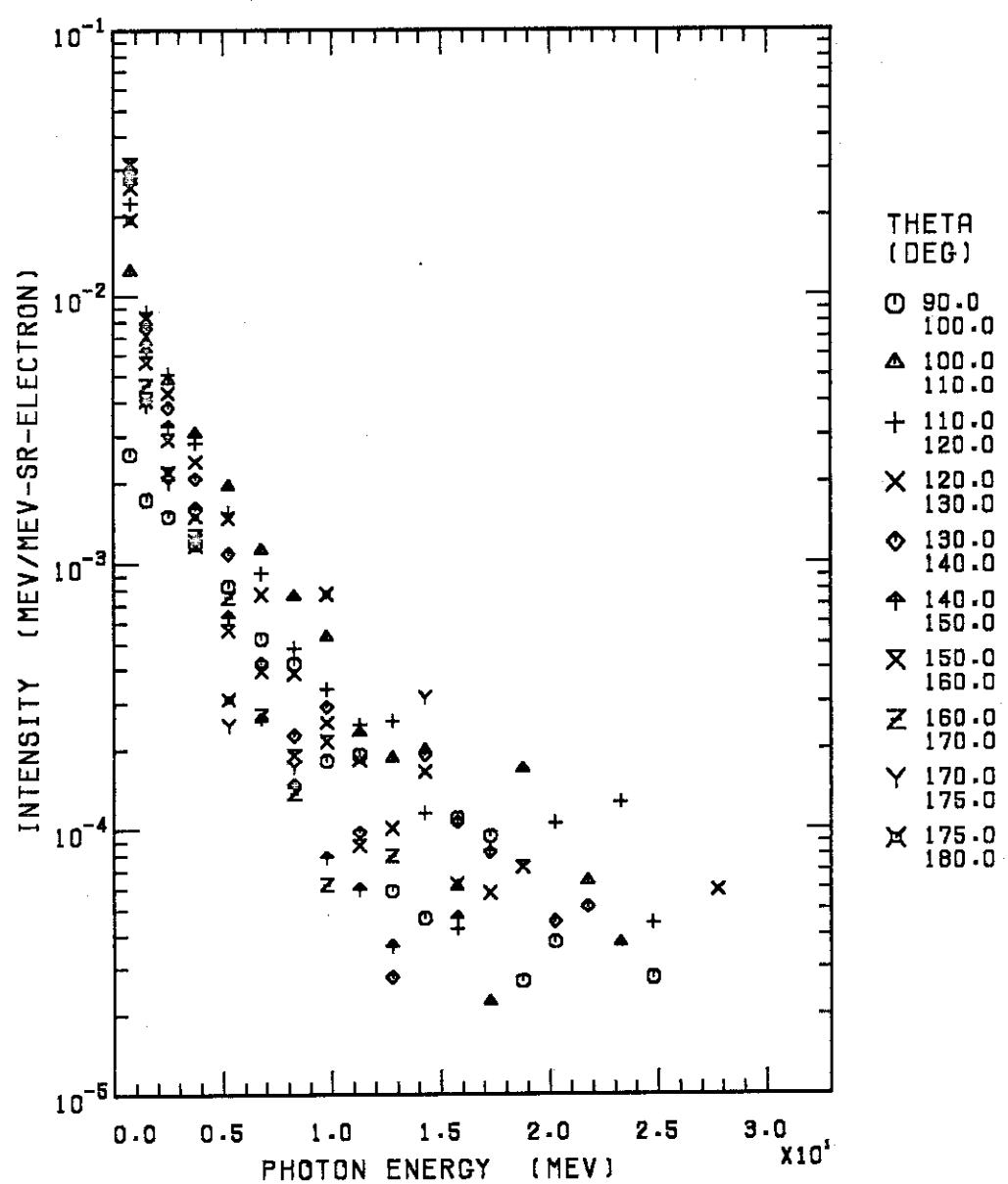
Fig. 32  $Z=29 \quad T_0=30.0 \text{ MeV}$

Table 32 Z=29 T<sub>0</sub>=30.0 MeV

K (MEV)	THETA= 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000
	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000	180.000
30.00	-28.5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.50	-27.0000	0.0	0.0	0.0	0.0	2.12E-06	0.0	0.0	0.0	0.0
27.00	-25.5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.50	-24.0000	1.11E-06	0.0	1.79E-06	0.0	0.0	0.0	0.0	0.0	0.0
24.00	-22.5000	0.0	1.60E-06	5.43E-06	0.0	0.0	0.0	0.0	0.0	0.0
22.50	-21.0000	3.14E-07	2.92E-06	0.0	0.0	2.34E-06	0.0	0.0	0.0	0.0
21.00	-19.5000	1.86E-06	0.0	5.20E-06	0.0	2.21E-06	0.0	0.0	0.0	0.0
19.50	-18.0000	1.42E-06	8.97E-06	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.00	-16.5000	5.45E-06	1.30E-06	4.81E-06	3.33E-06	4.73E-06	0.0	0.0	0.0	0.0
16.50	-15.0000	6.96E-06	3.86E-06	2.68E-06	3.94E-06	6.73E-06	2.94E-06	0.0	0.0	0.0
15.00	-13.5000	3.24E-06	1.40E-05	8.04E-06	1.15E-05	1.33E-05	0.0	0.0	0.0	0.0
13.50	-12.0000	4.59E-06	1.46E-05	2.01E-05	7.90E-06	2.17E-06	2.85E-06	0.0	0.0	0.0
12.00	-10.5000	1.70E-05	2.05E-05	2.20E-05	1.62E-05	8.64E-06	5.28E-06	7.71E-06	0.0	0.0
10.50	-9.0000	1.86E-05	5.43E-05	3.44E-05	2.58E-05	2.97E-05	8.03E-06	2.19E-05	6.35E-06	7.89E-05
9.00	-7.5000	5.08E-05	9.16E-05	5.80E-05	4.68E-05	2.74E-05	1.78E-05	2.31E-05	1.66E-05	2.09E-05
7.50	-6.0000	7.73E-05	1.66E-04	1.36E-04	1.14E-04	6.26E-05	3.87E-05	5.81E-05	3.99E-05	0.0
6.00	-4.5000	1.57E-04	3.71E-04	2.95E-04	2.81E-04	2.07E-04	1.20E-04	1.07E-04	1.43E-04	4.69E-05
4.50	-3.0000	3.15E-04	8.20E-04	7.53E-04	6.42E-04	5.53E-04	4.29E-04	3.11E-04	3.38E-04	3.26E-04
3.00	-2.0000	6.00E-04	1.94E-03	2.03E-03	1.73E-03	1.53E-03	1.31E-03	1.16E-03	8.71E-04	8.80E-04
2.00	-1.0000	1.16E-03	4.52E-03	5.78E-03	5.54E-03	5.04E-03	4.14E-03	3.76E-03	3.08E-03	2.70E-03
1.00	-0.5000	3.42E-03	1.66E-02	2.98E-02	3.41E-02	3.90E-02	3.52E-02	4.20E-02	3.72E-02	3.54E-02
(MEV/SR/ELEC)	9.81E-03	2.89E-02	3.29E-02	3.12E-02	2.93E-02	2.37E-02	2.42E-02	2.09E-02	1.88E-02	1.74E-02

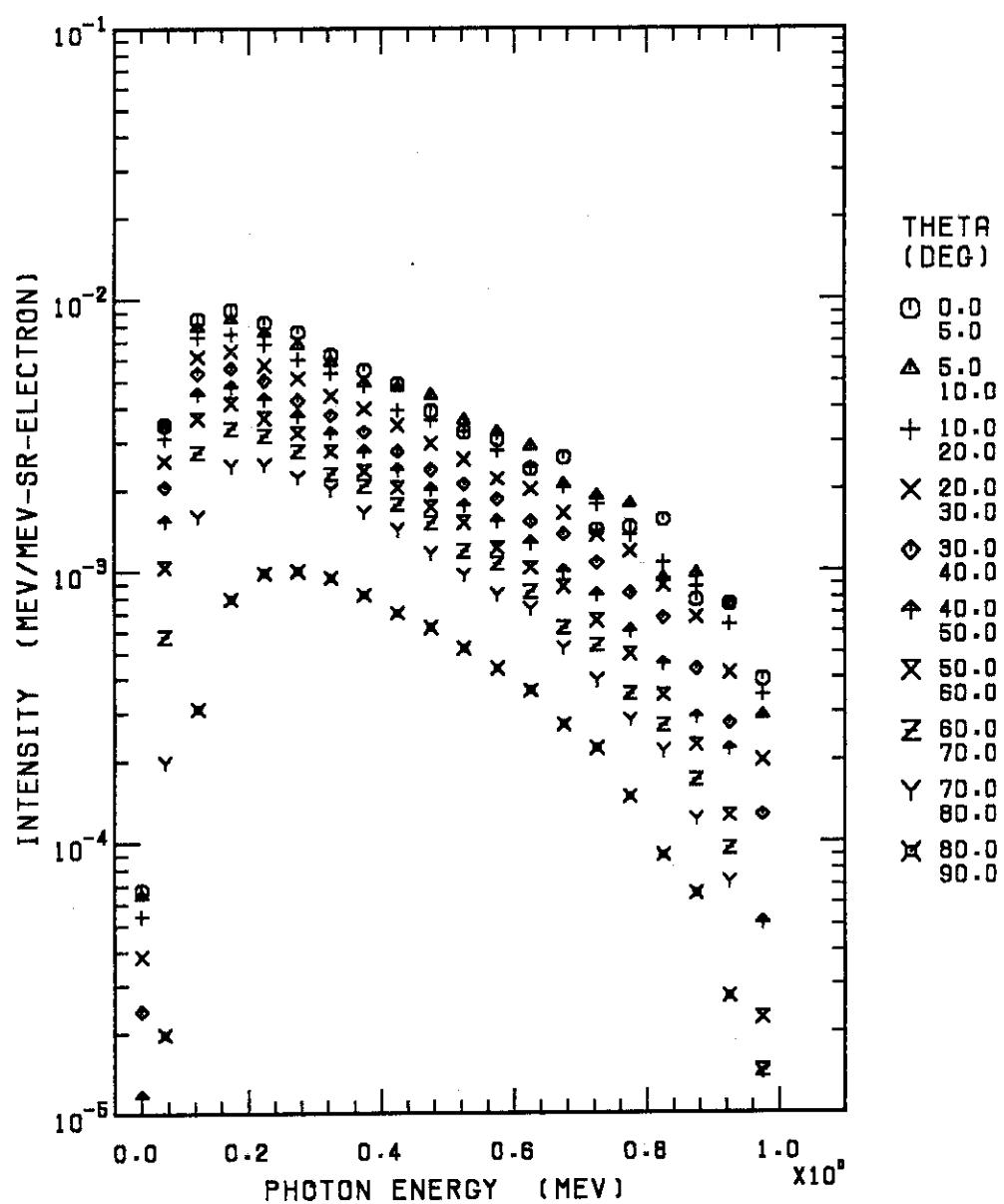
Fig. 33  $Z=42 \quad T_0 = 1.0 \text{ MeV}$

Table 33 Z=42 T<sub>0</sub>= 1.0 MeV

K (MeV)	THETA= 0.0	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000
		5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000
1.00 -	0.9500	4.06E-04	2.99E-04	3.56E-04	2.05E-04	1.29E-04	5.19E-05	2.32E-05	1.48E-05	4.47E-06
0.95 -	0.9000	8.13E-04	8.14E-04	6.85E-04	4.52E-04	2.95E-04	2.37E-04	1.35E-04	1.02E-04	7.73E-05
0.90 -	0.8500	8.92E-04	1.11E-03	9.99E-04	7.69E-04	4.94E-04	3.29E-04	2.59E-04	1.93E-04	1.39E-04
0.85 -	0.8000	1.87E-03	1.14E-03	1.30E-03	1.07E-03	8.12E-04	5.48E-04	4.20E-04	3.24E-04	2.61E-04
0.80 -	0.7500	1.86E-03	2.27E-03	1.75E-03	1.52E-03	1.07E-03	7.74E-04	6.34E-04	4.53E-04	3.63E-04
0.75 -	0.7000	1.94E-03	2.60E-03	2.42E-03	1.87E-03	1.47E-03	1.13E-03	9.01E-04	7.32E-04	5.43E-04
0.70 -	0.6500	3.88E-03	3.08E-03	3.02E-03	2.42E-03	2.01E-03	1.47E-03	1.29E-03	9.14E-04	7.67E-04
0.65 -	0.6000	3.79E-03	4.61E-03	3.85E-03	3.20E-03	2.43E-03	2.03E-03	1.64E-03	1.34E-03	1.16E-03
0.60 -	0.5500	5.31E-03	5.65E-03	4.83E-03	3.80E-03	3.19E-03	2.65E-03	2.11E-03	1.85E-03	1.42E-03
0.55 -	0.5000	6.19E-03	6.85E-03	6.24E-03	4.92E-03	3.98E-03	3.32E-03	2.86E-03	2.26E-03	1.84E-03
0.50 -	0.4500	8.17E-03	9.34E-03	7.57E-03	6.22E-03	4.98E-03	4.21E-03	3.62E-03	3.16E-03	2.44E-03
0.45 -	0.4000	1.15E-02	1.11E-02	9.23E-03	8.13E-03	6.52E-03	5.57E-03	4.77E-03	4.14E-03	3.33E-03
0.40 -	0.3500	1.47E-02	1.32E-02	1.28E-02	1.06E-02	8.71E-03	7.38E-03	6.24E-03	5.49E-03	4.38E-03
0.35 -	0.3000	1.92E-02	1.81E-02	1.65E-02	1.36E-02	1.16E-02	9.95E-03	8.51E-03	7.02E-03	6.13E-03
0.30 -	0.2500	2.76E-02	2.48E-02	2.19E-02	1.87E-02	1.55E-02	1.36E-02	1.18E-02	1.01E-02	8.06E-03
0.25 -	0.2000	3.66E-02	3.36E-02	3.04E-02	2.55E-02	2.24E-02	1.91E-02	1.63E-02	1.41E-02	1.10E-02
0.20 -	0.1500	5.23E-02	4.85E-02	4.27E-02	3.70E-02	3.20E-02	2.73E-02	2.38E-02	2.73E-02	1.92E-02
0.15 -	0.1000	6.81E-02	6.34E-02	5.81E-02	4.94E-02	4.29E-02	3.60E-02	2.93E-02	2.20E-02	1.27E-02
0.10 -	0.0500	4.64E-02	4.66E-02	4.12E-02	3.41E-02	2.73E-02	2.04E-02	1.38E-02	7.65E-03	2.63E-03
0.05 -	0.0300	1.68E-03	1.61E-03	1.35E-03	9.57E-04	6.02E-04	2.91E-04	1.11E-04	2.14E-05	1.20E-05
	(MEV/SR/ELEC)	3.75E-03	3.63E-03	3.25E-03	2.70E-03	2.23E-03	1.86E-03	1.56E-03	1.27E-03	9.62E-04

