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A HANDBOOK OF PHOTO-COMPTON CURRENT DATA

T. A. Dellin
C. J. MacCallum

1. new cross sections
2. could eliminate J_{net} partials, also $J_{+,-}$
3. add photoemission J_0 front+back
4. formulae for interface values
5. formulae for avg. distrib.

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A HANDBOOK OF PHOTO-COMPTON CURRENT DATA

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ABSTRACT

In a photon irradiated medium, electron currents are created by photoelectric, Compton, and other processes. This handbook presents accurate theoretical predictions for the amplitude of these currents in 24 elements and 13 compounds for photon energies from 10 keV to 20 MeV. While these predictions are strictly valid only under photon/electron equilibrium conditions, a simple model employing the forward- and backward-directed current components is introduced to approximate the spatial dependence of nonlocal energy and charge deposition at interfaces.

CONTENTS

		Page
I.	Introduction	7
II.	Theory	8
III.	Description of the Data	11
	Description of the Tables	11
	Description of the Graphs	11
IV.	Interface Model	14
V.	Data	19/20
	Elements	19/20
	Hydrogen	21
	Beryllium	22
	Carbon	23
	Nitrogen	24
	Oxygen	25
	Fluorine	26
	Magnesium	27
	Aluminum	28
	Silicon	29
	Chlorine	30
	Argon	31
	Calcium	32
	Titanium	33
	Iron	34
	Nickel	35
	Copper	36
	Germanium	37
	Niobium	38
	Silver	39
	Tin	40
	Neodymium	41
	Tantalum	42
	Gold	43
	Lead	44
	Uranium	45/46
	Compounds	47/48
	Al_2O_3	49
	Fiberglass, Type E.	50

	Page
Kapton	51
Lucite	52
Mylar	53
Neoprene	54
Polyethylene	55
Polyvinyl Chloride	56
Saran	57
SiO_2	58
Silicone	59
Teflon	60
Water	61/62
References	63/64

A HANDBOOK OF PHOTO-COMPTON CURRENT DATA

I. Introduction

A flux of photons passing through a material medium drives with it a flux of electrons which are continually generated by Compton and photoelectric processes and continually brought to rest by the stopping power of the medium. Although the statistical Monte Carlo methods offer the most general method for predicting these "photo-Compton currents" (PCC), such complex methods require considerable computer time to yield meaningful results.[1] As an alternative, an analytical method has been developed for determining the forward, backward, and net photo-Compton currents in unbounded media. This method, which properly includes the effects of electron multiple scattering,[2] gives the exact solution to the transport equations that model primary electrons (i.e., Compton, photoelectric, and Auger electrons). Although secondary- and higher-order electrons are ignored, this method provides current predictions that are within a few (<10) percent of the more complete Monte Carlo solutions that do include secondary electrons and photons.

This handbook presents analytically derived tabulations and graphs of the PCC data for 24 elements and 13 compounds over the photon energy range from 10 keV to 20 MeV. These results are directly applicable to problems such as the calculation of the electromagnetic fields generated within an irradiated dielectric cavity or the determination of the magnitude of the charge trapped at insulator interfaces. Furthermore, the forward and backward currents in an unbounded medium are upper bounds on the forward and backward emission currents, respectively, at vacuum/medium interfaces and are thus useful in worst-case analyses of currents in evacuated cavities. In addition, a simple model is proposed for using the PCC data in unbounded media for approximate calculations of the spatial dependence of the nonlocal energy and charge depositions at interfaces.

II. Theory

The tables of PCC data presented here are based upon an analytic solution to the transport equation describing electron transport in a medium.[2] Whereas the solution to these equations for the general case requires Monte Carlo solution procedures, analytic solutions are possible if the simplifications listed in Table I are introduced. With the exception of Item A in Table I, these simplifications apply for the majority of practical problems.

TABLE I

SIMPLIFICATIONS TO TRANSPORT EQUATION DESCRIBING ELECTRON TRANSPORT IN A MEDIUM

Simplification	Comment
A. The point of observation is in a homogeneous medium and is more than an electron range from any boundary.	This simplification is addressed specifically by the interface model introduced in Section IV.
B. The photon flux is spatially uniform over an electron range.	The photon range generally exceeds the electron range by at least an order of magnitude.
C. The "continuous slowing down approximation" is an adequate model of energy loss.	This approximation is widely used in electron transport calculations although very little experimental data exist in the low-energy range to confirm its validity or that of the electron scattering cross section used in the calculations.
D. The medium is field-free.	The small-field approximation is valid in most solids because (1) the stopping power of the medium dominates any electric field effects at fields less than 10^5 V/cm and (2) the cyclotron radius of an electron in a magnetic field is usually large compared to the electron's range.
E. Secondary electrons do not contribute significantly to the PCC.	Monte Carlo calculations indicate that secondary- and higher-order electrons contribute less than 10% to PCC over the ranges of Z and hv considered here.

The theory of PCC calculations is treated in detail in Reference 2. The following outline, however, gives the basic elements of the calculations.

A beam of electrons injected into an unbounded medium with residual range s_0 and direction cosine μ_0 with respect to the z-axis will have, after slowing down to a residual range $s \leq s_0$, a distribution of direction cosines μ given by

$$G(s_0, \mu_0; s, \mu) = \sum_{n=0}^{\infty} (n+\tfrac{1}{2}) P_n(\mu_0) P_n(\mu) e^{-\int_s^{s_0} \sigma_n(s')ds'} \quad . \tag{1}$$

This is the well-known Goudsmit-Saunderson distribution in which the P_n are Legendre polynomials and σ_n is the nth scattering transport cross section:

$$\sigma_n \equiv 2\pi \int_{-1}^{1} \sigma(\mu') \left[1 - P_n(\mu')\right] d\mu' \tag{2}$$

In this relation, $\sigma(\mu)$ is the single scattering electron cross section.[1]

Given a spatially uniform source of electrons distributed in residual range and direction cosine according to some function $S(s_0, \mu)$, during time δt the number of electrons crossing area δA normal to the z-axis in the forward direction must be

$$J_f \delta A \delta t = \int_0^{\infty} ds_0 \int_1^{1} d\mu_0 S(s_0, \mu_0) \int_0^{s} n(s_0, s) ds \int_0^{1} d\mu\, \mu\, v(s) \delta t\, \delta A\, G(s_0, \mu_0; s, \mu) \tag{3}$$

in which $v(s)$ is the velocity corresponding to residual range s and $n(s_0, s)$ is the steady-state distribution of residual ranges produced by a constant unit source at s_0. By conservation arguments, this source must be just $v^{-1}(s)$ for $s \leq 0$. Using Equation (1) in Equation (3), the forward current is then

$$J_f = \int_0^{\infty} ds_0 \int_{-1}^{1} d\mu_0 S(s_0, \mu_0) \sum_{n=0}^{\infty} R_n(s_0) P_n(\mu_0) \alpha_n \tag{4}$$

in which

$$\alpha_n \equiv (n+\tfrac{1}{2}) \int_0^{1} \mu P_n(\mu) d\mu$$

and

$$R_n(s_0) \equiv \int_0^{s_0} ds\, e^{-\int_s^{s_0} \sigma_n(s')ds'}$$

The expression for the backward current, J_b, is the same except that the limits on the integral defining α_n are 0 and -1. For the net current, J_{net}, the limits are -1 and 1, so that only $\alpha_1 = 1$ is not zero.

The $R_n(s_0)$ are a set of generalized projected ranges of which $R_0 = s_0$ is the full residual range and R_1 is the mean vector range projected along the initial electron direction.[3] The ratio R_1/R_0, which might be called the "fractional forward-directed range," varies smoothly with energy and Z and is a convenient measure of multiple scattering effects. Tables of α_n and stopping powers for all elements and energies are from the Monte Carlo transport code SANDYL,[4] and tables of R_n are readily generated by quadrature.[5]

These equations and cross sections describe completely the electron currents produced by an arbitrary source S. It remains only to relate the source term S to the photon fluence.

Energetic electrons are produced by three principal photon interaction processes: Compton scattering, photoelectric absorption, and Auger emission from an excited atom. (Pair production has particle/antiparticle symmetry and therefore contributes no current in any direction.) Compton interactions are described by using the Klein-Nishina cross section for the interaction of photons and free electrons.[6] Auger emission from K and L shells is modeled using decay probabilities from the review paper by Bambynek, et al.[7] and the photoelectric cross-section compilations of Biggs.[8] Since Auger emission is isotropic, these electrons contribute equally to the forward and backward currents but do not contribute to the net current.

Total photoelectric cross sections are taken from the analytical fits of Biggs.[8] The initial calculations used the photoelectron angular distributions from the Fischer formula for electron kinetic energies less than 200 keV and the Sauter formula for higher electron kinetic energies.[9] When these results are compared with PCC based on the more accurate initial angular distribution derived from the Brysk and Zerby code PELEC,[10] forward and backward currents are found to be relatively insensitive to the choice of initial angular distribution. The net current, however is sensitive to the initial angular distribution in medium- and high-Z materials, particularly at low photon energies. For low-Z materials or high photon energies, the Fischer/Sauter net currents agree with the PELEC net currents. Empirically, better agreement is obtained with the PELEC net currents at lower energies if the transition from the Fischer to the Sauter formula is made at

an electron kinetic energy of

$$E(keV) = (5Z - E_K)/2$$

where E_K is the energy of the K edge and Z is the atomic number.

III. Description of the Data

Beginning on page 21, PCC data for a selected group of elements and compounds are presented in graphical and tabular form. The geometry used for these calculations is illustrated in Figure 1, where a plane wave of monoenergetic photons is shown traversing an unbounded medium. A computer code (QUICKE) based upon the preceding theory calculates the forward, backward, and net components of the PCC crossing a plane at an arbitrary angle A with respect to the photon direction. These bulk currents depend on the composition of the medium and the photon energy, but not on the density of the medium.

Description of the Tables

Each table is divided into two sections, for convenience shown separated by a column of asterisks. Entries on the left of the demarcation were evaluated on the basis of photon energy; those on the right on the basis of electron energy. The tabulated presentation is explained in Table II.

Description of the Graphs

To illustrate the dependence of the PCC on photon energy, two graphs are presented for each material. The scales on all the graphs are the same to allow easy visual comparison from material to material.

The left-hand graph on each page shows the net PCC versus incident photon energy. The solid line is the total net current, the dashed line is the contribution of photoelectrons to the net current, and the dotted line is the contribution of Compton electrons to the net current.

The right-hand graph on each page shows the forward PCC versus incident photon energy. The solid line is the forward current along the photon direction, the dashed line is the forward current at 45 degrees with respect to the photon direction, and the dotted line is the forward current along an axis perpendicular to photon direction.

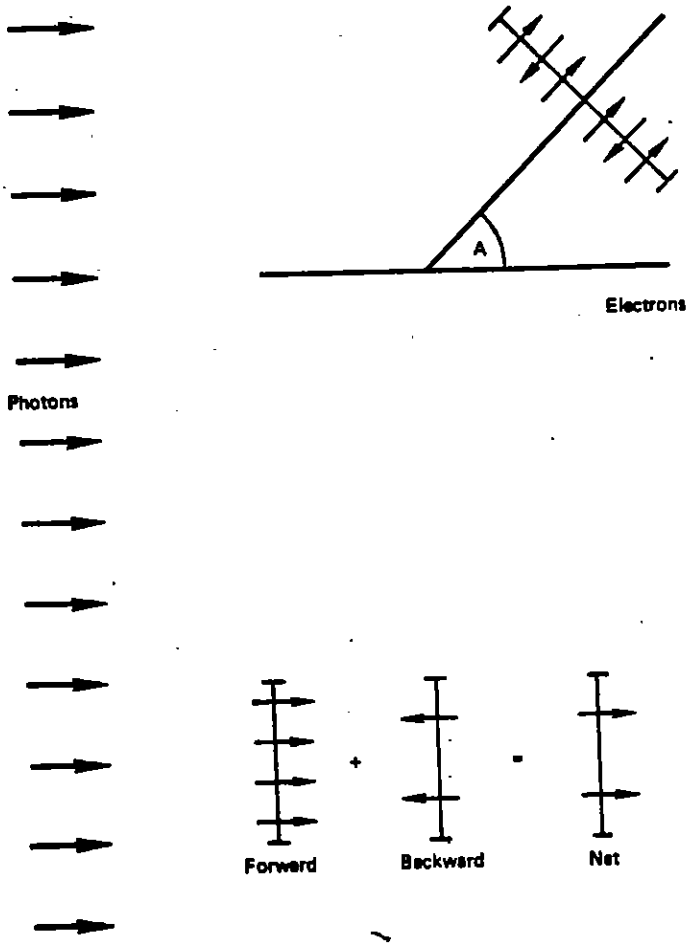


Figure 1. Geometry used in calculations

TABLE II

EXPLANATION OF TABULATED PCC DATA

Item	Column	Comment
PHOTON ENERGY (MeV): the energy of the incident photons.	1	The currents for an arbitrary spectrum can be found by integrating.
NET CURRENT (electrons/photon): the net PCC along the photon direction.	2-5	The net current for an angle A is given by multiplying these results by cos A. Therefore, at 90° (perpendicular to the photon source) the net current is zero as would be expected by symmetry. The unit electrons/photon is equivalent to (electrons/cm^2.s)/(photon /cm^2.s).
PHOTO(PELEC): the part of the net PCC caused by photoelectric events, using the initial angular distributions for photoelectrons predicted by the PELEC code.[3]	2	The net currents based on the PELEC angular distributions were not calculated for low-Z materials or at high photon energies because they were identical to the currents based on Fischer/Sauter. Cross sections are from the Biggs[8] tabulation.
PHOTO(F/S): the part of the net PCC caused by photoelectric events, using the initial angular distribution for photoelectrons predicted by the formulas of Fischer and Sauter.	3	The cutoff electron energy for changing from the Fischer to Sauter angular distributions is $E(keV) = (5Z - E_K)/2$ where Z is the atomic number of E_{KEDGE} and E_K is the energy of the K edge. Cross sections are from the Biggs[8] tabulation.
COMPTON: the part of the net PCC caused by Compton interactions, using the Klein-Nishina cross sections for the energy and angular distributions of the electrons.	4	
TOTAL: the net PCC given by the sum of the photoelectric and Compton contributions, using the photoelectron contribution based on the PELEC angular distributions.	5	
FORWARD CURRENT (electrons/photon): the forward component of the PCC at 0, 45, and 90° with respect to the photon direction produced by photoelectric, Compton, and Auger electrons (K+L shells).	6-8	The forward currents are relatively insensitive to the initial angular distribution of the photoelectron and therefore the simpler Fischer/Sauter formulas are used. Because the forward current is not very sensitive to the angle with the photon direction, reasonably accurate interpolation at arbitrary angles is possible. The backward current at an arbitrary angle A is given by $J_B(A) = J_N(0°)\cos A - J_F(A)$ where $J_N(0°)$ is the net current at 0° (column 5) and $J_F(A)$ is the forward current at the angle A. At 90°, the net current is zero and the forward and backward currents are opposite and equal.
0 DEG	6	
45 DEG	7	
90 DEG	8	
EBAR (MeV): the mean initial energy of the electrons created by the monoenergetic photons weighted by their contribution to the net PCC.	9	These data are needed for the interface model.
ELECTRON ENERGY (MeV): the monoenergetic electrons of this energy in an unbounded medium.	10	
RANGE (g/cm^2): the total electron range in (g/cm^2) based on the stopping power data from the SANDYL[4] code.	11	The range in (cm) is given by dividing these data by the density in (g/cm^3).
RBAR: the average penetration of a monoenergetic electron along its initial direction, normalized by dividing by the range at that electron energy.	12	If electrons traveled in straight lines without scattering, RBAR would be 1. The smaller RBAR, the more important are the effects of electron multiple scattering. Observe that over a wide energy range RBAR is fairly constant (a useful rule of thumb).

IV. Interface Model

In certain problems, it is necessary to determine the spatial dependence of the PCC at interfaces. At present, only the Monte Carlo methods give detailed description of electron transport within one range of the interface. However, based on Monte Carlo experience and a knowledge of the bulk PCC data, a useful and simple model can be advanced to approximate the PCC at the interface between two unbounded media.

The interface model is illustrated in Figure 2. Material 1 is nearest the monoenergetic source of photons of energy $h\nu$. The forward current in Material 1 is assumed to have its unbounded-medium value up to the interface. The forward current in Material 2 has the magnitude of the bulk forward current of Material 1 at the interface, and it then changes linearly to the bulk forward current of Material 2 in a distance $\bar{R}_2(\bar{E}_1)$. The backward current in Material 2 is assumed to have its unbounded-medium value up to the interface. The backward current in Material 1 has the value of the backward current of Material 2 at the interface, and it then changes linearly in Material 2 to the unbounded backward current in Material 2 in a distance $\bar{R}_1(\bar{E}_2)$.

In the model, $\bar{E}_1$ and $\bar{E}_2$ are the weighted average, initial, electron energies produced by photon energy $h\nu$ in Materials 1 and 2, respectively, whereas $\bar{R}_1(\bar{E}_2)$ and $\bar{R}_2(\bar{E}_1)$ are the mean range of electrons of energy $\bar{E}_2$ and $\bar{E}_1$ in Materials 1 and 2, respectively. The $\bar{E}$'s are given under the heading EBAR in column 9 of the data tables. The $\bar{R}$'s are given under the heading RBAR in column 12 of the data tables. The units of RBAR in the tables are fraction of an electron range. To convert to cm, multiply the RBAR by the RANGE in column 11 and divide by the density in g/cm^3. It will probably be necessary to interpolate to obtain the values of RBAR and RANGE at the desired electron energy. A linear interpolation is used in RBAR. The interpolation in RANGE is logarithmic below 1 MeV and linear above 1 MeV.

If the photons are not normal to the surface, it is necessary to use the forward and backward currents at that angle of incidence. EBAR, RANGE, and RBAR are the same for all angles. The response to an arbitrary spectrum can be obtained by superposing the responses for the monoenergetic photons.

Once the forward and backward currents are known, the net current is given by

$$J_N = J_F - J_B$$

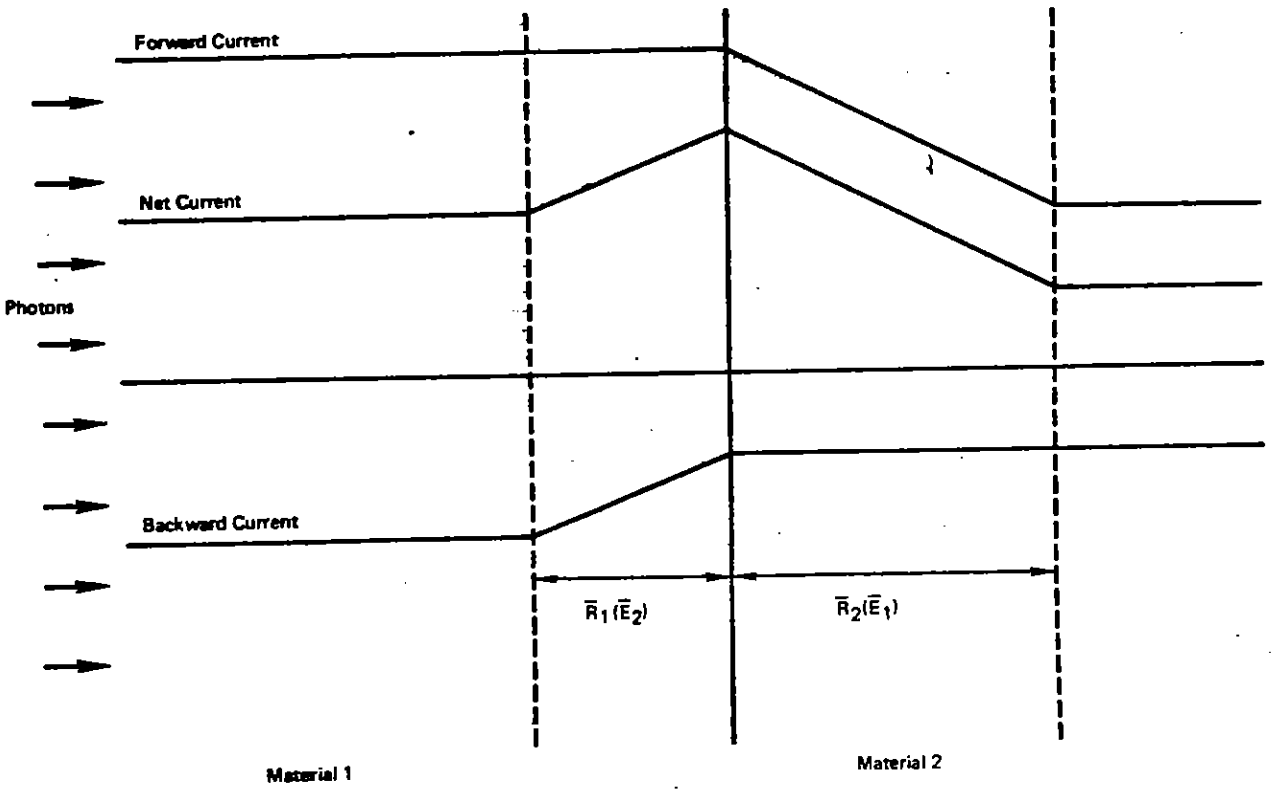


Figure 2. Interface model

From the net current, the rate of charge deposition is determined by the continuity relation

$$\frac{\partial \rho}{\partial t} = -\frac{\partial J_N}{\partial Z}$$

The nonlocal energy deposition near the interface can be found approximately by assuming that the energy deposition is proportional to the absolute number of electrons crossing a plane

$$E_d(Z) \propto \left(|J_F(Z)| + |J_B(Z)| \right)$$

The energy deposition curves can be normalized because, in the bulk of the material, the energy deposition for unit fluence (1 photon/cm^2) is given by the product of the photon energy, $h\nu$, and the energy absorption cross section σ_{en}. Therefore,

$$E_d(Z) = h\nu\,\sigma_{en} \frac{|J_F(Z)| + |J_B(Z)|}{|J_F^*| + |J_B^*|}$$

where E_d is the energy deposition for unit fluence in units of (MeV/g)/(photon/cm^2), $h\nu$ is the photon energy in MeV, σ_{en} is the energy absorption cross section in (cm^2/g), $J_F(Z)$ and $J_B(Z)$ are the spatially dependent PCC predicted by the above model, and J_F^* and J_B^* are the bulk PCC. Values of σ_{en} are tabulated by Storm and Israel.[11]

As an example of the use of the interface model, consider a C/Al interface exposed to a unit flux of 1-MeV photons. From the tables on pages 23 and 28, the following data are obtained

Carbon

Forward current for 1-MeV photons = 6.32×10^{-3} electrons/photon

Backward current for 1-MeV photons = $-.85 \times 10^{-3}$

EBAR for 1-MeV photons = .632 MeV

RBAR for .632-MeV electrons = .530 of an electron range

x(Range = .274 g/cm^2) = .145 g/cm^2

÷(Density = 2.0 g/cm^3) = .0725 cm

Aluminum

Forward current for 1-MeV photons = 5.51×10^{-3} electrons/photon

Backward current for 1-MeV photons = -1.55×10^{-3} electrons/photon

EBAR for 1-MeV photons = .633 MeV

RBAR for .633-MeV photons = .355 of an electron range

x(Range = .308 g/cm^2) = .109 g/cm^2

÷(Density = 2.7 g/cm^3) = .0403 cm

The forward, backward, and net currents are plotted in Figure 3(a). The rate of charge deposition is shown in Figure 3(b). The energy deposition is shown in Figure 3(c) using

σ_{en} for 1-MeV photons in C = .0279 cm^2/g

σ_{en} for 1-MeV photons in Al = .0268 cm^2/g

The model can also be applied to material/vacuum and vacuum/material interfaces. In particular, it predicts that the forward and backward emission currents off the material into vacuum are given by the equilibrium forward and backward currents. While these emission values are not exact, they are upper bounds for the following reason. For the vacuum interface, emitted electrons are created only in the material side. At some plane in a homogeneous material, the same electron flux component is incident on the plane. However, additional components created by photon interaction on the second side of the plane as well as multiple electron scattering (a looping action) add to the forward and/or backward fluxes in the homogeneous case. Therefore, the equilibrium forward and backward currents are upper bounds on the forward and backward vacuum emission currents.

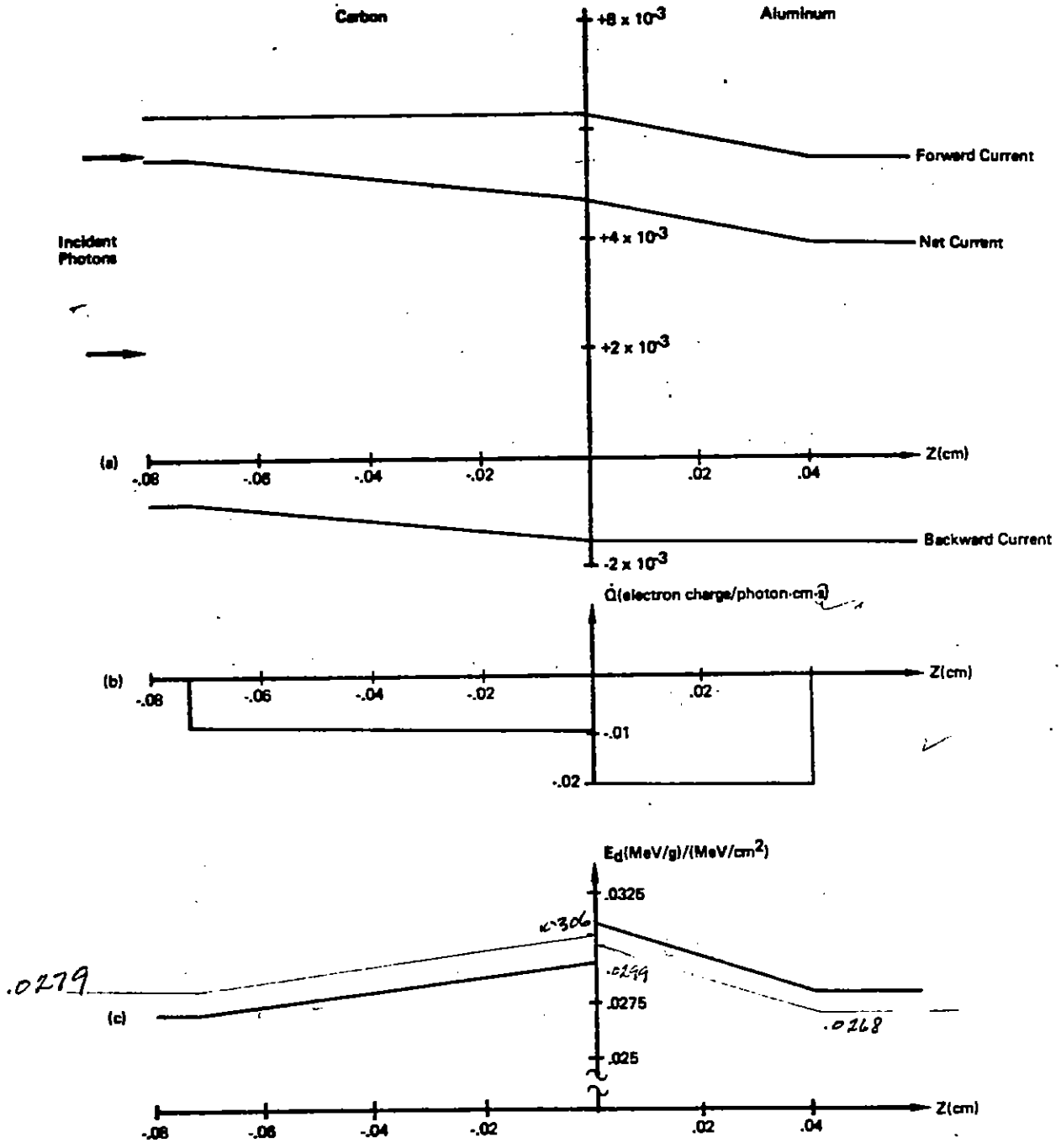
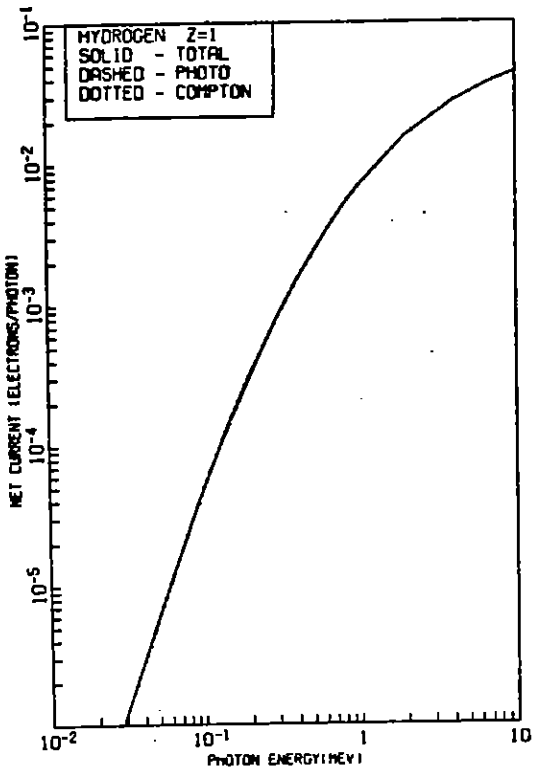


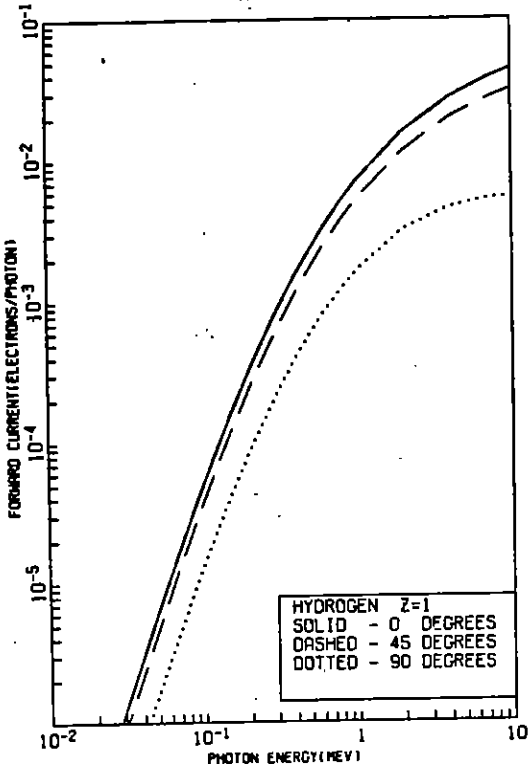
Figure 3. Example of the use of the interface model for a carbon/aluminum interface irradiated with a plane wave of 1-MeV photons incident from the right: (a) shows the spatial variation in the forward, net, and backward components of the PCC; (b) gives the time rate of charge deposition; and (c) shows the non-local energy deposition.