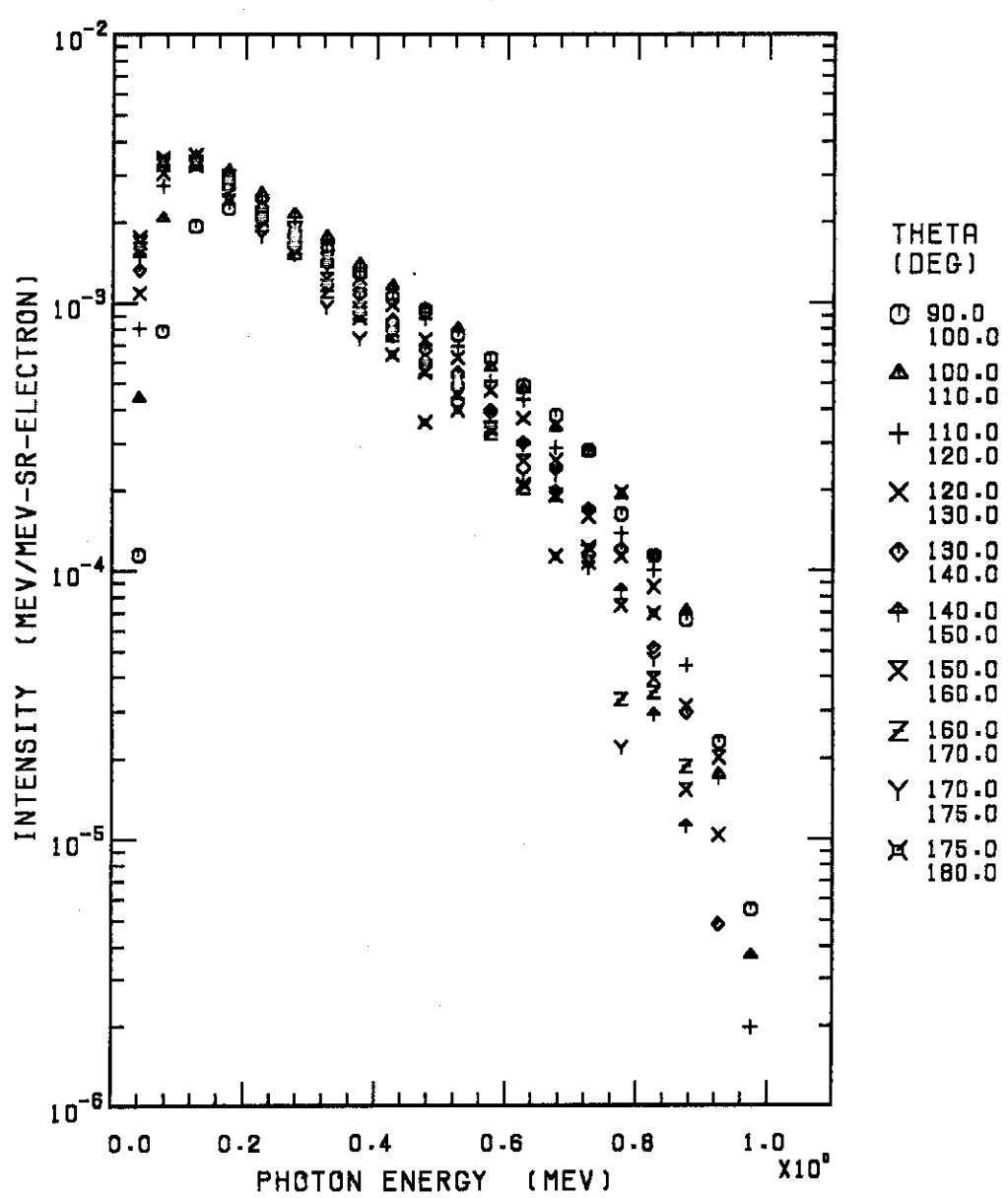
Fig. 34 Z=42 T<sub>0</sub> = 1.0 MeV

Table 34 Z=42  $T_0 = 1.0 \text{ MeV}$ 

K (MeV)	THETA= 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000
(MeV/SR/ELEC)	8.32E-04	1.07E-03	1.03E-03	1.07E-03	9.91E-04	9.69E-04	9.24E-04	9.01E-04	8.86E-04	8.89E-04
1.00 -	0.9500	5.61E-06	3.79E-06	2.02E-06	0.0	0.0	0.0	0.0	0.0	0.0
0.95 -	0.9000	2.49E-05	1.89E-05	1.12E-05	5.21E-06	0.0	2.18E-05	0.0	0.0	0.0
0.90 -	0.8500	7.52E-05	8.12E-05	5.05E-05	3.59E-05	3.38E-05	1.28E-05	1.74E-05	2.13E-05	0.0
0.85 -	0.8000	1.38E-04	1.37E-04	1.21E-04	1.05E-04	6.23E-05	3.53E-05	4.79E-05	4.27E-05	8.43E-05
0.80 -	0.7500	2.09E-04	2.46E-04	1.77E-04	1.45E-04	1.56E-04	1.09E-04	9.56E-05	4.26E-05	2.82E-05
0.75 -	0.7000	3.88E-04	3.83E-04	2.29E-04	2.19E-04	2.33E-04	2.34E-04	1.48E-04	1.63E-04	1.41E-04
0.70 -	0.6500	5.63E-04	5.08E-04	4.28E-04	3.83E-04	2.93E-04	3.55E-04	2.82E-04	2.84E-04	3.38E-04
0.65 -	0.6000	7.84E-04	7.60E-04	6.96E-04	5.93E-04	4.81E-04	4.73E-04	4.12E-04	3.26E-04	3.65E-04
0.60 -	0.5500	1.08E-03	1.00E-03	8.81E-04	8.17E-04	6.91E-04	6.77E-04	5.94E-04	5.66E-04	6.46E-04
0.55 -	0.5000	1.45E-03	1.53E-03	1.31E-03	1.19E-03	1.04E-03	9.47E-04	8.62E-04	8.78E-04	9.54E-04
0.50 -	0.4500	1.98E-03	1.99E-03	1.83E-03	1.54E-03	1.40E-03	1.28E-03	1.16E-03	1.19E-03	1.20E-03
0.45 -	0.4000	2.46E-03	2.72E-03	2.43E-03	2.32E-03	2.03E-03	2.00E-03	1.85E-03	1.79E-03	1.77E-03
0.40 -	0.3500	3.44E-03	3.71E-03	3.50E-03	3.27E-03	2.86E-03	2.97E-03	2.55E-03	2.44E-03	2.34E-03
0.35 -	0.3000	4.85E-03	5.43E-03	5.13E-03	4.67E-03	4.33E-03	4.19E-03	3.79E-03	3.39E-03	3.59E-03
0.30 -	0.2500	6.58E-03	7.77E-03	7.23E-03	6.76E-03	6.37E-03	6.10E-03	5.79E-03	5.58E-03	5.74E-03
0.25 -	0.2000	9.20E-03	1.14E-02	1.12E-02	1.04E-02	1.01E-02	9.54E-03	9.04E-03	8.68E-03	7.87E-03
0.20 -	0.1500	1.29E-02	1.78E-02	1.79E-02	1.71E-02	1.65E-02	1.60E-02	1.51E-02	1.48E-02	1.38E-02
0.15 -	0.1000	1.55E-02	2.64E-02	2.82E-02	2.87E-02	2.78E-02	2.73E-02	2.60E-02	2.64E-02	2.70E-02
0.10 -	0.0500	1.05E-02	2.76E-02	3.65E-02	4.08E-02	4.33E-02	4.36E-02	4.51E-02	4.64E-02	4.38E-02
0.05 -	0.0300	2.86E-03	1.10E-02	2.01E-02	2.72E-02	3.31E-02	3.73E-02	3.97E-02	4.21E-02	4.39E-02

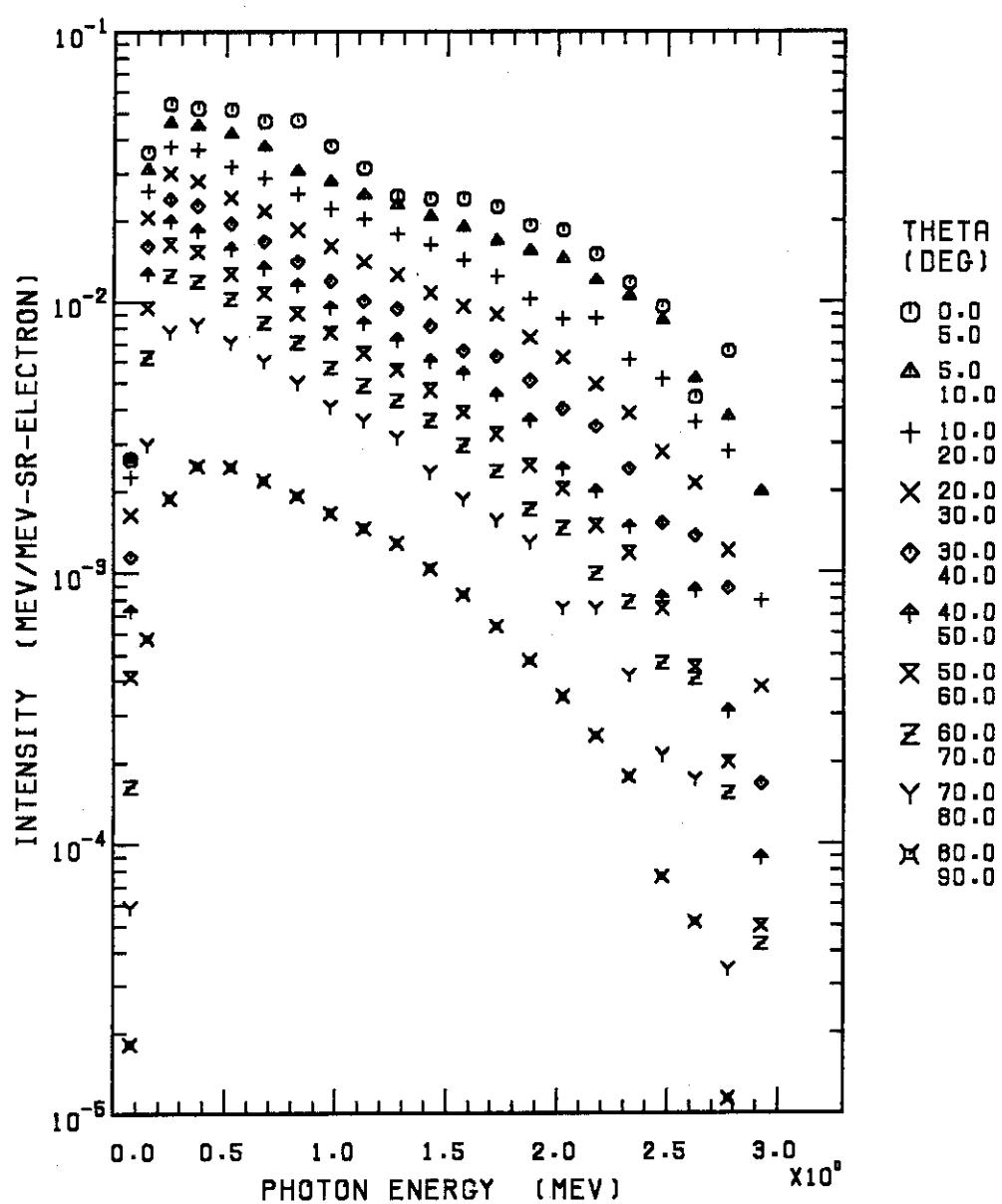
Fig. 35  $Z=42$   $T_0 = 3.0$  MeV

Table 35 Z=42 T<sub>0</sub> = 3.0 MeV

K (MeV)	THETA=	0.0		5.000		10.000		20.000		30.000		40.000		50.000		60.000		70.000		80.000	
		5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	80.000	90.000	80.000	90.000	80.000	90.000	80.000	90.000	80.000	90.000
3.00	-	2.8500	0.0	6.75E-04	2.69E-04	1.30E-04	5.69E-05	3.03E-05	1.70E-05	1.45E-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.85	-	2.7000	2.36E-03	1.35E-03	1.01E-03	4.33E-04	3.16E-04	1.11E-04	7.24E-05	5.55E-05	1.23E-05	4.11E-06									
2.70	-	2.5500	1.68E-03	1.97E-03	1.36E-03	8.12E-04	5.19E-04	1.71E-04	3.29E-04	1.71E-04	1.55E-04										
2.55	-	2.4000	3.87E-03	3.43E-03	2.08E-03	1.12E-03	6.13E-04	3.29E-04	2.98E-04	1.87E-04	8.57E-05	3.05E-05									
2.40	-	2.2500	5.04E-03	4.49E-03	2.62E-03	1.66E-03	1.03E-03	1.03E-03	6.32E-04	5.07E-04	3.35E-04	1.80E-04	7.62E-05								
2.25	-	2.1000	6.87E-03	5.50E-03	3.98E-03	2.26E-03	1.58E-03	9.13E-04	6.81E-04	4.56E-04	3.40E-04	1.15E-04									
2.10	-	1.9500	9.05E-03	7.11E-03	4.25E-03	3.06E-03	1.98E-03	1.19E-03	1.00E-03	7.16E-04	3.66E-04	1.72E-04									
1.95	-	1.8000	1.02E-02	8.21E-03	5.45E-03	3.91E-03	2.71E-03	1.93E-03	1.32E-03	9.08E-04	6.88E-04	2.53E-04									
1.80	-	1.6500	1.30E-02	9.68E-03	7.19E-03	5.17E-03	3.62E-03	2.61E-03	1.87E-03	1.37E-03	8.97E-04	3.67E-04									
1.65	-	1.5000	1.53E-02	1.19E-02	9.04E-03	6.09E-03	4.16E-03	3.44E-03	2.47E-03	1.87E-03	1.18E-03	5.27E-04									
1.50	-	1.3500	1.69E-02	1.45E-02	1.14E-02	7.55E-03	5.69E-03	4.22E-03	3.28E-03	2.54E-03	1.64E-03	7.25E-04									
1.35	-	1.2000	1.93E-02	1.79E-02	1.39E-02	9.86E-03	7.37E-03	5.66E-03	4.37E-03	3.38E-03	2.46E-03	1.01E-03									
1.20	-	1.0500	2.78E-02	2.21E-02	1.79E-02	1.25E-02	8.93E-03	7.39E-03	5.73E-03	4.34E-03	3.22E-03	1.29E-03									
1.05	-	0.9000	3.88E-02	2.86E-02	2.27E-02	1.64E-02	1.22E-02	9.75E-03	7.85E-03	5.82E-03	4.18E-03	1.69E-03									
0.90	-	0.7500	5.71E-02	3.69E-02	3.04E-02	2.23E-02	1.71E-02	1.40E-02	1.10E-02	8.57E-03	6.05E-03	2.32E-03									
0.75	-	0.6000	6.93E-02	5.57E-02	4.25E-02	3.21E-02	2.47E-02	1.98E-02	1.59E-02	1.24E-02	8.88E-03	3.23E-03									
0.60	-	0.4500	9.83E-02	8.00E-02	6.05E-02	4.63E-02	3.69E-02	2.98E-02	2.41E-02	1.95E-02	1.35E-02	4.66E-03									
0.45	-	0.3000	1.39E-01	1.20E-01	9.79E-02	7.48E-02	6.05E-02	4.87E-02	4.07E-02	3.17E-02	2.19E-02	6.60E-03									
0.30	-	0.2000	2.16E-01	1.85E-01	1.50E-01	1.20E-01	9.60E-02	7.93E-02	6.51E-02	5.00E-02	3.08E-02	7.52E-03									
0.20	-	0.1000	2.39E-01	2.07E-01	1.72E-01	1.37E-01	1.07E-01	8.45E-02	6.33E-02	4.15E-02	1.98E-02	3.81E-03									
0.10	-	0.0500	3.49E-02	3.53E-02	3.00E-02	2.17E-02	1.52E-02	9.69E-03	5.51E-03	2.17E-03	7.79E-04	2.43E-04									
	(MEV/SR/ELEC)		7.58E-02	6.13E-02	4.69E-02	3.39E-02	2.55E-02	1.99E-02	1.57E-02	1.19E-02	8.01E-03	2.83E-03									

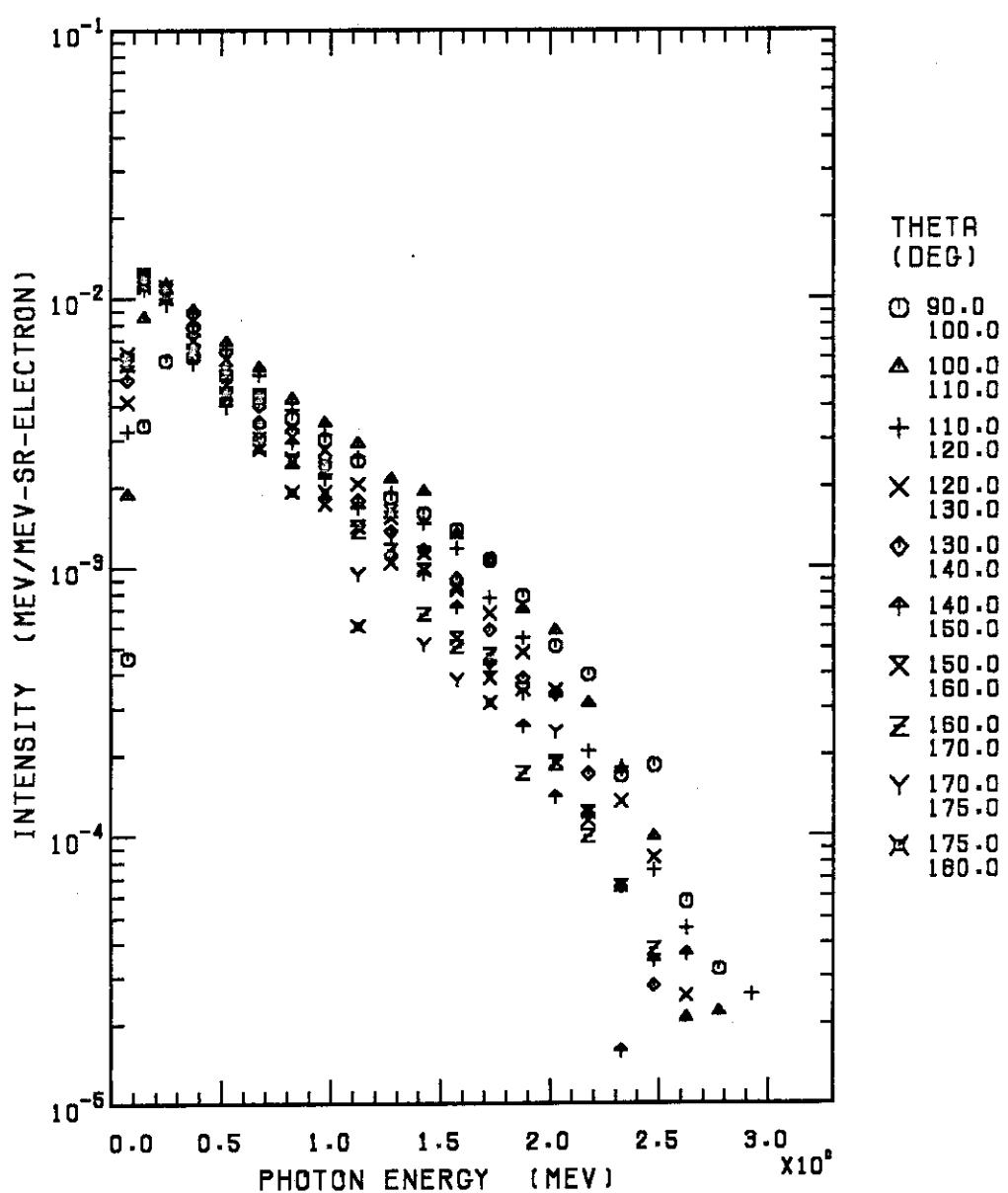
Fig. 36  $Z=42$   $T_0 = 3.0$  MeV

Table 36 Z=42 T<sub>0</sub> = 3.0 MeV

K (MeV)	THETA= 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000
	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000	180.000
3.00	-	2.8500	0.0	0.0	8.77E-06	0.0	0.0	0.0	0.0	0.0
2.85	-	2.7000	1.15E-05	7.97E-06	0.0	0.0	0.0	0.0	0.0	0.0
2.70	-	2.5500	2.17E-05	7.98E-06	1.73E-05	9.69E-06	0.0	1.38E-05	0.0	0.0
2.55	-	2.4000	7.39E-05	4.01E-05	3.02E-05	3.36E-05	1.12E-05	1.38E-05	1.53E-05	0.0
2.40	-	2.2500	7.21E-05	7.59E-05	7.72E-05	5.76E-05	2.78E-05	6.83E-06	2.80E-05	0.0
2.25	-	2.1000	1.83E-04	1.43E-04	9.47E-05	5.23E-05	7.80E-05	5.50E-05	5.63E-05	4.58E-05
2.10	-	1.9500	2.50E-04	2.86E-04	1.66E-04	1.72E-04	1.67E-04	6.87E-05	9.29E-05	9.14E-05
1.95	-	1.8000	4.16E-04	3.72E-04	2.90E-04	2.56E-04	2.05E-04	1.37E-04	1.86E-04	9.12E-05
1.80	-	1.6500	6.16E-04	6.17E-04	4.46E-04	3.90E-04	3.38E-04	2.53E-04	2.73E-04	2.42E-04
1.65	-	1.5000	8.71E-04	8.40E-04	7.44E-04	5.26E-04	5.75E-04	4.50E-04	3.44E-04	3.19E-04
1.50	-	1.3500	1.11E-03	1.34E-03	1.02E-03	7.89E-04	8.11E-04	6.63E-04	6.86E-04	4.69E-04
1.35	-	1.2000	1.42E-03	1.67E-03	1.48E-03	1.20E-03	1.06E-03	8.71E-04	8.15E-04	9.05E-04
1.20	-	1.0500	2.21E-03	2.58E-03	2.27E-03	1.82E-03	1.57E-03	1.48E-03	1.21E-03	8.39E-04
1.05	-	0.9000	3.07E-03	3.56E-03	3.19E-03	2.81E-03	2.44E-03	2.21E-03	1.76E-03	2.40E-03
0.90	-	0.7500	4.36E-03	5.14E-03	4.70E-03	4.10E-03	3.93E-03	3.55E-03	3.03E-03	3.01E-03
0.75	-	0.6000	6.52E-03	8.18E-03	7.67E-03	6.48E-03	5.96E-03	5.19E-03	4.81E-03	4.22E-03
0.60	-	0.4500	9.78E-03	1.31E-02	1.23E-02	1.14E-02	1.03E-02	9.92E-03	9.09E-03	8.48E-03
0.45	-	0.3000	1.62E-02	2.41E-02	2.41E-02	2.23E-02	2.08E-02	1.93E-02	1.87E-02	1.71E-02
0.30	-	0.2000	2.36E-02	4.36E-02	4.52E-02	4.44E-02	4.47E-02	4.19E-02	4.04E-02	4.02E-02
0.20	-	0.1000	2.26E-02	5.66E-02	7.23E-02	8.04E-02	8.13E-02	8.16E-02	8.13E-02	7.35E-02
0.10	-	0.0500	6.12E-03	2.49E-02	4.31E-02	5.51E-02	6.63E-02	7.24E-02	7.60E-02	7.96E-02
	(MEV/SR/ELEC)	5.82E-03	8.03E-03	7.84E-03	7.22E-03	6.92E-03	6.41E-03	6.06E-03	5.86E-03	5.61E-03
										5.46E-03

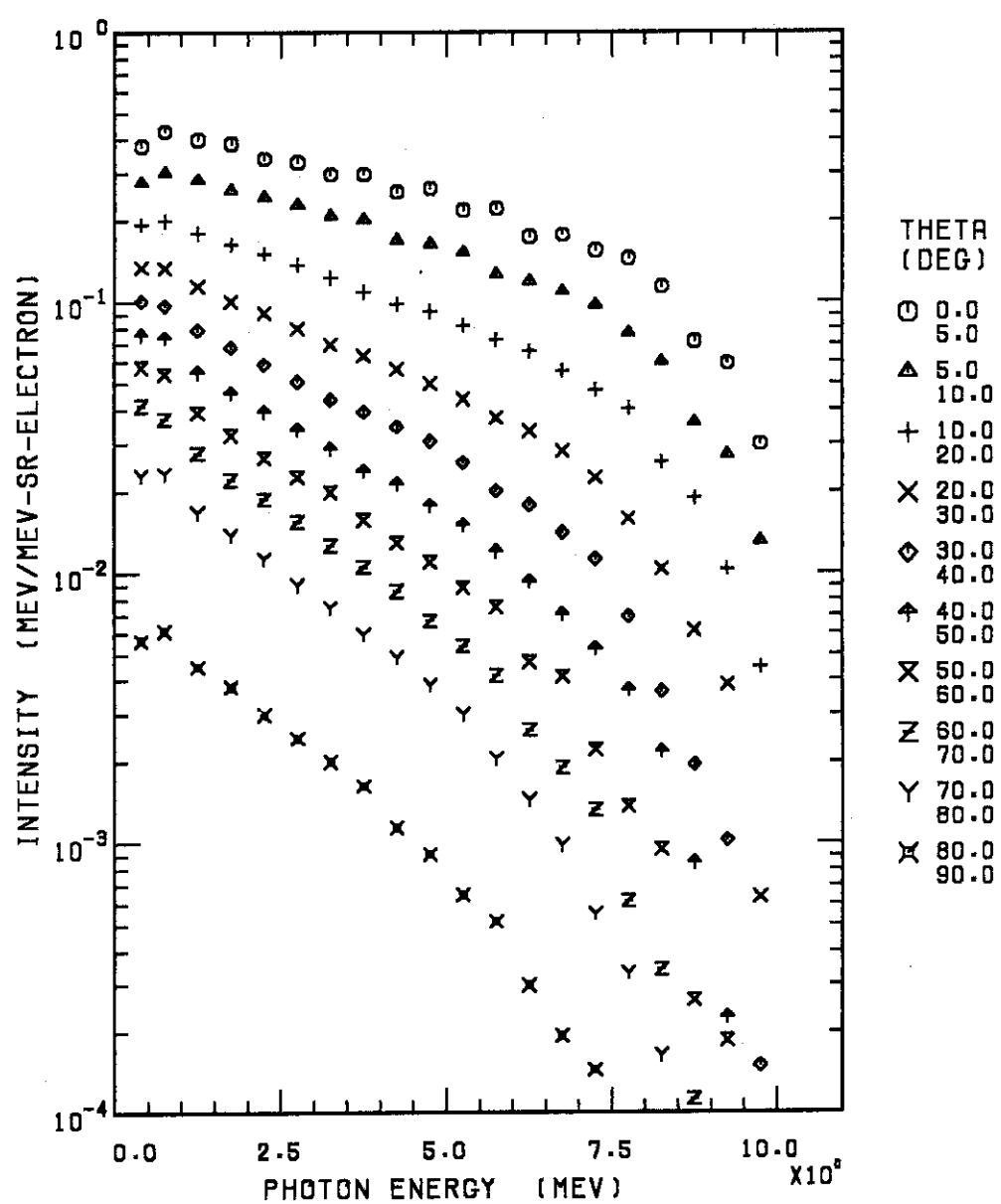
Fig. 37     $Z=42$      $T_0=10.0$  MeV

Table 37 Z=42 T<sub>0</sub>=10.0 MeV

K (MEV)	THETA=	0.0	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000
		5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000
10.00	-	9.5000	3.06E-03	1.34E-03	4.58E-04	6.50E-05	1.55E-05	4.84E-06	2.00E-06	0.0	1.04E-06
9.50	-	9.0000	6.40E-03	2.94E-03	1.12E-03	4.16E-04	1.10E-04	2.46E-05	2.01E-05	3.21E-06	1.09E-06
9.00	-	8.5000	8.15E-03	4.10E-03	2.16E-03	6.98E-04	2.23E-04	9.67E-05	3.01E-05	1.29E-05	1.06E-05
8.50	-	8.0000	1.37E-02	7.27E-03	3.10E-03	1.25E-03	4.39E-04	2.63E-04	1.14E-04	4.13E-05	1.99E-05
8.00	-	7.5000	1.86E-02	9.87E-03	5.22E-03	2.04E-03	8.91E-04	4.75E-04	1.76E-04	7.91E-05	4.27E-05
7.50	-	7.0000	2.12E-02	1.34E-02	6.52E-03	3.09E-03	1.55E-03	7.23E-04	3.04E-04	1.83E-04	7.59E-05
7.00	-	6.5000	2.61E-02	1.61E-02	8.24E-03	4.16E-03	2.08E-03	1.04E-03	6.09E-04	2.82E-04	1.46E-04
6.50	-	6.0000	2.77E-02	1.89E-02	1.05E-02	5.35E-03	1.49E-03	7.44E-04	4.17E-04	2.31E-04	4.77E-05
6.00	-	5.5000	3.83E-02	2.19E-02	1.26E-02	6.49E-03	3.49E-03	2.09E-03	1.30E-03	7.22E-04	3.56E-04
5.50	-	5.0000	4.15E-02	2.89E-02	1.56E-02	8.33E-03	4.87E-03	2.85E-03	1.68E-03	1.02E-03	5.70E-04
5.00	-	4.5000	5.52E-02	3.42E-02	1.94E-02	1.05E-02	6.44E-03	3.73E-03	2.31E-03	1.40E-03	8.07E-04
4.50	-	4.0000	6.00E-02	3.97E-02	2.30E-02	1.33E-02	8.14E-03	5.02E-03	3.03E-03	2.01E-03	1.14E-03
4.00	-	3.5000	7.90E-02	5.35E-02	2.89E-02	1.69E-02	1.05E-02	6.36E-03	4.17E-03	2.81E-03	1.58E-03
3.50	-	3.0000	9.11E-02	6.39E-02	3.77E-02	2.14E-02	1.34E-02	8.85E-03	6.10E-03	3.88E-03	2.30E-03
3.00	-	2.5000	1.20E-01	8.30E-02	4.97E-02	2.90E-02	1.85E-02	1.23E-02	8.21E-03	5.61E-03	3.29E-03
2.50	-	2.0000	1.51E-01	1.09E-01	6.68E-02	4.05E-02	2.61E-02	1.75E-02	1.18E-02	8.32E-03	5.01E-03
2.00	-	1.5000	2.21E-01	1.48E-01	9.28E-02	5.73E-02	3.89E-02	2.65E-02	1.84E-02	1.26E-02	7.89E-03
1.50	-	1.0000	3.20E-01	2.26E-01	1.43E-01	9.13E-02	6.31E-02	4.41E-02	3.13E-02	2.21E-02	1.34E-02
1.00	-	0.5000	5.73E-01	4.02E-01	2.66E-01	1.78E-01	1.29E-01	9.85E-02	7.24E-02	4.95E-02	3.10E-02
0.50	-	0.3000	9.48E-01	6.93E-01	3.35E-01	2.52E-01	1.89E-01	1.44E-01	1.04E-01	5.73E-02	1.40E-02
	(MEV/SR/ELEC)		2.23E+00	1.48E+00	8.65E-01	5.00E-01	3.18E-01	2.09E-01	1.41E-01	9.44E-02	5.57E-02

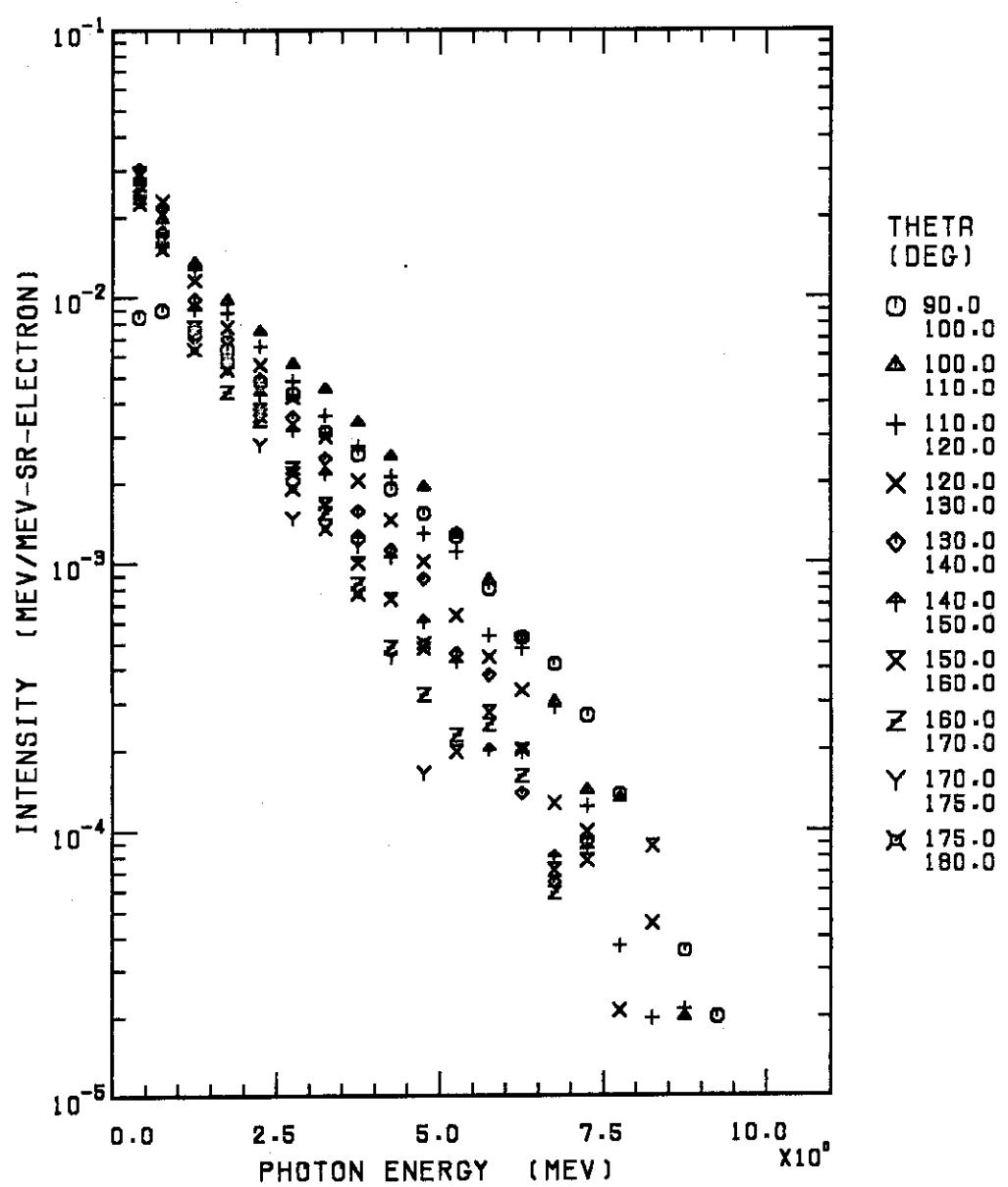
Fig. 38  $Z=42 \quad T_0=10.0 \text{ MeV}$