V. Data

Elements

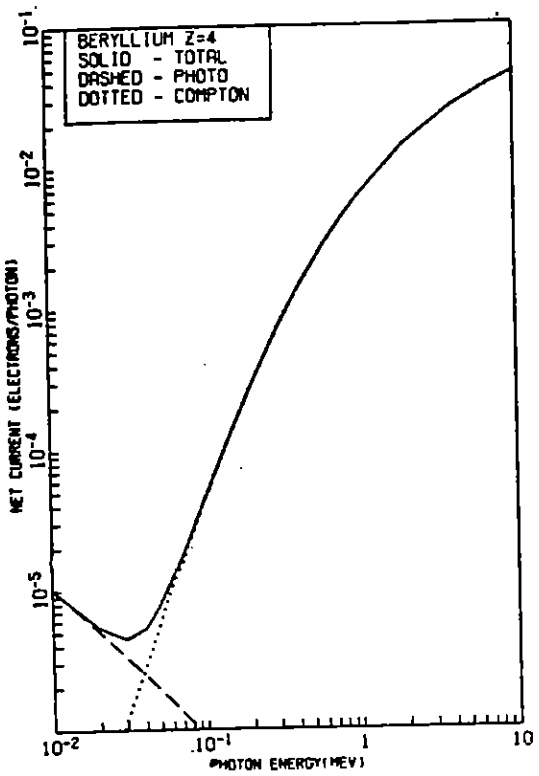
HYDROGEN
Z = 1

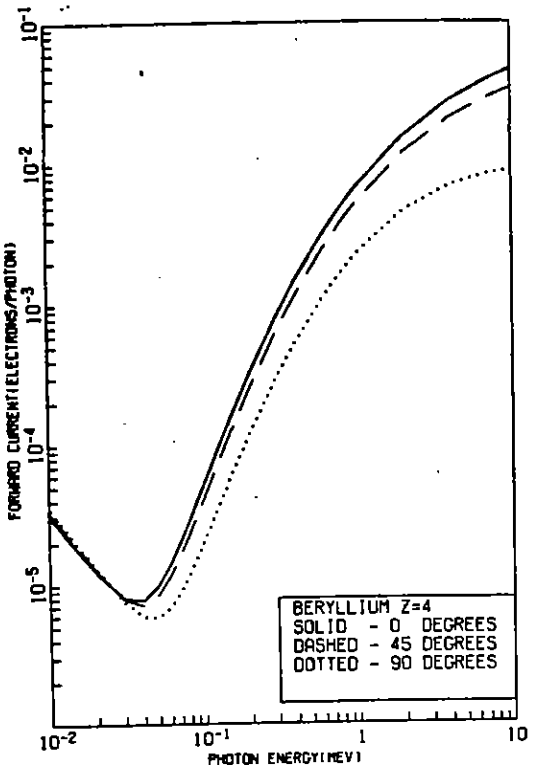




PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	45 DEG	90 DEG	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (G/CM2)	RBAR
.010		3.59E-09	3.85E-09	7.43E-03	3.13E-09	3.85E-08	9.56E-09	.005	.010	1.07E-04	.780
.015		2.26E-08	1.88E-07	1.31E-07	1.36E-07	1.15E-07	7.05E-05	.003	.015	2.24E-04	.781
.020		1.61E-08	2.98E-07	3.12E-07	3.25E-07	2.49E-07	1.04E-07	.002	.020	3.77E-04	.782
.030		1.01E-08	1.17E-06	1.13E-06	1.22E-06	9.15E-07	3.30E-07	.003	.030	7.84E-04	.783
.040		7.23E-09	3.00E-06	3.01E-06	3.12E-06	2.33E-06	9.30E-07	.004	.040	1.32E-03	.784
.050		5.59E-09	6.13E-06	6.14E-06	6.30E-06	4.74E-06	1.69E-06	.007	.050	1.96E-03	.785
.060		4.51E-09	1.09E-05	1.09E-05	1.12E-05	8.39E-06	2.99E-06	.009	.060	2.71E-03	.786
.070		3.75E-09	1.75E-05	1.75E-05	1.81E-05	1.35E-05	4.79E-06	.012	.070	3.56E-03	.786
.080		3.19E-09	2.61E-05	2.61E-05	2.70E-05	2.01E-05	7.16E-06	.015	.080	4.50E-03	.787
.090		2.76E-09	3.70E-05	3.70E-05	3.83E-05	2.85E-05	1.01E-05	.019	.090	5.52E-03	.787
.100		2.41E-09	5.03E-05	5.03E-05	5.19E-05	3.87E-05	1.38E-05	.023	.100	6.62E-03	.787
.125		1.82E-09	9.44E-05	9.44E-05	9.74E-05	7.26E-05	2.59E-05	.033	.125	9.69E-03	.788
.150		1.45E-09	1.55E-04	1.55E-04	1.59E-04	1.19E-04	4.21E-05	.044	.150	1.32E-02	.789
.200		1.01E-09	3.23E-04	3.23E-04	3.32E-04	2.48E-04	8.73E-05	.070	.200	2.11E-02	.791
.300		6.01E-10	8.30E-04	8.30E-04	8.53E-04	6.34E-04	2.21E-04	.129	.300	3.99E-02	.794
.400		4.21E-10	1.51E-03	1.51E-03	1.55E-03	1.15E-03	3.97E-04	.194	.400	6.13E-02	.797
.600		2.70E-10	3.20E-03	3.20E-03	3.27E-03	2.42E-03	8.10E-04	.333	.600	1.09E-01	.803
.800		2.09E-10	5.07E-03	5.07E-03	5.18E-03	3.83E-03	1.24E-03	.480	.800	1.59E-01	.809
1.000		1.78E-10	6.99E-03	6.99E-03	7.13E-03	5.25E-03	1.65E-03	.631	1.000	2.11E-01	.814
2.000		1.29E-10	1.56E-02	1.55E-02	1.59E-02	1.15E-02	3.21E-03	1.417	2.000	4.73E-01	.837
4.000		1.11E-10	2.73E-02	2.73E-02	2.76E-02	1.99E-02	4.63E-03	3.053	4.000	9.78E-01	.867
7.000		1.03E-10	3.76E-02	3.75E-02	3.79E-02	2.71E-02	5.30E-03	5.574	7.000	1.69E+00	.892
10.000		9.93E-11	4.40E-02	4.40E-02	4.42E-02	3.16E-02	5.46E-03	8.137	10.000	2.38E+00	.908
20.000		9.27E-11	5.51E-02	5.51E-02	5.53E-02	3.93E-02	5.24E-03	16.918	20.000	4.58E+00	.936

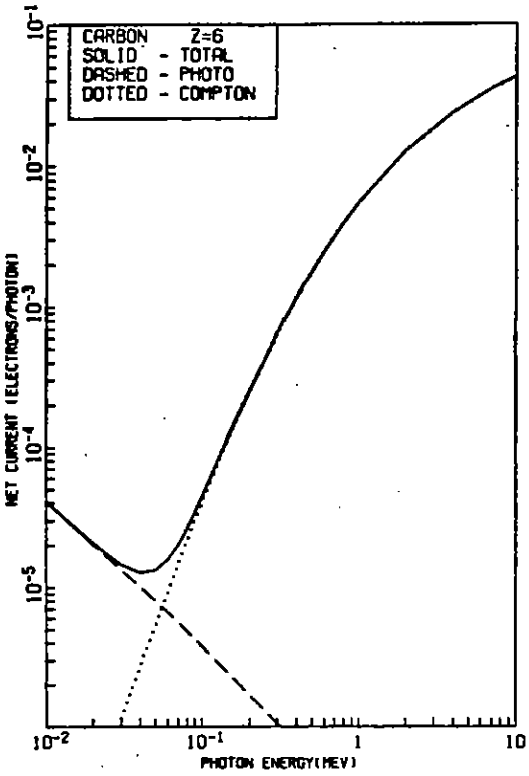
BERYLLIUM
Z = 4

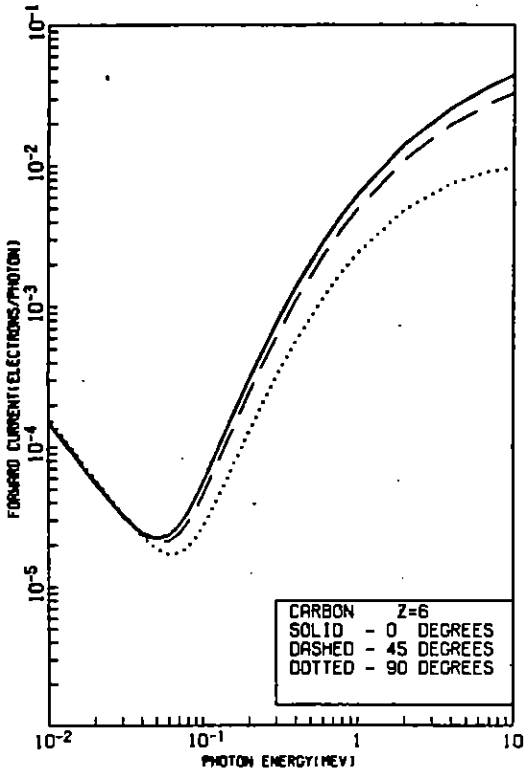




PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	45 DEG	90 DEG	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	EBAR
.010		1.01E-05	4.95E-09	1.02E-05	3.17E-05	3.33E-05	3.50E-05	.010	.010	3.04E-04	.563
.015		6.93E-06	1.32E-07	6.95E-06	1.81E-05	1.99E-05	1.97E-05	.015	.015	6.23E-04	.570
.020		5.07E-06	3.35E-07	5.41E-06	1.23E-05	1.27E-05	1.30E-05	.019	.020	1.04E-03	.572
.030		3.31E-06	1.20E-06	4.51E-06	8.11E-06	9.01E-06	7.67E-06	.023	.030	2.13E-03	.57-
.040		2.44E-06	2.92E-06	5.35E-06	7.65E-06	7.23E-06	5.99E-06	.021	.040	3.55E-03	.576
.050		1.91E-06	5.50E-06	7.41E-06	9.94E-06	5.57E-06	5.91E-06	.017	.050	5.26E-03	.579
.060		1.55E-06	1.01E-05	1.17E-05	1.41E-05	1.17E-05	6.96E-06	.016	.060	7.24E-03	.579
.070		1.29E-06	1.60E-05	1.73E-05	2.04E-05	1.65E-05	8.97E-06	.016	.070	9.46E-03	.550
.080		1.10E-06	2.38E-05	2.49E-05	2.89E-05	2.30E-05	1.19E-05	.018	.080	1.19E-02	.551
.090		9.57E-07	3.35E-05	3.45E-05	3.96E-05	3.15E-05	1.55E-05	.021	.090	1.46E-02	.562
.100		8.43E-07	4.53E-05	4.61E-05	5.28E-05	4.19E-05	2.06E-05	.024	.100	1.75E-02	.563
.125		6.47E-07	8.42E-05	9.49E-05	9.65E-05	7.60E-05	3.67E-05	.034	.125	2.54E-02	.565
.150		5.25E-07	1.37E-04	1.39E-04	1.56E-04	1.23E-04	5.87E-05	.045	.150	3.44E-02	.567
.200		3.79E-07	2.84E-04	2.94E-04	3.21E-04	2.52E-04	1.19E-04	.070	.200	5.50E-02	.568
.300		2.43E-07	7.24E-04	7.26E-04	8.13E-04	6.37E-04	2.99E-04	.129	.300	1.04E-01	.569
.400		1.78E-07	1.32E-03	1.32E-03	1.47E-03	1.15E-03	5.34E-04	.194	.400	1.59E-01	.569
.600		1.17E-07	2.78E-03	2.79E-03	3.09E-03	2.41E-03	1.09E-03	.333	.600	2.81E-01	.569
.800		9.29E-08	4.43E-03	4.43E-03	4.89E-03	3.79E-03	1.65E-03	.490	.800	4.11E-01	.569
1.000		8.06E-08	6.14E-03	6.14E-03	6.73E-03	5.20E-03	2.26E-03	.652	1.000	5.45E-01	.569
2.000		6.19E-08	1.41E-02	1.41E-02	1.52E-02	1.16E-02	4.52E-03	1.421	2.000	1.23E+00	.569
4.000		5.52E-08	2.60E-02	2.58E-02	2.72E-02	2.04E-02	6.96E-03	3.047	4.000	2.50E+00	.569
7.000		5.25E-08	3.74E-02	3.74E-02	3.87E-02	2.85E-02	8.23E-03	5.604	7.000	4.45E+00	.569
10.000		5.19E-08	4.51E-02	4.51E-02	4.62E-02	3.38E-02	9.74E-03	8.130	10.000	6.31E+00	.569
20.000		4.97E-08	5.93E-02	5.93E-02	6.01E-02	4.34E-02	9.45E-03	16.592	20.000	1.20E+01	.569

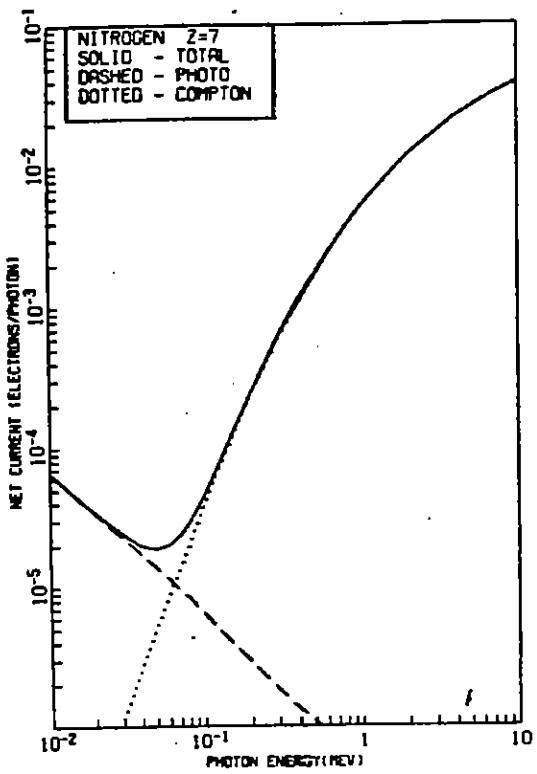
CARBON
Z = 6

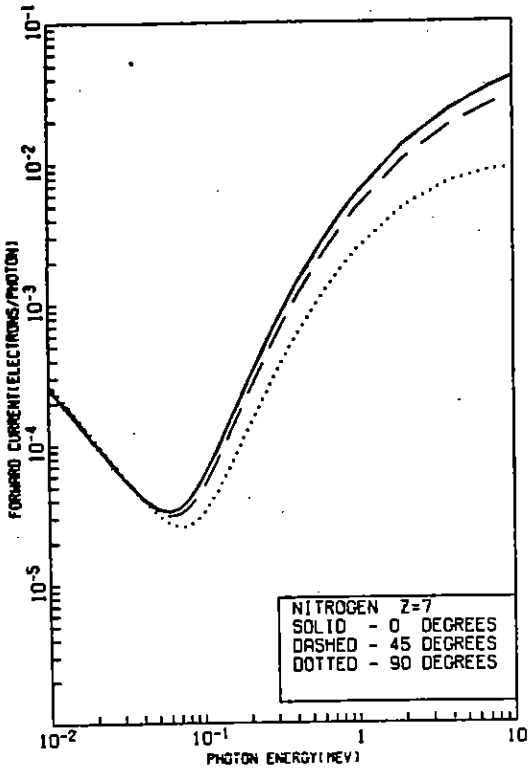




PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG	45 DEG	90 DEG (ELECTRONS/PHOTON)	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010		4.11E-05	5.30E-08	4.12E-05	1.49E-04	1.55E-04	1.62E-04	.010	.010	2.82E-04	.491
.015		2.72E-05	1.42E-07	2.73E-05	8.36E-05	8.66E-05	8.97E-05	.015	.015	5.77E-04	.491
.020		2.04E-05	3.44E-07	2.07E-05	5.54E-05	5.71E-05	5.88E-05	.019	.020	9.59E-04	.492
.030		1.35E-05	1.15E-06	1.46E-05	3.25E-05	3.30E-05	3.33E-05	.028	.030	1.98E-03	.494
.040		1.01E-05	2.71E-06	1.28E-05	2.44E-05	2.41E-05	2.33E-05	.032	.040	3.20E-03	.495
.050		8.05E-06	5.31E-06	1.34E-05	2.21E-05	2.10E-05	1.88E-05	.033	.050	4.83E-03	.497
.060		6.68E-06	9.16E-06	1.59E-05	2.33E-05	2.13E-05	1.72E-05	.030	.060	6.64E-03	.498
.070		5.67E-06	1.45E-05	2.01E-05	2.75E-05	2.41E-05	1.75E-05	.028	.070	8.67E-03	.499
.080		4.90E-06	2.14E-05	2.63E-05	3.42E-05	2.91E-05	1.93E-05	.027	.080	1.09E-02	.500
.090		4.30E-06	3.00E-05	3.43E-05	4.34E-05	3.62E-05	2.24E-05	.028	.090	1.34E-02	.501
.100		3.80E-06	4.05E-05	4.43E-05	5.51E-05	4.54E-05	2.68E-05	.029	.100	1.60E-02	.501
.125		2.92E-06	7.50E-05	7.79E-05	9.50E-05	7.72E-05	4.27E-05	.036	.125	2.33E-02	.503
.150		2.36E-06	1.22E-04	1.24E-04	1.50E-04	1.21E-04	6.54E-05	.046	.150	3.15E-02	.505
.200		1.68E-06	2.52E-04	2.53E-04	3.04E-04	2.45E-04	1.29E-04	.071	.200	5.02E-02	.508
.300		1.05E-06	6.41E-04	6.42E-04	7.65E-04	6.14E-04	3.20E-04	.129	.300	9.45E-02	.513
.400		7.63E-07	1.17E-03	1.17E-03	1.38E-03	1.11E-03	5.71E-04	.194	.400	1.45E-01	.518
.600		5.16E-07	2.47E-03	2.47E-03	2.90E-03	2.31E-03	1.17E-03	.334	.600	2.56E-01	.528
.800		4.13E-07	3.94E-03	3.94E-03	4.59E-03	3.64E-03	1.80E-03	.481	.800	3.75E-01	.538
1.000		3.59E-07	5.47E-03	5.47E-03	6.32E-03	5.00E-03	2.42E-03	.632	1.000	4.97E-01	.547
2.000		2.74E-07	1.27E-02	1.27E-02	1.43E-02	1.11E-02	4.98E-03	1.423	2.000	1.12E+00	.594
4.000		2.46E-07	2.38E-02	2.39E-02	2.59E-02	1.96E-02	7.52E-03	3.072	4.000	2.32E+00	.650
7.000		2.39E-07	3.48E-02	3.45E-02	3.68E-02	2.75E-02	9.09E-03	5.614	7.000	4.04E+00	.707
10.000		2.36E-07	4.23E-02	4.23E-02	4.41E-02	3.26E-02	9.65E-03	8.192	10.000	5.67E+00	.744
20.000		2.29E-07	5.61E-02	5.61E-02	5.75E-02	4.19E-02	9.93E-03	16.985	20.000	1.06E+01	.812

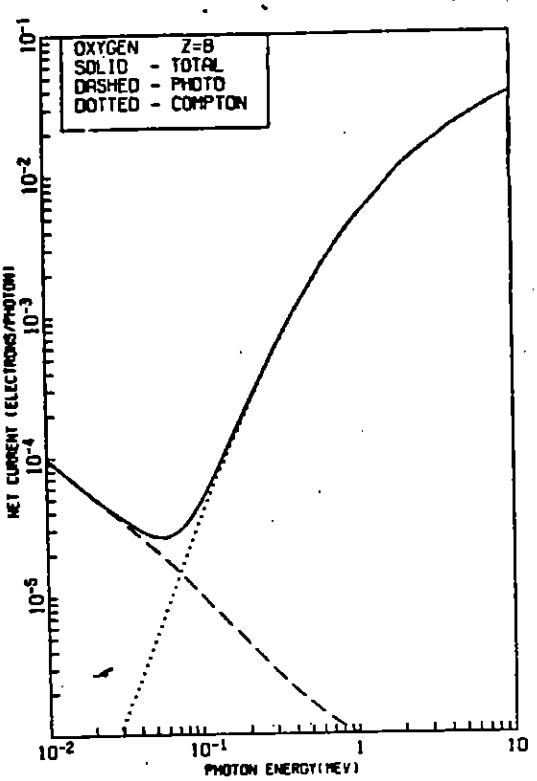
NITROGEN
Z = 7

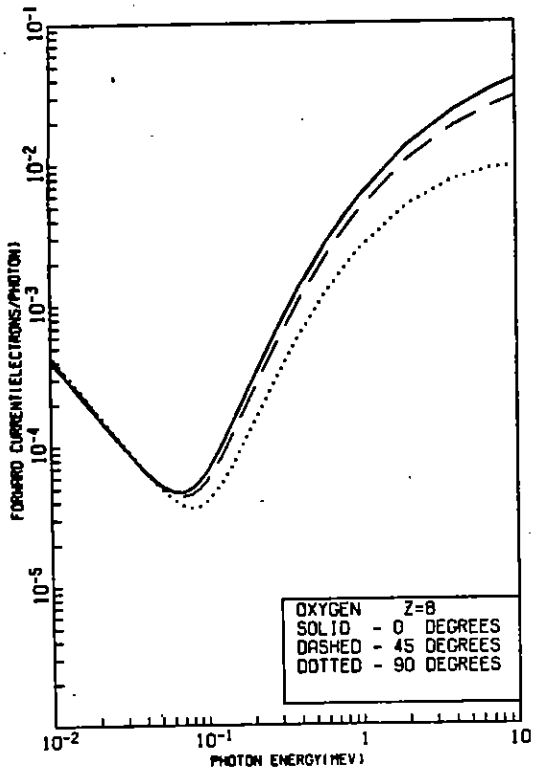




PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	45 DEG	90 DEG	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010		6.59E-05	5.71E-08	6.59E-05	2.50E-04	2.66E-04	2.76E-04	.010	.010	2.92E-04	.456
.015		4.47E-05	1.52E-07	4.49E-05	1.48E-04	1.53E-04	1.58E-04	.015	.015	5.96E-04	.456
.020		3.42E-05	3.59E-07	3.46E-05	9.93E-05	1.02E-04	1.05E-04	.019	.020	9.69E-04	.458
.030		2.30E-05	1.15E-06	2.42E-05	5.82E-05	5.92E-05	6.00E-05	.028	.030	2.02E-03	.458
.040		1.73E-05	2.66E-06	2.00E-05	4.16E-05	4.19E-05	4.13E-05	.035	.040	3.35E-03	.459
.050		1.38E-05	5.16E-06	1.90E-05	3.49E-05	3.40E-05	3.21E-05	.038	.050	4.95E-03	.461
.060		1.14E-05	8.65E-06	2.03E-05	3.33E-05	3.14E-05	2.75E-05	.038	.060	6.51E-03	.462
.070		9.70E-06	1.39E-05	2.35E-05	3.54E-05	3.22E-05	2.59E-05	.038	.070	8.09E-03	.463
.080		9.37E-06	2.05E-05	2.99E-05	4.06E-05	3.69E-05	2.64E-05	.034	.080	1.12E-02	.464
.090		7.32E-06	2.89E-05	3.61E-05	4.86E-05	4.18E-05	2.87E-05	.033	.090	1.37E-02	.465
.100		6.47E-06	3.87E-05	4.52E-05	5.93E-05	5.02E-05	3.24E-05	.033	.100	1.63E-02	.466
.125		4.97E-06	7.16E-05	7.65E-05	9.73E-05	8.05E-05	4.77E-05	.039	.125	2.38E-02	.467
.150		4.82E-06	1.16E-04	1.28E-04	1.51E-04	1.24E-04	7.06E-05	.048	.150	3.21E-02	.469
.200		2.88E-06	2.39E-04	2.42E-04	3.01E-04	2.45E-04	1.36E-04	.072	.200	5.11E-02	.472
.300		1.81E-06	6.09E-04	6.10E-04	7.52E-04	6.10E-04	3.33E-04	.129	.300	9.56E-02	.478
.400		1.32E-06	1.18E-03	1.11E-03	1.35E-03	1.10E-03	5.91E-04	.194	.400	1.46E-01	.484
.600		9.86E-07	2.33E-03	2.33E-03	2.82E-03	2.27E-03	1.20E-03	.333	.600	2.57E-01	.495
.800		7.86E-07	3.71E-03	3.72E-03	4.45E-03	3.56E-03	1.85E-03	.480	.800	3.74E-01	.506
1.000		6.11E-07	5.15E-03	5.13E-03	6.10E-03	4.87E-03	2.47E-03	.632	1.000	4.93E-01	.517
2.000		4.62E-07	1.19E-02	1.13E-02	1.36E-02	1.07E-02	4.91E-03	1.422	2.000	1.09E+00	.563
4.000		4.12E-07	2.21E-02	2.21E-02	2.42E-02	1.85E-02	7.39E-03	3.069	4.000	2.22E+00	.625
7.000		3.95E-07	3.19E-02	3.19E-02	3.39E-02	2.55E-02	8.76E-03	5.606	7.000	3.77E+00	.669
10.000		3.86E-07	3.83E-02	3.91E-02	4.02E-02	2.99E-02	9.20E-03	8.180	10.000	5.22E+00	.725
20.000		3.66E-07	4.98E-02	4.95E-02	5.12E-02	3.74E-02	9.07E-03	16.373	20.000	9.51E+00	.800

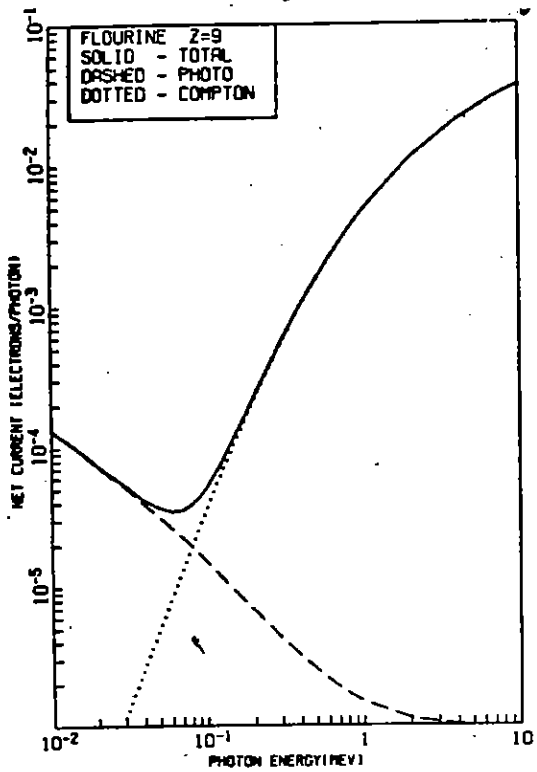
OXYGEN
Z = 8

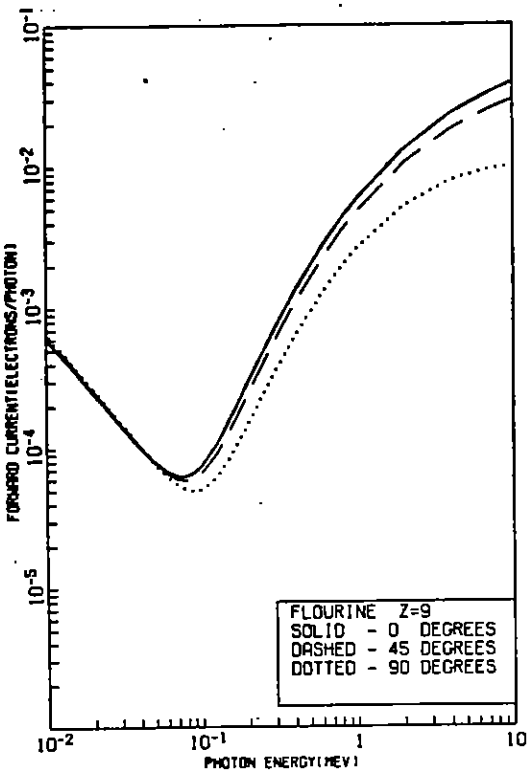




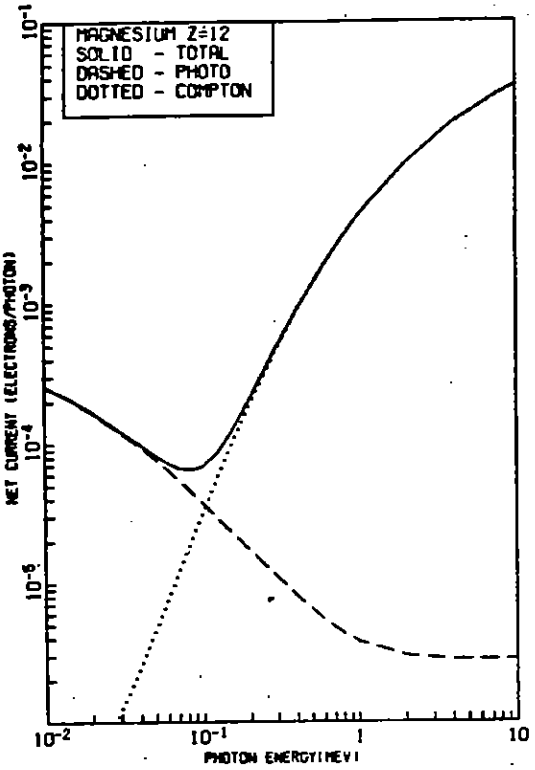
PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	45 DEG	90 DEG	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010		9.72E-05	6.17E-08	9.73E-05	4.08E-04	4.22E-04	4.37E-04	.009	.010	3.02E-04	.426
.015		6.75E-05	1.63E-07	6.77E-05	2.39E-04	2.46E-04	2.54E-04	.014	.015	6.13E-04	.425
.020		5.12E-05	3.75E-07	5.16E-05	1.61E-04	1.66E-04	1.70E-04	.019	.020	1.02E-03	.425
.030		3.57E-05	1.15E-06	3.69E-05	9.51E-05	9.68E-05	9.94E-05	.029	.030	2.07E-03	.427
.040		2.71E-05	2.62E-06	2.97E-05	6.71E-05	6.79E-05	6.74E-05	.036	.040	3.43E-03	.428
.050		2.17E-05	5.02E-06	2.67E-05	5.37E-05	5.30E-05	5.13E-05	.041	.050	5.07E-03	.429
.060		1.90E-05	8.57E-06	2.65E-05	4.79E-05	4.61E-05	4.26E-05	.043	.060	6.96E-03	.431
.070		1.53E-05	1.34E-05	2.87E-05	4.71E-05	4.41E-05	3.91E-05	.043	.070	9.88E-03	.432
.080		1.32E-05	1.97E-05	3.29E-05	5.02E-05	4.56E-05	3.67E-05	.041	.080	1.14E-02	.432
.090		1.19E-05	2.76E-05	3.91E-05	5.66E-05	5.01E-05	3.75E-05	.040	.090	1.40E-02	.433
.100		1.02E-05	3.71E-05	4.73E-05	6.60E-05	5.72E-05	4.03E-05	.039	.100	1.67E-02	.434
.125		7.85E-06	6.84E-05	7.63E-05	1.01E-04	8.54E-05	5.42E-05	.042	.125	2.42E-02	.436
.150		6.34E-06	1.11E-04	1.17E-04	1.53E-04	1.27E-04	7.67E-05	.050	.150	3.28E-02	.438
.200		4.52E-06	2.26E-04	2.33E-04	3.00E-04	2.47E-04	1.43E-04	.072	.200	5.20E-02	.441
.300		2.82E-06	5.79E-04	5.92E-04	7.42E-04	6.07E-04	3.45E-04	.130	.300	9.74E-02	.447
.400		2.06E-06	1.05E-03	1.05E-03	1.33E-03	1.09E-03	6.10E-04	.194	.400	1.49E-01	.453
.600		1.41E-06	2.22E-03	2.22E-03	2.77E-03	2.25E-03	1.24E-03	.334	.600	2.61E-01	.464
.800		1.14E-06	3.54E-03	3.54E-03	4.36E-03	3.53E-03	1.90E-03	.491	.800	3.79E-01	.475
1.000		9.86E-07	4.91E-03	4.91E-03	5.98E-03	4.82E-03	2.54E-03	.632	1.000	5.00E-01	.486
2.000		7.64E-07	1.14E-02	1.14E-02	1.33E-02	1.05E-02	5.07E-03	1.422	2.000	1.10E+00	.534
4.000		6.64E-07	2.13E-02	2.13E-02	2.37E-02	1.83E-02	7.64E-03	3.072	4.000	2.24E+00	.601
7.000		6.40E-07	3.10E-02	3.10E-02	3.33E-02	2.52E-02	9.08E-03	5.611	7.000	3.81E+00	.665
10.000		6.29E-07	3.74E-02	3.74E-02	3.96E-02	2.96E-02	9.54E-03	8.195	10.000	5.25E+00	.706
20.000		5.99E-07	4.86E-02	4.85E-02	5.04E-02	3.69E-02	9.42E-03	16.580	20.000	9.51E+00	.763

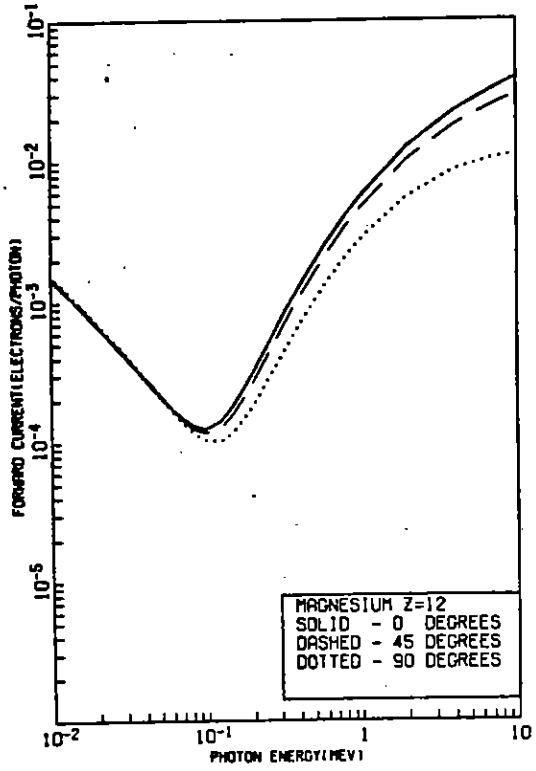
FLOURINE
Z = 9





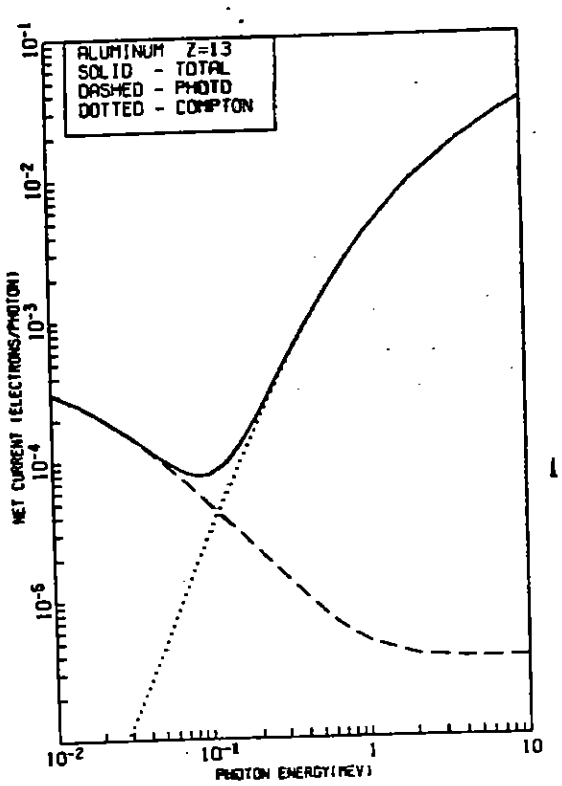
PHOTON ENERGY (MEV)	PHOTC (PELEC)	NET CURRENT PHOTC (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG	45 DEG	90 DEG (ELECTRONS/PHOTON)	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	1.33E-04	1.38E-04	6.65E-08	1.33E-04	6.10E-04	6.30E-04	6.51E-04	.009	.010	3.25E-04	.400
.015	9.64E-05	9.67E-05	1.75E-07	9.65E-05	3.65E-04	3.75E-04	3.86E-04	.014	.015	6.65E-04	.399
.020	7.49E-05	7.42E-05	3.94E-07	7.53E-05	2.49E-04	2.55E-04	2.62E-04	.019	.020	1.18E-03	.399
.030	5.25E-05	5.24E-05	1.16E-06	5.37E-05	1.47E-04	1.50E-04	1.52E-04	.029	.030	2.24E-03	.400
.040	3.96E-05	3.99E-05	2.59E-06	4.22E-05	1.03E-04	1.04E-04	1.04E-04	.037	.040	3.70E-03	.401
.050	3.19E-05	3.20E-05	4.91E-06	3.69E-05	7.91E-05	7.97E-05	7.96E-05	.044	.050	5.46E-03	.402
.060	2.63E-05	2.66E-05	8.32E-06	3.49E-05	6.48E-05	6.53E-05	6.36E-05	.047	.060	7.49E-03	.403
.070	2.25E-05	2.26E-05	1.30E-05	3.55E-05	6.36E-05	6.08E-05	5.51E-05	.048	.070	9.77E-03	.404
.080	1.96E-05	1.95E-05	1.90E-05	3.85E-05	6.38E-05	5.94E-05	5.09E-05	.048	.080	1.23E-02	.405
.090	1.72E-05	1.71E-05	2.66E-05	4.38E-05	6.79E-05	6.17E-05	4.97E-05	.046	.090	1.50E-02	.406
.100	1.51E-05	1.51E-05	3.57E-05	5.08E-05	7.59E-05	6.71E-05	5.09E-05	.045	.100	1.79E-02	.407
.125	1.16E-05	1.17E-05	6.56E-05	7.72E-05	1.08E-04	9.24E-05	6.26E-05	.047	.125	2.61E-02	.408
.150	9.44E-06	9.45E-06	1.06E-04	1.15E-04	1.57E-04	1.32E-04	8.42E-05	.053	.150	3.52E-02	.410
.200	6.77E-06	6.76E-06	2.18E-04	2.25E-04	3.00E-04	2.49E-04	1.51E-04	.074	.200	5.59E-02	.413
.300		4.28E-06	5.63E-04	5.67E-04	7.33E-04	6.06E-04	3.56E-04	.130	.300	1.05E-01	.419
.400		3.13E-06	1.00E-03	1.01E-03	1.31E-03	1.09E-03	6.29E-04	.194	.400	1.59E-01	.425
.600		2.13E-06	2.12E-03	2.12E-03	2.72E-03	2.23E-03	1.27E-03	.334	.600	2.79E-01	.437
.800		1.70E-06	3.37E-03	3.39E-03	4.28E-03	3.49E-03	1.95E-03	.481	.800	4.06E-01	.449
1.000		1.48E-06	4.68E-03	4.69E-03	5.87E-03	4.77E-03	2.61E-03	.632	1.000	5.35E-01	.459
2.000		1.11E-06	1.09E-02	1.09E-02	1.31E-02	1.04E-02	5.21E-03	1.423	2.000	1.19E+00	.507
4.000		1.00E-06	2.05E-02	2.05E-02	2.32E-02	1.81E-02	7.66E-03	3.074	4.000	2.39E+00	.577
7.000		9.74E-07	3.01E-02	3.01E-02	3.26E-02	2.49E-02	9.36E-03	5.614	7.000	4.05E+00	.642
10.000		9.61E-07	3.64E-02	3.64E-02	3.89E-02	2.92E-02	9.95E-03	8.190	10.000	5.57E+00	.686
20.000		9.28E-07	4.77E-02	4.77E-02	4.96E-02	3.65E-02	9.72E-03	16.696	20.000	1.00E+01	.766

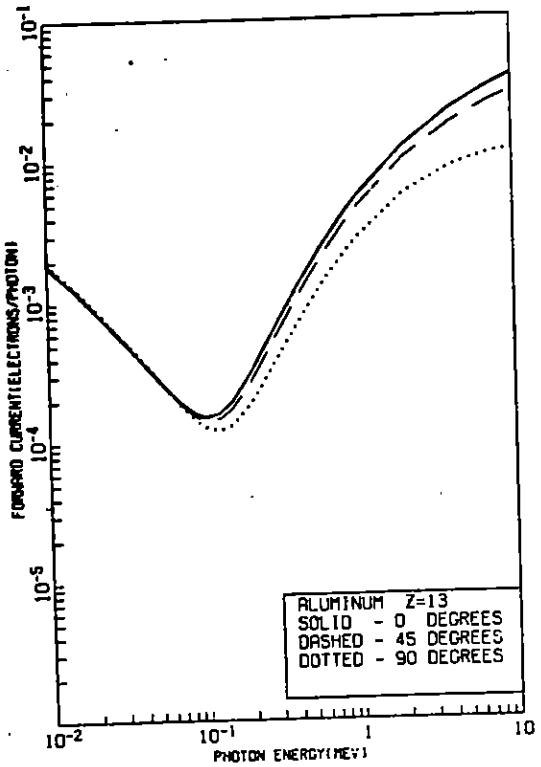




PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG	45 DEG	90 DEG (ELECTRONS/PHOTON)	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	2.97E-04	2.71E-04	8.26E-08	2.97E-04	1.47E-03	1.51E-03	1.55E-03	.009	.010	3.40E-04	.341
.015	2.06E-04	2.10E-04	2.16E-07	2.86E-04	9.45E-04	9.67E-04	9.91E-04	.014	.015	6.84E-04	.337
.020	1.69E-04	1.70E-04	4.65E-07	1.70E-04	6.75E-04	6.90E-04	7.05E-04	.019	.020	1.13E-03	.336
.030	1.22E-04	1.22E-04	1.22E-06	1.23E-04	4.11E-04	4.17E-04	4.25E-04	.029	.030	2.28E-03	.335
.040	9.65E-05	9.78E-05	2.54E-06	9.80E-05	2.83E-04	2.91E-04	2.94E-04	.038	.040	3.76E-03	.336
.050	7.78E-05	7.91E-05	4.65E-06	8.23E-05	2.18E-04	2.18E-04	2.19E-04	.046	.050	5.53E-03	.337
.060	6.55E-05	6.99E-05	7.72E-06	7.32E-05	1.75E-04	1.74E-04	1.72E-04	.054	.060	7.57E-03	.337
.070	5.65E-05	5.59E-05	1.19E-05	6.74E-05	1.49E-04	1.47E-04	1.42E-04	.059	.070	9.87E-03	.338
.080	4.84E-05	4.83E-05	1.73E-05	6.57E-05	1.34E-04	1.30E-04	1.23E-04	.062	.080	1.24E-02	.339
.090	4.23E-05	4.23E-05	2.40E-05	6.63E-05	1.27E-04	1.21E-04	1.10E-04	.063	.090	1.51E-02	.340
.100	3.74E-05	3.76E-05	3.20E-05	6.94E-05	1.28E-04	1.18E-04	1.04E-04	.064	.100	1.81E-02	.340
.125	2.91E-05	2.92E-05	5.84E-05	8.75E-05	1.43E-04	1.29E-04	1.03E-04	.063	.125	2.62E-02	.342
.150	2.38E-05	2.38E-05	9.39E-05	1.13E-04	1.82E-04	1.60E-04	1.19E-04	.065	.150	3.53E-02	.344
.200	1.73E-05	1.73E-05	1.92E-04	2.09E-04	3.10E-04	2.66E-04	1.80E-04	.081	.200	5.59E-02	.347
.300	1.11E-05	1.11E-05	4.85E-04	4.96E-04	7.16E-04	6.08E-04	3.91E-04	.133	.300	1.04E-01	.353
.400		8.14E-06	8.78E-04	8.59E-04	1.77E-03	1.07E-03	6.77E-04	.195	.400	1.59E-01	.359
.600		5.43E-06	1.85E-03	1.85E-03	2.61E-03	2.19E-03	1.30E-03	.334	.600	2.79E-01	.370
.800		4.34E-06	2.96E-03	2.97E-03	4.10E-03	3.42E-03	2.04E-03	.461	.800	4.04E-01	.381
1.000		3.79E-06	4.12E-03	4.12E-03	5.61E-03	4.66E-03	2.79E-03	.633	1.000	5.33E-01	.392
2.000		3.08E-06	9.77E-03	9.79E-03	1.29E-02	1.02E-02	5.59E-03	1.425	2.000	1.13E+00	.441
4.000		2.82E-06	1.89E-02	1.89E-02	2.24E-02	1.78E-02	8.57E-03	3.082	4.000	2.40E+00	.512
7.000		2.91E-06	2.64E-02	2.64E-02	3.21E-02	2.49E-02	1.04E-02	5.632	7.000	4.10E+00	.552
10.000		2.91E-06	3.51E-02	3.51E-02	3.85E-02	2.93E-02	1.11E-02	8.216	10.000	5.67E+00	.630
20.000		2.75E-06	4.74E-02	4.74E-02	5.00E-02	3.72E-02	1.17E-02	16.330	20.000	1.03E+01	.719

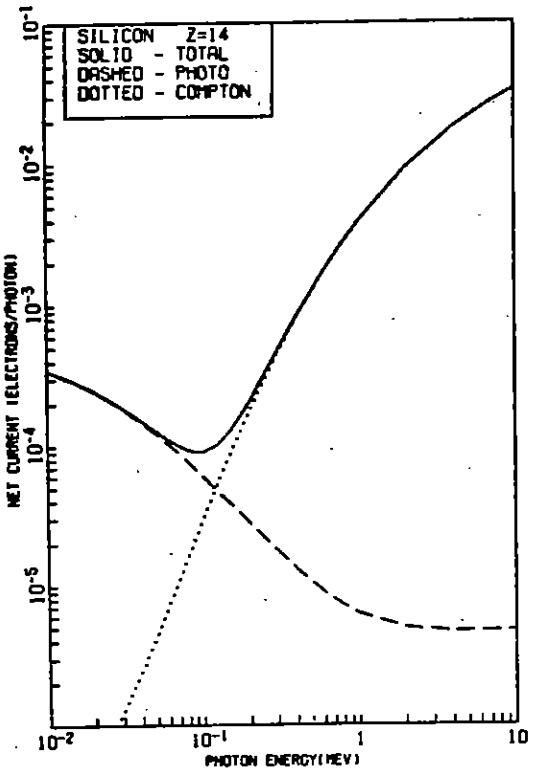
ALUMINUM
Z = 13

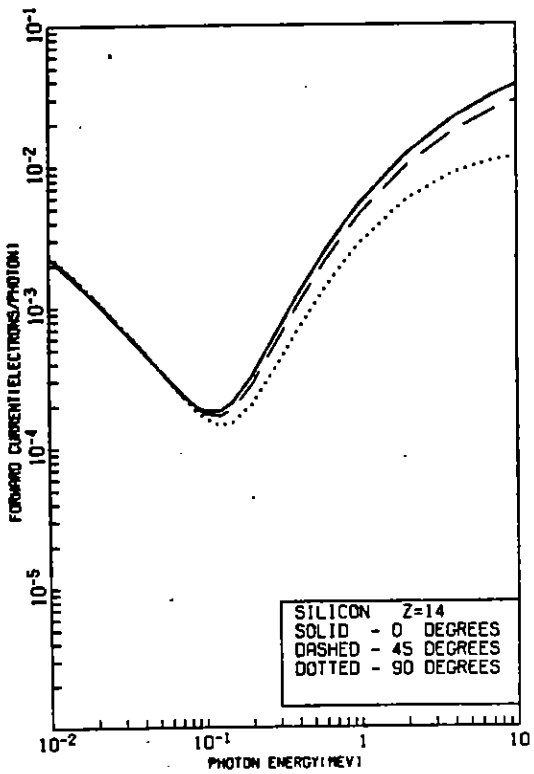




PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	45 DEG	90 DEG	BBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	1.07E-04	3.24E-04	5.67E-05	3.87E-04	1.86E-03	1.91E-03	1.96E-03	.009	.010	3.52E-04	.328
.015	2.51E-04	2.57E-04	2.29E-07	2.59E-04	1.27E-03	1.25E-03	1.24E-03	.014	.015	7.09E-04	.323
.020	2.09E-04	2.11E-04	4.07E-07	2.03E-04	8.80E-04	9.97E-04	9.16E-04	.019	.020	1.17E-03	.321
.030	1.54E-04	1.53E-04	1.74E-06	1.55E-04	5.39E-04	5.48E-04	5.57E-04	.029	.030	2.36E-03	.320
.040	1.22E-04	1.24E-04	2.53E-06	1.25E-04	3.80E-04	3.84E-04	3.87E-04	.039	.040	3.89E-03	.320
.050	9.90E-05	1.01E-04	4.55E-06	1.04E-04	2.87E-04	2.89E-04	2.89E-04	.047	.050	5.71E-03	.321
.060	8.35E-05	8.45E-05	7.54E-06	9.10E-05	2.30E-04	2.30E-04	2.24E-04	.055	.060	7.92E-03	.322
.070	7.15E-05	7.21E-05	1.16E-05	8.31E-05	1.94E-04	1.92E-04	1.85E-04	.061	.070	1.02E-02	.323
.080	6.21E-05	6.25E-05	1.67E-05	7.99E-05	1.71E-04	1.69E-04	1.61E-04	.065	.080	1.29E-02	.323
.090	5.46E-05	5.49E-05	2.32E-05	7.79E-05	1.55E-04	1.53E-04	1.44E-04	.069	.090	1.56E-02	.324
.100	4.85E-05	4.89E-05	3.09E-05	7.94E-05	1.43E-04	1.45E-04	1.31E-04	.069	.100	1.86E-02	.324
.125	3.78E-05	3.80E-05	5.62E-05	9.40E-05	1.62E-04	1.49E-04	1.23E-04	.071	.125	2.70E-02	.326
.150	3.03E-05	3.10E-05	9.03E-05	1.21E-04	1.96E-04	1.79E-04	1.34E-04	.054	.150	3.64E-02	.327
.200	2.25E-05	2.25E-05	1.84E-04	2.07E-04	3.17E-04	2.79E-04	1.92E-04	.134	.200	5.77E-02	.330
.300		1.44E-05	4.65E-04	4.79E-04	7.14E-04	6.09E-04	3.01E-04	.196	.300	1.05E-01	.336
.400		1.06E-05	8.41E-04	8.51E-04	1.25E-03	1.06E-03	6.39E-04	.334	.400	1.64E-01	.341
.600		7.86E-06	1.78E-03	1.79E-03	2.57E-03	2.17E-03	1.39E-03	.451	.600	2.87E-01	.353
.800		5.63E-06	2.94E-03	2.94E-03	4.03E-03	3.39E-03	2.11E-03	.633	.800	4.16E-01	.364
1.000		4.92E-06	3.95E-03	3.95E-03	5.51E-03	4.61E-03	2.92E-03	1.476	1.000	5.49E-01	.374
2.000		3.90E-06	9.41E-03	9.45E-03	1.23E-02	1.01E-02	5.66E-03	3.094	2.000	1.21E+00	.423
4.000		3.65E-06	1.63E-02	1.63E-02	2.21E-02	1.76E-02	9.71E-03	5.635	4.000	2.48E+00	.495
7.000		3.70E-06	2.77E-02	2.77E-02	3.80E-02	2.96E-02	1.06E-02	9.220	7.000	4.23E+00	.565
10.000		3.71E-06	3.43E-02	3.43E-02	4.94E-02	2.91E-02	1.13E-02	10.935	10.000	5.84E+00	.614
20.000		3.65E-06	4.65E-02	4.65E-02	4.94E-02	3.68E-02	1.14E-02		20.000	1.05E+01	.706

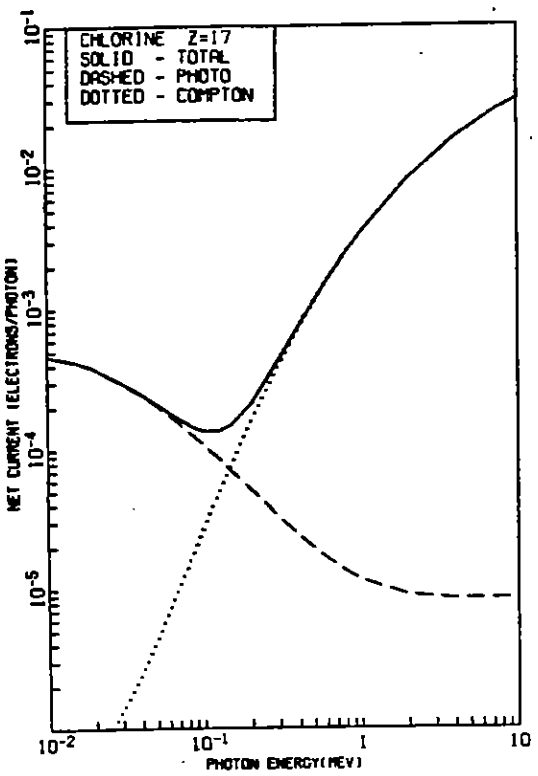
SILICON
Z = 14

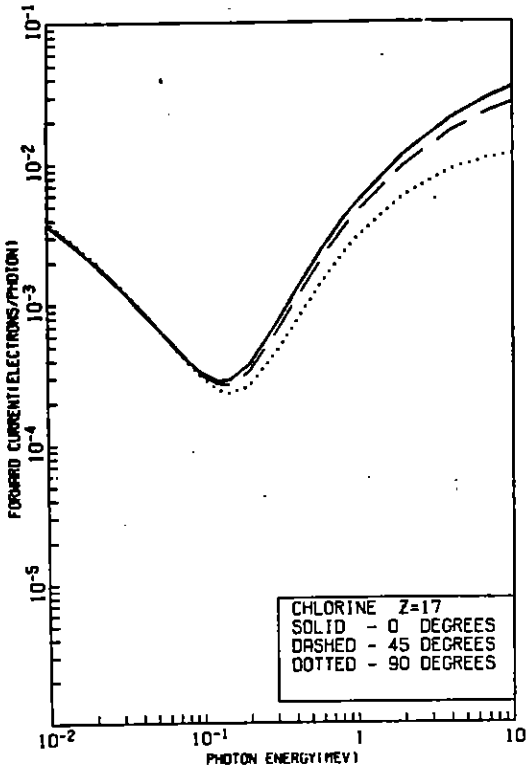




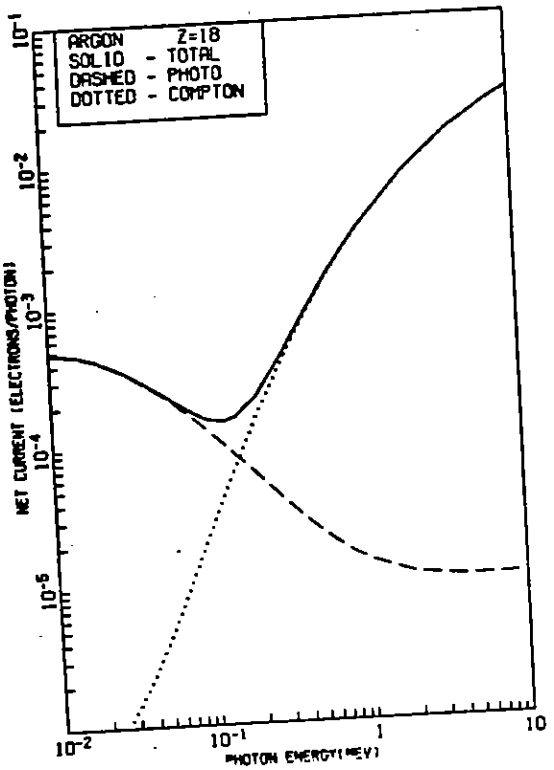
PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG	45 DEG	90 DEG (ELECTRONS/PHOTON)	ESAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	3.46E-04	3.73E-04	9.13E-08	3.45E-04	2.27E-03	2.33E-03	2.39E-03	.008	.010	3.46E-04	.316
.015	2.92E-04	3.03E-04	2.48E-07	2.92E-04	1.51E-03	1.54E-03	1.58E-03	.013	.015	6.94E-04	.389
.020	2.49E-04	2.52E-04	5.14E-07	2.49E-04	1.10E-03	1.12E-03	1.15E-03	.018	.020	1.14E-03	.387
.030	1.87E-04	1.85E-04	1.27E-06	1.83E-04	6.65E-04	6.96E-04	7.07E-04	.028	.030	2.31E-03	.386
.040	1.50E-04	1.52E-04	2.53E-06	1.52E-04	4.86E-04	4.91E-04	4.96E-04	.038	.040	3.88E-03	.386
.050	1.23E-04	1.25E-04	4.52E-06	1.20E-04	3.69E-04	3.78E-04	3.72E-04	.047	.050	5.58E-03	.386
.060	1.04E-04	1.05E-04	7.40E-06	1.11E-04	2.95E-04	2.95E-04	2.94E-04	.055	.060	7.64E-03	.386
.070	8.91E-05	9.09E-05	1.13E-05	1.08E-04	2.47E-04	2.45E-04	2.41E-04	.062	.070	9.94E-03	.387
.080	7.76E-05	7.83E-05	1.63E-05	9.31E-05	2.16E-04	2.12E-04	2.05E-04	.067	.080	1.25E-02	.388
.090	6.84E-05	6.99E-05	2.25E-05	9.03E-05	1.96E-04	1.91E-04	1.80E-04	.071	.090	1.52E-02	.388
.100	6.08E-05	6.13E-05	3.00E-05	9.89E-05	1.85E-04	1.78E-04	1.64E-04	.073	.100	1.82E-02	.389
.125	4.76E-05	4.79E-05	5.44E-05	1.02E-04	1.85E-04	1.72E-04	1.47E-04	.075	.125	2.63E-02	.318
.150	3.89E-05	3.91E-05	8.72E-05	1.25E-04	2.13E-04	1.92E-04	1.53E-04	.076	.150	3.55E-02	.312
.200	2.82E-05	2.83E-05	1.78E-04	2.06E-04	3.26E-04	2.85E-04	2.06E-04	.068	.200	5.62E-02	.315
.300	1.79E-05	1.80E-05	4.47E-04	4.65E-04	7.13E-04	6.12E-04	4.13E-04	.135	.300	1.85E-01	.320
.400		1.32E-05	8.05E-04	8.21E-04	1.24E-03	1.06E-03	7.02E-04	.197	.400	1.60E-01	.326
.600		9.08E-06	1.71E-03	1.72E-03	2.54E-03	2.16E-03	1.40E-03	.335	.600	2.80E-01	.336
.800		7.24E-06	2.73E-03	2.74E-03	3.98E-03	3.36E-03	2.14E-03	.482	.800	4.06E-01	.347
1.000		6.34E-06	3.80E-03	3.91E-03	5.45E-03	4.58E-03	2.86E-03	.633	1.000	5.36E-01	.358
2.000		4.99E-06	9.09E-03	9.09E-03	1.21E-02	9.98E-03	5.75E-03	1.427	2.000	1.18E+00	.406
4.000		4.71E-06	1.78E-02	1.79E-02	2.18E-02	1.74E-02	8.85E-03	3.065	4.000	2.41E+00	.475
7.000		4.74E-06	2.70E-02	2.78E-02	3.11E-02	2.43E-02	1.08E-02	5.637	7.000	4.10E+00	.550
10.000		4.77E-06	3.35E-02	3.35E-02	3.74E-02	2.87E-02	1.15E-02	9.227	10.000	5.65E+00	.599
20.000		4.69E-06	4.54E-02	4.55E-02	4.65E-02	3.63E-02	1.16E-02	16.936	20.000	1.11E+01	.693

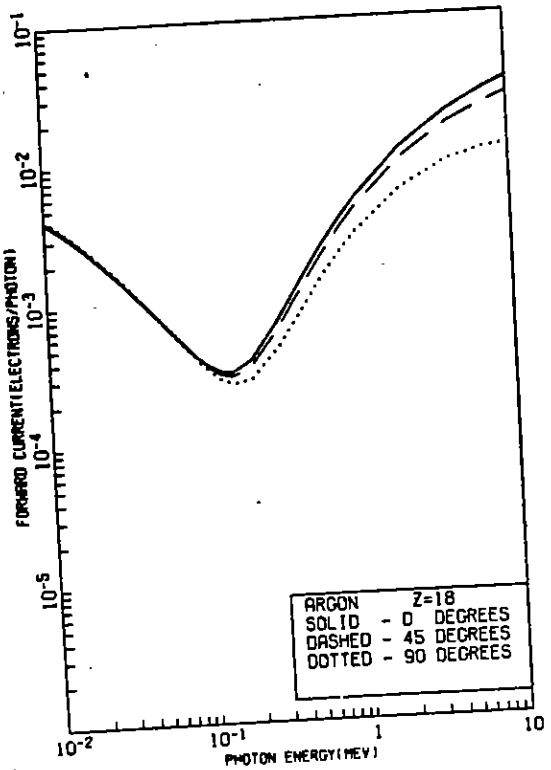
CHLORINE
Z = 17





PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	NET CURRENT COMPTON (ELECTRONS/PHOTON)	NET CURRENT TOTAL (ELECTRONS/PHOTON)	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	FORWARD CURRENT 45 DEG (ELECTRONS/PHOTON)	FORWARD CURRENT 90 DEG (ELECTRONS/PHOTON)	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	4.67E-04	5.09E-04	1.05E-07	5.07E-04	3.73E-03	3.81E-03	3.90E-03	.009	.010	3.76E-04	.285
.015	4.24E-04	4.69E-04	2.79E-07	4.24E-04	2.61E-03	2.66E-03	2.71E-03	.013	.015	7.50E-04	.276
.020	3.82E-04	3.91E-04	6.00E-07	3.92E-04	1.97E-03	2.00E-03	2.04E-03	.018	.020	1.23E-03	.273
.030	3.02E-04	3.02E-04	1.37E-06	3.03E-04	1.27E-03	1.29E-03	1.31E-03	.027	.030	2.49E-03	.270
.040	2.48E-04	2.42E-04	2.57E-06	2.50E-04	9.09E-04	9.18E-04	9.28E-04	.037	.040	4.07E-03	.269
.050	2.09E-04	2.12E-04	4.47E-06	2.13E-04	7.00E-04	7.05E-04	7.09E-04	.047	.050	5.98E-03	.269
.060	1.78E-04	1.91E-04	7.07E-06	1.95E-04	5.61E-04	5.62E-04	5.62E-04	.056	.060	8.17E-03	.269
.070	1.54E-04	1.67E-04	1.05E-05	1.65E-04	4.66E-04	4.64E-04	4.62E-04	.064	.070	1.06E-02	.269
.080	1.36E-04	1.37E-04	1.52E-05	1.51E-04	3.99E-04	3.96E-04	3.90E-04	.071	.080	1.33E-02	.269
.090	1.20E-04	1.22E-04	2.08E-05	1.41E-04	3.53E-04	3.48E-04	3.39E-04	.077	.090	1.63E-02	.270
.100	1.08E-04	1.09E-04	2.76E-05	1.35E-04	3.21E-04	3.14E-04	3.01E-04	.082	.100	1.94E-02	.270
.125	9.57E-05	9.64E-05	4.96E-05	1.35E-04	2.85E-04	2.72E-04	2.49E-04	.090	.125	2.81E-02	.271
.150	7.06E-05	7.11E-05	7.90E-05	1.50E-04	2.59E-04	2.78E-04	2.33E-04	.093	.150	3.74E-02	.273
.200	5.16E-05	5.20E-05	1.60E-04	2.12E-04	3.73E-04	3.36E-04	2.03E-04	.101	.200	5.99E-02	.279
.300	3.30E-05	3.32E-05	4.01E-04	4.34E-04	7.25E-04	6.35E-04	4.56E-04	.142	.300	1.11E-01	.290
.400		2.44E-05	7.23E-04	7.48E-04	1.23E-03	1.07E-03	7.45E-04	.200	.400	1.69E-01	.299
.600		1.07E-05	1.52E-03	1.53E-03	2.47E-03	2.13E-03	1.45E-03	.316	.600	2.95E-01	.296
.800		1.34E-05	2.44E-03	2.45E-03	3.95E-03	3.38E-03	2.21E-03	.482	.800	4.27E-01	.307
1.000		1.17E-05	3.40E-03	3.41E-03	5.24E-03	4.47E-03	2.95E-03	.634	1.000	5.62E-01	.317
2.000		9.05E-06	9.15E-03	9.15E-03	1.15E-02	9.64E-03	5.87E-03	1.427	2.000	1.23E+00	.366
4.000		8.53E-06	1.60E-02	1.60E-02	2.05E-02	1.66E-02	8.93E-03	3.086	4.000	2.43E+00	.440
7.000		8.59E-06	2.43E-02	2.43E-02	2.89E-02	2.28E-02	1.07E-02	5.637	7.000	4.03E+00	.514
10.000		9.04E-06	3.00E-02	3.00E-02	3.44E-02	2.67E-02	1.13E-02	9.221	10.000	5.57E+00	.566
20.000		9.43E-06	4.83E-02	4.83E-02	4.36E-02	3.29E-02	1.11E-02	16.927	20.000	9.69E+00	.666





PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	45 DEG	90 DEG	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	4.93E-04	5.46E-04	1.09E-07	4.94E-04	4.26E-03	4.35E-03	4.45E-03	.007	.010	4.05E-04	.277
.015	4.66E-04	4.96E-04	2.91E-07	4.66E-04	3.02E-03	3.08E-03	3.14E-03	.012	.015	8.88E-04	.267
.020	4.24E-04	4.38E-04	6.31E-07	4.25E-04	2.31E-03	2.34E-03	2.34E-03	.017	.020	1.32E-03	.263
.030	3.44E-04	3.44E-04	1.42E-06	3.43E-04	1.51E-03	1.53E-03	1.55E-03	.027	.030	2.66E-03	.260
.040	2.83E-04	2.79E-04	2.59E-06	2.85E-04	1.08E-03	1.10E-03	1.11E-03	.037	.040	4.37E-03	.258
.050	2.40E-04	2.45E-04	4.40E-06	2.44E-04	8.39E-04	8.44E-04	8.49E-04	.046	.050	6.42E-03	.258
.060	2.06E-04	2.10E-04	6.99E-06	2.13E-04	6.73E-04	6.75E-04	6.76E-04	.056	.060	8.77E-03	.258
.070	1.80E-04	1.83E-04	1.05E-05	1.90E-04	5.60E-04	5.59E-04	5.56E-04	.066	.070	1.14E-02	.258
.080	1.59E-04	1.61E-04	1.49E-05	1.76E-04	4.79E-04	4.76E-04	4.71E-04	.072	.080	1.43E-02	.259
.090	1.41E-04	1.43E-04	2.04E-05	1.62E-04	4.22E-04	4.17E-04	4.09E-04	.079	.090	1.74E-02	.259
.100	1.27E-04	1.29E-04	2.69E-05	1.56E-04	3.81E-04	3.74E-04	3.62E-04	.054	.100	2.08E-02	.259
.125	1.01E-04	1.02E-04	4.82E-05	1.50E-04	3.25E-04	3.17E-04	2.94E-04	.093	.125	3.01E-02	.260
.150	8.36E-05	8.43E-05	7.67E-05	1.60E-04	3.24E-04	3.05E-04	2.69E-04	.098	.150	4.05E-02	.261
.200	6.12E-05	6.16E-05	1.55E-04	2.15E-04	3.95E-04	3.59E-04	2.88E-04	.106	.200	6.41E-02	.264
.300	3.98E-05	3.93E-05	3.87E-04	4.26E-04	7.33E-04	6.46E-04	4.73E-04	.144	.300	1.19E-01	.269
.400		2.88E-05	6.99E-04	7.27E-04	1.23E-03	1.07E-03	7.61E-04	.202	.400	1.81E-01	.274
.600		1.99E-05	1.47E-03	1.49E-03	2.45E-03	2.13E-03	1.47E-03	.337	.600	3.16E-01	.284
.800		1.68E-05	2.35E-03	2.37E-03	3.81E-03	3.28E-03	2.23E-03	.493	.800	4.57E-01	.295
1.000		1.48E-05	3.28E-03	3.30E-03	5.19E-03	4.45E-03	2.98E-03	.634	1.000	6.01E-01	.305
2.000		1.09E-05	7.90E-03	7.91E-03	1.14E-02	9.17E-03	5.93E-03	1.428	2.000	1.31E+00	.354
4.000		1.03E-05	1.55E-02	1.55E-02	2.02E-02	1.65E-02	9.01E-03	3.057	4.000	2.62E+00	.427
7.000		1.04E-05	2.37E-02	2.37E-02	2.85E-02	2.26E-02	1.08E-02	5.640	7.000	4.36E+00	.502
10.000		1.04E-05	2.94E-02	2.94E-02	3.39E-02	2.64E-02	1.14E-02	8.224	10.000	5.92E+00	.555
20.000		1.02E-05	3.95E-02	3.95E-02	4.38E-02	3.25E-02	1.12E-02	16.925	20.000	1.83E+01	.656

CALCIUM
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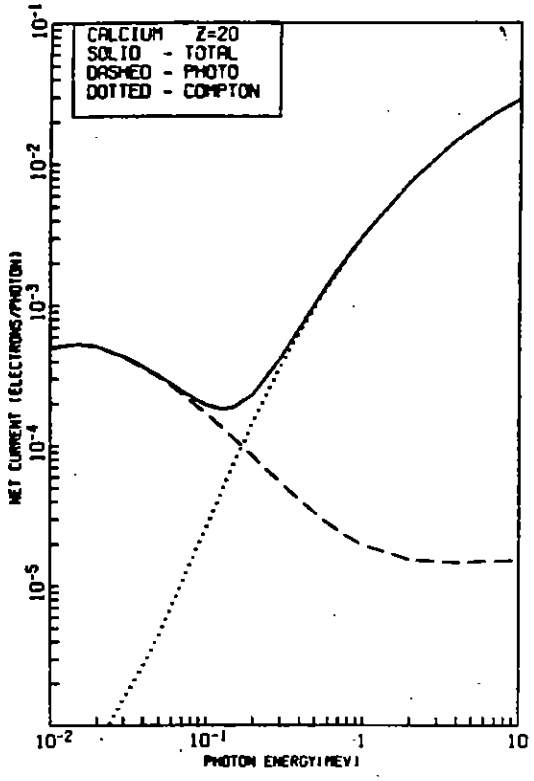

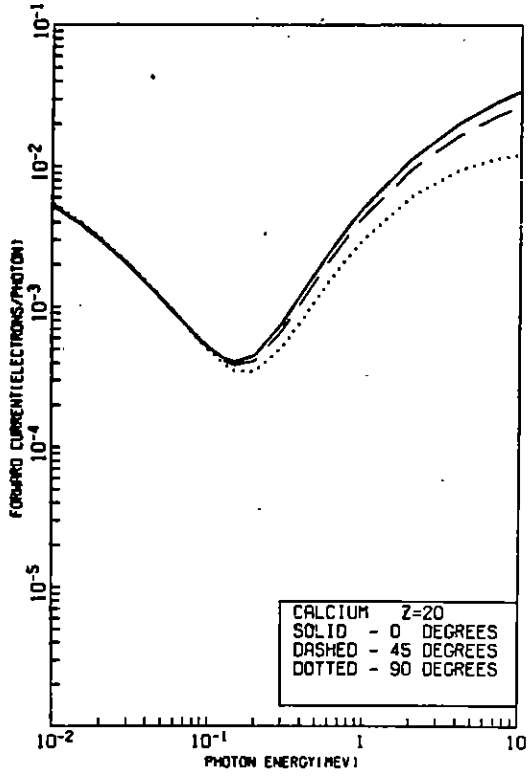

PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	45 DEG	90 DEG	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	5.03E-04	5.95E-04	1.17E-07	5.03E-04	5.31E-03	5.42E-03	5.53E-03	.007	.010	3.76E-04	.263
.015	5.29E-04	5.78E-04	3.16E-07	5.29E-04	3.90E-03	3.97E-03	4.04E-03	.012	.015	7.47E-04	.251
.020	5.08E-04	5.29E-04	6.95E-07	5.08E-04	3.05E-03	3.09E-03	3.14E-03	.017	.020	1.22E-03	.246
.030	4.28E-04	4.31E-04	1.51E-06	4.29E-04	2.04E-03	2.07E-03	2.09E-03	.026	.030	2.45E-03	.242
.040	3.59E-04	3.55E-04	2.66E-06	3.61E-04	1.49E-03	1.51E-03	1.52E-03	.036	.040	4.02E-03	.240
.050	3.08E-04	3.08E-04	4.40E-06	3.12E-04	1.15E-03	1.16E-03	1.17E-03	.046	.050	5.90E-03	.239
.060	2.67E-04	2.73E-04	6.67E-06	2.74E-04	9.36E-04	9.39E-04	9.41E-04	.055	.060	8.05E-03	.239
.070	2.39E-04	2.39E-04	1.82E-05	2.43E-04	7.79E-04	7.78E-04	7.77E-04	.064	.070	1.05E-02	.239
.080	2.08E-04	2.12E-04	1.44E-05	2.22E-04	6.65E-04	6.63E-04	6.59E-04	.073	.080	1.31E-02	.239
.090	1.87E-04	1.90E-04	1.95E-05	2.08E-04	5.82E-04	5.78E-04	5.69E-04	.080	.090	1.68E-02	.240
.100	1.69E-04	1.71E-04	2.57E-05	1.96E-04	5.22E-04	5.15E-04	5.01E-04	.087	.100	1.91E-02	.240
.125	1.36E-04	1.37E-04	4.58E-05	1.81E-04	4.35E-04	4.23E-04	4.01E-04	.099	.125	2.76E-02	.241
.150	1.13E-04	1.14E-04	7.26E-05	1.85E-04	4.07E-04	3.89E-04	3.54E-04	.107	.150	3.71E-02	.242
.200	9.40E-05	8.47E-05	1.46E-04	2.30E-04	4.51E-04	4.17E-04	3.69E-04	.116	.200	5.86E-02	.244
.300	5.47E-05	5.90E-05	3.64E-04	4.19E-04	7.60E-04	6.78E-04	5.15E-04	.151	.300	1.09E-01	.249
.400		4.87E-05	6.55E-04	6.95E-04	1.23E-03	1.09E-03	7.98E-04	.205	.400	1.66E-01	.253
.600		2.79E-05	1.38E-03	1.41E-03	2.43E-03	2.12E-03	1.51E-03	.338	.600	2.89E-01	.263
.800		2.24E-05	2.21E-03	2.23E-03	3.76E-03	3.27E-03	2.29E-03	.484	.800	4.18E-01	.273
1.000		1.95E-05	3.08E-03	3.10E-03	5.11E-03	4.42E-03	3.04E-03	.635	1.000	5.50E-01	.283
2.000		1.93E-05	7.46E-03	7.48E-03	1.12E-02	9.51E-03	6.05E-03	1.429	2.000	1.20E+00	.338
4.000		1.66E-05	1.49E-02	1.49E-02	2.08E-02	1.64E-02	9.34E-03	3.092	4.000	2.43E+00	.402
7.000		1.49E-05	2.31E-02	2.31E-02	2.84E-02	2.27E-02	1.13E-02	5.649	7.000	4.87E+00	.477
10.000		1.52E-05	2.89E-02	2.93E-02	3.40E-02	2.67E-02	1.28E-02	8.234	10.000	5.55E+00	.529
20.000		1.51E-05	3.97E-02	3.97E-02	4.36E-02	3.31E-02	1.28E-02	16.951	20.000	9.69E+00	.633