Table 38 Z=42 T<sub>0</sub>=10.0 MeV

K (MEV)	THETA= 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000
	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000	180.000
10.00 -	9.5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9.50 -	9.0000	2.16E-06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9.00 -	8.5000	4.06E-06	2.28E-06	2.44E-06	0.0	0.0	0.0	0.0	0.0	0.0
8.50 -	8.0000	0.0	0.0	2.39E-06	5.46E-06	0.0	0.0	1.06E-05	0.0	0.0
8.00 -	7.5000	1.77E-05	1.70E-05	4.77E-06	2.72E-06	0.0	0.0	0.0	0.0	0.0
7.50 -	7.0000	3.71E-05	1.95E-05	1.70E-05	1.37E-05	1.25E-05	1.18E-05	1.07E-05	0.0	0.0
7.00 -	6.5000	6.16E-05	4.47E-05	4.29E-05	1.88E-05	9.55E-06	1.18E-05	1.06E-05	8.69E-06	0.0
6.50 -	6.0000	8.41E-05	8.41E-05	7.66E-05	5.33E-05	2.22E-05	3.14E-05	3.21E-05	2.57E-05	0.0
6.00 -	5.5000	1.39E-04	1.50E-04	9.29E-05	7.71E-05	6.59E-05	3.48E-05	4.81E-05	4.33E-05	0.0
5.50 -	5.0000	2.40E-04	2.44E-04	2.09E-04	1.21E-04	8.70E-05	8.09E-05	3.75E-05	4.33E-05	0.0
5.00 -	4.5000	3.22E-04	4.05E-04	2.71E-04	2.13E-04	1.83E-04	1.27E-04	1.00E-04	6.76E-05	3.46E-05
4.50 -	4.0000	4.45E-04	5.93E-04	3.40E-04	2.63E-04	2.46E-04	2.72E-04	1.13E-04	1.04E-04	0.0
4.00 -	3.5000	6.83E-04	9.00E-04	7.33E-04	5.43E-04	4.15E-04	3.34E-04	2.66E-04	2.23E-04	3.08E-04
3.50 -	3.0000	9.56E-04	1.39E-03	1.10E-03	9.21E-04	7.61E-04	6.68E-04	5.13E-04	4.71E-04	5.07E-04
3.00 -	2.5000	1.57E-03	2.03E-03	1.76E-03	1.52E-03	1.28E-03	1.15E-03	7.90E-04	8.30E-04	5.33E-04
2.50 -	2.0000	2.14E-03	3.31E-03	2.91E-03	2.47E-03	2.19E-03	1.92E-03	1.68E-03	1.54E-03	1.24E-03
2.00 -	1.5000	3.64E-03	5.55E-03	4.99E-03	4.41E-03	4.00E-03	3.35E-03	3.30E-03	2.52E-03	3.13E-03
1.50 -	1.0000	5.89E-03	1.08E-02	1.02E-02	9.24E-03	7.84E-03	7.22E-03	6.20E-03	5.92E-03	5.37E-03
1.00 -	0.5000	1.19E-02	2.63E-02	2.93E-02	3.05E-02	2.87E-02	2.34E-02	2.18E-02	2.26E-02	2.17E-02
0.50 -	0.3000	2.11E-02	5.79E-02	7.04E-02	7.33E-02	7.57E-02	6.94E-02	6.63E-02	6.34E-02	5.62E-02
(MEV/SR/ELEC)	2.34E-02	3.93E-02	3.78E-02	3.13E-02	2.72E-02	2.43E-02	2.27E-02	2.16E-02	2.11E-02	2.11E-02

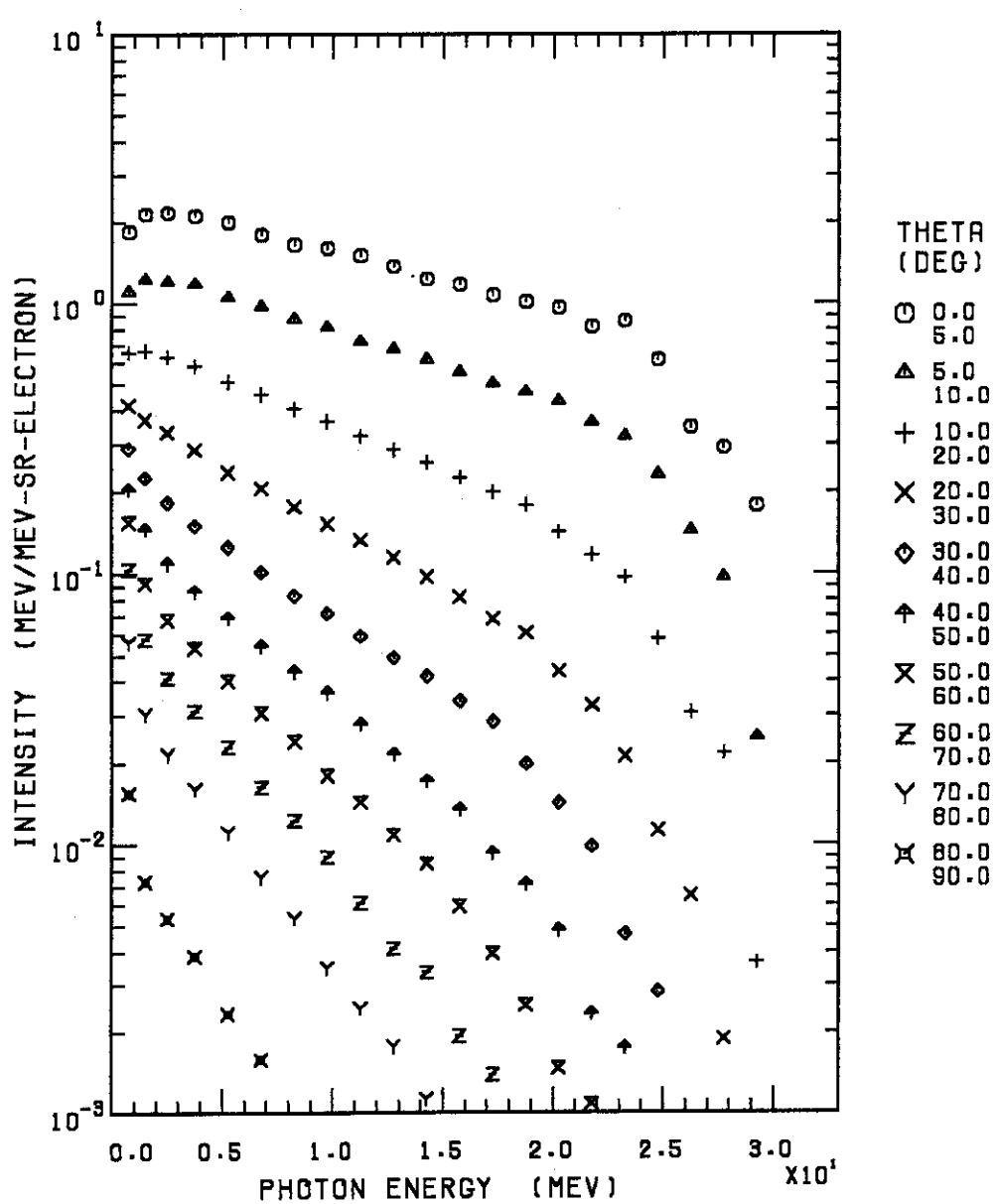
Fig. 39  $Z=42 \quad T_0=30.0 \text{ MeV}$

Table 39 Z=42 T<sub>0</sub>=30.0 MeV

K (MEV)	THETA= 0.0	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000
		5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000
30.00	- 28.5000	6.06E-03	8.53E-04	1.125E-04	7.92E-06	0.0	1.22E-06	0.0	3.71E-07	0.0
28.50	- 27.0000	1.05E-02	3.49E-03	7.85E-04	6.82E-05	2.41E-05	1.28E-06	1.10E-06	0.0	0.0
27.00	- 25.5000	1.32E-02	5.47E-03	1.17E-03	2.47E-04	3.56E-05	1.01E-05	3.24E-06	0.0	8.26E-07
25.50	- 24.0000	2.49E-02	9.36E-03	2.33E-03	4.55E-04	1.15E-04	2.29E-05	7.86E-06	4.96E-06	0.0
24.00	- 22.5000	3.69E-02	1.38E-02	4.17E-03	9.14E-04	2.01E-04	7.55E-05	2.36E-05	4.41E-06	1.30E-06
22.50	- 21.0000	3.76E-02	1.66E-02	5.39E-03	1.50E-03	4.53E-04	1.08E-04	4.98E-05	1.59E-05	3.45E-06
21.00	- 19.5000	4.74E-02	2.13E-02	7.01E-03	2.15E-03	7.03E-04	2.38E-04	7.25E-05	2.88E-05	4.54E-06
19.50	- 18.0000	5.39E-02	2.49E-02	9.50E-03	3.23E-03	1.06E-03	3.80E-04	1.35E-04	4.57E-05	7.98E-06
18.00	- 16.5000	6.19E-02	2.92E-02	1.15E-02	3.95E-03	1.65E-03	5.40E-04	2.29E-04	8.05E-05	2.31E-05
16.50	- 15.0000	7.44E-02	3.53E-02	1.43E-02	5.19E-03	2.15E-03	8.57E-04	3.75E-04	1.23E-04	3.92E-05
15.00	- 13.5000	8.62E-02	4.35E-02	1.80E-02	6.83E-03	2.93E-03	1.21E-03	5.96E-04	2.34E-04	7.93E-05
13.50	- 12.0000	1.08E-01	5.30E-02	2.24E-02	9.00E-03	3.84E-03	1.70E-03	8.49E-04	3.23E-04	1.39E-04
12.00	- 10.5000	1.34E-01	6.40E-02	2.86E-02	1.18E-02	5.22E-03	2.47E-03	1.27E-03	5.39E-04	2.18E-04
10.50	- 9.0000	1.64E-01	8.33E-02	3.74E-02	1.56E-02	7.34E-03	3.71E-03	1.84E-03	9.20E-04	3.55E-04
9.00	- 7.5000	2.00E-01	1.06E-01	4.92E-02	2.13E-02	1.00E-02	5.28E-03	2.91E-03	1.48E-03	6.44E-04
7.50	- 6.0000	2.66E-01	1.44E-01	6.80E-02	3.05E-02	1.51E-02	8.01E-03	4.53E-03	2.41E-03	1.12E-03
6.00	- 4.5000	3.81E-01	2.01E-01	9.74E-02	4.50E-02	2.38E-02	1.31E-02	7.64E-03	4.37E-03	2.11E-03
4.50	- 3.0000	5.63E-01	3.14E-01	1.56E-01	7.64E-02	4.00E-02	2.29E-02	1.42E-02	8.29E-03	4.27E-03
3.00	- 2.0000	8.67E-01	4.82E-01	2.53E-01	1.33E-01	7.30E-02	4.37E-02	2.71E-02	1.64E-02	8.61E-03
2.00	- 1.0000	1.43E+00	8.18E-01	4.45E-01	2.46E-01	1.51E-01	9.71E-02	6.14E-02	3.82E-02	4.86E-03
1.00	- 0.5000	2.46E+00	1.48E+00	8.77E-01	5.56E-01	3.85E-01	2.72E-01	2.06E-01	1.38E-01	7.44E-02
	(MEV/SR/ELEC)	3.58E+01	1.79E+01	7.93E+00	3.45E+00	1.71E+00	9.25E-01	5.42E-01	3.04E-01	1.48E-01

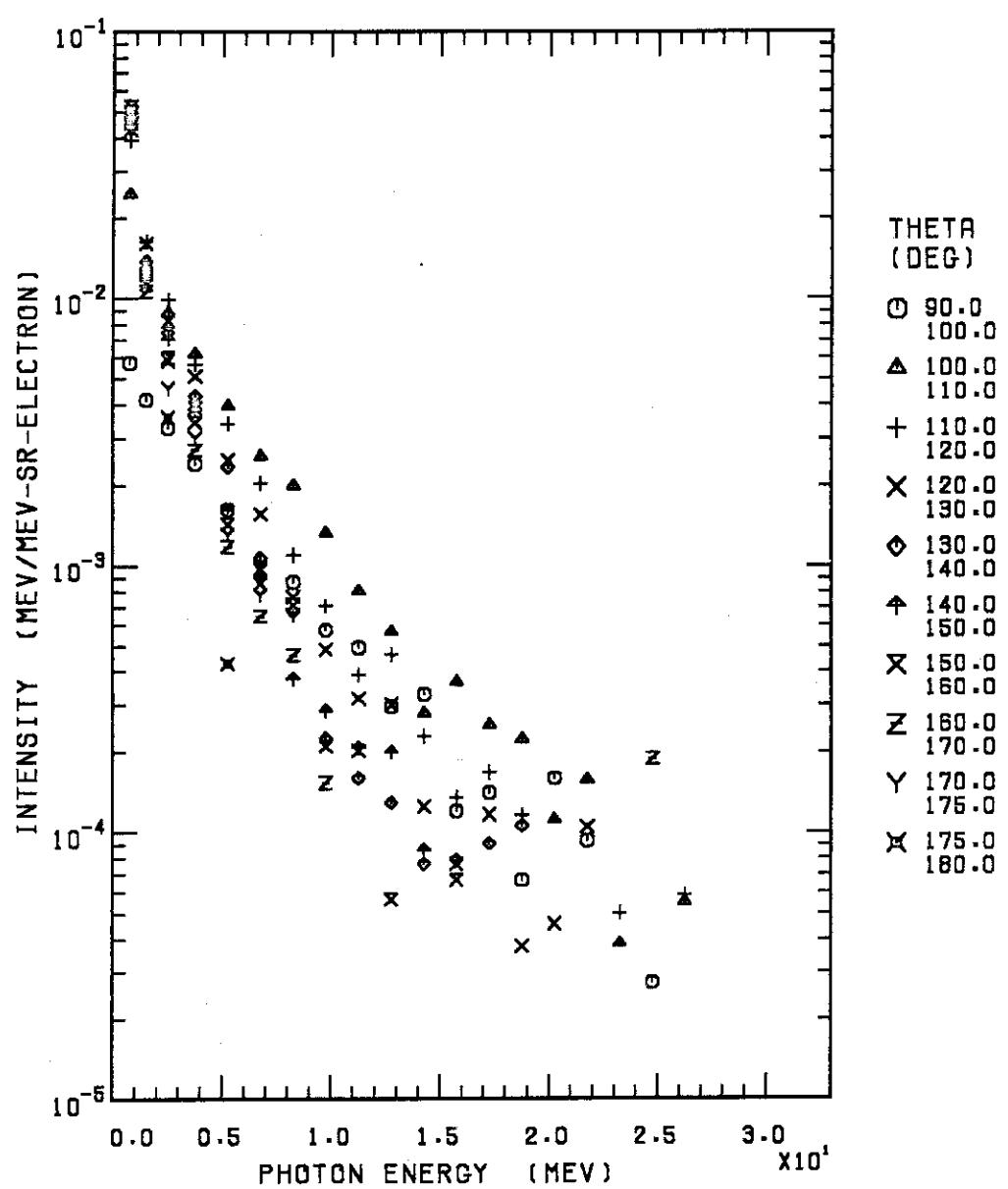
Fig. 40  $Z=42 \quad T_0 = 30.0 \text{ MeV}$