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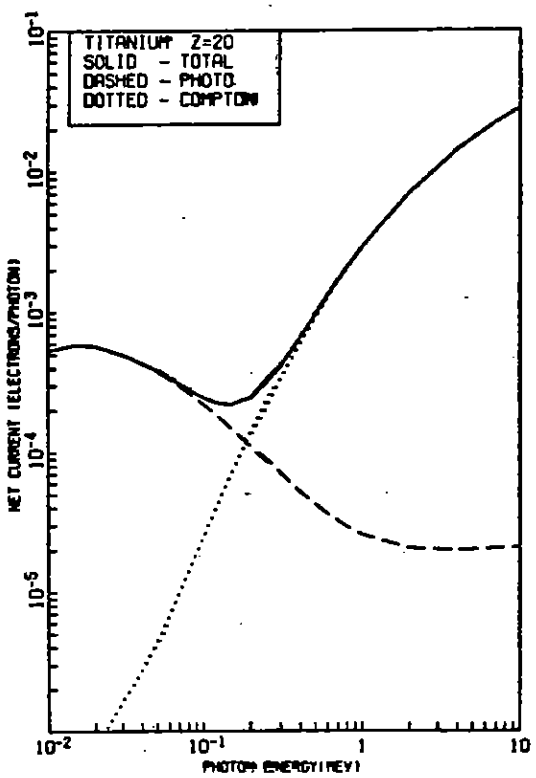

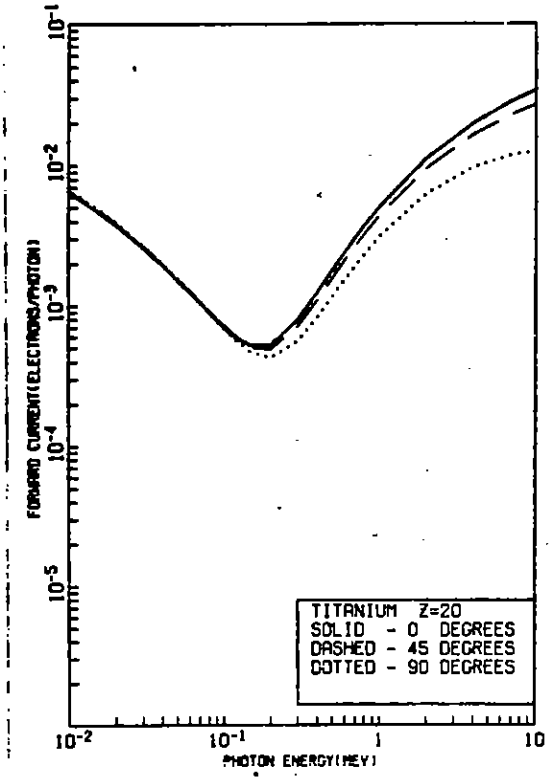

PHOTON ENERGY (MEV)	NET CURRENT PHOTO (PELEC)	PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG	45 DEG	90 DEG (ELECTRONS/PHOTON)	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	5.32E-04	6.27E-04	1.26E-07	5.32E-04	6.46E-03	6.59E-03	6.72E-03	.006	.010	4.19E-04	.251
.015	5.86E-04	6.43E-04	3.41E-07	5.86E-04	4.81E-03	4.89E-03	4.97E-03	.011	.015	6.38E-04	.238
.020	5.74E-04	6.07E-04	7.62E-07	5.74E-04	3.81E-03	3.86E-03	3.92E-03	.016	.020	1.35E-03	.232
.030	4.99E-04	5.13E-04	1.63E-06	5.01E-04	2.63E-03	2.66E-03	2.69E-03	.026	.030	2.71E-03	.226
.040	4.34E-04	4.34E-04	2.74E-06	4.37E-04	1.98E-03	1.98E-03	2.00E-03	.036	.040	4.45E-03	.224
.050	3.83E-04	3.72E-04	4.41E-06	3.87E-04	1.94E-03	1.99E-03	1.56E-03	.045	.050	6.51E-03	.223
.060	3.37E-04	3.47E-04	6.76E-06	3.43E-04	1.27E-03	1.27E-03	1.29E-03	.055	.060	8.89E-03	.223
.070	3.01E-04	3.09E-04	9.93E-06	3.11E-04	1.07E-03	1.07E-03	1.07E-03	.064	.070	1.15E-02	.223
.080	2.70E-04	2.77E-04	1.39E-05	2.84E-04	9.16E-04	9.14E-04	9.10E-04	.073	.080	1.45E-02	.223
.090	2.44E-04	2.50E-04	1.89E-05	2.63E-04	8.03E-04	7.98E-04	7.90E-04	.081	.090	1.76E-02	.223
.100	2.22E-04	2.27E-04	2.47E-05	2.47E-04	7.17E-04	7.10E-04	6.98E-04	.088	.100	2.10E-02	.223
.125	1.88E-04	1.83E-04	4.37E-05	2.24E-04	5.82E-04	5.69E-04	5.49E-04	.104	.125	3.04E-02	.224
.150	1.58E-04	1.52E-04	6.90E-05	2.28E-04	5.22E-04	5.03E-04	4.78E-04	.114	.150	4.08E-02	.225
.200	1.12E-04	1.13E-04	1.38E-04	2.50E-04	5.26E-04	4.92E-04	4.28E-04	.126	.200	6.45E-02	.227
.300	7.16E-05	7.23E-05	3.43E-04	4.14E-04	7.96E-04	7.18E-04	5.64E-04	.150	.300	1.28E-01	.231
.400	5.25E-05	5.31E-05	6.15E-04	6.69E-04	1.25E-03	1.11E-03	8.38E-04	.209	.400	1.82E-01	.235
.600		3.65E-05	1.38E-03	1.33E-03	2.42E-03	2.13E-03	1.56E-03	.340	.600	3.18E-01	.244
.800		2.96E-05	2.06E-03	2.11E-03	3.73E-03	3.26E-03	2.34E-03	.485	.800	4.62E-01	.254
1.000		2.59E-05	2.90E-03	2.93E-03	5.06E-03	4.41E-03	3.11E-03	.636	1.000	6.08E-01	.265
2.000		2.07E-05	7.08E-03	7.10E-03	1.11E-02	9.47E-03	6.24E-03	1.431	2.000	1.33E+00	.308
4.000		2.00E-05	1.43E-02	1.43E-02	1.98E-02	1.64E-02	9.62E-03	3.095	4.000	2.63E+00	.379
7.000		2.06E-05	2.23E-02	2.23E-02	2.81E-02	2.26E-02	1.17E-02	5.655	7.000	4.51E+00	.493
10.000		2.18E-05	2.81E-02	2.91E-02	3.36E-02	2.66E-02	1.24E-02	8.245	10.000	6.13E+00	.587
20.000		2.88E-05	3.87E-02	3.97E-02	4.31E-02	3.29E-02	1.24E-02	16.968	20.000	1.06E+01	.612

IRON
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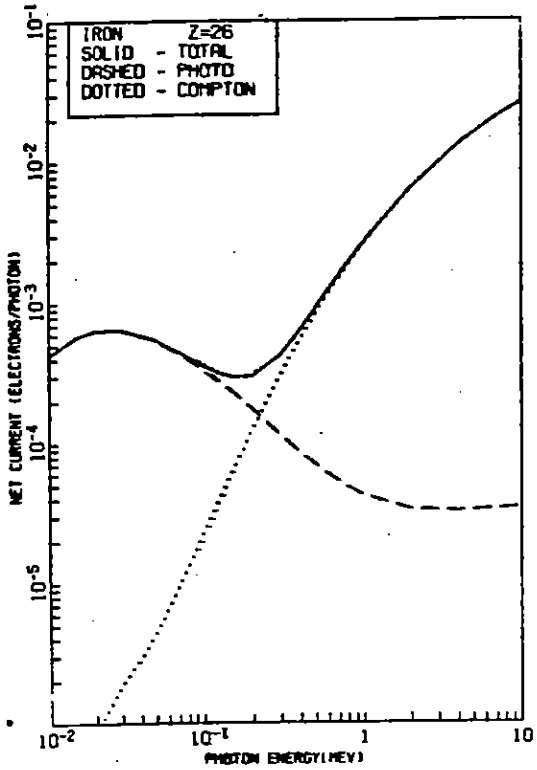
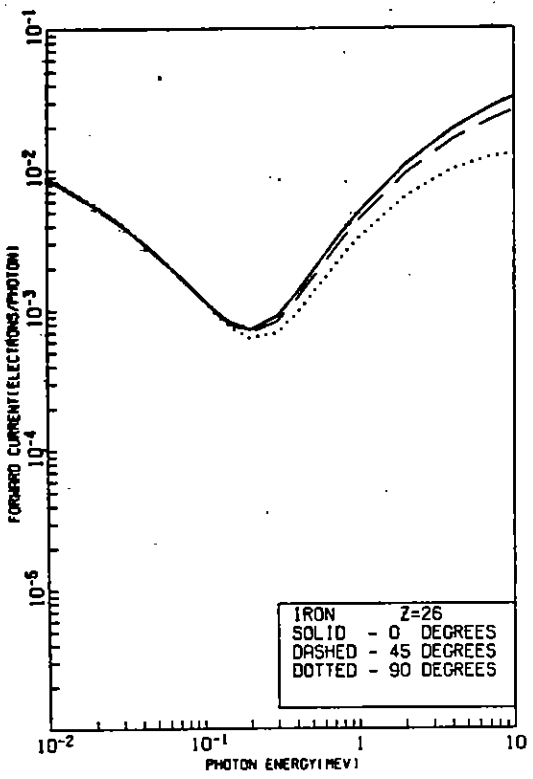
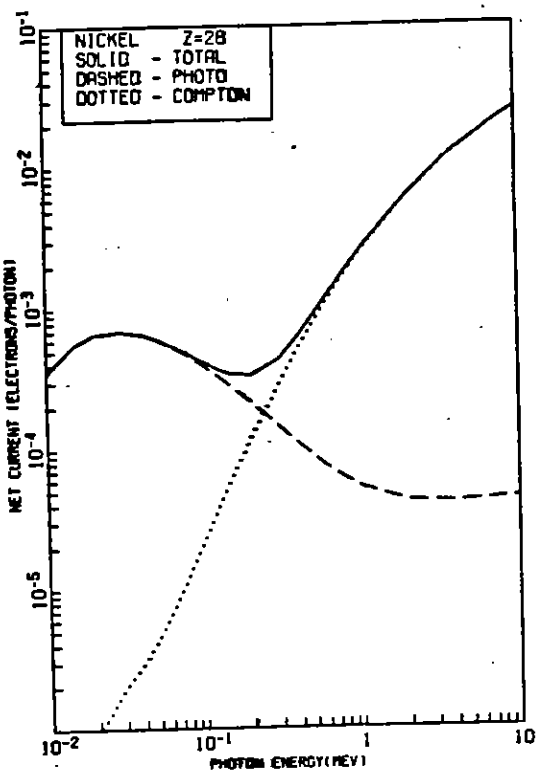
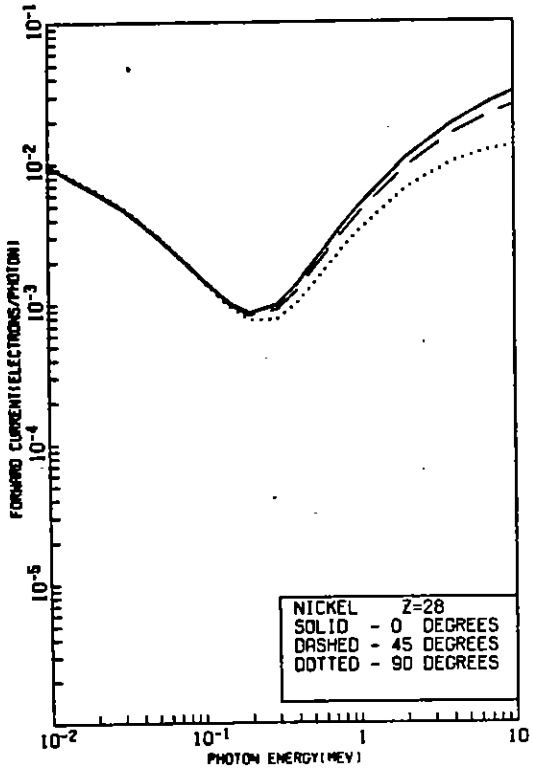




PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	45 DEG	90 DEG	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	4.32E-04	6.06E-04	1.42E-07	4.32E-04	5.79E-03	5.94E-03	9.11E-03	.006	.010	4.33E-04	.232
.015	5.79E-04	7.12E-04	3.99E-07	5.79E-04	6.67E-03	6.77E-03	6.88E-03	.010	.015	9.54E-04	.216
.020	6.44E-04	7.30E-04	9.00E-07	6.44E-04	5.82E-03	5.59E-03	5.67E-03	.014	.020	1.39E-03	.208
.030	6.47E-04	6.79E-04	1.99E-06	6.49E-04	4.03E-03	4.09E-03	4.12E-03	.024	.030	2.77E-03	.202
.040	5.89E-04	6.00E-04	2.98E-06	5.92E-04	3.11E-03	3.14E-03	3.17E-03	.034	.040	4.53E-03	.199
.050	5.42E-04	5.30E-04	4.52E-06	5.47E-04	2.50E-03	2.51E-03	2.53E-03	.044	.050	6.62E-03	.197
.060	4.81E-04	4.69E-04	6.72E-06	4.99E-04	2.06E-03	2.07E-03	2.09E-03	.053	.060	9.03E-03	.196
.070	4.38E-04	4.54E-04	9.62E-06	4.64E-04	1.77E-03	1.77E-03	1.77E-03	.063	.070	1.17E-02	.196
.080	3.99E-04	4.12E-04	1.33E-05	4.12E-04	1.53E-03	1.53E-03	1.52E-03	.072	.080	1.47E-02	.196
.090	3.66E-04	3.76E-04	1.78E-05	3.93E-04	1.34E-03	1.34E-03	1.33E-03	.081	.090	1.79E-02	.195
.100	3.35E-04	3.45E-04	2.31E-05	3.53E-04	1.20E-03	1.19E-03	1.18E-03	.089	.100	2.13E-02	.195
.125	2.77E-04	2.84E-04	4.03E-05	3.17E-04	9.53E-04	9.40E-04	9.19E-04	.109	.125	3.07E-02	.196
.150	2.35E-04	2.40E-04	6.31E-05	2.93E-04	8.19E-04	8.01E-04	7.83E-04	.123	.150	4.13E-02	.196
.200	1.78E-04	1.81E-04	1.25E-04	3.03E-04	7.31E-04	6.99E-04	6.79E-04	.143	.200	6.51E-02	.195
.300	1.16E-04	1.18E-04	3.08E-04	4.24E-04	9.09E-04	8.37E-04	8.97E-04	.174	.300	1.21E-01	.202
.400	8.63E-05	8.76E-05	5.51E-04	6.39E-04	1.31E-03	1.19E-03	9.43E-04	.221	.400	1.83E-01	.206
.600		6.05E-05	1.16E-03	1.22E-03	2.42E-03	2.16E-03	1.65E-03	.340	.600	3.20E-01	.214
.800		4.98E-05	1.95E-03	1.90E-03	3.68E-03	3.27E-03	2.44E-03	.459	.800	4.64E-01	.223
1.000		4.26E-05	2.59E-03	2.64E-03	4.96E-03	4.39E-03	3.23E-03	.634	1.000	6.11E-01	.232
2.000		3.37E-05	6.37E-03	6.40E-03	1.08E-02	9.33E-03	6.43E-03	1.433	2.000	1.34E+00	.274
4.000		3.29E-05	1.30E-02	1.30E-02	1.91E-02	1.60E-02	9.91E-03	3.099	4.000	2.63E+00	.343
7.000		3.42E-05	2.86E-02	2.86E-02	2.70E-02	2.20E-02	1.20E-02	5.662	7.000	4.47E+00	.417
10.000		3.50E-05	2.60E-02	2.61E-02	3.23E-02	2.56E-02	1.29E-02	8.255	10.000	6.05E+00	.471
20.000		3.90E-05	3.61E-02	3.62E-02	4.11E-02	3.16E-02	1.27E-02	16.970	20.000	1.03E+01	.558





PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	45 DEG	90 DEG	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	3.58E-04	5.47E-04	1.51E-07	3.53E-04	9.07E-03	1.01E-02	1.02E-02	.006	.010	4.32E-04	.225
.015	5.64E-04	7.88E-04	4.14E-07	5.64E-04	7.44E-03	7.55E-03	7.67E-03	.010	.015	8.49E-04	.207
.020	6.62E-04	7.67E-04	9.70E-07	6.63E-04	6.30E-03	6.39E-03	6.48E-03	.014	.020	1.36E-03	.199
.030	6.97E-04	7.48E-04	2.04E-06	6.99E-04	4.77E-03	4.82E-03	4.87E-03	.023	.030	2.75E-03	.191
.040	6.64E-04	6.79E-04	3.10E-06	6.67E-04	3.76E-03	3.79E-03	3.82E-03	.033	.040	4.49E-03	.188
.050	6.13E-04	6.06E-04	4.61E-06	6.17E-04	3.05E-03	3.07E-03	3.09E-03	.043	.050	6.56E-03	.186
.060	5.57E-04	5.45E-04	6.72E-06	5.64E-04	2.55E-03	2.56E-03	2.57E-03	.052	.060	8.93E-03	.185
.070	5.09E-04	4.97E-04	9.52E-06	5.19E-04	2.17E-03	2.18E-03	2.18E-03	.062	.070	1.16E-02	.185
.080	4.70E-04	4.86E-04	1.38E-05	4.83E-04	1.90E-03	1.90E-03	1.90E-03	.071	.080	1.45E-02	.184
.090	4.38E-04	4.46E-04	1.74E-05	4.49E-04	1.67E-03	1.67E-03	1.66E-03	.080	.090	1.76E-02	.184
.100	4.08E-04	4.11E-04	2.25E-05	4.22E-04	1.49E-03	1.49E-03	1.48E-03	.089	.100	2.10E-02	.184
.125	3.32E-04	3.41E-04	3.89E-05	3.71E-04	1.19E-03	1.17E-03	1.15E-03	.109	.125	3.03E-02	.184
.150	2.83E-04	2.90E-04	6.86E-05	3.44E-04	1.01E-03	9.89E-04	9.57E-04	.126	.150	4.07E-02	.185
.200	2.16E-04	2.20E-04	1.20E-04	3.36E-04	8.64E-04	8.32E-04	7.72E-04	.149	.200	6.42E-02	.186
.300	1.43E-04	1.45E-04	2.93E-04	4.35E-04	9.85E-04	9.16E-04	7.81E-04	.183	.300	1.19E-01	.190
.400		1.08E-04	5.24E-04	6.32E-04	1.36E-03	1.24E-03	1.01E-03	.227	.400	1.80E-01	.194
.600		7.55E-05	1.10E-03	1.17E-03	2.43E-03	2.19E-03	1.70E-03	.350	.600	3.15E-01	.202
.800		6.18E-05	1.76E-03	1.82E-03	3.86E-03	3.28E-03	2.50E-03	.491	.800	4.56E-01	.210
1.000		5.33E-05	2.46E-03	2.51E-03	4.92E-03	4.30E-03	3.29E-03	.641	1.000	6.09E-01	.219
2.000		4.20E-05	6.86E-03	6.18E-03	1.06E-02	9.26E-03	6.51E-03	1.434	2.000	1.31E+00	.268
4.000		4.10E-05	1.24E-02	1.25E-02	1.88E-02	1.59E-02	1.00E-02	3.101	4.000	2.63E+00	.328
7.000		4.28E-05	1.98E-02	1.95E-02	2.65E-02	2.17E-02	1.22E-02	5.666	7.000	4.36E+00	.402
10.000		4.39E-05	2.91E-02	2.51E-02	3.16E-02	2.54E-02	1.29E-02	8.259	10.000	5.89E+00	.456
20.000		4.39E-05	3.49E-02	3.49E-02	4.81E-02	3.10E-02	1.29E-02	16.975	20.000	1.00E+01	.566

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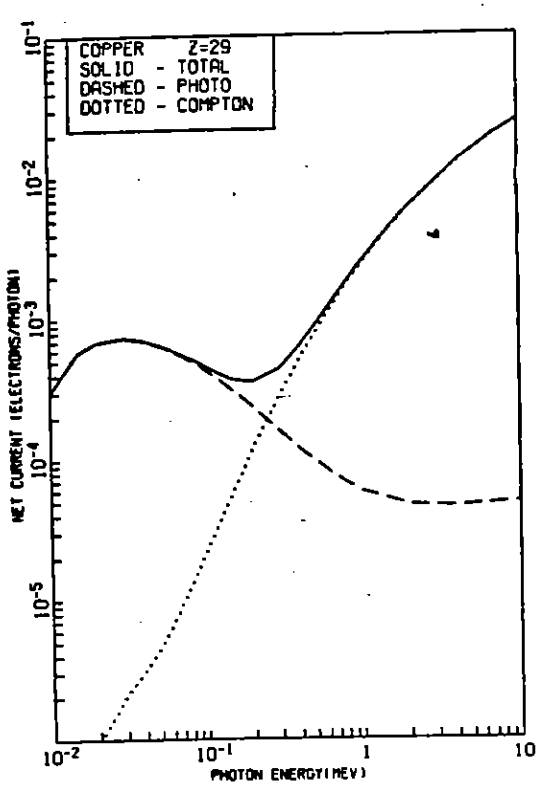

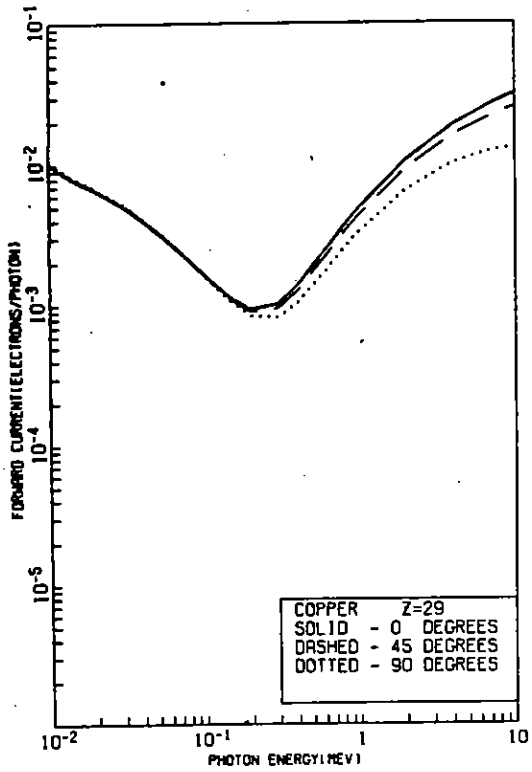

PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	NET CURRENT COMPTON	TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	FORWARD CURRENT 45 DEG (ELECTRONS/PHOTON)	FORWARD CURRENT 90 DEG (ELECTRONS/PHOTON)	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	3.89E-04	4.57E-04	1.56E-07	3.09E-04	1.02E-02	1.04E-02	1.05E-02	.007	.010	4.57E-04	.222
.015	5.76E-04	6.94E-04	4.26E-07	5.75E-04	7.67E-03	7.79E-03	7.91E-03	.009	.015	8.96E-04	.203
.020	6.84E-04	7.72E-04	1.01E-06	6.85E-04	6.61E-03	6.70E-03	6.79E-03	.013	.020	1.45E-03	.195
.030	7.33E-04	7.76E-04	2.12E-06	7.35E-04	5.12E-03	5.17E-03	5.23E-03	.023	.030	2.59E-03	.187
.040	6.99E-04	7.15E-04	3.17E-06	7.02E-04	4.09E-03	4.11E-03	4.15E-03	.032	.040	4.72E-03	.183
.050	6.48E-04	6.46E-04	4.66E-06	6.53E-04	3.34E-03	3.36E-03	3.39E-03	.042	.050	6.90E-03	.181
.060	5.98E-04	5.92E-04	6.74E-06	6.04E-04	2.78E-03	2.81E-03	2.83E-03	.052	.060	9.39E-03	.180
.070	5.47E-04	5.33E-04	9.49E-06	5.56E-04	2.40E-03	2.40E-03	2.41E-03	.062	.070	1.22E-02	.180
.080	5.05E-04	5.24E-04	1.29E-05	5.15E-04	2.10E-03	2.10E-03	2.10E-03	.071	.080	1.52E-02	.179
.090	4.73E-04	4.92E-04	1.72E-05	4.93E-04	1.86E-03	1.85E-03	1.85E-03	.080	.090	1.86E-02	.179
.100	4.32E-04	4.45E-04	2.22E-05	4.53E-04	1.66E-03	1.65E-03	1.64E-03	.089	.100	2.21E-02	.179
.125	3.62E-04	3.71E-04	3.82E-05	4.00E-04	1.32E-03	1.30E-03	1.28E-03	.109	.125	3.13E-02	.179
.150	3.09E-04	3.17E-04	5.95E-05	3.63E-04	1.11E-03	1.10E-03	1.08E-03	.127	.150	4.25E-02	.179
.200	2.37E-04	2.42E-04	1.17E-04	3.55E-04	9.39E-04	9.08E-04	8.69E-04	.152	.200	6.74E-02	.181
.300	1.58E-04	1.60E-04	2.86E-04	4.44E-04	1.03E-03	9.61E-04	8.29E-04	.187	.300	1.25E-01	.184
.400	1.18E-04	1.19E-04	5.11E-04	6.29E-04	1.39E-03	1.27E-03	1.04E-03	.231	.400	1.99E-01	.188
.600		8.28E-05	1.07E-03	1.15E-03	2.44E-03	2.20E-03	1.73E-03	.352	.600	3.38E-01	.196
.800		6.68E-05	1.71E-03	1.78E-03	3.66E-03	3.28E-03	2.52E-03	.492	.800	4.77E-01	.204
1.000		5.84E-05	2.48E-03	2.45E-03	4.91E-03	4.35E-03	3.31E-03	.642	1.000	6.28E-01	.213
2.000		4.63E-05	5.91E-03	5.35E-03	1.06E-02	9.27E-03	6.94E-03	1.435	2.000	1.37E+00	.254
4.000		4.53E-05	1.22E-02	1.22E-02	1.86E-02	1.59E-02	1.01E-02	3.102	4.000	2.74E+00	.321
7.000		4.74E-05	1.94E-02	1.94E-02	2.62E-02	2.16E-02	1.22E-02	5.667	7.000	4.55E+00	.395
10.000		4.87E-05	2.46E-02	2.47E-02	3.12E-02	2.52E-02	1.30E-02	8.761	10.000	6.14E+00	.449
20.000		4.87E-05	3.47E-02	3.48E-02	3.95E-02	3.07E-02	1.29E-02	16.976	20.000	1.04E+01	.559

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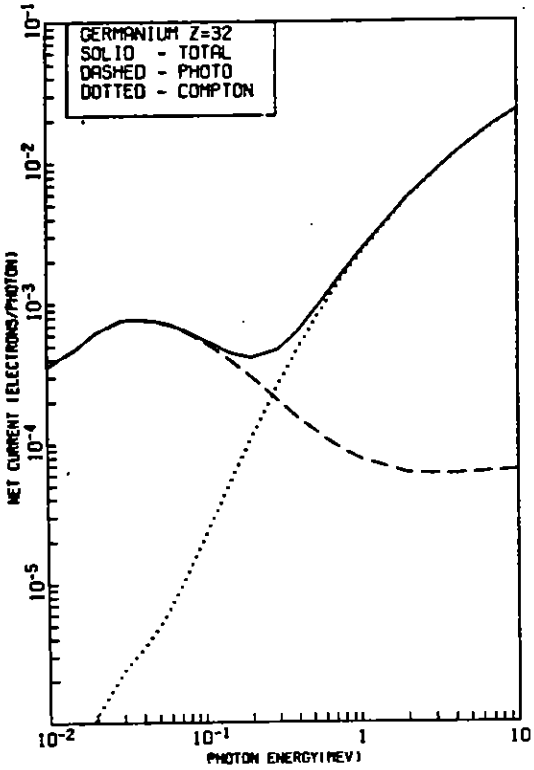

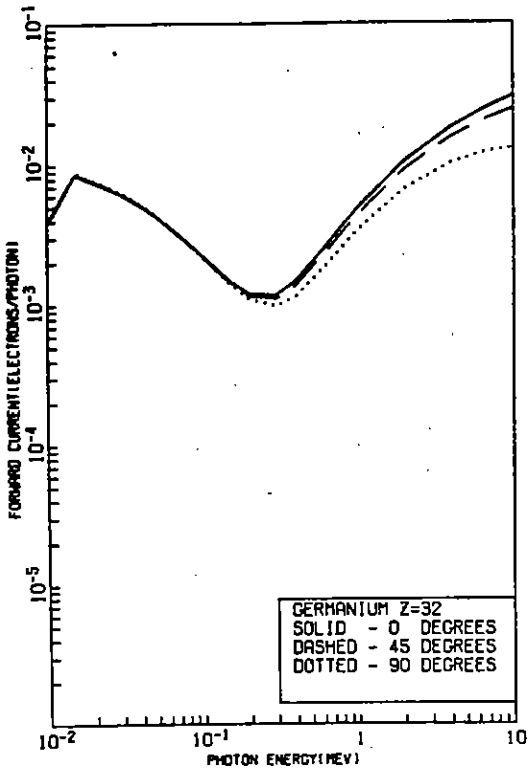

PHOTON ENERGY (MEV)	NET CURRENT (ELECTRONS/PHOTON) PHOTO (PELEC)	PHOTO (F/S)	COMPTON	TOTAL	FORWARD CURRENT (ELECTRONS/PHOTON) 0 DEG	45 DEG	90 DEG	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	3.58E-04	4.63E-04	1.69E-07	3.55E-04	3.82E-03	3.89E-03	3.97E-03	.009	.010	4.88E-04	.213
.015	4.74E-04	6.59E-04	4.64E-07	4.75E-04	5.58E-03	5.72E-03	5.86E-03	.009	.015	9.54E-04	.193
.020	6.11E-04	7.68E-04	1.11E-06	6.12E-04	7.54E-03	7.64E-03	7.74E-03	.013	.020	1.54E-03	.183
.030	7.60E-04	8.45E-04	2.37E-06	7.62E-04	6.19E-03	6.25E-03	6.32E-03	.021	.030	3.86E-03	.174
.040	7.69E-04	8.17E-04	3.42E-06	7.73E-04	5.12E-03	5.16E-03	5.21E-03	.031	.040	4.99E-03	.170
.050	7.41E-04	7.61E-04	4.84E-06	7.46E-04	4.30E-03	4.32E-03	4.35E-03	.041	.050	7.28E-03	.168
.060	7.09E-04	7.08E-04	6.81E-06	7.19E-04	3.66E-03	3.68E-03	3.70E-03	.050	.060	9.91E-03	.167
.070	6.80E-04	6.41E-04	9.42E-06	6.70E-04	3.17E-03	3.18E-03	3.19E-03	.060	.070	1.28E-02	.166
.080	6.18E-04	5.97E-04	1.27E-05	6.30E-04	2.78E-03	2.78E-03	2.79E-03	.070	.080	1.61E-02	.165
.090	5.72E-04	5.99E-04	1.67E-05	5.89E-04	2.49E-03	2.48E-03	2.48E-03	.079	.090	1.95E-02	.165
.100	5.36E-04	5.56E-04	2.14E-05	5.57E-04	2.23E-03	2.22E-03	2.21E-03	.088	.100	2.33E-02	.165
.125	4.54E-04	4.69E-04	3.65E-05	4.91E-04	1.76E-03	1.75E-03	1.73E-03	.109	.125	3.35E-02	.165
.150	3.89E-04	4.02E-04	5.64E-05	4.45E-04	1.48E-03	1.46E-03	1.43E-03	.128	.150	4.50E-02	.165
.200	3.03E-04	3.18E-04	1.10E-04	4.13E-04	1.20E-03	1.17E-03	1.11E-03	.159	.200	7.08E-02	.166
.300	2.04E-04	2.04E-04	2.67E-04	4.72E-04	1.19E-03	1.12E-03	9.91E-04	.199	.300	1.31E-01	.169
.400	1.54E-04	1.57E-04	4.76E-04	6.30E-04	1.49E-03	1.38E-03	1.17E-03	.242	.400	1.98E-01	.172
.600		1.18E-04	9.95E-04	1.11E-03	2.49E-03	2.27E-03	1.83E-03	.358	.600	3.45E-01	.180
.800		8.69E-05	1.59E-03	1.69E-03	3.67E-03	3.32E-03	2.61E-03	.497	.800	4.98E-01	.188
1.000		7.78E-05	2.23E-03	2.30E-03	4.89E-03	4.39E-03	3.40E-03	.645	1.000	6.53E-01	.197
2.000		6.17E-05	5.50E-03	5.55E-03	1.03E-02	9.11E-03	6.62E-03	1.437	2.000	1.42E+00	.237
4.000		6.83E-05	1.14E-02	1.14E-02	1.81E-02	1.54E-02	1.01E-02	3.185	4.000	2.92E+00	.304
7.000		6.30E-05	1.82E-02	1.83E-02	2.93E-02	2.10E-02	1.22E-02	5.671	7.000	4.65E+00	.377
10.000		6.45E-05	2.32E-02	2.32E-02	3.80E-02	2.43E-02	1.29E-02	8.265	10.000	6.24E+00	.431
20.000		6.47E-05	3.23E-02	3.24E-02	3.78E-02	2.95E-02	1.76E-02	16.981	20.000	1.05E+01	.543

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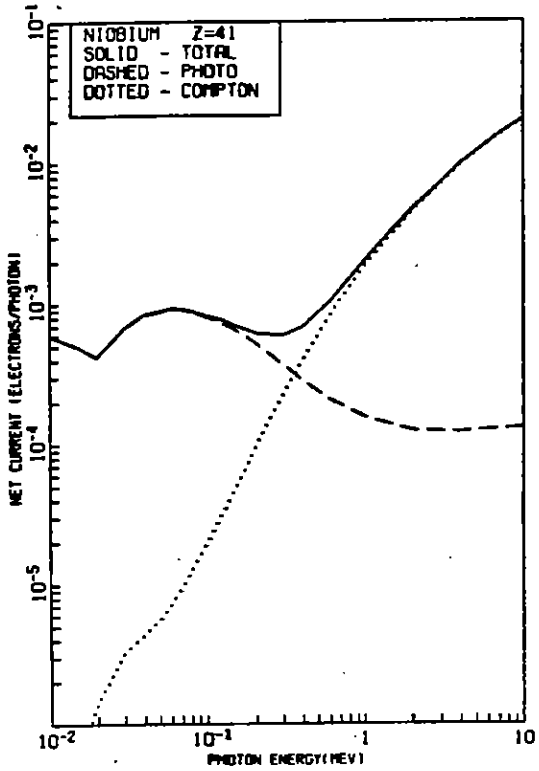
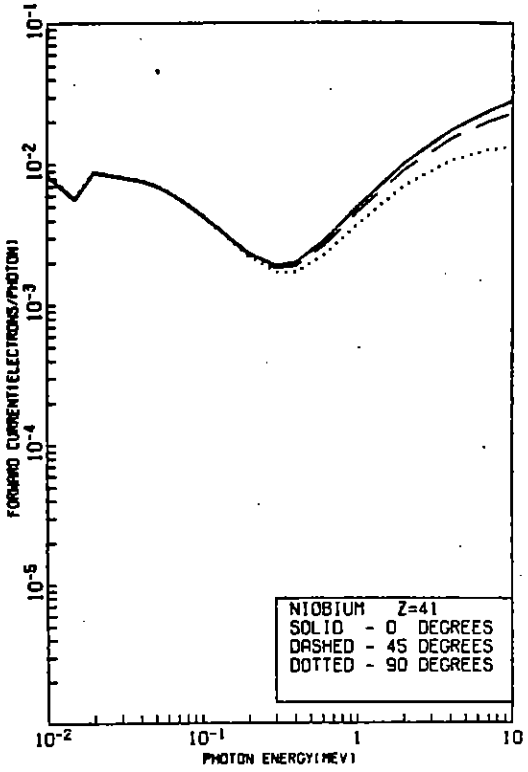
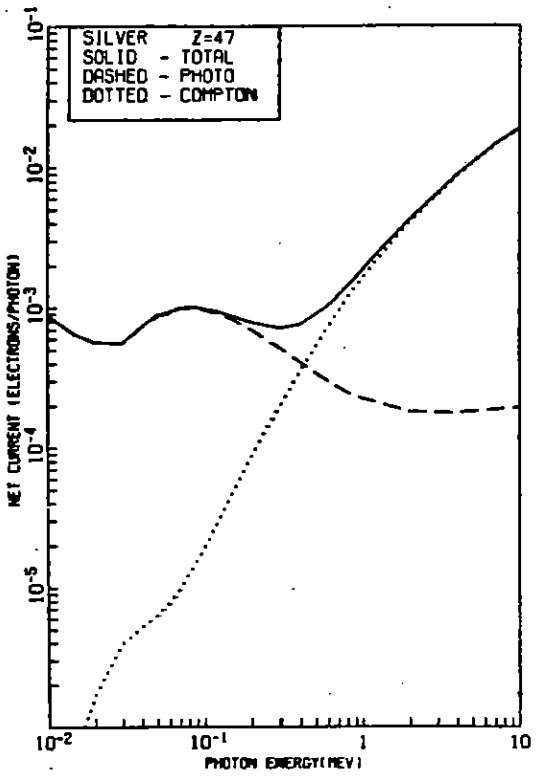
Z = 41

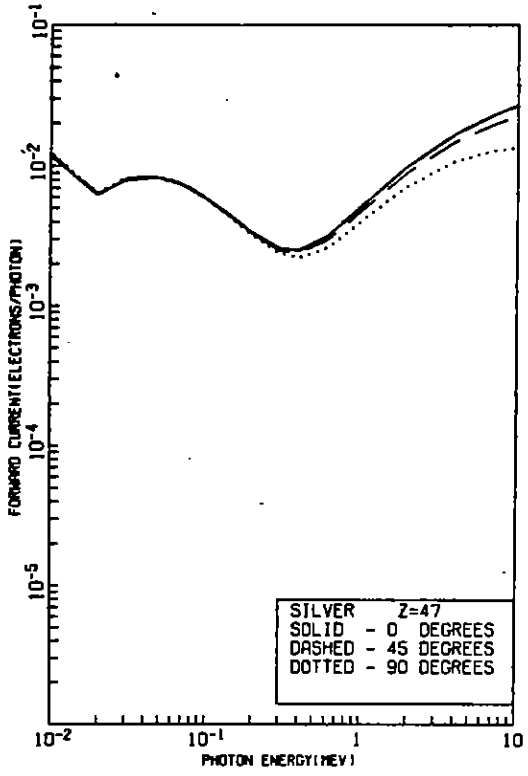




PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	45 DEG	90 DEG	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	XBAR
.010	6.03E-04	9.26E-04	2.16E-07	6.83E-04	5.30E-03	5.46E-03	5.67E-03	.018	.010	5.31E-04	.193
.015	4.99E-04	6.55E-04	5.92E-07	5.88E-04	5.61E-03	5.68E-03	5.76E-03	.013	.015	1.03E-03	.171
.020	4.22E-04	5.93E-04	1.46E-06	4.23E-04	8.74E-03	8.83E-03	8.92E-03	.017	.020	1.65E-03	.159
.030	6.72E-04	8.36E-04	3.27E-06	6.75E-04	9.02E-03	9.10E-03	9.18E-03	.020	.030	3.25E-03	.147
.040	3.41E-04	9.48E-04	4.40E-06	9.65E-04	7.62E-03	7.67E-03	7.74E-03	.027	.040	5.26E-03	.141
.050	8.83E-04	9.75E-04	5.61E-06	8.99E-04	6.98E-03	7.02E-03	7.07E-03	.036	.050	7.66E-03	.138
.060	9.27E-04	9.58E-04	7.31E-06	9.35E-04	6.31E-03	6.34E-03	6.39E-03	.045	.060	1.04E-02	.136
.070	9.16E-04	9.22E-04	9.56E-06	9.25E-04	5.70E-03	5.72E-03	5.74E-03	.055	.070	1.34E-02	.135
.080	8.81E-04	8.76E-04	1.24E-05	8.90E-04	5.15E-03	5.16E-03	5.18E-03	.064	.080	1.66E-02	.134
.090	8.45E-04	8.29E-04	1.58E-05	8.51E-04	4.69E-03	4.68E-03	4.69E-03	.074	.090	2.04E-02	.133
.100	8.11E-04	8.01E-04	1.99E-05	8.31E-04	4.28E-03	4.28E-03	4.27E-03	.093	.100	2.43E-02	.133
.125	7.35E-04	7.76E-04	3.28E-05	7.63E-04	3.52E-03	3.51E-03	3.49E-03	.106	.125	3.49E-02	.132
.150	6.54E-04	6.58E-04	4.95E-05	7.04E-04	2.97E-03	2.95E-03	2.91E-03	.128	.150	4.68E-02	.132
.200	5.32E-04	5.52E-04	9.44E-05	6.26E-04	2.30E-03	2.27E-03	2.21E-03	.167	.200	7.34E-02	.132
.300	3.75E-04	3.87E-04	2.24E-04	5.93E-04	1.87E-03	1.82E-03	1.70E-03	.227	.300	1.35E-01	.134
.400	2.91E-04	2.99E-04	3.95E-04	6.95E-04	1.99E-03	1.88E-03	1.69E-03	.275	.400	2.04E-01	.137
.600	2.10E-04	2.17E-04	8.20E-04	1.03E-03	2.77E-03	2.59E-03	2.22E-03	.385	.600	3.54E-01	.144
.800		1.75E-04	1.31E-03	1.49E-03	3.83E-03	3.54E-03	2.95E-03	.517	.800	5.10E-01	.151
1.000		1.58E-04	1.83E-03	1.99E-03	4.94E-03	4.54E-03	3.73E-03	.661	1.000	6.68E-01	.159
2.000		1.26E-04	4.56E-03	4.69E-03	1.00E-02	9.01E-03	6.95E-03	1.447	2.000	1.44E+00	.195
4.000		1.23E-04	9.68E-03	9.72E-03	1.71E-02	1.49E-02	1.04E-02	3.116	4.000	2.82E+00	.257
7.000		1.29E-04	1.56E-02	1.57E-02	2.36E-02	1.99E-02	1.25E-02	5.686	7.000	4.60E+00	.328
10.000		1.33E-04	2.08E-02	2.02E-02	2.77E-02	2.29E-02	1.31E-02	8.253	10.000	6.11E+00	.392
20.000		1.32E-04	3.82E-02	2.96E-02	3.43E-02	2.72E-02	1.27E-02	17.083	20.000	1.08E+01	.495

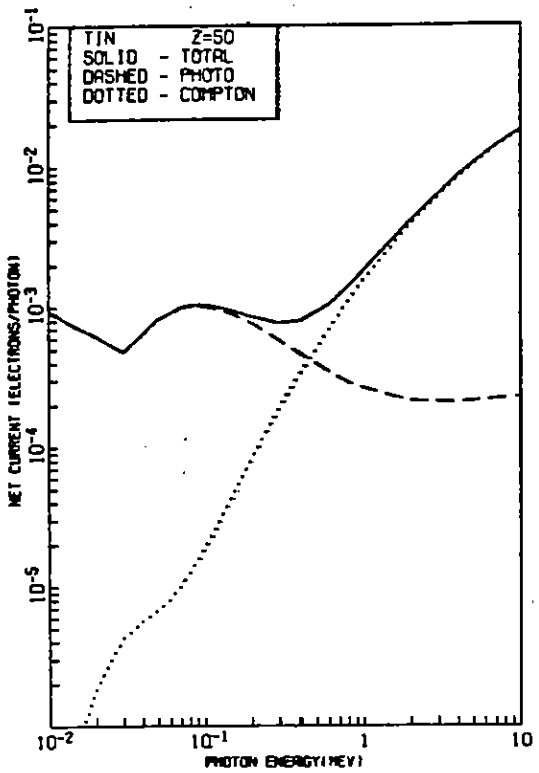
SILVER
Z = 47

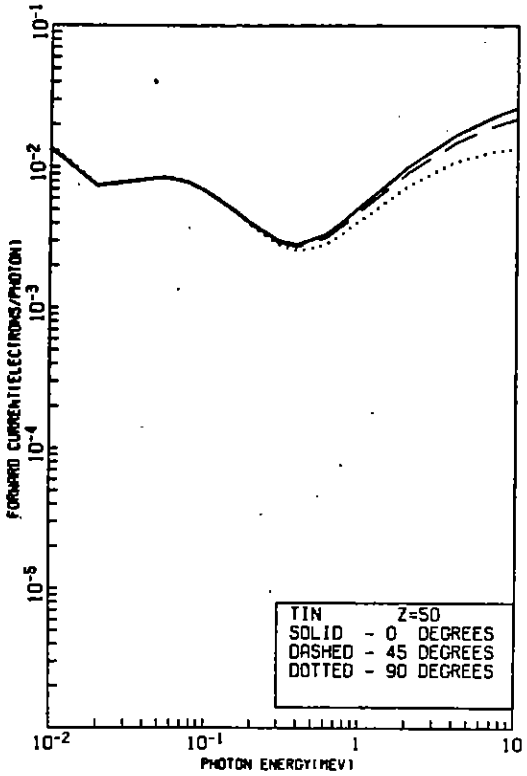




PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	45 DEG	90 DEG	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	8.83E-04	1.26E-03	2.55E-07	8.84E-04	1.19E-02	1.21E-02	1.24E-02	.007	.010	5.69E-04	.194
.015	6.48E-04	8.71E-04	6.95E-07	6.49E-04	8.15E-03	8.26E-03	8.38E-03	.012	.015	1.09E-03	.161
.020	5.64E-04	7.07E-04	1.71E-06	5.65E-04	6.26E-03	6.32E-03	6.39E-03	.017	.020	1.74E-03	.147
.030	5.55E-04	7.59E-04	3.96E-06	5.53E-04	7.95E-03	8.05E-03	8.16E-03	.021	.030	3.41E-03	.134
.040	7.29E-04	8.92E-04	5.25E-06	7.34E-04	8.23E-03	8.29E-03	8.36E-03	.026	.040	5.51E-03	.128
.050	8.77E-04	9.95E-04	6.33E-06	8.83E-04	8.18E-03	8.23E-03	8.29E-03	.033	.050	8.00E-03	.124
.060	9.25E-04	1.04E-03	7.84E-06	9.32E-04	7.83E-03	7.88E-03	7.91E-03	.042	.060	1.09E-02	.122
.070	9.85E-04	1.04E-03	9.09E-06	9.94E-04	7.35E-03	7.37E-03	7.40E-03	.051	.070	1.40E-02	.120
.080	9.97E-04	1.02E-03	1.25E-05	1.01E-03	6.84E-03	6.85E-03	6.88E-03	.060	.080	1.75E-02	.119
.090	9.89E-04	9.86E-04	1.56E-05	1.01E-03	6.35E-03	6.36E-03	6.37E-03	.069	.090	2.12E-02	.118
.100	9.62E-04	9.48E-04	1.94E-05	9.81E-04	5.89E-03	5.89E-03	5.90E-03	.079	.100	2.52E-02	.117
.125	9.04E-04	8.73E-04	3.11E-05	9.35E-04	4.94E-03	4.93E-03	4.92E-03	.103	.125	3.62E-02	.116
.150	8.28E-04	8.95E-04	4.63E-05	9.74E-04	4.27E-03	4.25E-03	4.22E-03	.125	.150	4.84E-02	.116
.200	6.96E-04	7.33E-04	9.67E-05	7.93E-04	3.33E-03	3.30E-03	3.24E-03	.167	.200	7.60E-02	.116
.300	5.11E-04	5.35E-04	2.02E-04	7.14E-04	2.57E-03	2.51E-03	2.40E-03	.237	.300	1.48E-01	.115
.400	4.05E-04	4.21E-04	3.55E-04	7.58E-04	2.49E-03	2.40E-03	2.22E-03	.293	.400	2.11E-01	.120
.600	2.98E-04	3.09E-04	7.32E-04	1.03E-03	3.10E-03	2.93E-03	2.59E-03	.405	.600	3.65E-01	.126
.800	2.47E-04	2.54E-04	1.17E-03	1.41E-03	4.04E-03	3.80E-03	3.27E-03	.533	.800	5.24E-01	.133
1.000		2.25E-04	1.63E-03	1.85E-03	5.09E-03	4.74E-03	4.01E-03	.674	1.000	6.86E-01	.140
2.000		1.80E-04	4.88E-03	4.25E-03	9.92E-03	9.06E-03	7.21E-03	1.456	2.000	1.47E+00	.173
4.000		1.77E-04	9.66E-03	9.33E-03	1.66E-02	1.47E-02	1.07E-02	3.125	4.000	2.97E+00	.232
7.000		1.87E-04	1.42E-02	1.40E-02	2.27E-02	1.95E-02	1.27E-02	5.697	7.000	4.65E+00	.301
10.000		1.92E-04	1.84E-02	1.85E-02	2.66E-02	2.23E-02	1.33E-02	8.297	10.000	6.14E+00	.354
20.000		1.92E-04	2.81E-02	2.53E-02	3.26E-02	2.61E-02	1.29E-02	17.019	20.000	9.92E+00	.469

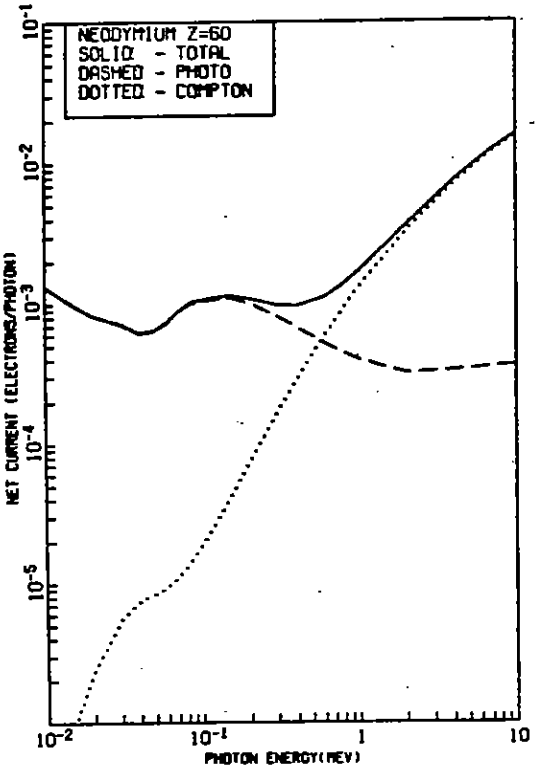
TIN
Z = 50

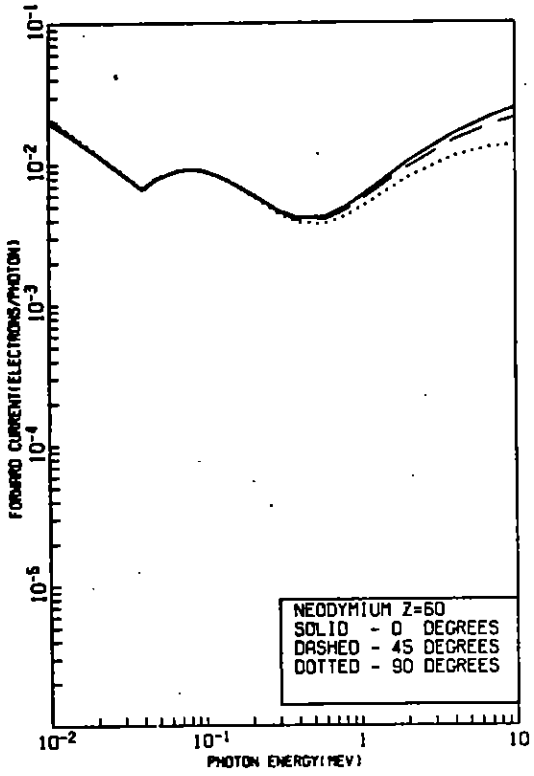




PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	45 DEG	90 DEG	ERAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (G/CM2)	ERAR
.010	9.46E-04	1.50E-03	2.77E-07	9.46E-04	1.34E-02	1.39E-02	1.41E-02	.007	.010	6.02E-04	.193
.015	7.26E-04	1.08E-03	7.54E-07	7.23E-04	9.49E-03	9.61E-03	9.76E-03	.012	.015	1.15E-03	.153
.020	6.27E-04	8.06E-04	1.65E-06	6.23E-04	7.34E-03	7.41E-03	7.50E-03	.017	.020	1.93E-03	.143
.030	4.81E-04	6.39E-04	4.33E-06	4.85E-04	7.82E-03	7.88E-03	7.94E-03	.026	.030	3.55E-03	.129
.040	6.41E-04	8.39E-04	5.72E-06	6.47E-04	8.06E-03	8.13E-03	8.20E-03	.027	.040	5.79E-03	.122
.050	8.16E-04	9.65E-04	6.75E-06	8.23E-04	9.39E-03	9.44E-03	9.50E-03	.033	.050	8.39E-03	.115
.060	9.08E-04	1.06E-03	3.17E-06	9.03E-04	8.31E-03	8.35E-03	8.40E-03	.041	.060	1.14E-02	.115
.070	9.92E-04	1.06E-03	1.81E-05	1.00E-03	8.08E-03	8.03E-03	8.07E-03	.049	.070	1.47E-02	.114
.080	1.02E-03	1.06E-03	1.26E-05	1.03E-03	7.59E-03	7.61E-03	7.63E-03	.055	.080	1.83E-02	.112
.090	1.03E-03	1.04E-03	1.56E-05	1.04E-03	7.14E-03	7.15E-03	7.17E-03	.067	.090	2.22E-02	.111
.100	1.01E-03	1.02E-03	1.92E-05	1.03E-03	6.70E-03	6.70E-03	6.71E-03	.077	.100	2.64E-02	.111
.125	9.67E-04	9.56E-04	3.84E-05	9.97E-04	5.72E-03	5.77E-03	5.71E-03	.100	.125	3.79E-02	.110
.150	9.00E-04	9.79E-04	4.49E-05	9.45E-04	4.99E-03	4.98E-03	4.94E-03	.123	.150	5.06E-02	.109
.200	7.77E-04	8.25E-04	8.34E-05	8.60E-04	3.93E-03	3.90E-03	3.84E-03	.166	.200	7.93E-02	.109
.300	5.82E-04	6.12E-04	1.93E-04	7.75E-04	2.98E-03	2.92E-03	2.81E-03	.240	.300	1.46E-01	.111
.400	4.67E-04	4.87E-04	3.37E-04	8.04E-04	2.98E-03	2.71E-03	2.54E-03	.300	.400	2.19E-01	.113
.600	3.47E-04	3.60E-04	6.94E-04	1.04E-03	3.30E-03	3.14E-03	2.91E-03	.415	.600	3.80E-01	.119
.800	2.90E-04	2.99E-04	1.10E-03	1.39E-03	4.19E-03	3.96E-03	3.45E-03	.543	.800	5.46E-01	.125
1.000		2.65E-04	1.54E-03	1.81E-03	5.19E-03	4.87E-03	4.17E-03	.653	1.000	7.13E-01	.131
2.000		2.13E-04	3.87E-03	4.08E-03	9.99E-03	9.09E-03	7.34E-03	1.461	2.000	1.53E+00	.164
4.000		2.10E-04	9.26E-03	9.47E-03	1.64E-02	1.46E-02	1.08E-02	3.130	4.000	2.96E+00	.222
7.000		2.20E-04	1.36E-02	1.38E-02	2.23E-02	1.92E-02	1.28E-02	5.703	7.000	4.77E+00	.290
10.000		2.27E-04	1.76E-02	1.79E-02	2.59E-02	2.19E-02	1.33E-02	8.303	10.000	6.28E+00	.343
20.000		2.27E-04	2.58E-02	2.52E-02	3.16E-02	2.55E-02	1.27E-02	17.027	20.000	1.01E+01	.457

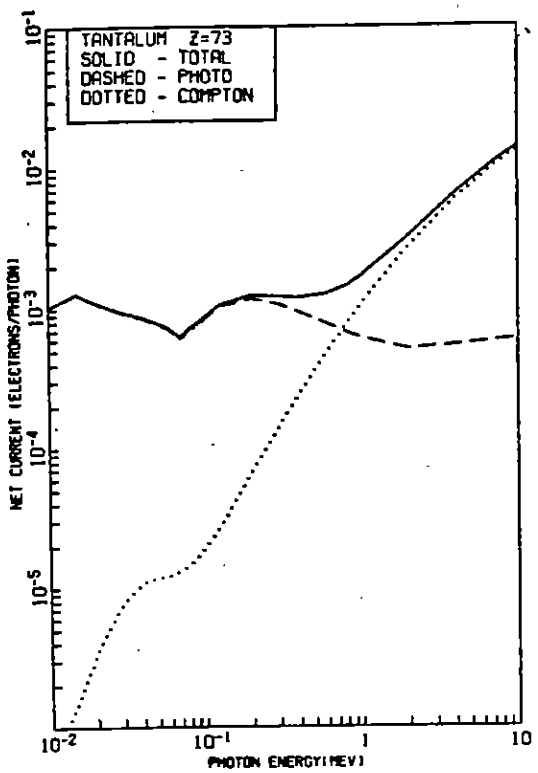
NEODYMIUM
Z = 60

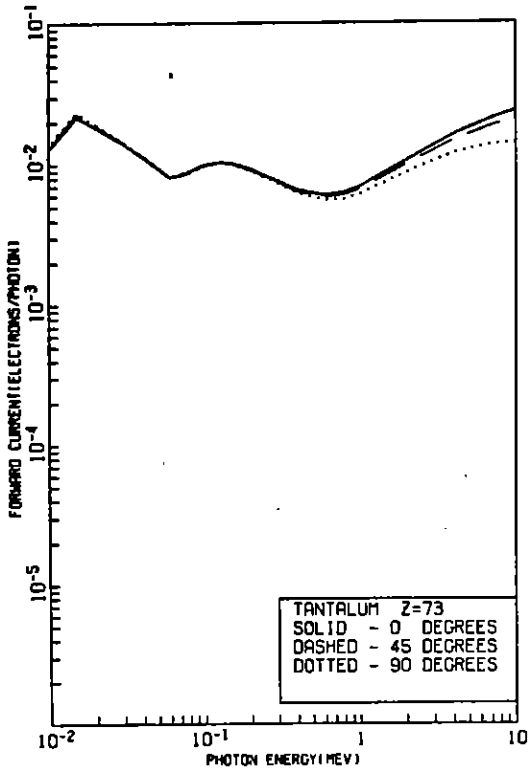




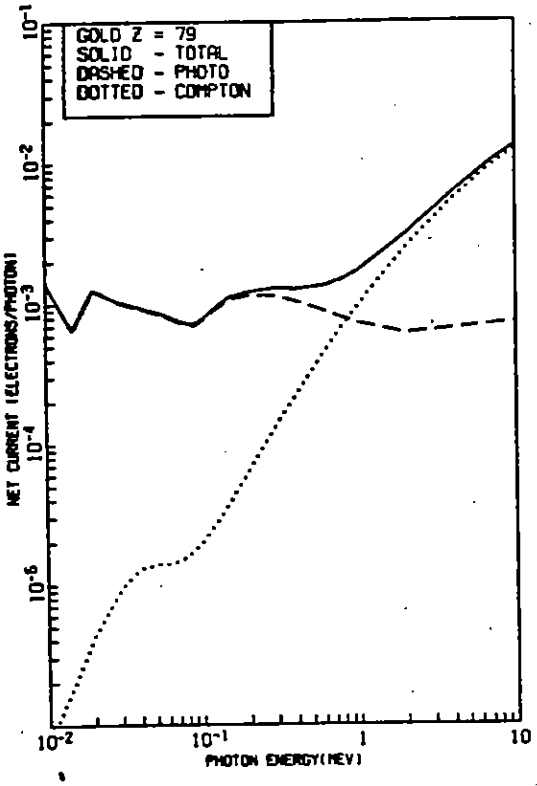
PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	45 DEG	90 DEG	ESAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RSAR
.010	1.34E-03	2.33E-03	3.74E-07	1.34E-03	1.98E-02	2.07E-02	2.16E-02	.005	.010	6.63E-04	.194
.015	9.90E-04	1.49E-03	1.09E-06	9.91E-04	1.48E-02	1.53E-02	1.53E-02	.010	.015	1.25E-03	.149
.020	8.30E-04	1.17E-03	2.42E-06	8.32E-04	1.18E-02	1.20E-02	1.21E-02	.015	.020	1.97E-03	.131
.030	7.17E-04	8.94E-04	5.69E-06	7.23E-04	8.47E-03	8.53E-03	8.60E-03	.025	.030	3.82E-03	.115
.040	6.18E-04	7.47E-04	7.68E-06	6.25E-04	6.63E-03	6.66E-03	6.70E-03	.034	.040	6.14E-03	.107
.050	6.45E-04	8.38E-04	8.50E-06	6.54E-04	7.03E-03	8.00E-03	8.07E-03	.037	.050	8.88E-03	.102
.060	7.48E-04	9.88E-04	9.56E-06	7.58E-04	8.57E-03	8.61E-03	8.67E-03	.041	.060	1.28E-02	.099
.070	8.68E-04	1.08E-03	1.11E-05	8.79E-04	9.02E-03	9.05E-03	9.10E-03	.047	.070	1.55E-02	.097
.080	9.66E-04	1.07E-03	1.33E-05	9.79E-04	9.10E-03	9.21E-03	9.24E-03	.053	.080	1.92E-02	.096
.090	1.03E-03	1.11E-03	1.59E-05	1.04E-03	9.13E-03	9.15E-03	9.17E-03	.061	.090	2.33E-02	.094
.100	1.04E-03	1.12E-03	1.90E-05	1.06E-03	8.94E-03	8.96E-03	8.97E-03	.070	.100	2.77E-02	.094
.125	1.09E-03	1.10E-03	2.89E-05	1.12E-03	8.21E-03	8.21E-03	8.21E-03	.092	.125	3.96E-02	.092
.150	1.10E-03	1.09E-03	4.15E-05	1.14E-03	7.43E-03	7.41E-03	7.40E-03	.116	.150	5.29E-02	.091
.200	1.01E-03	1.18E-03	7.47E-05	1.09E-03	6.16E-03	6.14E-03	6.07E-03	.160	.200	8.27E-02	.091
.300	8.15E-04	8.77E-04	1.68E-04	9.83E-04	4.66E-03	4.61E-03	4.58E-03	.242	.300	1.51E-01	.091
.400	6.79E-04	7.22E-04	2.89E-04	9.65E-04	4.11E-03	4.03E-03	3.97E-03	.315	.400	2.27E-01	.093
.600	5.24E-04	5.52E-04	5.88E-04	1.11E-03	4.20E-03	4.06E-03	3.77E-03	.444	.600	3.91E-01	.098
.800	4.45E-04	4.66E-04	9.33E-04	1.35E-03	4.87E-03	4.66E-03	4.22E-03	.574	.800	5.60E-01	.104
1.000	3.99E-04	4.16E-04	1.38E-03	1.78E-03	5.67E-03	5.44E-03	4.84E-03	.712	1.000	7.31E-01	.113
2.000	3.21E-04	3.39E-04	3.28E-03	3.58E-03	9.88E-03	9.31E-03	7.91E-03	1.493	2.000	1.55E+00	.139
4.000		3.35E-04	7.89E-03	7.42E-03	1.57E-02	1.44E-02	1.11E-02	3.150	4.000	2.99E+00	.193
7.000		3.53E-04	1.18E-02	1.22E-02	2.10E-02	1.86E-02	1.30E-02	5.726	7.000	4.75E+00	.258
10.000		3.65E-04	1.54E-02	1.58E-02	2.42E-02	2.10E-02	1.35E-02	8.329	10.000	6.21E+00	.309
20.000		3.66E-04	2.21E-02	2.25E-02	2.91E-02	2.39E-02	1.27E-02	17.061	20.000	9.79E+00	.422