Table 40 Z=42 T<sub>0</sub>=30.0 MeV

K (MEV)	THETA= 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000
	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000	180.000
30.00	- 28.5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.50	- 27.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.00	- 25.5000	5.78E-08	2.09E-06	2.22E-06	0.0	0.0	0.0	0.0	0.0	0.0
25.50	- 24.0000	1.11E-06	0.0	2.15E-06	0.0	0.0	0.0	0.0	7.62E-06	0.0
24.00	- 22.5000	0.0	1.65E-06	7.24E-06	0.0	4.82E-06	0.0	0.0	0.0	0.0
22.50	- 21.0000	4.27E-06	7.88E-06	5.50E-06	0.0	2.26E-06	0.0	0.0	0.0	0.0
21.00	- 19.5000	7.88E-06	1.19E-05	6.17E-06	2.00E-06	5.65E-06	0.0	0.0	0.0	0.0
19.50	- 18.0000	3.54E-06	8.14E-06	1.46E-05	9.71E-06	6.74E-06	5.26E-06	0.0	0.0	0.0
18.00	- 16.5000	8.14E-06	7.61E-06	2.32E-05	8.60E-06	4.83E-06	5.01E-06	0.0	4.23E-06	0.0
16.50	- 15.0000	2.30E-05	1.95E-05	1.60E-05	8.72E-06	5.35E-06	6.02E-06	0.0	0.0	0.0
15.00	- 13.5000	2.31E-05	4.44E-05	3.63E-05	2.36E-05	1.01E-05	1.57E-05	4.40E-06	0.0	0.0
13.50	- 12.0000	4.37E-05	7.13E-05	3.45E-05	2.81E-05	1.42E-05	1.84E-05	1.79E-05	0.0	0.0
12.00	- 10.5000	5.87E-05	1.36E-04	7.25E-05	4.97E-05	2.30E-05	2.91E-05	2.15E-05	1.57E-05	0.0
10.50	- 9.0000	1.05E-04	2.42E-04	1.33E-04	9.27E-05	8.18E-05	4.54E-05	8.64E-05	5.59E-05	7.91E-05
9.00	- 7.5000	1.55E-04	3.83E-04	3.02E-04	2.31E-04	1.59E-04	1.38E-04	1.27E-04	9.56E-05	1.15E-04
7.50	- 6.0000	3.10E-04	7.55E-04	6.51E-04	4.75E-04	4.47E-04	3.08E-04	2.72E-04	2.25E-04	2.49E-04
6.00	- 4.5000	6.44E-04	1.65E-03	1.51E-03	1.37E-03	1.15E-03	1.03E-03	9.18E-04	7.25E-04	8.17E-05
4.50	- 3.0000	2.0000	1.32E-03	3.54E-03	3.93E-03	3.30E-03	2.99E-03	2.82E-03	2.34E-03	1.04E-03
3.00	- 1.0000	2.79E-03	8.80E-03	1.08E-02	1.06E-02	9.18E-03	8.37E-03	7.56E-03	7.08E-03	1.44E-03
2.00	- 0.5000	7.66E-03	3.28E-02	5.23E-02	5.72E-02	6.28E-02	5.97E-02	7.00E-02	6.10E-02	6.59E-02
1.00	- 0.0000	5.97E-02	6.26E-02	5.77E-02	5.29E-02	4.77E-02	4.72E-02	4.19E-02	4.32E-02	4.03E-02
(MEV/SR/ELEC)										

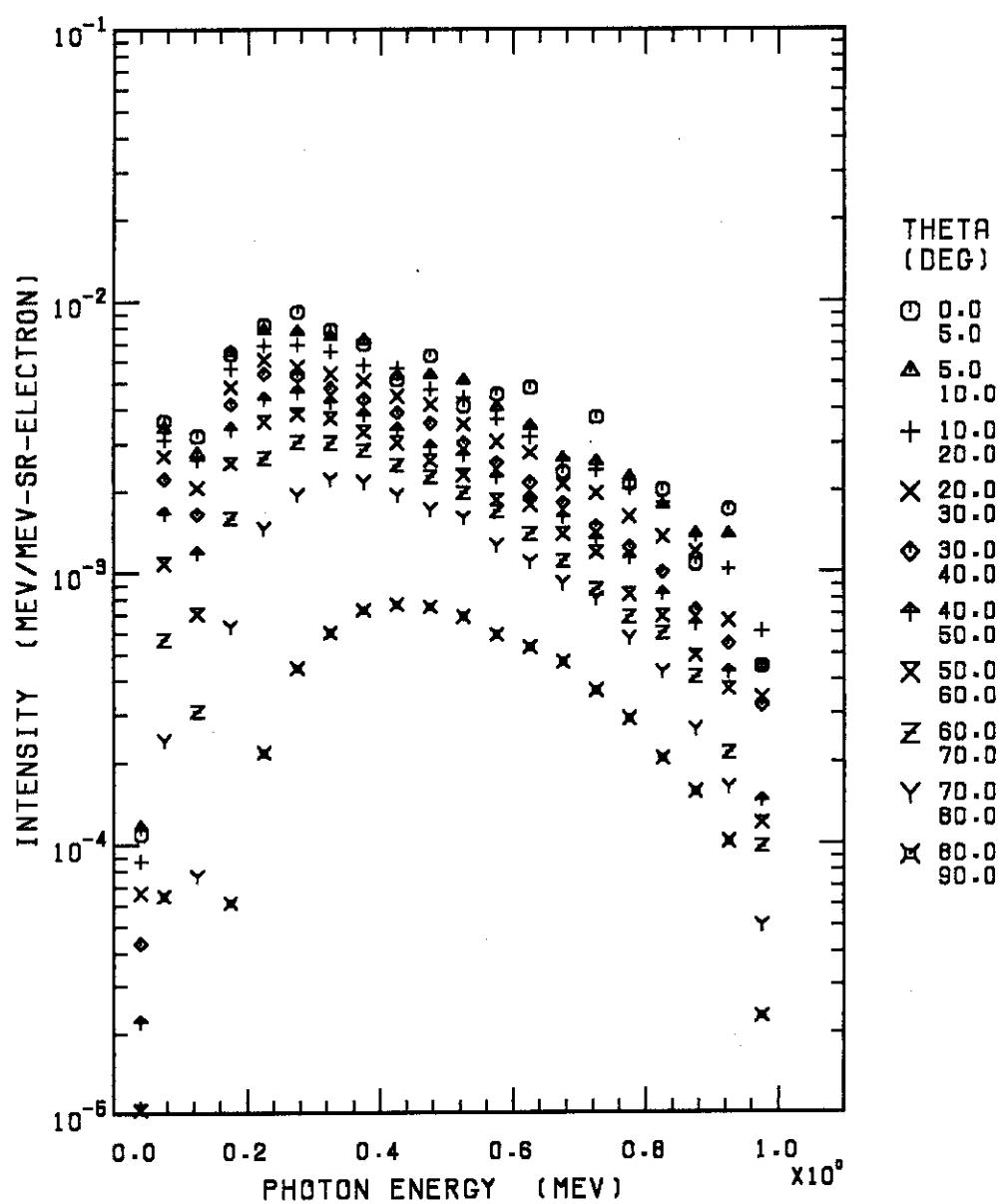
Fig. 41     $Z=74$      $T_0 = 1.0$  MeV

Table 41 Z=74 T<sub>0</sub> = 1.0 MeV

K (MEV)	THETA=	0.0	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000
		5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000
1.00	-	0.9500	4.59E-04	4.60E-04	6.19E-04	3.54E-04	3.29E-04	1.48E-04	1.22E-04	1.00E-04	5.14E-05
0.95	-	0.9000	1.83E-03	1.48E-03	1.11E-03	7.15E-04	5.88E-04	4.63E-04	4.01E-04	2.34E-04	1.74E-04
0.90	-	0.8500	1.22E-03	1.58E-03	1.56E-03	1.36E-03	8.27E-04	7.34E-04	5.60E-04	4.69E-04	3.01E-04
0.85	-	0.8000	2.43E-03	2.14E-03	2.19E-03	1.64E-03	1.21E-03	1.01E-03	8.32E-04	7.24E-04	5.19E-04
0.80	-	0.7500	2.73E-03	2.89E-03	2.63E-03	2.06E-03	1.59E-03	1.46E-03	1.07E-03	8.82E-04	7.38E-04
0.75	-	0.7000	5.14E-03	3.54E-03	3.27E-03	2.70E-03	2.03E-03	1.83E-03	1.63E-03	1.19E-03	1.10E-03
0.70	-	0.6500	3.47E-03	3.92E-03	3.90E-03	3.13E-03	2.66E-03	2.36E-03	2.04E-03	1.63E-03	1.35E-03
0.65	-	0.6000	7.66E-03	5.55E-03	5.05E-03	4.43E-03	3.42E-03	3.00E-03	2.83E-03	2.21E-03	1.74E-03
0.60	-	0.5500	7.89E-03	7.06E-03	6.40E-03	5.28E-03	4.42E-03	3.92E-03	3.21E-03	2.91E-03	2.18E-03
0.55	-	0.5000	7.82E-03	9.71E-03	8.40E-03	6.70E-03	5.73E-03	5.18E-03	4.35E-03	3.75E-03	3.02E-03
0.50	-	0.4500	1.33E-02	1.12E-02	9.96E-03	8.76E-03	7.47E-03	6.15E-03	5.45E-03	4.74E-03	3.57E-03
0.45	-	0.4000	1.21E-02	1.25E-02	1.33E-02	1.05E-02	9.14E-03	7.91E-03	7.09E-03	5.85E-03	4.53E-03
0.40	-	0.3500	1.86E-02	1.92E-02	1.55E-02	1.36E-02	1.16E-02	1.02E-02	8.80E-03	7.56E-03	5.73E-03
0.35	-	0.3000	2.41E-02	2.29E-02	2.01E-02	1.66E-02	1.47E-02	1.31E-02	1.14E-02	9.29E-03	6.79E-03
0.30	-	0.2500	3.32E-02	2.82E-02	2.53E-02	2.09E-02	1.93E-02	1.69E-02	1.40E-02	1.10E-02	7.03E-03
0.25	-	0.2000	3.64E-02	3.48E-02	3.07E-02	2.71E-02	2.41E-02	1.94E-02	1.60E-02	1.18E-02	6.42E-03
0.20	-	0.1500	3.67E-02	3.73E-02	3.24E-02	2.76E-02	2.39E-02	1.93E-02	1.45E-02	9.03E-03	3.60E-03
0.15	-	0.1000	2.55E-02	2.21E-02	2.10E-02	1.65E-02	1.31E-02	9.44E-03	5.62E-03	2.46E-03	6.09E-04
0.10	-	0.0500	4.82E-02	4.54E-02	4.14E-02	3.60E-02	2.95E-02	2.20E-02	1.44E-02	7.55E-03	3.21E-03
0.05	-	0.0300	2.73E-03	2.92E-03	2.17E-03	1.66E-03	1.08E-03	5.52E-04	2.58E-04	1.13E-04	4.83E-05
	(MEV/SR/ELEC)	4.16E-03	3.90E-03	3.53E-03	2.93E-03	2.49E-03	2.12E-03	1.76E-03	1.38E-03	9.69E-04	3.51E-04

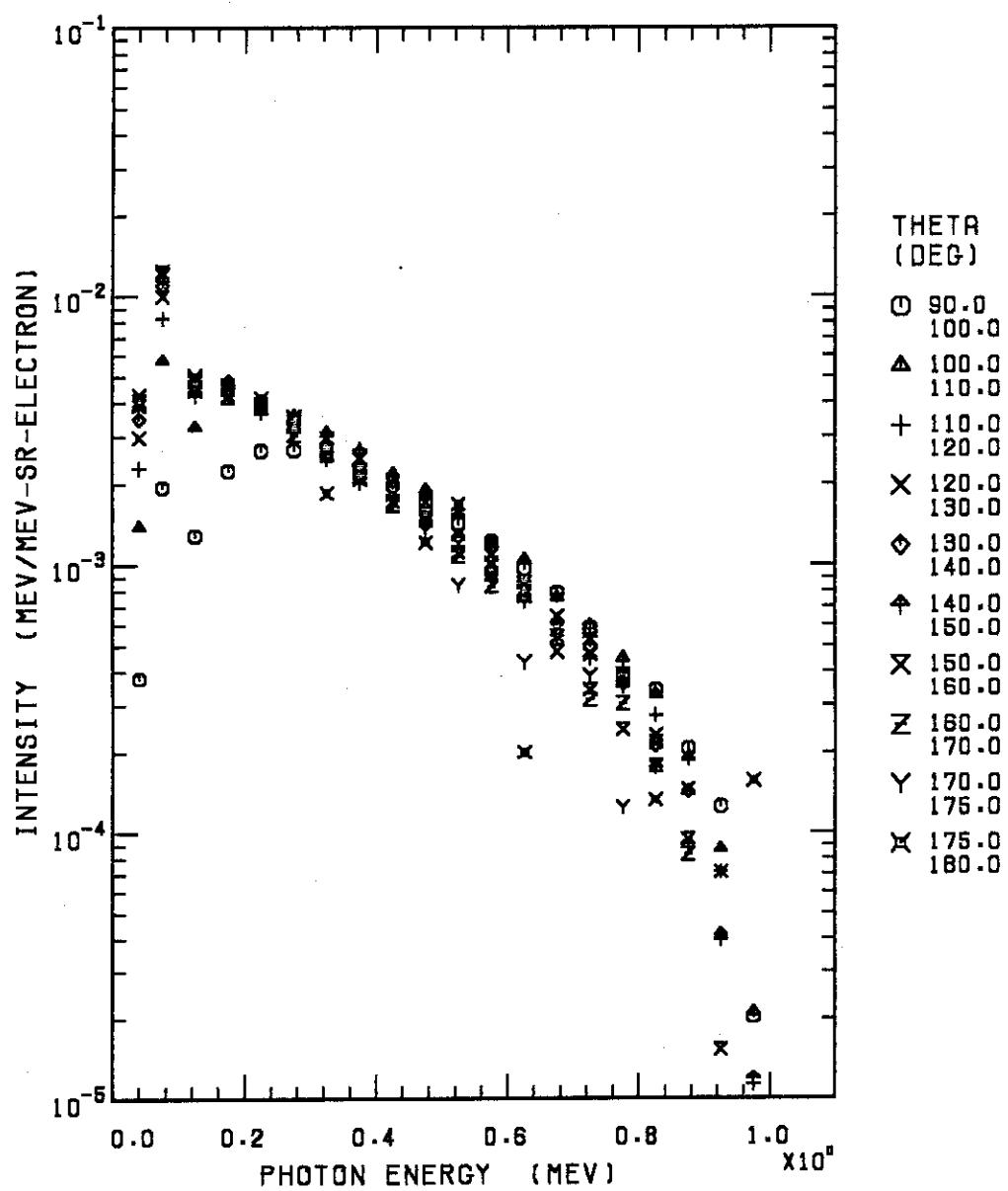
Fig. 42  $Z=74 \quad T_0 = 1.0 \text{ MeV}$

Table 42 Z=74 T<sub>0</sub>= 1.0 MeV

K (MeV)	THETA= 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000	180.000
1.00 -	0.9500	2.08E-05	2.17E-05	1.16E-05	8.56E-06	4.96E-06	1.22E-05	8.29E-06	0.0	0.0	1.61E-04
0.95 -	0.9000	1.35E-04	9.36E-05	7.70E-05	7.69E-05	4.46E-05	4.28E-05	1.66E-05	0.0	0.0	0.0
0.90 -	0.8500	2.36E-04	2.19E-04	2.16E-04	1.66E-04	1.63E-04	1.04E-04	1.08E-04	9.47E-05	0.0	1.61E-04
0.85 -	0.8000	4.13E-04	3.97E-04	3.34E-04	2.81E-04	2.57E-04	2.13E-04	2.65E-04	2.16E-04	2.14E-04	2.14E-04
0.80 -	0.7500	4.97E-04	5.81E-04	5.33E-04	4.98E-04	4.64E-04	4.51E-04	3.15E-04	3.92E-04	1.61E-04	0.0
0.75 -	0.7000	8.04E-04	8.19E-04	7.39E-04	7.27E-04	6.81E-04	6.21E-04	4.71E-04	4.33E-04	5.34E-04	6.41E-04
0.70 -	0.6500	1.17E-03	1.12E-03	1.15E-03	9.59E-04	8.97E-04	9.00E-04	7.03E-04	8.50E-04	8.03E-04	7.99E-04
0.65 -	0.6000	1.55E-03	1.67E-03	1.39E-03	1.38E-03	1.23E-03	1.17E-03	1.28E-03	1.24E-03	6.96E-04	3.20E-04
0.60 -	0.5500	2.12E-03	2.10E-03	2.04E-03	1.89E-03	1.61E-03	1.68E-03	1.60E-03	1.44E-03	1.55E-03	1.76E-03
0.55 -	0.5000	2.70E-03	2.92E-03	2.47E-03	2.47E-03	2.41E-03	2.14E-03	2.12E-03	2.04E-03	1.60E-03	3.19E-03
0.50 -	0.4500	3.62E-03	3.99E-03	3.76E-03	3.60E-03	3.03E-03	3.05E-03	3.16E-03	3.07E-03	2.82E-03	2.54E-03
0.45 -	0.4000	4.62E-03	5.15E-03	5.05E-03	4.74E-03	4.54E-03	4.17E-03	4.05E-03	3.90E-03	4.04E-03	4.28E-03
0.40 -	0.3500	5.79E-03	7.11E-03	7.18E-03	6.65E-03	6.24E-03	6.02E-03	5.53E-03	5.63E-03	5.34E-03	5.53E-03
0.35 -	0.3000	7.92E-03	9.56E-03	9.26E-03	9.13E-03	8.37E-03	8.33E-03	8.08E-03	7.85E-03	7.63E-03	5.67E-03
0.30 -	0.2500	9.69E-03	1.30E-02	1.30E-02	1.28E-02	1.25E-02	1.16E-02	1.19E-02	1.10E-02	1.11E-02	1.29E-02
0.25 -	0.2000	1.18E-02	1.75E-02	1.82E-02	1.85E-02	1.78E-02	1.71E-02	1.72E-02	1.71E-02	1.64E-02	1.76E-02
0.20 -	0.1500	1.28E-02	2.33E-02	2.59E-02	2.67E-02	2.75E-02	2.68E-02	2.64E-02	2.58E-02	2.45E-02	2.43E-02
0.15 -	0.1000	1.02E-02	2.61E-02	3.41E-02	3.69E-02	3.84E-02	3.84E-02	3.92E-02	3.85E-02	4.03E-02	3.56E-02
0.10 -	0.0500	2.59E-02	7.69E-02	1.10E-01	1.33E-01	1.46E-01	1.54E-01	1.61E-01	1.66E-01	1.65E-01	1.65E-01
0.05 -	0.0300	9.45E-03	3.46E-02	5.72E-02	7.45E-02	8.69E-02	9.54E-02	1.02E-01	1.01E-01	1.06E-01	9.77E-02
	(MEV/SR/ELEC)	1.26E-03	1.82E-03	1.99E-03	2.06E-03	2.05E-03	2.03E-03	2.03E-03	2.02E-03	1.96E-03	1.97E-03