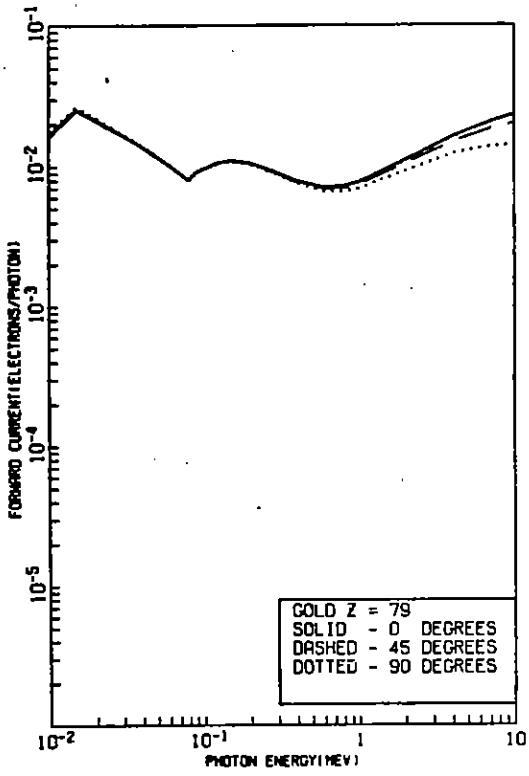
TANTALUM
Z = 73





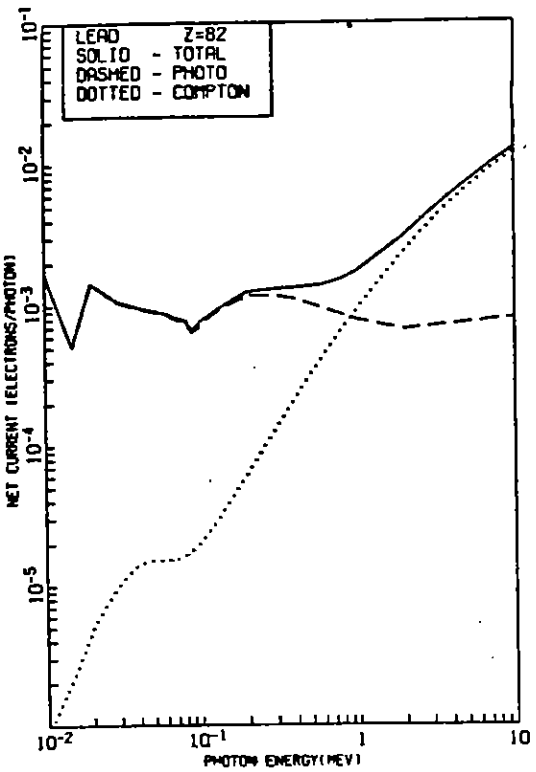
PHOTON ENERGY (MEV)	NET CURRENT PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	NET CURRENT COMPTON	NET CURRENT TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	FORWARD CURRENT 45 DEG (ELECTRONS/PHOTON)	FORWARD CURRENT 90 DEG (ELECTRONS/PHOTON)	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (G/CM2)	RBAR
.010	1.03E-03	1.59E-03	5.96E-07	1.03E-03	1.29E-02	1.33E-02	1.39E-02	.006	.010	7.61E-04	.207
.015	1.28E-03	2.39E-03	1.56E-06	1.28E-03	2.19E-02	2.26E-02	2.34E-02	.008	.015	1.40E-03	.144
.020	1.11E-03	1.76E-03	9.58E-06	1.11E-03	1.84E-02	1.87E-02	1.90E-02	.013	.020	2.19E-03	.122
.030	9.37E-04	1.29E-03	8.05E-06	9.45E-04	1.41E-02	1.42E-02	1.43E-02	.022	.030	4.19E-03	.103
.040	8.58E-04	1.10E-03	1.10E-05	8.68E-04	1.14E-02	1.14E-02	1.15E-02	.032	.040	6.69E-03	.094
.050	7.80E-04	9.64E-04	1.19E-05	7.91E-04	9.50E-03	9.53E-03	9.57E-03	.041	.050	9.61E-03	.089
.060	7.10E-04	8.59E-04	1.23E-05	7.22E-04	8.14E-03	8.16E-03	8.18E-03	.051	.060	1.30E-02	.085
.070	6.11E-04	8.52E-04	1.33E-05	6.25E-04	9.42E-03	9.47E-03	8.53E-03	.056	.070	1.67E-02	.083
.080	7.13E-04	8.96E-04	1.48E-05	7.28E-04	8.83E-03	8.86E-03	8.90E-03	.060	.080	2.07E-02	.081
.090	7.72E-04	9.69E-04	1.78E-05	7.93E-04	9.40E-03	9.42E-03	9.45E-03	.063	.090	2.51E-02	.079
.100	8.81E-04	1.02E-03	1.96E-05	9.71E-04	9.86E-03	9.89E-03	9.90E-03	.068	.100	2.97E-02	.079
.125	1.04E-03	1.13E-03	2.80E-05	1.07E-03	1.03E-02	1.03E-02	1.03E-02	.094	.125	4.25E-02	.076
.150	1.09E-03	1.16E-03	3.89E-05	1.13E-03	1.01E-02	1.01E-02	1.01E-02	.104	.150	5.66E-02	.075
.200	1.17E-03	1.18E-03	6.70E-05	1.24E-03	9.19E-03	9.17E-03	9.13E-03	.150	.200	9.51E-02	.074
.300	1.07E-03	1.20E-03	1.44E-04	1.22E-03	7.48E-03	7.44E-03	7.33E-03	.235	.300	1.61E-01	.073
.400	9.46E-04	1.05E-03	2.44E-04	1.13E-03	6.49E-03	6.43E-03	6.26E-03	.317	.400	2.41E-01	.075
.600	7.79E-04	8.43E-04	4.87E-04	1.27E-03	5.96E-03	5.84E-03	5.55E-03	.467	.600	4.11E-01	.079
.800	6.77E-04	7.27E-04	7.67E-04	1.44E-03	6.26E-03	6.03E-03	5.70E-03	.608	.800	5.88E-01	.094
1.000	6.19E-04	6.57E-04	1.07E-03	1.73E-03	6.82E-03	6.63E-03	6.11E-03	.751	1.000	7.66E-01	.085
2.000	5.13E-04	5.47E-04	2.70E-03	3.22E-03	1.02E-02	9.67E-03	8.71E-03	1.520	2.000	1.62E+00	.114
4.000		5.46E-04	5.93E-03	6.49E-03	1.52E-02	1.46E-02	1.19E-02	3.196	4.000	3.10E+00	.162
7.000		5.80E-04	1.01E-02	1.05E-02	1.98E-02	1.84E-02	1.36E-02	5.766	7.000	4.83E+00	.222
10.000		6.02E-04	1.32E-02	1.39E-02	2.26E-02	2.04E-02	1.39E-02	8.375	10.000	6.32E+00	.271
20.000		6.07E-04	1.93E-02	1.99E-02	2.67E-02	2.27E-02	1.29E-02	17.122	20.000	9.73E+00	.362

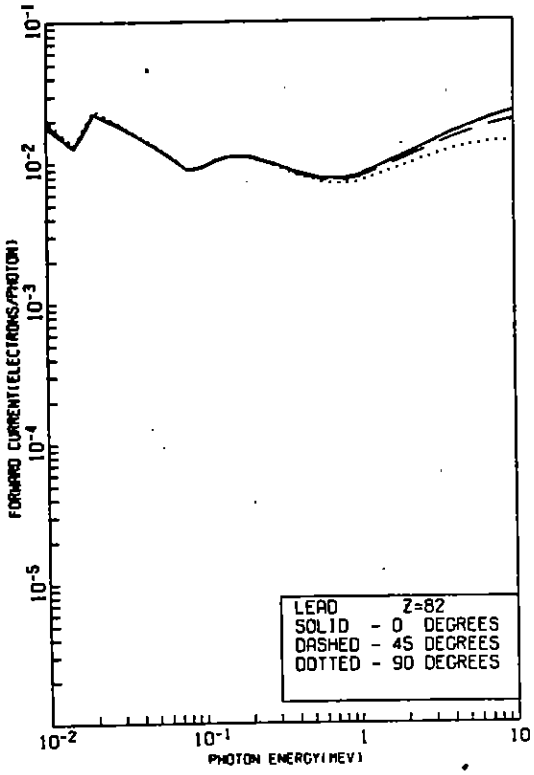




PHOTON ENERGY (MEV)	NET CURRENT PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	NET CURRENT COMPTON	NET CURRENT TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	FORWARD CURRENT 45 DEG (ELECTRONS/PHOTON)	FORWARD CURRENT 90 DEG (ELECTRONS/PHOTON)	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	1.38E-03	2.71E-03	7.68E-07	1.35E-03	1.63E-02	1.78E-02	1.77E-02	.008	.010	8.07E-04	.217
.015	6.56E-04	1.74E-03	2.01E-06	6.38E-04	2.54E-02	2.68E-02	2.66E-02	.010	.015	1.47E-03	.143
.020	1.26E-03	2.21E-03	4.45E-06	1.25E-03	2.11E-02	2.16E-02	2.22E-02	.011	.020	2.29E-03	.119
.030	1.82E-03	1.45E-03	9.55E-06	1.83E-03	1.66E-02	1.67E-02	1.69E-02	.021	.030	4.33E-03	.099
.040	9.32E-04	1.25E-03	1.31E-05	9.45E-04	1.37E-02	1.38E-02	1.39E-02	.038	.040	6.89E-03	.089
.050	6.64E-04	1.11E-03	1.48E-05	5.75E-04	1.17E-02	1.17E-02	1.18E-02	.040	.050	9.90E-03	.084
.060	8.88E-04	1.80E-03	1.48E-05	8.22E-04	1.01E-02	1.02E-02	1.02E-02	.049	.060	1.33E-02	.080
.070	7.48E-04	9.18E-04	1.46E-05	7.83E-04	8.93E-03	8.95E-03	8.97E-03	.059	.070	1.71E-02	.078
.080	7.12E-04	8.34E-04	1.59E-05	7.23E-04	7.98E-03	7.99E-03	8.00E-03	.069	.080	2.12E-02	.075
.090	7.05E-04	9.89E-04	1.78E-05	7.23E-04	9.01E-03	9.04E-03	9.08E-03	.069	.090	2.57E-02	.074
.100	7.57E-04	9.40E-04	2.81E-05	7.77E-04	9.51E-03	9.54E-03	9.56E-03	.074	.100	3.04E-02	.073
.125	9.27E-04	1.07E-03	2.79E-05	9.55E-04	1.06E-02	1.06E-02	1.06E-02	.085	.125	4.34E-02	.070
.150	1.07E-03	1.14E-03	3.81E-05	1.11E-03	1.09E-02	1.09E-02	1.09E-02	.101	.150	5.76E-02	.069
.200	1.19E-03	1.25E-03	6.44E-05	1.21E-03	1.05E-02	1.05E-02	1.04E-02	.145	.200	8.98E-02	.065
.300	1.15E-03	1.32E-03	1.36E-04	1.29E-03	8.89E-03	8.85E-03	8.74E-03	.229	.300	1.63E-01	.067
.400	1.04E-03	1.18E-03	2.28E-04	1.27E-03	7.77E-03	7.71E-03	7.54E-03	.314	.400	2.44E-01	.068
.600	8.89E-04	9.81E-04	4.50E-04	1.34E-03	6.99E-03	6.89E-03	6.62E-03	.471	.600	4.19E-01	.072
.800	7.98E-04	8.59E-04	7.07E-04	1.58E-03	7.12E-03	6.96E-03	6.59E-03	.619	.800	5.97E-01	.076
1.000	7.38E-04	7.82E-04	9.84E-04	1.71E-03	7.61E-03	7.39E-03	6.89E-03	.766	1.000	7.76E-01	.081
2.000	6.13E-04	6.59E-04	2.48E-03	3.10E-03	1.04E-02	1.04E-02	9.20E-03	1.539	2.000	1.63E+00	.105
4.000		6.68E-04	5.48E-03	6.14E-03	1.49E-02	1.47E-02	1.21E-02	3.205	4.000	3.09E+00	.151
7.000		7.83E-04	9.34E-03	1.08E-02	1.91E-02	1.82E-02	1.37E-02	5.747	7.000	4.83E+00	.218
10.000		7.31E-04	1.23E-02	1.31E-02	2.17E-02	2.00E-02	1.40E-02	8.399	10.000	6.24E+00	.258
20.000		7.39E-04	1.81E-02	1.93E-02	2.56E-02	2.21E-02	1.79E-02	17.156	20.000	9.59E+00	.366

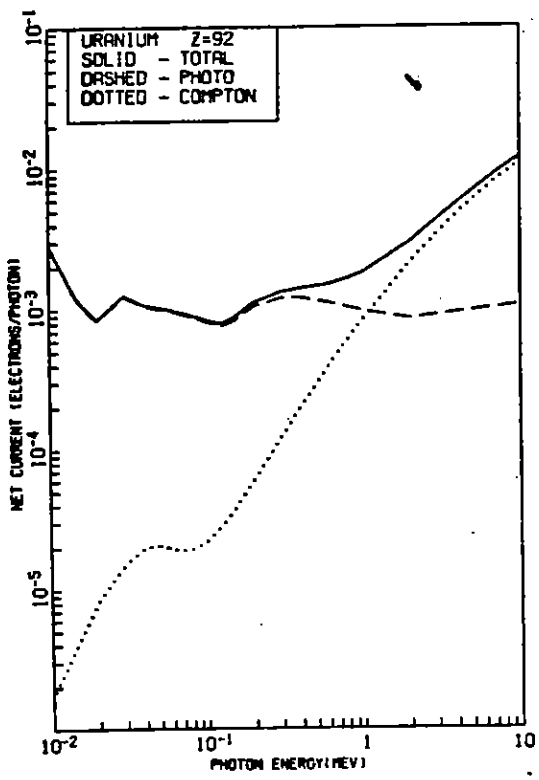
LEAD
Z = 82

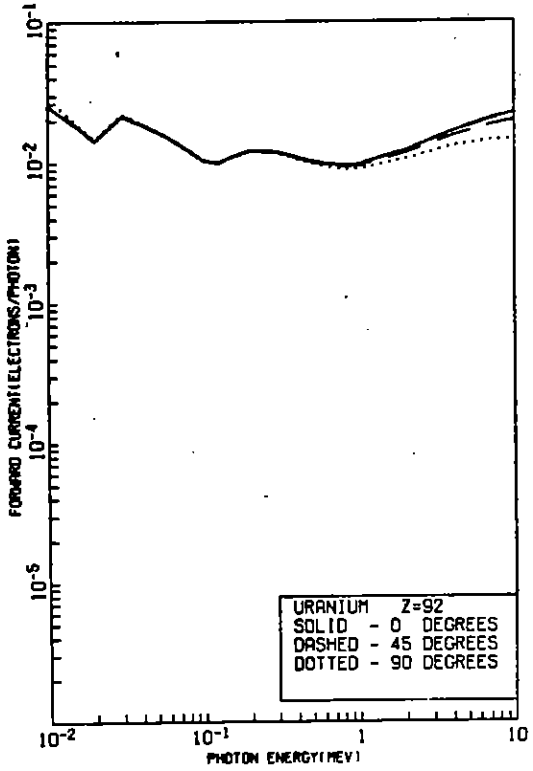




PHOTON ENERGY (MEV)	NET CURRENT PHOTO (PELEC)	PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	45 DEG	90 DEG	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	1.67E-03	3.25E-03	9.10E-07	1.57E-03	1.82E-02	1.91E-02	2.00E-02	.008	.010	8.41E-04	.222
.015	5.10E-04	1.45E-03	2.32E-06	5.12E-04	1.25E-02	1.30E-02	1.33E-02	.013	.015	1.52E-03	.143
.020	1.44E-03	2.41E-03	5.82E-06	1.43E-03	2.23E-02	2.30E-02	2.37E-02	.018	.020	2.39E-03	.117
.030	1.04E-03	1.54E-03	1.05E-05	1.03E-03	1.75E-02	1.80E-02	1.87E-02	.020	.030	4.45E-03	.097
.040	9.54E-04	1.33E-03	1.43E-05	9.69E-04	1.50E-02	1.51E-02	1.52E-02	.030	.040	7.07E-03	.087
.050	9.93E-04	1.13E-03	1.52E-05	9.89E-04	1.29E-02	1.29E-02	1.30E-02	.039	.050	1.01E-02	.082
.060	8.59E-04	1.08E-03	1.51E-05	8.74E-04	1.13E-02	1.13E-02	1.13E-02	.049	.060	1.36E-02	.079
.070	7.93E-04	9.85E-04	1.55E-05	8.05E-04	9.97E-03	9.99E-03	1.00E-02	.058	.070	1.75E-02	.075
.080	7.57E-04	9.04E-04	1.65E-05	7.74E-04	8.93E-03	8.94E-03	8.95E-03	.065	.080	2.17E-02	.073
.090	6.37E-04	8.91E-04	1.82E-05	6.55E-04	9.05E-03	9.09E-03	9.12E-03	.074	.090	2.62E-02	.072
.100	7.36E-04	9.10E-04	2.05E-05	7.55E-04	9.31E-03	9.33E-03	9.36E-03	.077	.100	3.11E-02	.070
.125	9.76E-04	1.03E-03	2.80E-05	9.04E-04	1.05E-02	1.05E-02	1.05E-02	.087	.125	4.43E-02	.063
.150	9.84E-04	1.12E-03	3.79E-05	1.02E-03	1.11E-02	1.11E-02	1.11E-02	.101	.150	5.90E-02	.066
.200	1.17E-03	1.27E-03	6.34E-05	1.23E-03	1.10E-02	1.10E-02	1.10E-02	.144	.200	9.16E-02	.065
.300	1.17E-03	1.38E-03	1.33E-04	1.30E-03	9.63E-03	9.59E-03	9.48E-03	.226	.300	1.67E-01	.064
.400	1.10E-03	1.25E-03	2.21E-04	1.32E-03	8.48E-03	8.43E-03	8.27E-03	.312	.400	2.49E-01	.065
.600	9.48E-04	1.05E-03	4.34E-04	1.39E-03	7.57E-03	7.47E-03	7.21E-03	.472	.600	4.24E-01	.069
.800	8.48E-04	9.27E-04	6.80E-04	1.53E-03	7.56E-03	7.43E-03	7.06E-03	.623	.800	6.04E-01	.073
1.000	7.82E-04	8.46E-04	9.45E-04	1.73E-03	7.99E-03	7.78E-03	7.29E-03	.772	1.000	7.65E-01	.078
2.000	6.65E-04	7.16E-04	2.38E-03	3.05E-03	1.04E-02	1.06E-02	9.44E-03	1.549	2.000	1.64E+00	.101
4.000		7.19E-04	5.27E-03	5.99E-03	1.48E-02	1.48E-02	1.23E-02	3.215	4.000	3.10E+00	.146
7.000		7.68E-04	9.00E-03	9.77E-03	1.87E-02	1.81E-02	1.37E-02	5.799	7.000	4.85E+00	.204
10.000		7.99E-04	1.19E-02	1.27E-02	2.12E-02	1.98E-02	1.40E-02	8.412	10.000	6.24E+00	.252
20.000		8.89E-04	1.76E-02	1.84E-02	2.50E-02	2.18E-02	1.28E-02	17.173	20.000	9.53E+00	.362

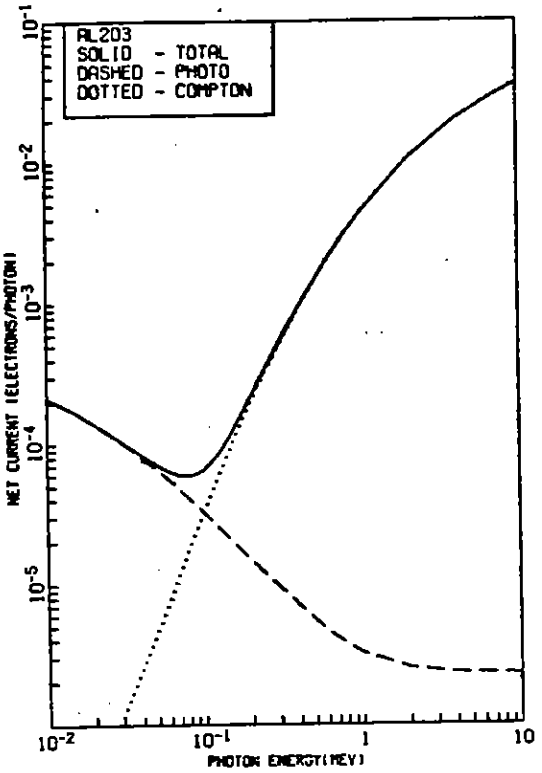
URANIUM
Z = 92

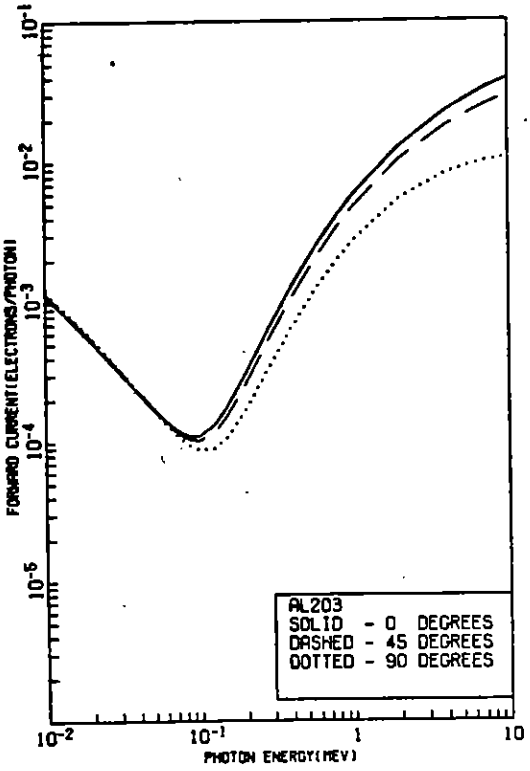




PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	45 DEG	90 DEG	ESAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	2.83E-03	5.86E-03	1.77E-06	2.83E-03	2.55E-02	2.74E-02	2.94E-02	.007	.010	9.65E-04	.248
.015	1.19E-03	2.31E-03	4.29E-06	1.20E-03	1.84E-02	1.89E-02	1.93E-02	.012	.015	1.69E-03	.145
.020	6.40E-04	1.44E-03	8.41E-06	6.49E-04	1.43E-02	1.45E-02	1.47E-02	.017	.020	2.97E-03	.114
.030	1.24E-03	1.96E-03	1.53E-05	1.26E-03	2.15E-02	2.18E-02	2.22E-02	.018	.030	4.79E-03	.091
.040	1.86E-03	1.54E-03	2.82E-05	1.83E-03	1.88E-02	1.89E-02	1.91E-02	.027	.040	7.54E-03	.081
.050	1.01E-03	1.40E-03	2.87E-05	1.03E-03	1.67E-02	1.68E-02	1.69E-02	.036	.050	1.08E-02	.076
.060	9.68E-04	1.38E-03	1.96E-05	9.59E-04	1.50E-02	1.50E-02	1.51E-02	.046	.060	1.44E-02	.072
.070	9.26E-04	1.21E-03	1.91E-05	9.43E-04	1.35E-02	1.36E-02	1.36E-02	.055	.070	1.85E-02	.069
.080	8.89E-04	1.13E-03	1.94E-05	9.08E-04	1.23E-02	1.23E-02	1.23E-02	.064	.080	2.29E-02	.067
.090	8.54E-04	1.05E-03	2.05E-05	8.74E-04	1.13E-02	1.13E-02	1.13E-02	.074	.090	2.76E-02	.065
.100	8.20E-04	9.86E-04	2.22E-05	8.42E-04	1.04E-02	1.04E-02	1.04E-02	.083	.100	3.27E-02	.064
.125	7.61E-04	9.53E-04	2.65E-05	7.30E-04	9.97E-03	9.98E-03	1.00E-02	.098	.125	4.65E-02	.061
.150	8.33E-04	9.99E-04	3.74E-05	8.70E-04	1.09E-02	1.09E-02	1.09E-02	.109	.150	6.17E-02	.060
.200	1.05E-03	1.29E-03	6.05E-05	1.11E-03	1.21E-02	1.21E-02	1.21E-02	.141	.200	9.57E-02	.058
.300	1.28E-03	1.51E-03	1.23E-04	1.53E-03	1.19E-02	1.19E-02	1.17E-02	.216	.300	1.73E-01	.057
.400	1.28E-03	1.45E-03	2.01E-04	1.61E-03	1.09E-02	1.08E-02	1.07E-02	.302	.400	2.59E-01	.057
.600	1.11E-03	1.29E-03	3.88E-04	1.58E-03	9.74E-03	9.66E-03	9.40E-03	.471	.600	4.41E-01	.059
.800	1.03E-03	1.18E-03	6.04E-04	1.55E-03	9.46E-03	9.33E-03	8.97E-03	.631	.800	6.26E-01	.064
1.000	9.78E-04	1.08E-03	8.36E-04	1.81E-03	9.61E-03	9.43E-03	8.97E-03	.798	1.000	8.12E-01	.065
2.000	9.52E-04	9.29E-04	2.10E-03	2.93E-03	1.10E-02	1.16E-02	1.05E-02	1.588	2.000	1.69E+00	.089
4.000		9.42E-04	4.68E-03	5.52E-03	1.44E-02	1.52E-02	1.30E-02	3.252	4.000	3.16E+00	.131
7.000		1.01E-03	9.87E-03	9.83E-03	1.79E-02	1.62E-02	1.42E-02	5.841	7.000	4.90E+00	.186
10.000		1.06E-03	1.08E-02	1.11E-02	2.01E-02	1.97E-02	1.44E-02	8.468	10.000	6.29E+00	.233
20.000		1.08E-03	1.68E-02	1.71E-02	2.35E-02	2.13E-02	1.30E-02	17.241	20.000	9.55E+00	.341

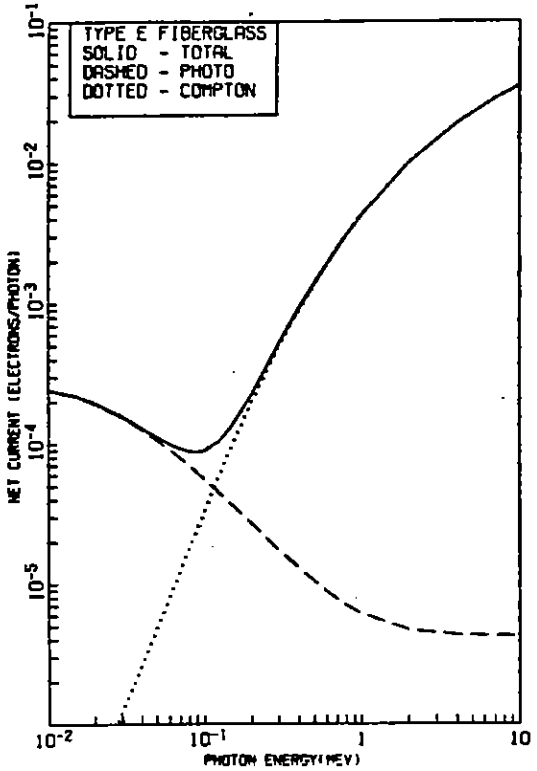
Compounds

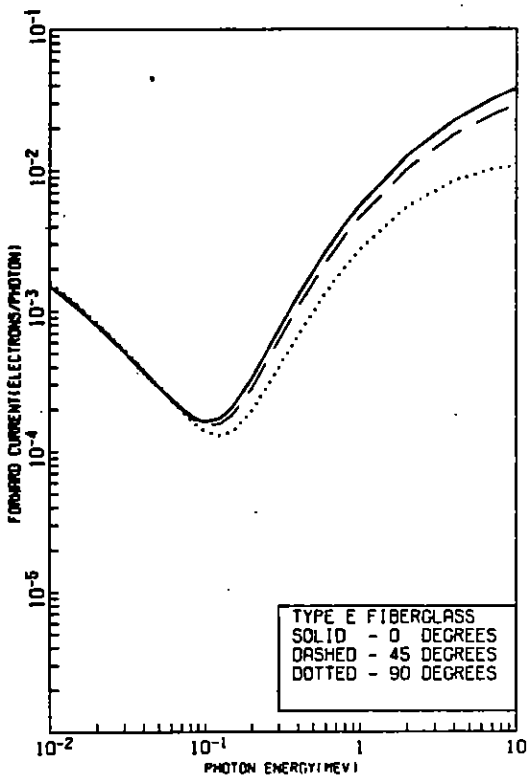




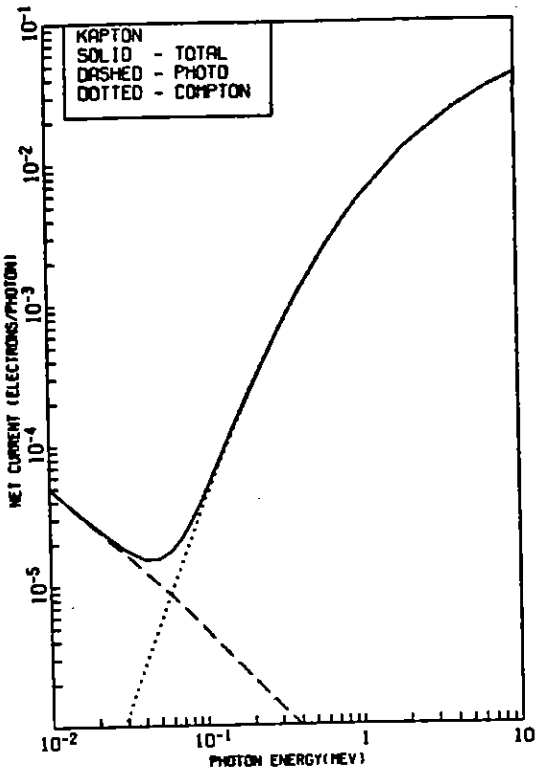
PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	45 DEG	90 DEG	SBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	2.14E-04	2.23E-04	7.36E-08	2.14E-04	1.13E-03	1.16E-03	1.20E-03	.009	.010	3.29E-04	.371
.015	1.71E-04	1.74E-04	1.93E-07	1.71E-04	7.29E-04	7.48E-04	7.69E-04	.014	.015	6.63E-04	.367
.020	1.40E-04	1.42E-04	4.29E-07	1.41E-04	5.23E-04	5.35E-04	5.46E-04	.019	.020	1.09E-03	.365
.030	1.03E-04	1.02E-04	1.20E-06	1.04E-04	3.20E-04	3.26E-04	3.32E-04	.028	.030	2.22E-03	.365
.040	8.14E-05	8.24E-05	2.58E-06	8.49E-05	2.27E-04	2.29E-04	2.31E-04	.035	.040	3.67E-03	.366
.050	6.68E-05	6.71E-05	4.79E-06	7.03E-05	1.73E-04	1.74E-04	1.74E-04	.046	.050	5.41E-03	.367
.060	5.66E-05	5.61E-05	8.82E-06	6.35E-05	1.42E-04	1.41E-04	1.38E-04	.052	.060	7.41E-03	.367
.070	4.76E-05	4.79E-05	1.24E-05	6.08E-05	1.23E-04	1.20E-04	1.15E-04	.057	.070	9.66E-03	.368
.080	4.13E-05	4.15E-05	1.81E-05	5.34E-05	1.13E-04	1.09E-04	1.01E-04	.059	.080	1.21E-02	.369
.090	3.63E-05	3.65E-05	2.52E-05	6.16E-05	1.09E-04	1.03E-04	9.20E-05	.060	.090	1.48E-02	.370
.100	3.22E-05	3.24E-05	3.37E-05	6.59E-05	1.11E-04	1.03E-04	8.75E-05	.060	.100	1.77E-02	.370
.125	2.51E-05	2.52E-05	5.16E-05	5.67E-05	1.33E-04	1.18E-04	9.01E-05	.059	.125	2.57E-02	.372
.150	2.05E-05	2.05E-05	9.93E-05	1.20E-04	1.75E-04	1.52E-04	1.07E-04	.062	.150	3.47E-02	.374
.200	1.49E-05	1.49E-05	2.83E-04	2.13E-04	3.08E-04	2.61E-04	1.69E-04	.079	.200	5.58E-02	.377
.300		9.51E-06	5.14E-04	5.24E-04	7.24E-04	6.06E-04	3.76E-04	.132	.300	1.03E-01	.382
.400		6.96E-06	9.31E-04	9.33E-04	1.29E-03	1.07E-03	6.54E-04	.195	.400	1.57E-01	.388
.600		4.65E-06	1.97E-03	1.97E-03	2.65E-03	2.20E-03	1.32E-03	.334	.600	2.75E-01	.400
.800		3.71E-06	3.14E-03	3.14E-03	4.16E-03	3.44E-03	2.02E-03	.491	.800	3.99E-01	.411
1.000		3.23E-06	4.36E-03	4.35E-03	5.70E-03	4.69E-03	2.70E-03	.632	1.000	5.26E-01	.422
2.000		2.52E-06	1.03E-02	1.03E-02	1.27E-02	1.03E-02	5.40E-03	1.424	2.000	1.16E+00	.470
4.000		2.33E-06	1.96E-02	1.93E-02	2.29E-02	1.79E-02	8.24E-03	3.075	4.000	2.37E+00	.541
7.000		2.30E-06	2.92E-02	2.92E-02	3.24E-02	2.49E-02	9.92E-03	5.624	7.000	4.03E+00	.609
10.000		2.29E-06	3.57E-02	3.57E-02	3.87E-02	2.93E-02	1.05E-02	8.205	10.000	5.56E+00	.655
20.000		2.22E-06	4.76E-02	4.75E-02	4.99E-02	3.69E-02	1.05E-02	16.910	20.000	1.01E+01	.741

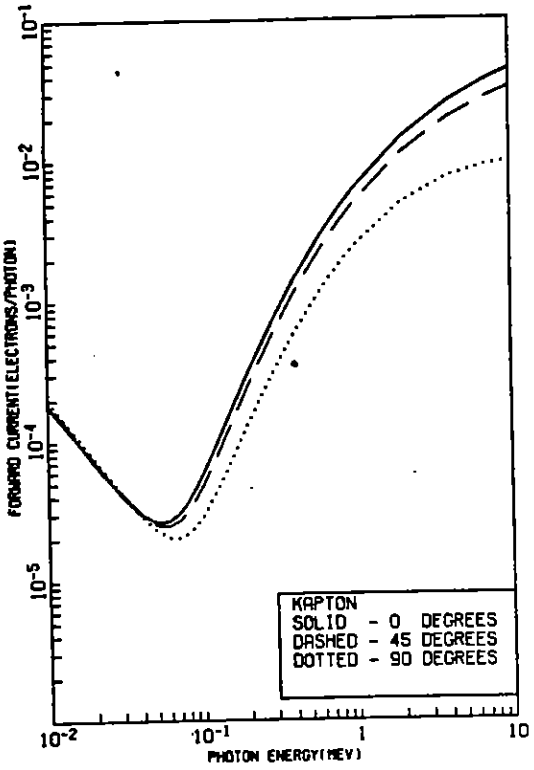
TYPE E FIBERGLASS





PHOTON ENERGY (MEV)	NET CURRENT PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	NET CURRENT COMPTON	NET CURRENT TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	FORWARD CURRENT 45 DEG (ELECTRONS/PHOTON)	FORWARD CURRENT 90 DEG (ELECTRONS/PHOTON)	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	2.43E-04	2.60E-04	7.59E-09	2.44E-04	1.53E-03	1.57E-03	1.62E-03	.005	.010	3.23E-04	.361
.015	2.28E-04	2.31E-04	2.08E-07	2.20E-04	1.05E-03	1.08E-03	1.11E-03	.013	.015	6.61E-04	.356
.020	1.96E-04	2.00E-04	4.46E-07	1.95E-04	7.94E-04	8.12E-04	8.31E-04	.018	.020	1.03E-03	.353
.030	1.56E-04	1.56E-04	1.23E-06	1.57E-04	5.16E-04	5.25E-04	5.34E-04	.027	.030	2.21E-03	.352
.040	1.28E-04	1.29E-04	2.60E-06	1.38E-04	3.74E-04	3.79E-04	3.84E-04	.037	.040	3.65E-03	.352
.050	1.07E-04	1.07E-04	4.78E-06	1.12E-04	2.90E-04	2.92E-04	2.94E-04	.046	.050	5.33E-03	.352
.060	9.21E-05	9.35E-05	7.94E-06	1.00E-04	2.39E-04	2.38E-04	2.37E-04	.054	.060	7.37E-03	.352
.070	8.11E-05	8.13E-05	1.22E-05	9.23E-05	2.04E-04	2.02E-04	1.99E-04	.060	.070	9.60E-03	.351
.080	7.05E-05	7.15E-05	1.77E-05	8.92E-05	1.82E-04	1.79E-04	1.71E-04	.065	.080	1.21E-02	.353
.090	6.28E-05	6.36E-05	2.46E-05	8.74E-05	1.69E-04	1.63E-04	1.52E-04	.068	.090	1.47E-02	.354
.100	5.64E-05	5.71E-05	3.28E-05	8.92E-05	1.63E-04	1.55E-04	1.40E-04	.070	.100	1.76E-02	.354
.125	4.48E-05	4.52E-05	5.98E-05	1.05E-04	1.72E-04	1.57E-04	1.30E-04	.071	.125	2.65E-02	.356
.150	3.71E-05	3.73E-05	9.60E-05	1.33E-04	2.05E-04	1.82E-04	1.39E-04	.073	.150	3.44E-02	.357
.200	2.73E-05	2.74E-05	1.96E-04	2.23E-04	3.26E-04	2.40E-04	1.92E-04	.038	.200	5.46E-02	.360
.300	1.76E-05	1.76E-05	4.94E-04	5.12E-04	7.26E-04	5.13E-04	3.97E-04	.135	.300	1.02E-01	.366
.400	1.30E-05	1.30E-05	9.95E-04	9.05E-04	1.27E-03	1.07E-03	8.63E-04	.197	.400	1.55E-01	.371
.600		9.85E-06	1.89E-03	1.90E-03	2.61E-03	2.13E-03	1.33E-03	.335	.600	2.72E-01	.392
.800		7.88E-06	3.81E-03	3.82E-03	4.10E-03	3.41E-03	2.04E-03	.481	.800	3.96E-01	.393
1.000		6.15E-06	4.19E-03	4.20E-03	5.61E-03	4.64E-03	2.73E-03	.633	1.000	5.22E-01	.404
2.000		4.71E-06	9.98E-03	9.91E-03	1.25E-02	1.01E-02	5.47E-03	1.429	2.000	1.15E+00	.451
4.000		4.34E-06	1.48E-02	1.30E-02	2.27E-02	1.76E-02	8.34E-03	3.060	4.000	2.34E+00	.524
7.000		4.29E-06	2.53E-02	2.54E-02	3.19E-02	2.45E-02	1.00E-02	5.627	7.000	3.97E+00	.594
10.000		4.28E-06	3.46E-02	3.49E-02	3.90E-02	2.99E-02	1.07E-02	8.203	10.000	5.47E+00	.641
20.000		4.18E-06	6.64E-02	6.68E-02	6.85E-02	3.63E-02	1.06E-02	16.914	20.000	9.85E+00	.729