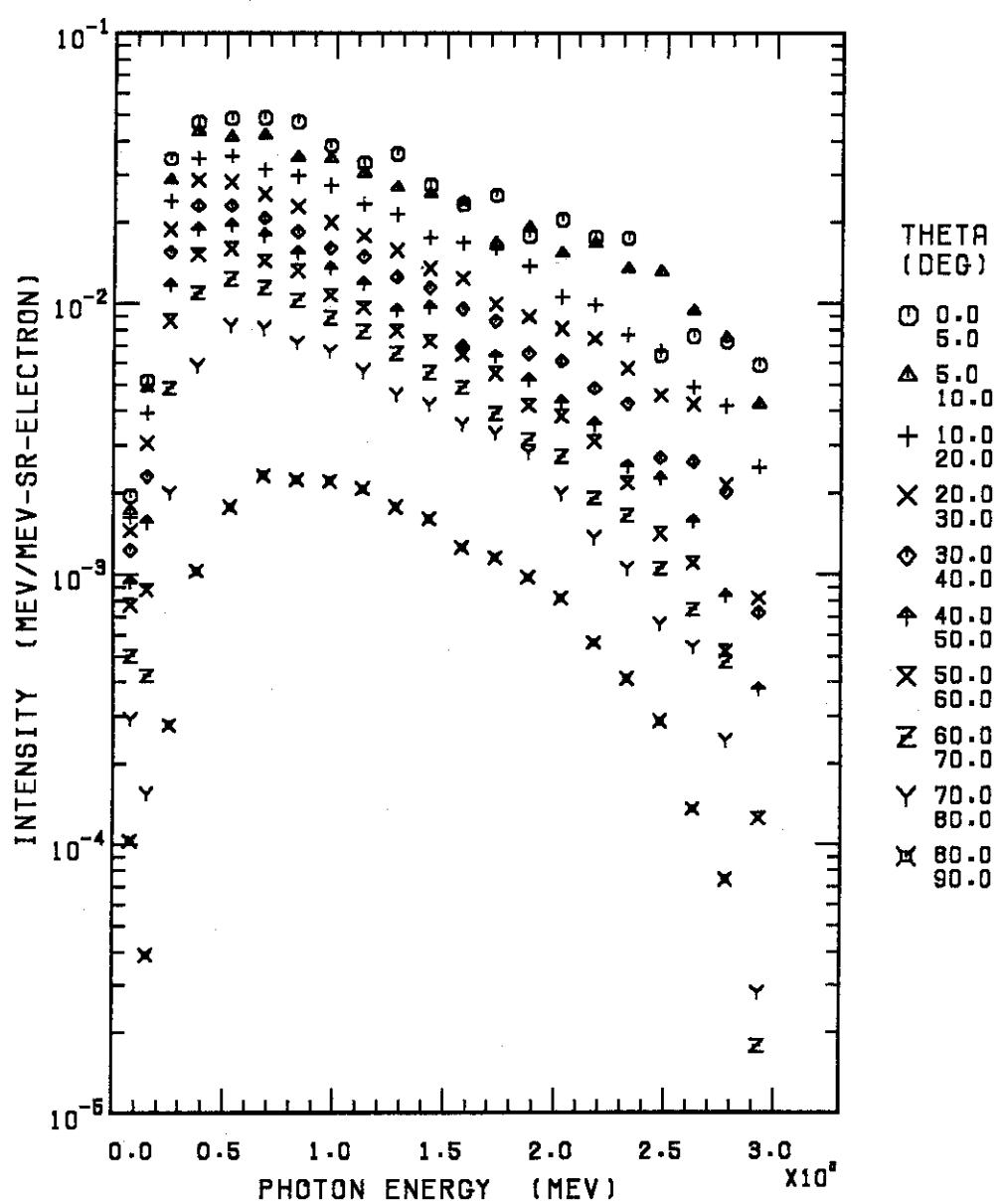
Fig. 43    Z=74     $T_0 = 3.0$  MeV

Table 43 Z=74 T<sub>0</sub>= 3.0 MeV

K (MEV)	THETA= 0.0	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000
3.00 -	2.8500	2.02E-03	1.45E-03	8.49E-04	2.80E-04	2.48E-04	1.29E-04	4.29E-05	6.09E-06	9.63E-06	3.38E-22
2.85 -	2.7000	2.60E-03	2.70E-03	1.51E-03	7.70E-04	7.23E-04	3.01E-04	1.88E-04	1.72E-04	8.76E-05	2.68E-05
2.70 -	2.5500	2.89E-03	3.57E-03	1.87E-03	1.61E-03	9.93E-04	5.97E-04	4.20E-04	2.84E-04	2.06E-04	5.19E-05
2.55 -	2.4000	2.60E-03	5.30E-03	2.70E-03	1.85E-03	1.09E-03	9.13E-04	5.70E-04	4.26E-04	2.66E-04	1.16E-04
2.40 -	2.2500	7.51E-03	5.78E-03	3.30E-03	2.47E-03	1.83E-03	1.08E-03	9.33E-04	7.09E-04	4.53E-04	1.77E-04
2.25 -	2.1000	8.05E-03	7.70E-03	4.54E-03	3.42E-03	2.23E-03	1.65E-03	1.42E-03	8.78E-04	6.28E-04	2.58E-04
2.10 -	1.9500	1.01E-02	7.59E-03	5.22E-03	4.00E-03	3.02E-03	2.14E-03	1.89E-03	1.34E-03	9.80E-04	4.05E-04
1.95 -	1.8000	9.49E-03	1.02E-02	7.32E-03	4.76E-03	3.48E-03	2.79E-03	2.23E-03	1.68E-03	1.50E-03	5.22E-04
1.80 -	1.6500	1.46E-02	9.75E-03	9.26E-03	5.76E-03	4.99E-03	3.70E-03	3.20E-03	2.27E-03	1.93E-03	6.68E-04
1.65 -	1.5000	1.48E-02	1.51E-02	1.07E-02	7.87E-03	6.05E-03	4.42E-03	4.10E-03	3.11E-03	2.28E-03	7.96E-04
1.50 -	1.3500	1.93E-02	1.79E-02	1.23E-02	9.45E-03	8.04E-03	6.79E-03	5.09E-03	3.89E-03	2.95E-03	1.12E-03
1.35 -	1.2000	2.81E-02	2.11E-02	1.67E-02	1.23E-02	9.83E-03	7.40E-03	6.22E-03	5.12E-03	3.60E-03	1.39E-03
1.20 -	1.0500	2.95E-02	2.70E-02	2.07E-02	1.59E-02	1.32E-02	1.06E-02	8.56E-03	7.01E-03	5.00E-03	1.84E-03
1.05 -	0.9000	3.96E-02	3.55E-02	2.81E-02	2.05E-02	1.64E-02	1.38E-02	1.10E-02	9.07E-03	6.81E-03	2.26E-03
0.90 -	0.7500	5.71E-02	4.23E-02	3.59E-02	2.76E-02	2.23E-02	1.87E-02	1.60E-02	1.24E-02	8.68E-03	2.70E-03
0.75 -	0.6000	7.22E-02	6.24E-02	4.64E-02	3.77E-02	3.06E-02	2.65E-02	2.12E-02	1.70E-02	1.20E-02	3.43E-03
0.60 -	0.4500	9.23E-02	7.90E-02	6.73E-02	5.37E-02	4.39E-02	3.70E-02	3.04E-02	2.35E-02	1.58E-02	3.36E-03
0.45 -	0.3000	1.25E-01	1.16E-01	9.20E-02	7.64E-02	6.14E-02	5.01E-02	4.05E-02	2.92E-02	1.56E-02	2.75E-03
0.30 -	0.2000	1.38E-01	1.15E-01	9.55E-02	7.51E-02	6.20E-02	4.68E-02	3.45E-02	1.95E-02	7.97E-03	1.11E-03
0.20 -	0.1000	3.45E-02	3.24E-02	2.63E-02	2.04E-02	1.53E-02	1.04E-02	5.85E-03	2.82E-03	1.03E-03	2.59E-04
0.10 -	0.0500	2.59E-02	2.28E-02	2.16E-02	1.93E-02	1.64E-02	1.25E-02	1.03E-02	6.68E-03	3.91E-03	1.38E-03
(MEV/SR/ELEC)											
	7.51E-02	6.61E-02	4.97E-02	3.76E-02	3.00E-02	2.38E-02	1.93E-02	1.47E-02	1.01E-02	3.13E-03	

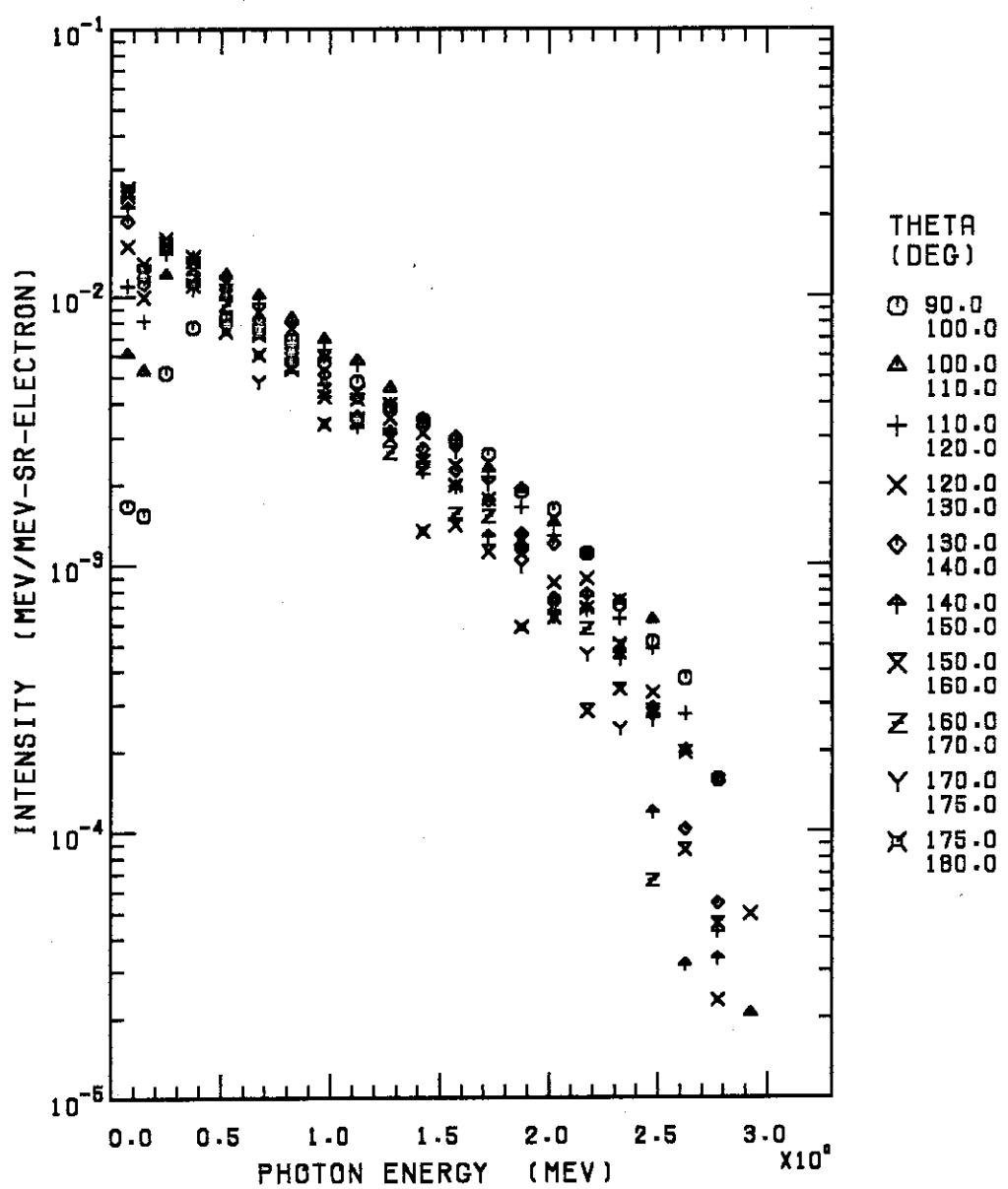
Fig. 44  $Z=74$   $T_0 = 3.0$  MeV

Table 44 Z=74 T<sub>0</sub> = 3.0 MeV

K (MEV)	THETA= 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000	180.000
3.00 -	2.8500	0.0	7.10E-06	0.0	1.68E-05	0.0	0.0	0.0	0.0	0.0	0.0
2.85 -	2.7000	5.64E-05	5.64E-05	1.52E-05	8.38E-06	1.95E-05	1.20E-05	1.63E-05	0.0	0.0	0.0
2.70 -	2.5500	1.43E-04	7.66E-05	1.05E-04	7.52E-05	3.89E-05	1.20E-05	3.25E-05	0.0	0.0	0.0
2.55 -	2.4000	2.08E-04	2.51E-04	1.95E-04	1.34E-04	1.17E-04	4.77E-05	1.14E-04	2.65E-05	1.06E-04	0.0
2.40 -	2.2500	3.04E-04	3.12E-04	2.69E-04	2.17E-04	2.03E-04	1.91E-04	1.46E-04	2.12E-04	1.04E-04	3.15E-04
2.25 -	2.1000	5.04E-04	5.04E-04	3.51E-04	4.08E-04	3.57E-04	3.11E-04	1.30E-04	2.65E-04	2.11E-04	3.16E-04
2.10 -	1.9500	7.89E-04	7.06E-04	6.32E-04	4.24E-04	5.89E-04	3.70E-04	3.40E-04	3.44E-04	3.15E-04	3.14E-04
1.95 -	1.8000	9.98E-04	1.02E-03	8.71E-04	6.55E-04	6.07E-04	6.92E-04	5.83E-04	6.59E-04	5.27E-04	3.12E-04
1.80 -	1.6500	1.49E-03	1.32E-03	1.23E-03	1.01E-03	1.00E-03	7.39E-04	6.46E-04	8.74E-04	1.15E-03	0.0
1.65 -	1.5000	1.86E-03	1.91E-03	1.79E-03	1.49E-03	1.43E-03	1.24E-03	8.91E-04	9.78E-04	1.67E-03	1.25E-03
1.50 -	1.3500	2.41E-03	2.45E-03	2.40E-03	2.18E-03	1.90E-03	1.66E-03	1.71E-03	1.61E-03	1.57E-03	9.34E-04
1.35 -	1.2000	3.04E-03	3.58E-03	3.11E-03	2.76E-03	2.45E-03	2.42E-03	2.33E-03	2.05E-03	2.40E-03	3.11E-03
1.20 -	1.0500	4.27E-03	5.13E-03	4.96E-03	3.91E-03	3.74E-03	3.16E-03	3.67E-03	3.05E-03	2.92E-03	3.09E-03
1.05 -	0.9000	5.85E-03	7.09E-03	6.48E-03	6.10E-03	5.24E-03	4.80E-03	4.34E-03	4.58E-03	5.41E-03	3.44E-03
0.90 -	0.7500	8.30E-03	1.00E-02	9.70E-03	9.18E-03	7.80E-03	7.09E-03	6.48E-03	6.65E-03	8.07E-03	7.13E-03
0.75 -	0.6000	1.11E-02	1.50E-02	1.39E-02	1.29E-02	1.21E-02	1.11E-02	1.07E-02	1.10E-02	7.11E-03	8.98E-03
0.60 -	0.4500	1.57E-02	2.30E-02	2.22E-02	2.14E-02	2.02E-02	1.89E-02	2.00E-02	1.76E-02	1.51E-02	1.41E-02
0.45 -	0.3000	2.04E-02	3.52E-02	3.73E-02	3.74E-02	3.64E-02	3.59E-02	3.41E-02	3.07E-02	2.85E-02	2.93E-02
0.30 -	0.2000	2.07E-02	4.82E-02	5.80E-02	6.07E-02	6.18E-02	6.24E-02	6.28E-02	6.51E-02	6.20E-02	6.51E-02
0.20 -	0.1000	1.02E-02	3.53E-02	5.39E-02	6.62E-02	7.39E-02	7.87E-02	8.30E-02	8.80E-02	8.13E-02	8.13E-02
0.10 -	0.0500	2.21E-02	8.15E-02	1.46E-01	2.05E-01	2.53E-01	2.86E-01	3.31E-01	3.38E-01	3.28E-01	3.28E-01
	(MEV/SR/ELEC)	9.69E-03	1.33E-02	1.35E-02	1.31E-02	1.27E-02	1.21E-02	1.19E-02	1.16E-02	1.16E-02	1.08E-02