PHOTON ENERGY (MEV)	PHOTO (PSLEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	45 DEG	90 DEG	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (G4/CM2)	RBAR
.010		4.96E-05	5.49E-06	4.97E-05	1.03E-04	1.90E-04	1.98E-04	.010	.010	2.81E-04	.494
.015		3.33E-05	1.47E-07	3.35E-05	1.04E-04	1.88E-04	1.12E-04	.015	.015	5.74E-04	.494
.020		2.52E-05	3.54E-07	2.55E-05	6.97E-05	7.18E-05	7.40E-05	.019	.020	9.54E-04	.495
.030		1.69E-05	1.17E-06	1.91E-05	4.11E-05	4.17E-05	4.23E-05	.025	.030	1.95E-03	.487
.040		1.27E-05	2.75E-06	1.55E-05	3.03E-05	3.01E-05	2.94E-05	.033	.040	3.24E-03	.488
.050		1.02E-05	5.37E-06	1.55E-05	2.65E-05	2.55E-05	2.33E-05	.035	.050	4.80E-03	.490
.060		8.43E-06	9.25E-06	1.77E-05	2.69E-05	2.48E-05	2.07E-05	.033	.060	6.59E-03	.491
.070		7.16E-06	1.46E-05	2.17E-05	3.05E-05	2.70E-05	2.04E-05	.031	.070	8.61E-03	.492
.080		6.19E-06	2.15E-05	2.77E-05	3.69E-05	3.17E-05	2.19E-05	.030	.080	1.08E-02	.493
.090		5.41E-06	3.02E-05	3.56E-05	4.58E-05	3.86E-05	2.47E-05	.029	.090	1.33E-02	.494
.100		4.79E-06	4.07E-05	4.55E-05	5.73E-05	4.76E-05	2.99E-05	.031	.100	1.59E-02	.494
.125		3.69E-06	7.54E-05	7.91E-05	9.73E-05	7.94E-05	4.40E-05	.037	.125	2.31E-02	.496
.150		2.97E-06	1.22E-04	1.25E-04	1.53E-04	1.24E-04	6.77E-05	.047	.150	3.12E-02	.498
.200		2.12E-06	2.53E-04	2.55E-04	3.08E-04	2.49E-04	1.33E-04	.071	.200	4.97E-02	.501
.300		1.33E-06	6.43E-04	6.45E-04	7.74E-04	6.22E-04	3.27E-04	.129	.300	9.35E-02	.506
.400		9.66E-07	1.17E-03	1.17E-03	1.40E-03	1.12E-03	5.93E-04	.194	.400	1.43E-01	.512
.600		6.55E-07	2.47E-03	2.47E-03	2.92E-03	2.33E-03	1.19E-03	.334	.600	2.53E-01	.522
.800		5.24E-07	3.95E-03	3.95E-03	4.62E-03	3.67E-03	1.93E-03	.481	.800	3.69E-01	.532
1.000		4.55E-07	5.48E-03	5.49E-03	6.35E-03	5.03E-03	2.46E-03	.632	1.000	4.89E-01	.542
2.000		3.45E-07	1.27E-02	1.27E-02	1.43E-02	1.11E-02	4.95E-03	1.422	2.000	1.09E+00	.585
4.000		3.09E-07	2.37E-02	2.37E-02	2.57E-02	1.96E-02	7.55E-03	3.071	4.000	2.26E+00	.647
7.000		2.98E-07	3.45E-02	3.45E-02	3.65E-02	2.73E-02	9.07E-03	5.611	7.000	3.91E+00	.704
10.000		2.94E-07	4.18E-02	4.19E-02	4.36E-02	3.23E-02	9.63E-03	8.198	10.000	5.46E+00	.742
20.000		2.93E-07	5.51E-02	5.51E-02	5.65E-02	4.11E-02	9.69E-03	16.895	20.000	1.02E+01	.818

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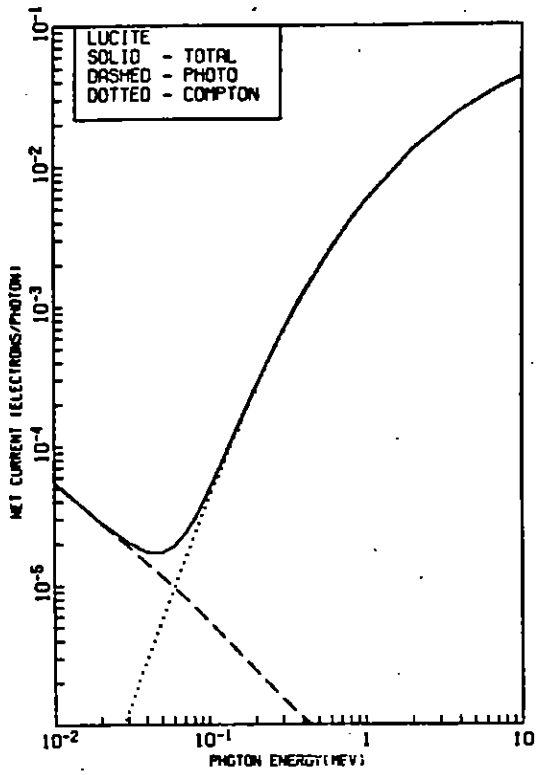
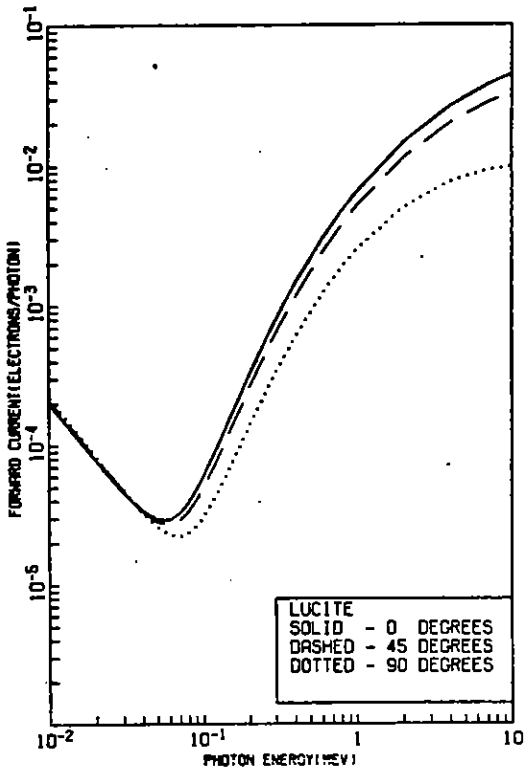
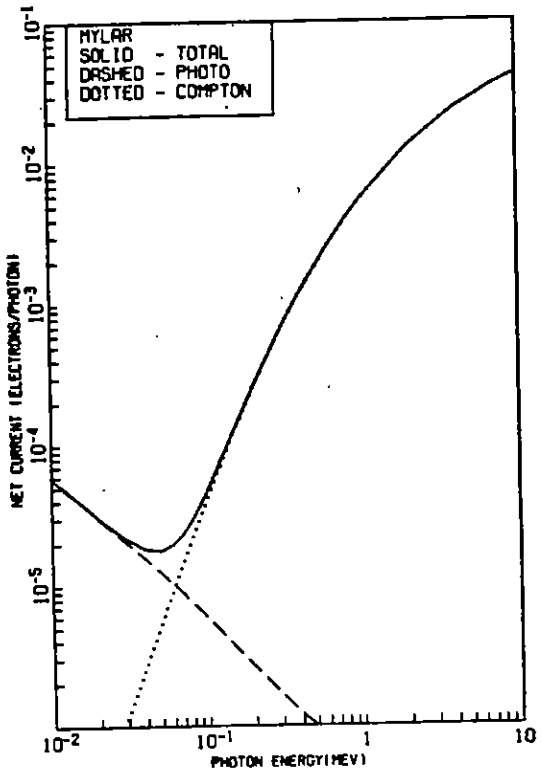
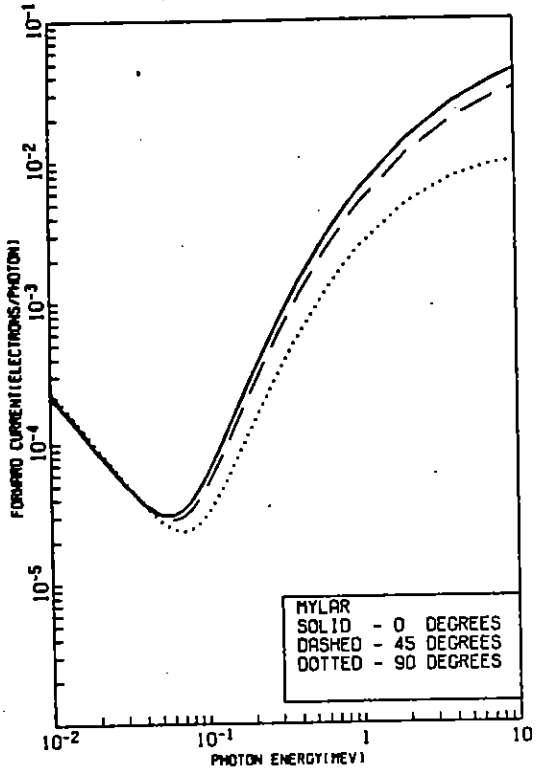




PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	NET CURRENT COMPTON (ELECTRONS/PHOTON)	NET CURRENT TOTAL (ELECTRONS/PHOTON)	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	FORWARD CURRENT 45 DEG (ELECTRONS/PHOTON)	FORWARD CURRENT 90 DEG (ELECTRONS/PHOTON)	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010		5.48E-05	5.65E-08	5.49E-05	2.02E-04	2.10E-04	2.19E-04	.010	.010	2.75E-04	.487
.015		3.73E-05	1.51E-07	3.75E-05	1.16E-04	1.20E-04	1.25E-04	.015	.015	5.61E-04	.487
.020		2.82E-05	3.66E-07	2.85E-05	7.82E-05	8.06E-05	8.31E-05	.019	.020	9.33E-04	.488
.030		1.93E-05	1.21E-06	2.05E-05	4.64E-05	4.72E-05	4.79E-05	.028	.030	1.91E-03	.489
.040		1.45E-05	2.84E-06	1.74E-05	3.41E-05	3.39E-05	3.33E-05	.036	.040	3.17E-03	.491
.050		1.16E-05	5.53E-06	1.72E-05	2.95E-05	2.84E-05	2.62E-05	.043	.050	4.69E-03	.492
.060		9.65E-06	9.52E-06	1.92E-05	2.94E-05	2.73E-05	2.31E-05	.050	.060	6.44E-03	.493
.070		8.20E-06	1.50E-05	2.32E-05	3.27E-05	2.92E-05	2.24E-05	.057	.070	8.41E-03	.494
.080		7.09E-06	2.22E-05	2.93E-05	3.90E-05	3.37E-05	2.36E-05	.063	.080	1.06E-02	.495
.090		6.20E-06	3.11E-05	3.73E-05	4.80E-05	4.06E-05	2.63E-05	.068	.090	1.30E-02	.496
.100		5.49E-06	4.19E-05	4.74E-05	5.97E-05	4.97E-05	3.04E-05	.073	.100	1.55E-02	.497
.125		4.22E-06	7.75E-05	8.17E-05	1.00E-04	9.20E-05	4.63E-05	.085	.125	2.25E-02	.499
.150		3.41E-06	1.26E-04	1.23E-04	1.57E-04	1.27E-04	6.96E-05	.097	.150	3.05E-02	.501
.200		2.43E-06	2.60E-04	2.52E-04	3.16E-04	2.55E-04	1.36E-04	.121	.200	4.86E-02	.504
.300		1.52E-06	6.61E-04	6.62E-04	7.93E-04	6.37E-04	3.34E-04	.169	.300	9.13E-02	.509
.400		1.11E-06	1.20E-03	1.21E-03	1.43E-03	1.15E-03	5.94E-04	.214	.400	1.40E-01	.514
.600		7.55E-07	2.54E-03	2.54E-03	2.99E-03	2.39E-03	1.21E-03	.333	.600	2.47E-01	.525
.800		6.05E-07	4.05E-03	4.05E-03	4.73E-03	3.76E-03	1.97E-03	.481	.800	3.60E-01	.535
1.000		5.25E-07	5.62E-03	5.62E-03	6.50E-03	5.19E-03	2.51E-03	.632	1.000	4.77E-01	.545
2.000		3.96E-07	1.38E-02	1.38E-02	1.46E-02	1.14E-02	5.04E-03	1.422	2.000	1.07E+00	.588
4.000		3.54E-07	2.42E-02	2.42E-02	2.62E-02	2.00E-02	7.67E-03	3.071	4.000	2.28E+00	.650
7.000		3.41E-07	3.52E-02	3.52E-02	3.72E-02	2.79E-02	9.20E-03	5.510	7.000	3.90E+00	.707
10.000		3.36E-07	4.28E-02	4.23E-02	4.44E-02	3.29E-02	9.74E-03	8.196	10.000	5.30E+00	.744
20.000		3.23E-07	5.68E-02	5.58E-02	5.74E-02	4.13E-02	9.78E-03	16.591	20.000	9.55E+00	.812





PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	NET CURRENT COMPTON	NET CURRENT TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	FORWARD CURRENT 45 DEG (ELECTRONS/PHOTON)	FORWARD CURRENT 90 DEG (ELECTRONS/PHOTON)	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010		5.37E-05	5.64E-05	5.55E-05	2.20E-04	2.29E-04	2.35E-04	.010	.010	7.81E-04	.477
.015		4.00E-05	1.51E-07	4.02E-05	1.27E-04	1.31E-04	1.36E-04	.015	.015	5.74E-04	.477
.020		3.03E-05	3.62E-07	3.05E-05	8.55E-05	8.80E-05	9.07E-05	.019	.020	4.54E-04	.478
.030		2.07E-05	1.18E-06	2.19E-05	5.06E-05	5.15E-05	5.22E-05	.028	.030	1.95E-03	.479
.040		1.56E-05	2.77E-06	1.84E-05	3.68E-05	3.68E-05	3.62E-05	.034	.040	3.24E-03	.481
.050		1.25E-05	5.39E-06	1.79E-05	3.14E-05	3.05E-05	2.94E-05	.037	.050	4.79E-03	.482
.060		1.04E-05	9.27E-06	1.96E-05	3.08E-05	2.88E-05	2.47E-05	.036	.060	6.53E-03	.483
.070		8.88E-06	1.46E-05	2.35E-05	3.37E-05	3.03E-05	2.37E-05	.034	.070	8.59E-03	.484
.080		7.61E-06	2.19E-05	2.92E-05	3.96E-05	3.45E-05	2.46E-05	.032	.080	1.08E-02	.485
.090		6.66E-06	3.02E-05	3.69E-05	4.82E-05	4.10E-05	2.71E-05	.032	.090	1.32E-02	.486
.100		5.89E-06	4.07E-05	4.66E-05	5.95E-05	4.99E-05	3.11E-05	.032	.100	1.55E-02	.487
.125		4.53E-06	7.53E-05	7.98E-05	9.91E-05	8.13E-05	4.67E-05	.038	.125	2.30E-02	.489
.150		3.66E-06	1.22E-04	1.28E-04	1.65E-04	1.26E-04	6.98E-05	.047	.150	3.11E-02	.490
.200		2.61E-06	2.52E-04	2.53E-04	3.10E-04	2.51E-04	1.36E-04	.071	.200	4.96E-02	.493
.300		1.63E-06	6.41E-04	6.43E-04	7.77E-04	6.26E-04	3.32E-04	.129	.300	9.32E-02	.499
.400		1.19E-06	1.17E-03	1.17E-03	1.40E-03	1.13E-03	5.92E-04	.194	.400	1.43E-01	.504
.600		8.12E-07	2.46E-03	2.47E-03	2.93E-03	2.34E-03	1.21E-03	.334	.600	2.52E-01	.515
.800		6.51E-07	3.93E-03	3.93E-03	4.63E-03	3.69E-03	1.86E-03	.481	.800	3.67E-01	.525
1.000		5.65E-07	5.45E-03	5.45E-03	6.36E-03	5.05E-03	2.50E-03	.632	1.000	4.86E-01	.535
2.000		4.27E-07	1.27E-02	1.27E-02	1.43E-02	1.12E-02	5.02E-03	1.422	2.000	1.09E+00	.579
4.000		3.82E-07	2.36E-02	2.35E-02	2.57E-02	1.96E-02	7.04E-03	3.071	4.000	2.24E+00	.641
7.000		3.69E-07	3.44E-02	3.44E-02	3.64E-02	2.73E-02	9.17E-03	5.611	7.000	3.86E+00	.699
10.000		3.63E-07	4.16E-02	4.15E-02	4.35E-02	3.23E-02	9.71E-03	8.188	10.000	5.39E+00	.737
20.000		3.50E-07	5.48E-02	5.48E-02	5.62E-02	4.10E-02	9.76E-03	16.894	20.000	1.00E+01	.787

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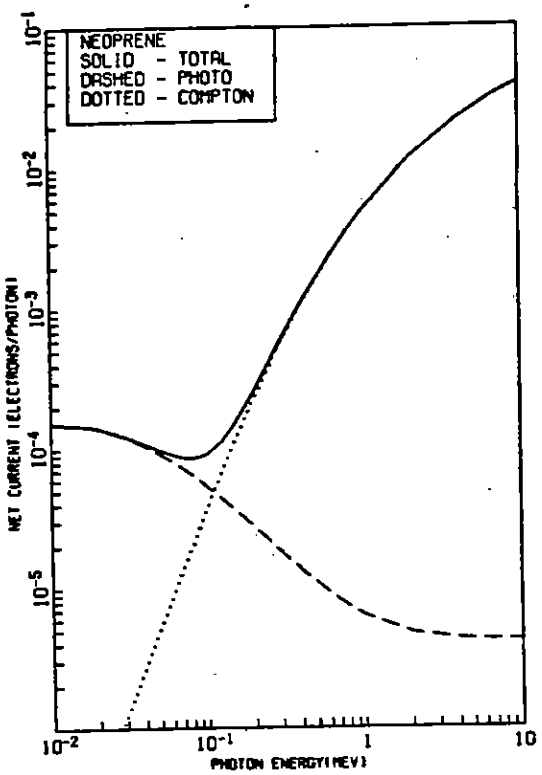
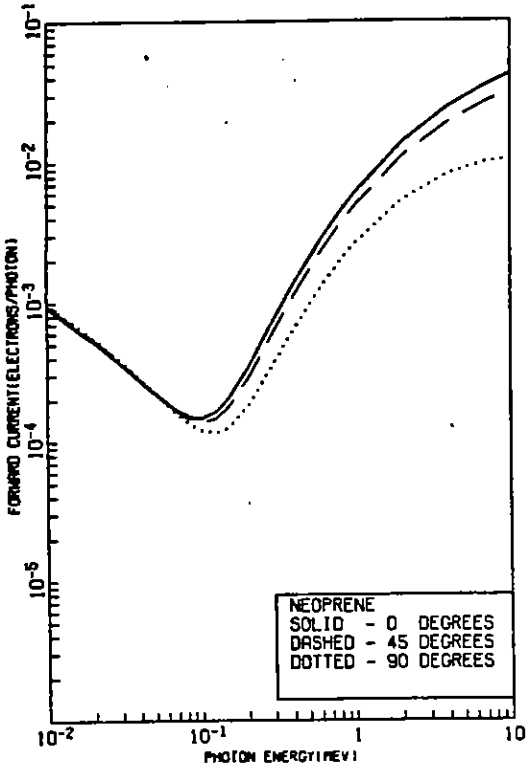
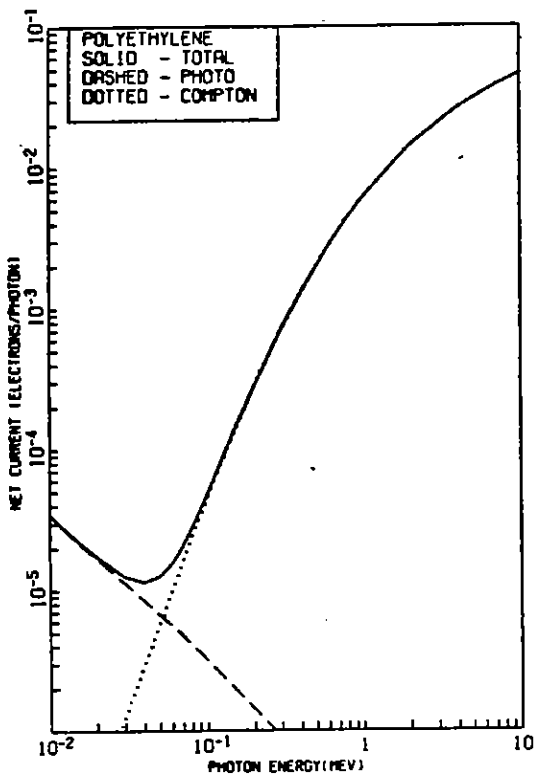
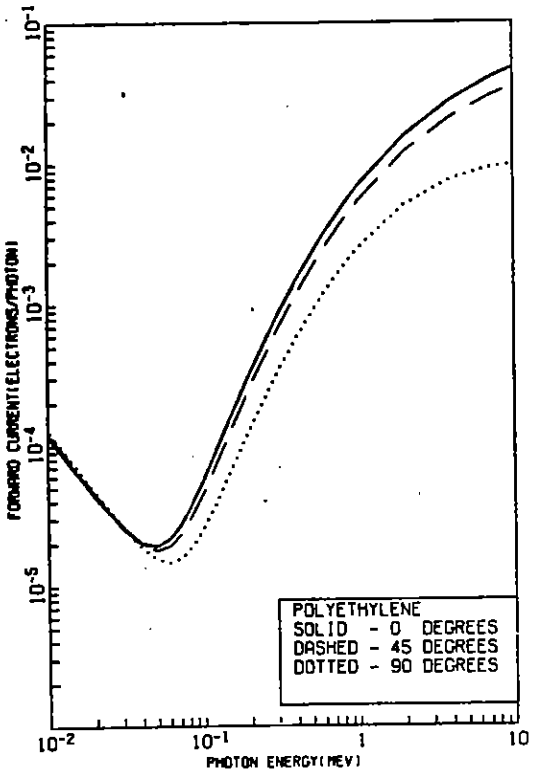




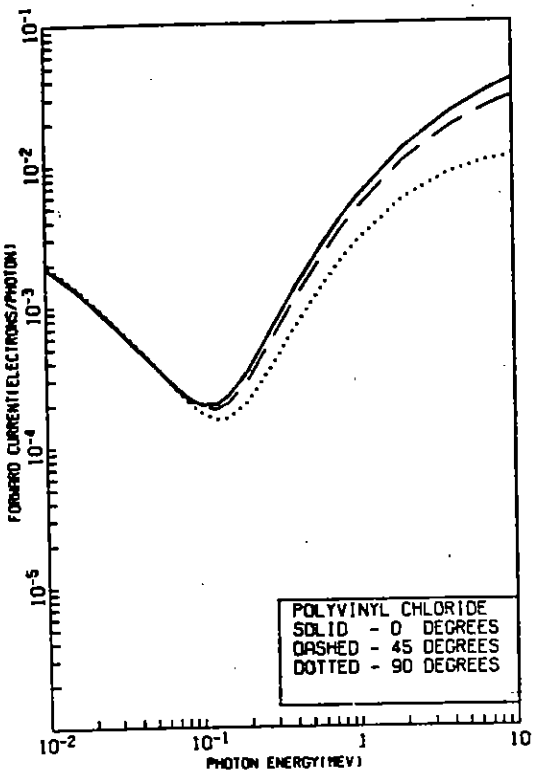
PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG	45 DEG	90 DEG (ELECTRONS/PHOTON)	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	1.55E-04	1.69E-04	6.42E-08	1.53E-04	9.25E-04	9.54E-04	9.84E-04	.009	.010	3.00E-04	.432
.015	1.49E-04	1.59E-04	1.71E-07	1.49E-04	6.59E-04	6.79E-04	7.00E-04	.012	.015	6.09E-04	.427
.020	1.42E-04	1.48E-04	4.08E-07	1.43E-04	5.21E-04	5.35E-04	5.51E-04	.017	.020	1.01E-03	.425
.030	1.23E-04	1.25E-04	1.28E-06	1.26E-04	3.64E-04	3.72E-04	3.80E-04	.026	.030	2.05E-03	.423
.040	1.07E-04	1.06E-04	2.61E-06	1.09E-04	2.77E-04	2.81E-04	2.85E-04	.035	.040	3.40E-03	.423
.050	9.32E-05	9.43E-05	5.31E-06	9.95E-05	2.25E-04	2.26E-04	2.27E-04	.044	.050	5.01E-03	.423
.060	9.23E-05	9.24E-05	8.96E-06	9.12E-05	1.90E-04	1.90E-04	1.89E-04	.051	.060	6.88E-03	.423
.070	7.30E-05	7.31E-05	1.39E-05	8.69E-05	1.68E-04	1.65E-04	1.60E-04	.057	.070	8.97E-03	.421
.080	6.57E-05	6.71E-05	2.03E-05	8.50E-05	1.56E-04	1.51E-04	1.42E-04	.062	.080	1.13E-02	.424
.090	5.97E-05	6.05E-05	2.83E-05	8.48E-05	1.49E-04	1.42E-04	1.30E-04	.066	.100	1.39E-02	.424
.100	5.41E-05	5.50E-05	3.78E-05	9.28E-05	1.46E-04	1.39E-04	1.21E-04	.067	.125	1.65E-02	.425
.125	4.40E-05	4.47E-05	6.92E-05	1.13E-04	1.65E-04	1.48E-04	1.16E-04	.070	.150	2.40E-02	.426
.150	3.69E-05	3.74E-05	1.12E-04	1.48E-04	2.05E-04	1.79E-04	1.27E-04	.064	.200	3.24E-02	.427
.200	2.77E-05	2.80E-05	2.29E-04	2.55E-04	3.38E-04	2.84E-04	1.90E-04	.174	.300	5.15E-02	.430
.300	1.80E-05	1.82E-05	5.77E-04	5.95E-04	7.69E-04	6.34E-04	3.72E-04	.130	.400	6.86E-02	.435
.400	1.34E-05	1.35E-05	1.05E-03	1.06E-03	1.30E-03	1.11E-03	6.39E-04	.334	.600	1.49E-01	.440
.600		9.21E-06	2.21E-03	2.22E-03	2.80E-03	2.29E-03	1.29E-03	.331	.800	2.60E-01	.450
.800		7.35E-06	3.52E-03	3.53E-03	4.41E-03	3.59E-03	1.97E-03	.331	1.000	3.90E-01	.461
1.000		6.35E-06	4.90E-03	4.90E-03	6.06E-03	4.90E-03	2.64E-03	.331	1.200	5.02E-01	.471
2.000		4.77E-06	1.15E-02	1.15E-02	1.36E-02	1.05E-02	5.32E-03	1.424	2.000	1.12E+00	.517
4.000		4.32E-06	2.16E-02	2.16E-02	2.45E-02	1.90E-02	9.16E-03	3.078	4.000	2.30E+00	.584
7.000		4.24E-06	3.22E-02	3.22E-02	3.49E-02	2.65E-02	1.96E-03	5.671	7.000	3.98E+00	.649
10.000		4.22E-06	3.93E-02	3.93E-02	4.15E-02	3.14E-02	1.05E-02	8.201	10.000	5.51E+00	.697
20.000		4.11E-06	5.24E-02	5.24E-02	5.49E-02	3.99E-02	1.04E-02	16.912	20.000	1.01E+01	.769

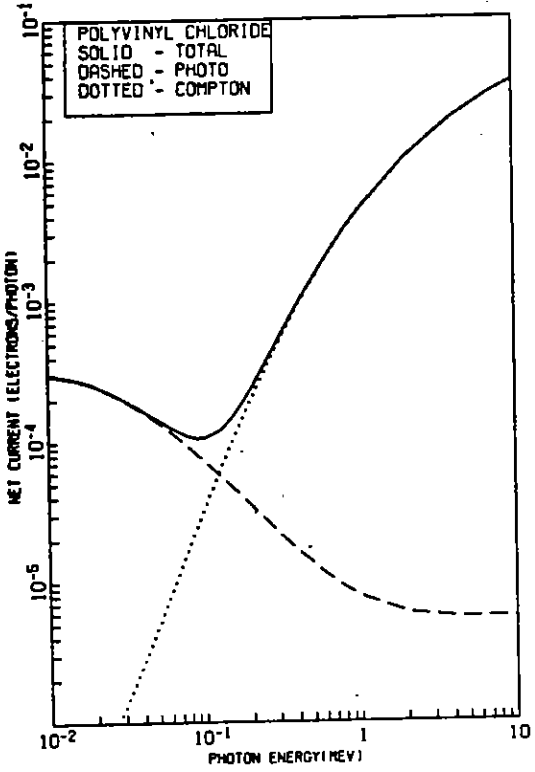




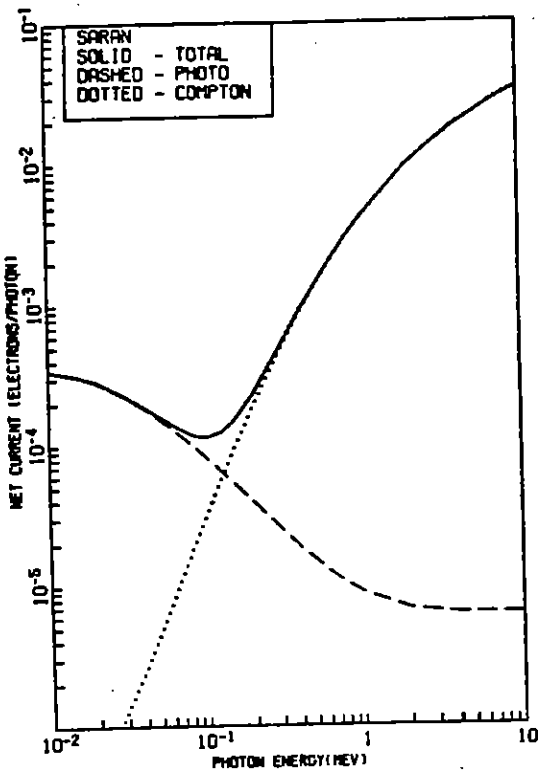
PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	NET CURRENT COMPTON	NET CURRENT TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	FORWARD CURRENT 45 DEG (ELECTRONS/PHOTON)	FORWARD CURRENT 90 DEG (ELECTRONS/PHOTON)	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010		3.43E-05	5.47E-08	3.43E-05	1.17E-04	1.22E-04	1.23E-04	.010	.010	2.57E-04	.524
.015		2.27E-05	1.48E-07	2.23E-05	8.57E-05	8.93E-05	7.10E-05	.015	.015	5.26E-04	.525
.020		1.78E-05	3.65E-07	1.74E-05	4.39E-05	4.52E-05	4.66E-05	.019	.020	8.75E-04	.526
.030		1.13E-05	1.25E-06	1.25E-05	2.61E-05	2.65E-05	2.66E-05	.027	.030	1.80E-03	.528
.040		8.65E-06	2.99E-06	1.16E-05	2.02E-05	1.98E-05	1.88E-05	.038	.040	2.99E-03	.530
.050		6.76E-06	5.85E-06	1.25E-05	1.94E-05	1.91E-05	1.56E-05	.030	.050	4.42E-03	.531
.060		5.59E-06	1.02E-05	1.58E-05	2.16E-05	1.94E-05	1.45E-05	.027	.060	6.07E-03	.532
.070		4.75E-06	1.61E-05	2.09E-05	2.69E-05	2.31E-05	1.57E-05	.029	.070	7.94E-03	.533
.080		4.11E-06	2.38E-05	2.79E-05	3.47E-05	2.89E-05	1.79E-05	.025	.080	9.99E-03	.534
.090		3.60E-06	3.34E-05	3.70E-05	4.50E-05	3.70E-05	2.15E-05	.026	.090	1.22E-02	.535
.100		3.18E-06	4.51E-05	4.83E-05	5.79E-05	4.71E-05	2.62E-05	.028	.100	1.46E-02	.536
.125		2.45E-06	8.37E-05	8.61E-05	1.02E-04	8.17E-05	4.30E-05	.035	.125	2.13E-02	.538
.150		1.97E-06	1.36E-04	1.33E-04	1.62E-04	1.29E-04	6.66E-05	.046	.150	2.88E-02	.539
.200		1.41E-06	2.81E-04	2.83E-04	3.30E-04	2.61E-04	1.33E-04	.071	.200	4.60E-02	.542
.300		8.90E-07	7.16E-04	7.17E-04	8.32E-04	6.61E-04	3.29E-04	.129	.300	8.67E-02	.547
.400		6.38E-07	1.30E-03	1.30E-03	1.50E-03	1.19E-03	5.85E-04	.194	.400	1.33E-01	.552
.600		4.31E-07	2.76E-03	2.75E-03	3.15E-03	2.49E-03	1.20E-03	.334	.600	2.35E-01	.562
.800		3.45E-07	4.40E-03	4.40E-03	4.99E-03	3.93E-03	1.86E-03	.491	.800	3.44E-01	.572
1.000		2.99E-07	6.10E-03	6.10E-03	6.87E-03	5.39E-03	2.49E-03	.632	1.000	4.56E-01	.581
2.000		2.26E-07	1.41E-02	1.41E-02	1.55E-02	1.20E-02	5.02E-03	1.422	2.000	1.02E+00	.622
4.000		2.02E-07	2.62E-02	2.62E-02	2.79E-02	2.11E-02	7.66E-03	3.070	4.000	2.13E+00	.679
7.000		1.94E-07	3.79E-02	3.79E-02	3.96E-02	2.95E-02	9.20E-03	5.608	7.000	3.70E+00	.733
10.000		1.91E-07	4.56E-02	4.58E-02	4.74E-02	3.49E-02	9.77E-03	5.184	10.000	5.19E+00	.768
20.000		1.84E-07	6.03E-02	6.03E-02	6.14E-02	4.46E-02	9.86E-03	16.892	20.000	9.75E+00	.830