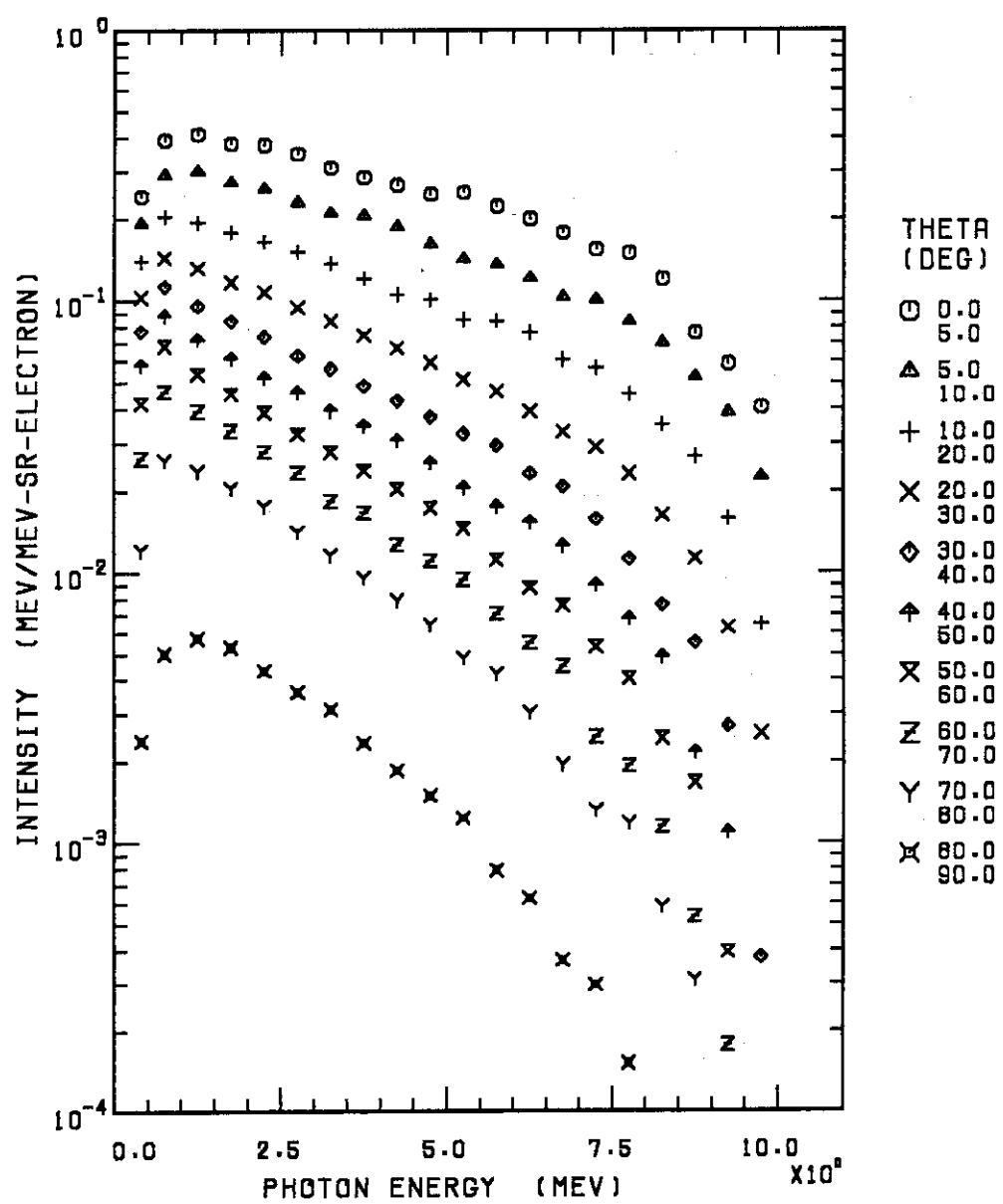
Fig. 45     $Z=74$      $T_0=10.0$  MeV

Table 45 Z=74 T<sub>0</sub>=10.0 MeV

K (MEV)	THETA= 0.0	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000
		5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000
10.00	- 9.5000	4.15E-03	2.30E-03	6.60E-04	2.60E-04	3.85E-05	9.87E-06	8.12E-06	6.12E-06	7.58E-07
9.50	- 9.0000	6.34E-03	4.20E-03	1.70E-03	6.75E-04	2.92E-04	1.18E-04	4.24E-05	1.91E-05	2.55E-06
9.00	- 8.5000	8.68E-03	5.99E-03	3.05E-03	1.29E-03	6.29E-04	2.47E-04	1.90E-04	6.07E-05	3.54E-05
8.50	- 8.0000	1.45E-02	8.47E-03	4.26E-03	1.96E-03	9.22E-04	5.92E-04	2.95E-04	7.05E-05	8.52E-06
8.00	- 7.5000	1.92E-02	1.08E-02	5.84E-03	2.99E-03	1.45E-03	8.74E-04	5.22E-04	2.48E-04	1.52E-04
7.50	- 7.0000	2.12E-02	1.39E-02	7.82E-03	3.99E-03	2.17E-03	1.24E-03	7.31E-04	3.40E-04	1.82E-04
7.00	- 6.5000	2.63E-02	1.52E-02	8.98E-03	4.91E-03	3.07E-03	1.85E-03	1.12E-03	6.66E-04	2.88E-04
6.50	- 6.0000	3.19E-02	1.93E-02	1.22E-02	6.27E-03	3.72E-03	2.45E-03	1.40E-03	8.78E-04	4.84E-04
6.00	- 5.5000	3.86E-02	2.35E-02	1.46E-02	8.05E-03	5.10E-03	3.04E-03	1.93E-03	1.23E-03	7.31E-04
5.50	- 5.0000	4.77E-02	2.70E-02	1.62E-02	9.78E-03	6.19E-03	3.91E-03	2.76E-03	1.79E-03	9.20E-04
5.00	- 4.5000	5.19E-02	3.38E-02	2.11E-02	1.25E-02	7.87E-03	5.34E-03	3.63E-03	2.32E-03	1.35E-03
4.50	- 4.0000	6.28E-02	4.39E-02	2.47E-02	1.57E-02	1.01E-02	7.23E-03	4.78E-03	2.97E-03	1.86E-03
4.00	- 3.5000	7.58E-02	5.47E-02	3.21E-02	1.99E-02	1.30E-02	9.26E-03	6.33E-03	4.43E-03	2.55E-03
3.50	- 3.0000	9.50E-02	6.45E-02	4.21E-02	2.58E-02	1.73E-02	1.21E-02	8.53E-03	5.63E-03	3.57E-03
3.00	- 2.5000	1.27E-01	8.38E-02	5.48E-02	3.43E-02	2.28E-02	1.67E-02	1.18E-02	8.51E-03	5.13E-03
2.50	- 2.0000	1.68E-01	1.15E-01	7.30E-02	4.76E-02	3.27E-02	2.32E-02	1.73E-02	1.24E-02	7.79E-03
2.00	- 1.5000	2.18E-01	1.56E-01	1.02E-01	6.67E-02	4.81E-02	3.50E-02	2.60E-02	1.91E-02	1.17E-02
1.50	- 1.0000	3.31E-01	2.41E-01	1.55E-01	1.05E-01	7.65E-02	5.75E-02	4.31E-02	3.14E-02	1.89E-02
1.00	- 0.5000	5.23E-01	3.89E-01	2.72E-01	1.92E-01	1.50E-01	1.17E-01	9.07E-02	6.18E-02	3.45E-02
0.50	- 0.3000	6.06E-01	4.80E-01	3.48E-01	2.57E-01	1.93E-01	1.45E-01	1.05E-01	6.59E-02	3.02E-02
	(MEV/SR/ELEC)	2.27E+00	1.52E+00	9.42E-01	5.83E-01	3.92E-01	2.77E-01	1.97E-01	1.34E-01	7.85E-02

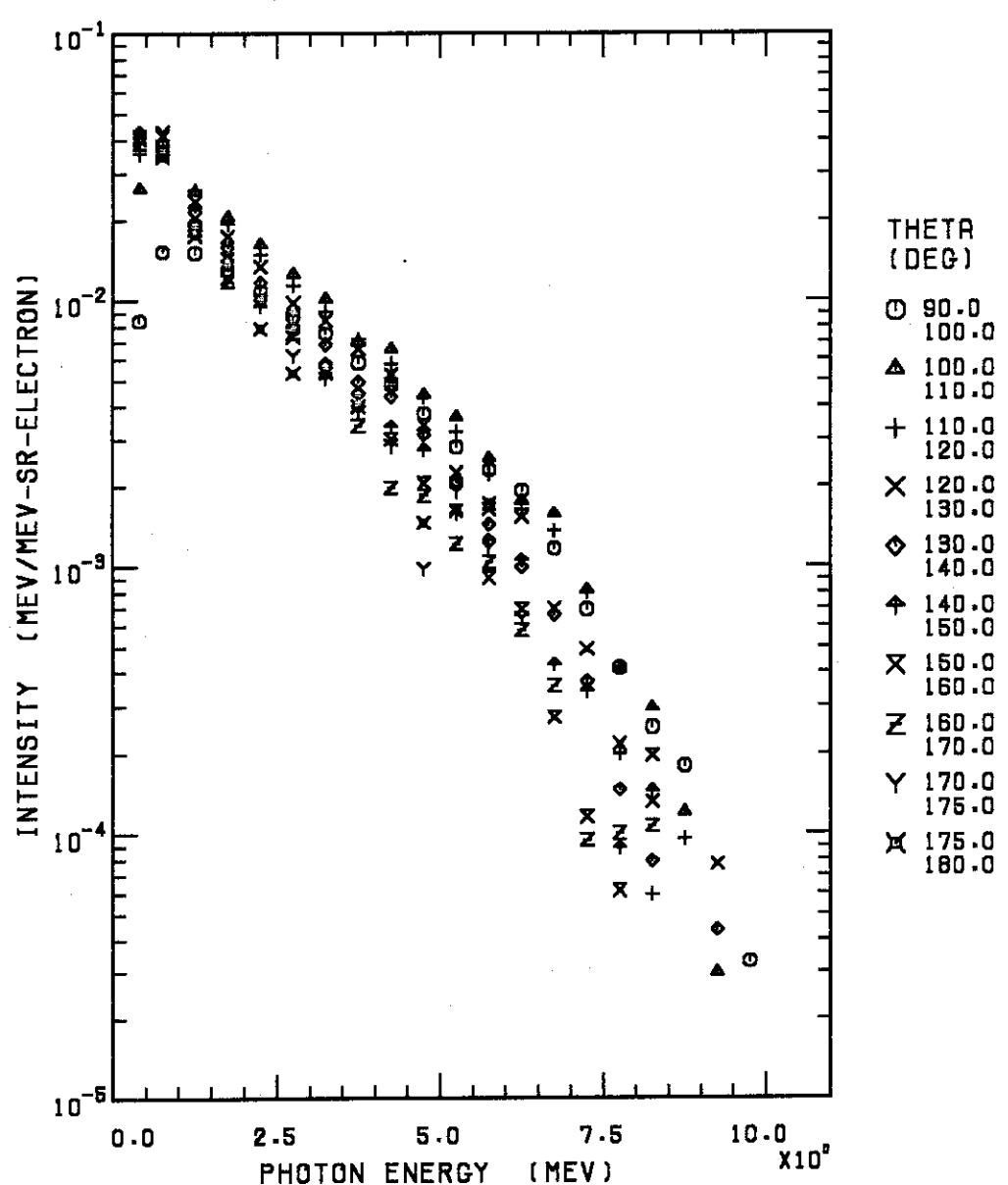
Fig. 46  $Z=74$   $T_0=10.0$  MeV

Table 46 Z=74 T<sub>0</sub>=10.0 MeV

K (MeV)	THETA= 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000	180.000
10.00 -	9.5000	3.37E-06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9.50 -	9.0000	0.0	3.23E-06	0.0	8.30E-06	4.69E-06	0.0	0.0	0.0	0.0	0.0
9.00 -	8.5000	2.05E-05	1.37E-05	1.09E-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.50 -	8.0000	3.03E-05	3.58E-05	7.18E-06	1.60E-05	9.55E-06	1.76E-05	2.38E-05	1.29E-05	0.0	0.0
8.00 -	7.5000	5.36E-05	5.27E-05	2.58E-05	2.80E-05	1.88E-05	1.14E-05	7.89E-06	1.29E-05	0.0	0.0
7.50 -	7.0000	9.52E-05	1.12E-04	1.10E-04	6.75E-05	5.09E-05	4.71E-05	1.59E-05	1.30E-05	0.0	0.0
7.00 -	6.5000	1.73E-04	2.33E-04	2.01E-04	1.03E-04	9.74E-05	6.34E-05	4.02E-05	5.28E-05	0.0	0.0
6.50 -	6.0000	3.06E-04	2.80E-04	2.60E-04	2.45E-04	1.59E-04	1.69E-04	1.10E-04	9.22E-05	1.02E-04	0.0
6.00 -	5.5000	4.02E-04	4.44E-04	3.87E-04	2.84E-04	2.49E-04	2.17E-04	1.57E-04	1.80E-04	2.04E-04	2.99E-04
5.50 -	5.0000	5.35E-04	6.94E-04	6.11E-04	4.30E-04	3.94E-04	3.00E-04	3.07E-04	2.31E-04	3.62E-04	0.0
5.00 -	4.5000	7.90E-04	9.29E-04	9.14E-04	7.20E-04	6.59E-04	5.79E-04	4.32E-04	3.86E-04	2.06E-04	3.06E-04
4.50 -	4.0000	1.14E-03	1.55E-03	1.36E-03	1.14E-03	1.02E-03	7.89E-04	7.07E-04	4.63E-04	6.68E-04	1.24E-03
4.00 -	3.5000	1.56E-03	1.87E-03	1.91E-03	1.75E-03	1.32E-03	1.19E-03	1.13E-03	9.02E-04	1.02E-03	1.07E-03
3.50 -	3.0000	2.31E-03	3.12E-03	2.79E-03	2.60E-03	2.11E-03	1.79E-03	1.64E-03	1.68E-03	1.57E-03	1.66E-03
3.00 -	2.5000	3.20E-03	4.58E-03	4.14E-03	3.56E-03	3.14E-03	2.92E-03	2.66E-03	2.75E-03	2.25E-03	1.94E-03
2.50 -	2.0000	4.80E-03	7.22E-03	6.61E-03	5.96E-03	5.20E-03	4.47E-03	4.48E-03	4.46E-03	4.25E-03	3.49E-03
2.00 -	1.5000	7.43E-03	1.17E-02	1.11E-02	9.93E-03	9.04E-03	8.03E-03	7.70E-03	6.74E-03	8.19E-03	6.97E-03
1.50 -	1.0000	2.05E-02	1.21E-02	2.08E-02	1.88E-02	1.72E-02	1.57E-02	1.48E-02	1.44E-02	1.40E-02	1.40E-02
1.00 -	0.5000	2.04E-02	4.64E-02	5.33E-02	5.55E-02	5.23E-02	4.73E-02	4.85E-02	4.73E-02	5.73E-02	4.63E-02
0.50 -	0.3000	2.10E-02	6.58E-02	8.93E-02	1.01E-01	1.03E-01	1.07E-01	1.04E-01	9.74E-02	1.04E-01	1.03E-01
	(MEV/SR/ELEC)	4.85E-02	7.81E-02	7.36E-02	6.64E-02	6.03E-02	5.76E-02	5.47E-02	5.77E-02	5.28E-02	

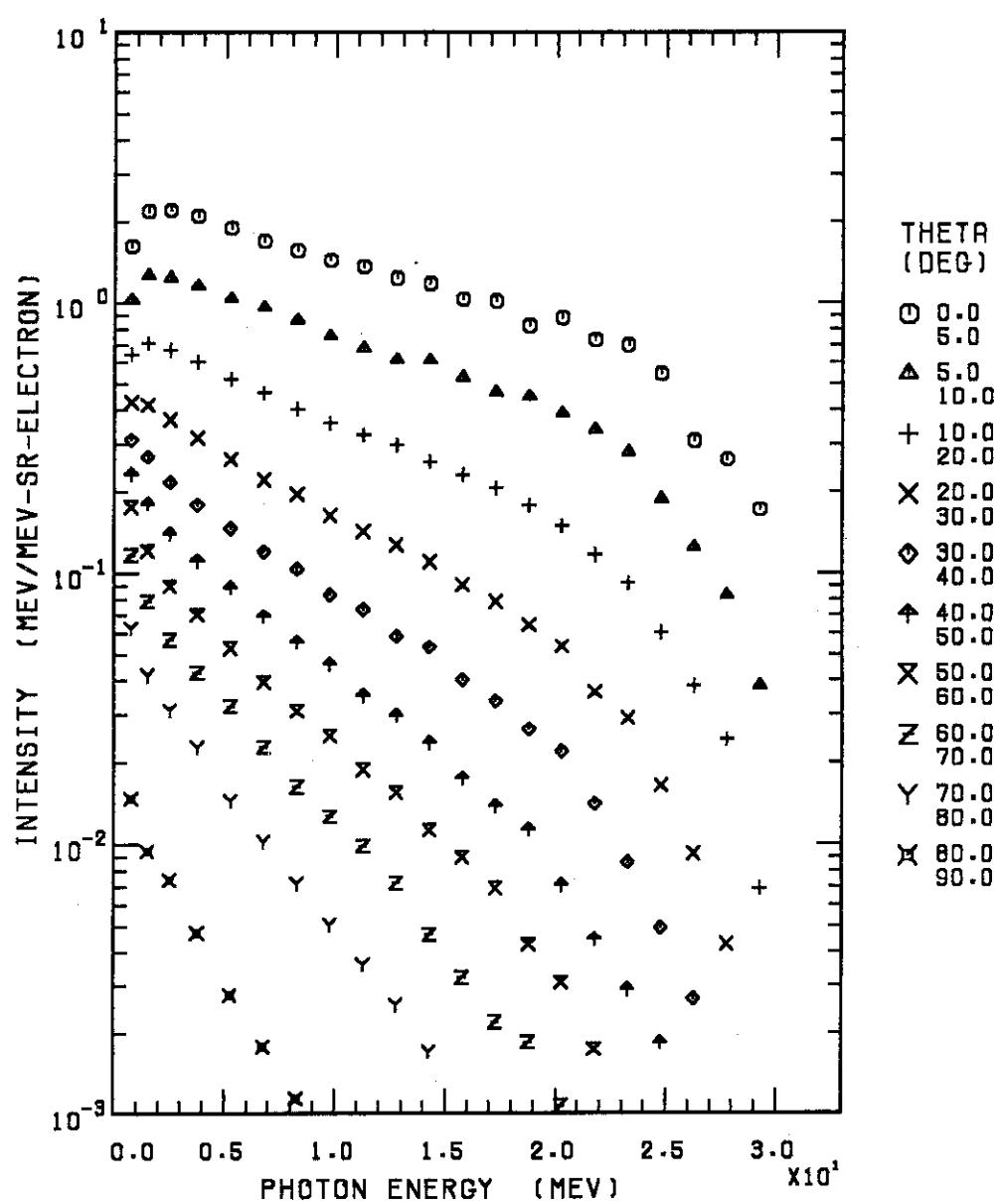
Fig. 47 Z=74  $T_0 = 30.0$  MeV

Table 47 Z=74 T<sub>0</sub>=30.0 MeV

K (MeV)	THETA = 0.0	5.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000
30.00	- 28.5000	5.87E-03	1.31E-03	2.35E-04	1.45E-05	5.68E-06	2.70E-06	0.0	0.0	0.0	0.0
28.50	- 27.0000	9.45E-03	2.99E-03	8.74E-04	1.54E-04	2.46E-05	9.70E-06	2.08E-06	0.0	0.0	0.0
27.00	- 25.5000	1.17E-02	4.73E-03	1.46E-03	3.52E-04	1.02E-04	3.20E-05	8.88E-06	2.74E-06	0.0	0.0
25.50	- 24.0000	2.20E-02	7.59E-03	2.43E-03	6.65E-04	1.99E-04	7.47E-05	2.19E-05	4.87E-06	1.26E-06	3.28E-08
24.00	- 22.5000	3.01E-02	1.21E-02	3.96E-03	1.25E-03	3.70E-04	1.25E-04	3.91E-05	1.56E-05	1.04E-06	3.10E-15
22.50	- 21.0000	3.36E-02	1.56E-02	5.36E-03	1.67E-03	6.49E-04	2.05E-04	7.99E-05	2.42E-05	6.00E-06	2.39E-07
21.00	- 19.5000	4.34E-02	1.92E-02	7.34E-03	2.65E-03	1.09E-03	3.50E-04	1.52E-04	5.30E-05	1.22E-05	4.13E-07
19.50	- 18.0000	4.38E-02	2.39E-02	9.48E-03	3.42E-03	1.41E-03	6.04E-04	2.27E-04	9.86E-05	2.63E-05	6.21E-07
18.00	- 16.5000	5.88E-02	2.70E-02	1.19E-02	4.55E-03	1.95E-03	8.03E-04	4.00E-04	1.27E-04	2.96E-05	2.78E-06
16.50	- 15.0000	6.55E-02	3.36E-02	1.46E-02	5.75E-03	2.56E-03	1.11E-03	5.69E-04	2.04E-04	6.30E-05	4.52E-06
15.00	- 13.5000	8.26E-02	4.30E-02	1.80E-02	7.73E-03	3.73E-03	1.66E-03	7.90E-04	3.27E-04	1.20E-04	8.65E-06
13.50	- 12.0000	9.66E-02	4.84E-02	2.33E-02	9.95E-03	4.57E-03	2.34E-03	1.22E-03	5.66E-04	2.00E-04	2.08E-05
12.00	- 10.5000	1.21E-01	6.05E-02	2.88E-02	1.26E-02	6.51E-03	3.14E-03	1.67E-03	8.75E-04	3.20E-04	4.09E-05
10.50	- 9.0000	1.47E-01	7.74E-02	3.68E-02	1.67E-02	8.55E-03	4.71E-03	2.57E-03	1.30E-03	5.19E-04	7.06E-05
9.00	- 7.5000	1.89E-01	1.05E-01	4.90E-02	2.37E-02	6.74E-03	3.75E-03	1.98E-03	8.71E-04	1.38E-04	
7.50	- 6.0000	2.51E-01	1.43E-01	6.87E-02	3.27E-02	1.77E-02	1.03E-02	5.85E-03	3.37E-03	1.51E-03	2.64E-04
6.00	- 4.5000	3.60E-01	1.98E-01	9.98E-02	5.02E-02	2.79E-02	1.69E-02	1.00E-02	6.12E-03	2.76E-03	5.28E-04
4.50	- 3.0000	5.59E-01	3.08E-01	1.61E-01	8.43E-02	4.77E-02	2.96E-02	1.87E-02	1.14E-02	6.08E-03	1.26E-03
3.00	- 2.0000	8.80E-01	4.96E-01	2.68E-01	1.48E-01	8.69E-02	5.58E-02	3.59E-02	2.27E-02	1.25E-02	2.96E-03
2.00	- 1.0000	1.46E+00	8.45E-01	4.74E-01	2.80E-01	1.80E-01	1.20E-01	8.04E-02	5.25E-02	2.79E-02	6.30E-03
1.00	- 0.5000	2.16E+00	1.37E+00	1.37E+00	8.60E-01	5.72E-01	4.15E-01	3.10E-01	2.34E-01	1.55E-01	8.34E-02
	(MEV/SR/ELEC)	3.33E+01	1.72E+01	8.12E+00	3.83E+00	2.06E+00	1.19E+00	7.12E-01	4.16E-01	2.01E-01	4.04E-02

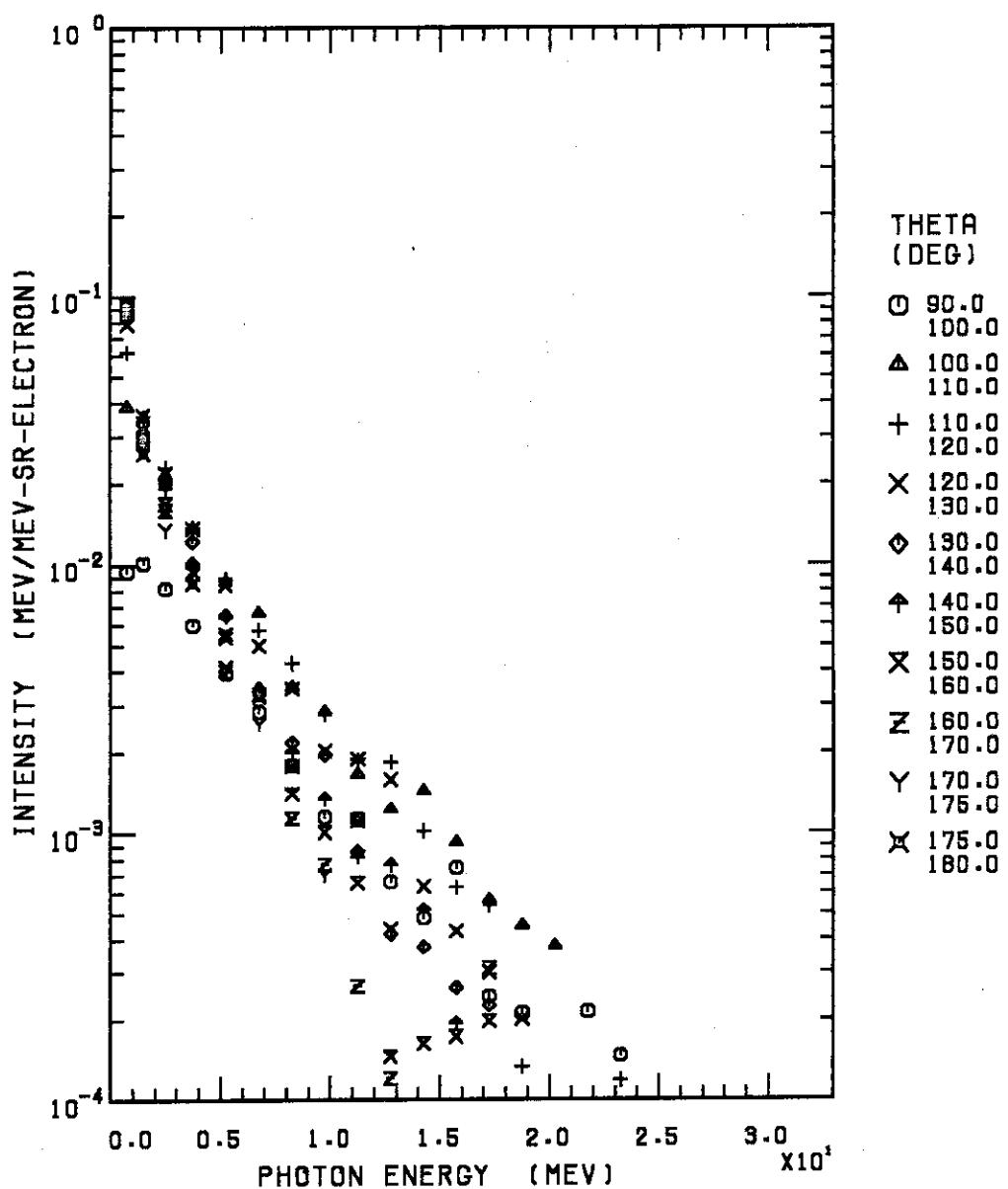
Fig. 48    Z=74     $T_0 = 30.0$  MeV

Table 48 Z=74 T<sub>0</sub>=30.0 MeV

K (MeV)	THETA= 90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000
	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	175.000	180.000
30.00 -	28.5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.50 -	27.0000	1.51E-06	2.75E-06	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.00 -	25.5000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.50 -	24.0000	2.19E-06	2.24E-06	1.98E-06	0.0	0.0	0.0	0.0	0.0	0.0
24.00 -	22.5000	6.33E-06	1.31E-06	5.11E-06	0.0	0.0	0.0	0.0	0.0	0.0
22.50 -	21.0000	9.86E-06	0.0	4.20E-06	0.0	2.78E-06	0.0	0.0	0.0	0.0
21.00 -	19.5000	4.70E-06	1.86E-05	4.83E-06	4.60E-06	0.0	4.58E-06	0.0	0.0	0.0
19.50 -	18.0000	1.13E-05	2.40E-05	7.11E-06	1.07E-05	0.0	0.0	0.0	0.0	0.0
18.00 -	16.5000	1.42E-05	3.26E-05	3.09E-05	1.74E-05	1.31E-05	3.78E-06	1.15E-05	1.80E-05	0.0
16.50 -	15.0000	4.73E-05	5.89E-05	3.98E-05	2.72E-05	1.67E-05	1.23E-05	1.10E-05	0.0	0.0
15.00 -	13.5000	3.37E-05	1.01E-04	7.12E-05	4.44E-05	2.62E-05	3.61E-05	1.14E-05	0.0	0.0
13.50 -	12.0000	5.16E-05	9.60E-05	1.45E-04	1.24E-04	3.28E-05	6.00E-05	1.15E-05	9.49E-06	3.44E-05
12.00 -	10.5000	9.99E-05	1.48E-04	1.68E-04	1.69E-04	7.62E-05	7.28E-05	5.82E-05	2.37E-05	0.0
10.50 -	9.0000	1.18E-04	2.93E-04	2.84E-04	2.08E-04	2.02E-04	1.37E-04	1.03E-04	7.88E-05	7.17E-05
9.00 -	7.5000	2.18E-04	4.27E-04	5.20E-04	4.20E-04	2.64E-04	2.43E-04	1.70E-04	1.37E-04	2.17E-04
7.50 -	6.0000	4.21E-04	9.85E-04	8.47E-04	7.39E-04	4.93E-04	5.12E-04	4.80E-04	4.91E-04	3.78E-04
6.00 -	4.5000	7.51E-04	1.65E-03	1.70E-03	1.61E-03	1.24E-03	1.22E-03	1.02E-03	7.67E-04	7.92E-04
4.50 -	3.0000	1.59E-03	3.65E-03	3.68E-03	3.64E-03	3.27E-03	2.70E-03	2.53E-03	2.48E-03	2.28E-03
3.00 -	2.0000	3.27E-03	8.66E-03	9.23E-03	8.79E-03	8.03E-03	7.73E-03	6.74E-03	6.39E-03	6.37E-03
2.00 -	1.0000	6.79E-03	1.95E-02	2.38E-02	2.41E-02	2.24E-02	2.07E-02	1.95E-02	1.83E-02	1.73E-02
1.00 -	0.5000	1.26E-02	5.18E-02	8.26E-02	1.05E-01	1.14E-01	1.25E-01	1.23E-01	1.18E-01	1.13E-01
	(MEV/SR/ELEC)	5.13E-02	1.29E-01	1.45E-01	1.44E-01	1.29E-01	1.24E-01	1.13E-01	1.06E-01	9.98E-02
										1.01E-01