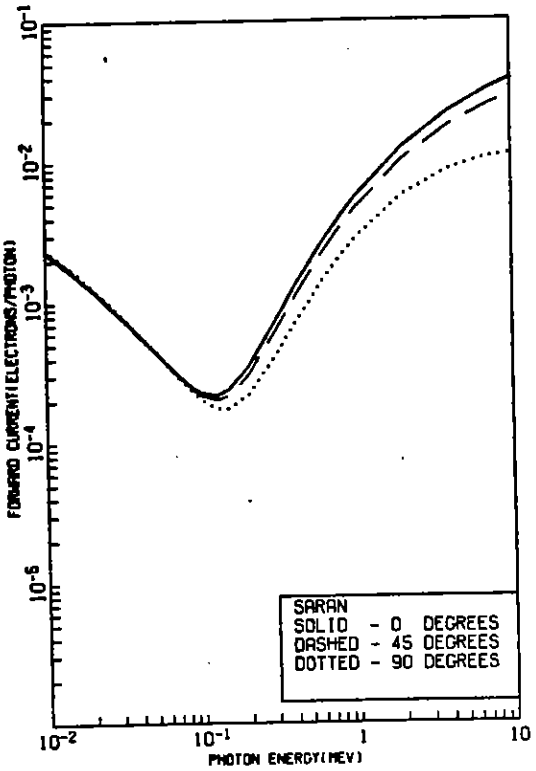
POLYVINYL CHLORIDE





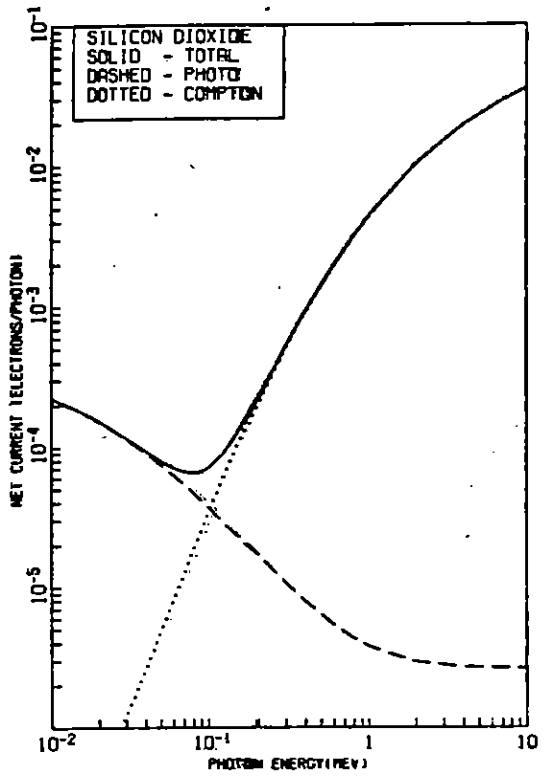
PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	NET CURRENT COMPTON (F/S) (ELECTRONS/PHOTON)	NET CURRENT TOTAL (F/S) (ELECTRONS/PHOTON)	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	FORWARD CURRENT 45 DEG (ELECTRONS/PHOTON)	FORWARD CURRENT 90 DEG (ELECTRONS/PHOTON)	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	3.05E-04	3.31E-04	7.62E-08	3.03E-04	1.50E-03	1.96E-03	2.02E-03	.004	.010	3.27E-04	.366
.015	2.81E-04	2.97E-04	2.08E-07	2.81E-04	1.35E-03	1.35E-03	1.42E-03	.013	.015	6.53E-04	.353
.020	2.54E-04	2.60E-04	4.77E-07	2.55E-04	1.03E-03	1.05E-03	1.07E-03	.018	.020	1.05E-03	.355
.030	2.02E-04	2.03E-04	1.33E-06	2.04E-04	6.71E-04	6.53E-04	6.96E-04	.027	.030	2.20E-03	.352
.040	1.67E-04	1.63E-04	2.77E-06	1.70E-04	4.86E-04	4.92E-04	4.99E-04	.037	.040	3.63E-03	.351
.050	1.41E-04	1.43E-04	5.04E-06	1.48E-04	3.80E-04	3.83E-04	3.95E-04	.046	.050	5.34E-03	.351
.060	1.20E-04	1.22E-04	8.30E-06	1.29E-04	3.09E-04	3.09E-04	3.06E-04	.054	.060	7.32E-03	.352
.070	1.04E-04	1.05E-04	1.27E-05	1.17E-04	2.62E-04	2.60E-04	2.56E-04	.062	.070	9.53E-03	.352
.080	9.20E-05	9.32E-05	1.84E-05	1.10E-04	2.31E-04	2.27E-04	2.19E-04	.067	.080	1.20E-02	.352
.090	8.18E-05	8.29E-05	2.54E-05	1.07E-04	2.11E-04	2.05E-04	1.96E-04	.071	.090	1.46E-02	.353
.100	7.35E-05	7.42E-05	3.38E-05	1.07E-04	2.00E-04	1.92E-04	1.78E-04	.074	.100	1.75E-02	.353
.125	5.82E-05	5.87E-05	6.13E-05	1.20E-04	2.00E-04	1.85E-04	1.66E-04	.077	.125	2.53E-02	.354
.150	4.80E-05	4.83E-05	9.84E-05	1.46E-04	2.29E-04	2.05E-04	1.80E-04	.078	.150	3.42E-02	.355
.200	3.51E-05	3.53E-05	2.08E-04	2.35E-04	3.48E-04	2.99E-04	2.09E-04	.089	.200	5.42E-02	.359
.300	2.25E-05	2.26E-05	5.04E-04	5.25E-04	7.49E-04	6.34E-04	4.09E-04	.136	.300	1.01E-01	.363
.400		1.66E-05	9.11E-04	9.28E-04	1.31E-03	1.10E-03	6.93E-04	.137	.400	1.55E-01	.369
.600		1.13E-05	1.92E-03	1.93E-03	2.67E-03	2.24E-03	1.37E-03	.335	.600	2.71E-01	.379
.800		9.06E-06	3.07E-03	3.08E-03	4.19E-03	3.49E-03	2.10E-03	.491	.800	3.94E-01	.390
1.000		7.66E-06	4.27E-03	4.28E-03	5.74E-03	4.75E-03	2.81E-03	.633	1.000	5.20E-01	.401
2.000		5.39E-06	1.01E-02	1.01E-02	1.29E-02	1.04E-02	5.63E-03	1.425	2.000	1.15E+00	.449
4.000		5.53E-06	1.94E-02	1.94E-02	2.29E-02	1.81E-02	9.60E-03	3.030	4.000	2.33E+00	.520
7.000		5.49E-06	2.69E-02	2.70E-02	3.25E-02	2.51E-02	1.04E-02	5.627	7.000	3.96E+00	.590
10.000		5.49E-06	3.55E-02	3.55E-02	3.98E-02	2.95E-02	1.10E-02	8.204	10.000	5.49E+00	.637
20.000		5.35E-06	4.75E-02	4.75E-02	5.00E-02	3.71E-02	1.10E-02	16.915	20.000	9.50E+00	.770

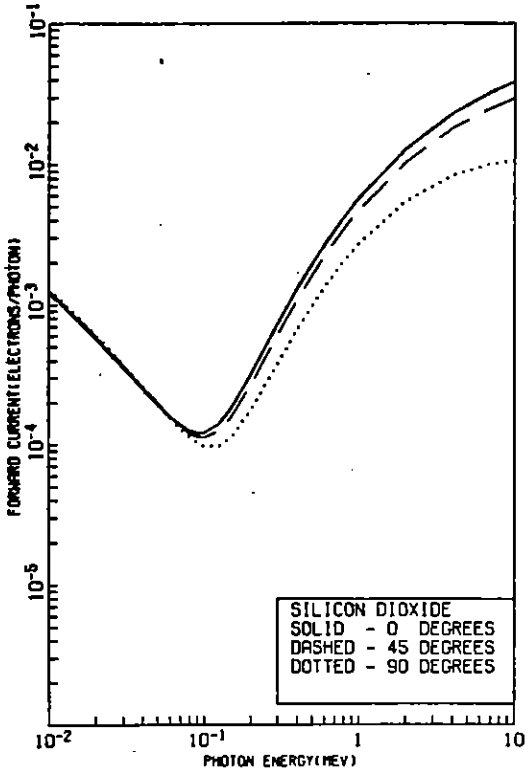




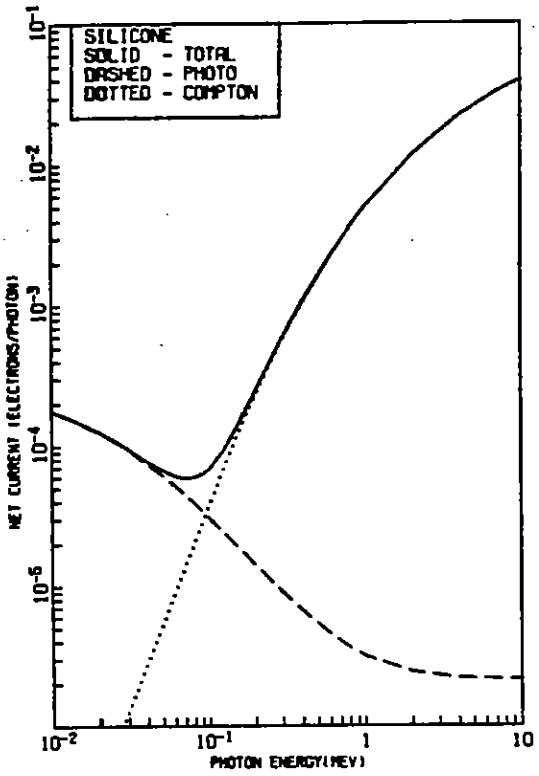
PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG	45 DEG	90 DEG (ELECTRONS/PHOTON)	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	3.46E-04	3.76E-04	9.33E-08	3.45E-04	2.29E-03	2.36E-03	2.42E-03	.009	.010	3.39E-04	.345
.015	3.17E-04	3.36E-04	2.21E-07	3.15E-04	1.62E-03	1.66E-03	1.70E-03	.013	.015	6.61E-04	.336
.020	2.87E-04	2.94E-04	5.08E-07	2.89E-04	1.23E-03	1.26E-03	1.29E-03	.016	.020	1.12E-03	.332
.030	2.28E-04	2.29E-04	1.33E-06	2.30E-04	8.03E-04	8.16E-04	8.30E-04	.027	.030	2.27E-03	.330
.040	1.88E-04	1.84E-04	2.71E-06	1.91E-04	5.79E-04	5.86E-04	5.94E-04	.037	.040	3.74E-03	.329
.050	1.58E-04	1.61E-04	4.87E-06	1.63E-04	4.51E-04	4.54E-04	4.57E-04	.046	.050	5.50E-03	.329
.060	1.35E-04	1.38E-04	7.97E-06	1.43E-04	3.65E-04	3.65E-04	3.65E-04	.055	.060	7.53E-03	.329
.070	1.17E-04	1.19E-04	1.21E-05	1.30E-04	3.07E-04	3.06E-04	3.02E-04	.062	.070	9.81E-03	.329
.080	1.03E-04	1.05E-04	1.75E-05	1.21E-04	2.69E-04	2.65E-04	2.57E-04	.069	.080	1.23E-02	.329
.090	9.19E-05	9.31E-05	2.41E-05	1.15E-04	2.43E-04	2.37E-04	2.26E-04	.073	.090	1.50E-02	.330
.100	8.26E-05	8.34E-05	3.21E-05	1.15E-04	2.27E-04	2.19E-04	2.04E-04	.077	.100	1.80E-02	.330
.125	6.54E-05	6.60E-05	5.81E-05	1.24E-04	2.19E-04	2.04E-04	1.77E-04	.080	.125	2.60E-02	.331
.150	5.39E-05	5.43E-05	9.30E-05	1.47E-04	2.41E-04	2.19E-04	1.76E-04	.082	.150	3.51E-02	.333
.200	3.9 E-05	3.97E-05	1.89E-04	2.29E-04	3.50E-04	3.06E-04	2.21E-04	.092	.200	5.57E-02	.335
.300	2.92E-05	2.94E-05	4.75E-04	5.08E-04	7.40E-04	6.31E-04	4.19E-04	.137	.300	1.04E-01	.340
.400		1.08E-05	8.58E-04	8.77E-04	1.28E-03	1.09E-03	7.02E-04	.198	.400	1.58E-01	.346
.600		1.27E-05	1.81E-03	1.92E-03	2.61E-03	2.20E-03	1.39E-03	.335	.600	2.78E-01	.356
.800		1.82E-05	2.69E-03	2.70E-03	4.09E-03	3.43E-03	2.12E-03	.482	.800	4.03E-01	.367
1.000		6.85E-06	4.82E-03	4.83E-03	5.59E-03	4.67E-03	2.94E-03	.633	1.000	5.31E-01	.378
2.000		6.78E-06	9.55E-03	9.55E-03	1.24E-02	1.02E-02	5.69E-03	1.426	2.000	1.17E+00	.427
4.000		6.29E-06	1.84E-02	1.84E-02	2.22E-02	1.77E-02	8.65E-03	3.852	4.000	2.37E+00	.499
7.000		6.27E-06	2.77E-02	2.77E-02	3.15E-02	2.44E-02	1.04E-02	6.630	7.000	4.00E+00	.570
10.000		6.20E-06	3.48E-02	3.48E-02	3.76E-02	2.87E-02	1.11E-02	8.212	10.000	5.43E+00	.619
20.000		6.13E-06	4.56E-02	4.56E-02	4.83E-02	3.60E-02	1.10E-02	10.910	20.000	9.81E+00	.711

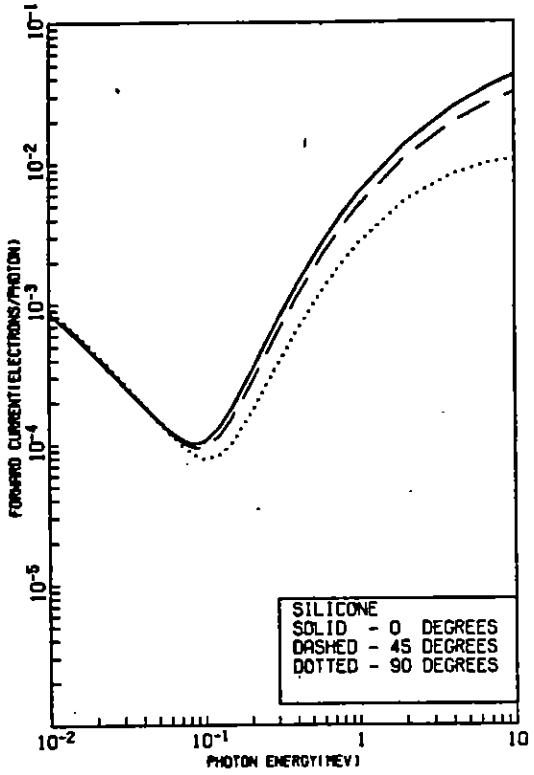
SILICON DIOXIDE





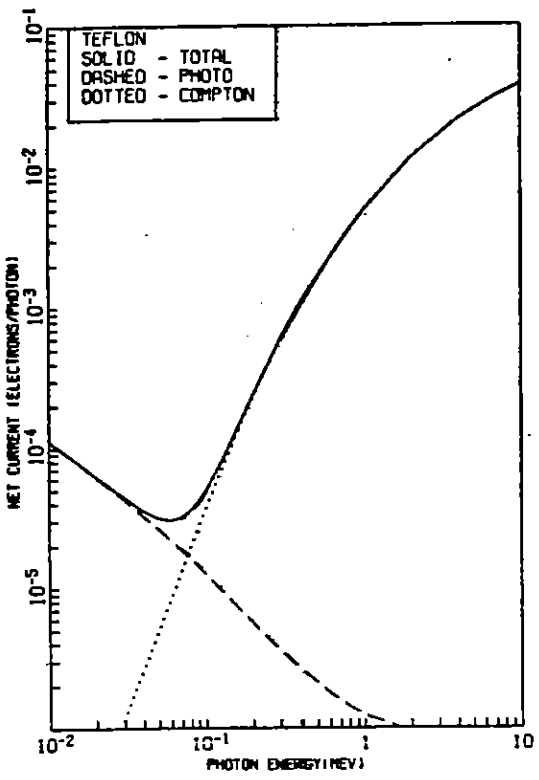
PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	NET CURRENT COMPTON	NET CURRENT TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	FORWARD CURRENT 45 DEG (ELECTRONS/PHOTON)	FORWARD CURRENT 90 DEG (ELECTRONS/PHOTON)	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	2.23E-04	2.36E-04	7.37E-08	2.23E-04	1.22E-03	1.26E-03	1.30E-03	.009	.010	3.22E-04	.369
.015	1.83E-04	1.89E-04	1.94E-07	1.93E-04	9.00E-04	9.21E-04	8.43E-04	.014	.015	6.51E-04	.365
.020	1.54E-04	1.55E-04	4.32E-07	1.54E-04	5.80E-04	5.94E-04	6.09E-04	.019	.020	1.07E-03	.363
.030	1.15E-04	1.14E-04	1.21E-06	1.13E-04	3.61E-04	3.67E-04	3.74E-04	.028	.030	2.15E-03	.363
.040	9.16E-05	9.29E-05	2.58E-06	9.42E-05	2.57E-04	2.60E-04	2.67E-04	.038	.040	3.60E-03	.363
.050	7.53E-05	7.61E-05	4.79E-06	8.09E-05	1.98E-04	1.99E-04	1.98E-04	.046	.050	5.31E-03	.364
.060	6.33E-05	6.40E-05	9.00E-06	7.13E-05	1.61E-04	1.60E-04	1.58E-04	.053	.060	7.27E-03	.365
.070	5.44E-05	5.49E-05	1.24E-05	6.53E-05	1.39E-04	1.37E-04	1.32E-04	.058	.070	9.49E-03	.365
.080	4.73E-05	4.77E-05	1.80E-05	6.53E-05	1.27E-04	1.23E-04	1.15E-04	.061	.080	1.19E-02	.366
.090	4.17E-05	4.20E-05	2.50E-05	6.67E-05	1.21E-04	1.15E-04	1.04E-04	.062	.090	1.46E-02	.367
.100	3.71E-05	3.74E-05	3.35E-05	7.08E-05	1.21E-04	1.13E-04	9.73E-05	.063	.100	1.74E-02	.367
.125	2.90E-05	2.91E-05	6.12E-05	9.01E-05	1.40E-04	1.25E-04	9.76E-05	.062	.125	2.52E-02	.369
.150	2.37E-05	2.38E-05	9.65E-05	1.22E-04	1.80E-04	1.57E-04	1.17E-04	.064	.150	3.40E-02	.370
.200	1.71E-05	1.72E-05	2.02E-04	2.19E-04	3.10E-04	2.64E-04	1.73E-04	.080	.200	5.40E-02	.373
.300	1.09E-05	1.09E-05	5.89E-04	5.98E-04	7.23E-04	6.06E-04	3.74E-04	.137	.300	1.01E-01	.379
.400		7.99E-06	9.22E-04	9.30E-04	1.28E-03	1.07E-03	6.55E-04	.195	.400	1.54E-01	.385
.600		5.44E-06	1.95E-03	1.96E-03	2.64E-03	2.19E-03	1.32E-03	.334	.600	2.70E-01	.396
.900		4.36E-06	3.11E-03	3.11E-03	4.19E-03	3.43E-03	2.02E-03	.481	.800	3.92E-01	.407
1.000		3.81E-06	4.32E-03	4.33E-03	5.68E-03	4.68E-03	2.70E-03	.633	1.000	5.17E-01	.418
2.000		2.94E-06	1.02E-02	1.02E-02	1.26E-02	1.02E-02	5.91E-03	1.224	2.000	1.14E+00	.467
4.000		2.71E-06	1.94E-02	1.95E-02	2.26E-02	1.76E-02	8.25E-03	3.074	4.000	2.32E+00	.537
7.000		2.67E-06	2.89E-02	2.93E-02	3.22E-02	2.47E-02	9.92E-03	5.624	7.000	3.94E+00	.606
10.000		2.65E-06	3.54E-02	3.54E-02	3.94E-02	2.91E-02	1.05E-02	8.204	10.000	5.44E+00	.652
20.000		2.57E-06	4.71E-02	4.71E-02	4.94E-02	3.60E-02	1.05E-02	16.909	20.000	9.80E+00	.738

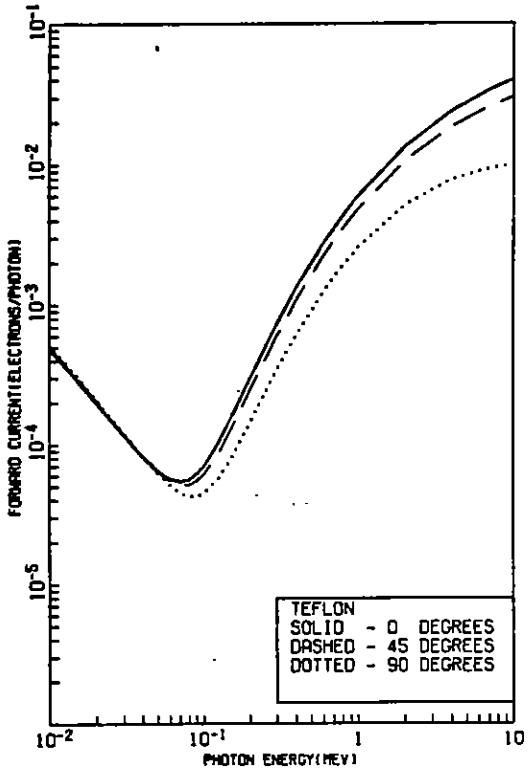




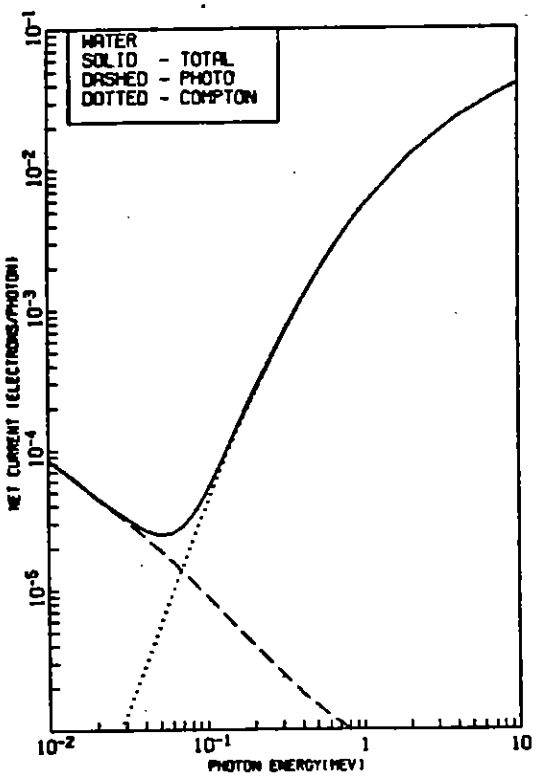
PHOTON ENERGY (MEV)	NET CURRENT PHOTO (PELEC)	PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG	45 DEG	90 DEG (ELECTRONS/PHOTON)	ESAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	1.79E-04	1.98E-04	6.84E-08	1.73E-04	8.77E-04	9.08E-04	9.39E-04	.009	.010	2.96E-04	.417
.015	1.48E-04	1.53E-04	1.82E-07	1.45E-04	5.81E-04	5.98E-04	6.17E-04	.014	.015	6.89E-04	.413
.020	1.26E-04	1.27E-04	4.23E-07	1.25E-04	4.24E-04	4.35E-04	4.47E-04	.018	.020	9.93E-04	.411
.030	9.48E-05	9.36E-05	1.27E-06	9.57E-05	2.66E-04	2.72E-04	2.77E-04	.028	.030	2.02E-03	.411
.040	7.53E-05	7.64E-05	2.81E-06	7.81E-05	1.92E-04	1.94E-04	1.96E-04	.037	.040	3.34E-03	.411
.050	6.28E-05	6.27E-05	5.29E-06	6.73E-05	1.49E-04	1.50E-04	1.49E-04	.045	.050	4.93E-03	.412
.060	5.22E-05	5.28E-05	8.92E-06	6.12E-05	1.24E-04	1.23E-04	1.20E-04	.051	.060	6.76E-03	.413
.070	4.49E-05	4.93E-05	1.39E-05	5.83E-05	1.10E-04	1.07E-04	1.01E-04	.055	.070	8.82E-03	.413
.080	3.91E-05	3.94E-05	2.03E-05	5.34E-05	1.03E-04	9.83E-05	8.94E-05	.057	.080	1.11E-02	.414
.090	3.45E-05	3.47E-05	2.82E-05	6.27E-05	1.02E-04	9.53E-05	8.25E-05	.056	.090	1.36E-02	.415
.100	3.07E-05	3.09E-05	3.78E-05	6.95E-05	1.06E-04	9.67E-05	7.96E-05	.057	.100	1.62E-02	.415
.125	2.48E-05	2.41E-05	6.93E-05	9.33E-05	1.32E-04	1.16E-04	8.41E-05	.056	.125	2.35E-02	.417
.150	1.96E-05	1.97E-05	1.12E-04	1.31E-04	1.79E-04	1.53E-04	1.02E-04	.068	.150	3.18E-02	.418
.200	1.42E-05	1.42E-05	2.29E-04	2.43E-04	3.22E-04	2.69E-04	1.65E-04	.077	.200	5.05E-02	.421
.300	9.81E-06	9.85E-06	5.88E-04	5.87E-04	7.68E-04	6.34E-04	3.71E-04	.131	.300	9.48E-02	.427
.400		6.62E-06	1.05E-03	1.05E-03	1.37E-03	1.12E-03	6.49E-04	.195	.400	1.44E-01	.432
.600		4.98E-06	2.22E-03	2.22E-03	2.83E-03	2.32E-03	1.31E-03	.334	.600	2.54E-01	.443
.800		3.61E-06	3.54E-03	3.54E-03	4.46E-03	3.64E-03	2.01E-03	.481	.800	3.78E-01	.454
1.000		3.14E-06	4.92E-03	4.92E-03	6.12E-03	4.97E-03	2.70E-03	.632	1.000	4.89E-01	.464
2.000		2.41E-06	1.15E-02	1.15E-02	1.37E-02	1.09E-02	5.43E-03	1.424	2.000	1.09E+00	.511
4.000		2.20E-06	2.18E-02	2.18E-02	2.46E-02	1.91E-02	8.29E-03	3.076	4.000	2.23E+00	.579
7.000		2.16E-06	3.22E-02	3.22E-02	3.51E-02	2.67E-02	9.99E-03	5.620	7.000	3.62E+00	.644
10.000		2.14E-06	3.93E-02	3.93E-02	4.20E-02	3.15E-02	1.06E-02	8.199	10.000	5.38E+00	.687
20.000		2.07E-06	5.23E-02	5.23E-02	5.63E-02	3.99E-02	1.07E-02	16.906	20.000	9.78E+00	.766

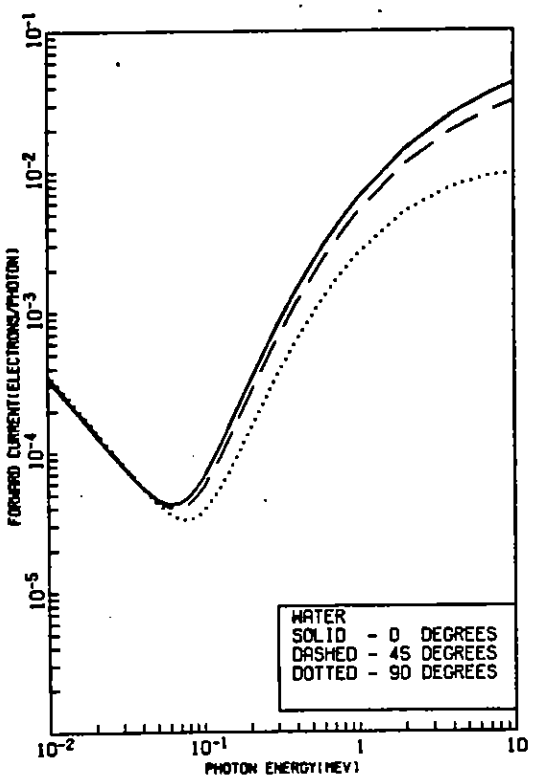
TEFLON





PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG	45 DEG	90 DEG (ELECTRONS/PHOTON)	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010	1.12E-04	1.14E-04	6.38E-08	1.12E-04	4.89E-04	5.06E-04	5.23E-04	.009	.010	3.17E-04	.420
.015	8.07E-05	8.09E-05	1.66E-07	5.09E-05	2.91E-04	3.00E-04	3.09E-04	.014	.015	6.44E-04	.419
.020	6.26E-05	6.21E-05	3.92E-07	6.30E-05	1.99E-04	2.04E-04	2.10E-04	.019	.020	1.07E-03	.419
.030	4.36E-05	4.36E-05	1.16E-06	4.43E-05	1.18E-04	1.20E-04	1.22E-04	.029	.030	2.17E-03	.420
.040	3.30E-05	3.32E-05	2.62E-06	3.55E-05	8.28E-05	8.34E-05	8.38E-05	.037	.040	3.60E-03	.421
.050	2.66E-05	2.67E-05	5.01E-06	3.15E-05	6.54E-05	6.48E-05	6.34E-05	.043	.050	5.31E-03	.423
.060	2.19E-05	2.22E-05	9.53E-06	3.03E-05	5.71E-05	5.54E-05	5.19E-05	.045	.060	7.29E-03	.424
.070	1.88E-05	1.88E-05	1.33E-05	3.21E-05	5.46E-05	5.16E-05	4.57E-05	.046	.070	9.51E-03	.425
.080	1.63E-05	1.63E-05	1.96E-05	3.59E-05	5.64E-05	5.18E-05	4.30E-05	.044	.080	1.20E-02	.425
.090	1.43E-05	1.43E-05	2.74E-05	4.17E-05	6.18E-05	5.54E-05	4.23E-05	.043	.090	1.46E-02	.426
.100	1.26E-05	1.26E-05	3.68E-05	4.94E-05	7.04E-05	6.17E-05	4.50E-05	.042	.100	1.75E-02	.427
.125	9.71E-06	9.73E-06	6.78E-05	7.75E-05	1.05E-04	8.87E-05	5.79E-05	.044	.125	2.54E-02	.429
.150	7.87E-06	7.88E-06	1.18E-04	1.19E-04	1.55E-04	1.30E-04	7.97E-05	.051	.150	3.43E-02	.431
.200	5.64E-06	5.65E-06	2.26E-04	2.31E-04	3.01E-04	2.49E-04	1.46E-04	.073	.200	5.42E-02	.434
.300		3.96E-06	5.73E-04	5.73E-04	7.40E-04	6.04E-04	3.44E-04	.130	.300	1.02E-01	.440
.400		2.61E-06	1.04E-03	1.04E-03	1.33E-03	1.09E-03	6.16E-04	.194	.400	1.56E-01	.445
.500		1.77E-06	2.19E-03	2.28E-03	2.76E-03	2.25E-03	1.25E-03	.334	.600	2.74E-01	.457
.600		1.42E-06	3.58E-03	3.58E-03	4.35E-03	3.53E-03	1.92E-03	.491	.800	3.96E-01	.465
1.000		1.23E-06	4.96E-03	4.95E-03	5.97E-03	4.82E-03	2.57E-03	.632	1.000	5.26E-01	.479
2.000		9.27E-07	1.13E-02	1.13E-02	1.33E-02	1.06E-02	5.15E-03	1.423	2.000	1.18E+00	.526
4.000		8.34E-07	2.13E-02	2.13E-02	2.38E-02	1.84E-02	7.90E-03	3.071	4.000	2.37E+00	.591
7.000		9.10E-07	3.11E-02	3.11E-02	3.36E-02	2.55E-02	9.32E-03	5.614	7.000	4.04E+00	.657
10.000		8.80E-07	3.77E-02	3.77E-02	4.01E-02	3.00E-02	9.94E-03	8.191	10.000	5.59E+00	.699
20.000		7.63E-07	4.96E-02	4.96E-02	5.14E-02	3.77E-02	9.79E-03	16.891	20.000	1.02E+01	.777





PHOTON ENERGY (MEV)	PHOTO (PELEC)	NET CURRENT PHOTO (F/S) (ELECTRONS/PHOTON)	COMPTON	TOTAL	FORWARD CURRENT 0 DEG (ELECTRONS/PHOTON)	45 DEG	90 DEG	EBAR (MEV)	ELECTRON ENERGY (MEV)	RANGE (GM/CM2)	RBAR
.010		8.58E-05	6.24E-08	8.59E-05	3.37E-04	3.50E-04	3.64E-04	.009	.010	2.58E-04	.456
.015		5.96E-05	1.66E-07	5.99E-05	1.98E-04	2.05E-04	2.12E-04	.014	.015	5.70E-04	.456
.020		4.53E-05	3.92E-07	4.57E-05	1.34E-04	1.38E-04	1.42E-04	.019	.020	9.45E-04	.456
.030		3.18E-05	1.24E-06	3.23E-05	7.98E-05	8.12E-05	8.26E-05	.028	.030	1.93E-03	.457
.040		2.48E-05	2.86E-06	2.53E-05	5.69E-05	5.71E-05	5.69E-05	.036	.040	3.28E-03	.459
.050		1.92E-05	5.52E-06	2.47E-05	4.65E-05	4.56E-05	4.37E-05	.043	.050	4.72E-03	.460
.060		1.59E-05	9.44E-06	2.53E-05	4.20E-05	4.08E-05	3.85E-05	.049	.060	6.48E-03	.461
.070		1.35E-05	1.48E-05	2.83E-05	4.36E-05	4.02E-05	3.36E-05	.054	.070	8.46E-03	.462
.080		1.17E-05	2.18E-05	3.35E-05	4.81E-05	4.30E-05	3.31E-05	.058	.080	1.06E-02	.463
.090		1.02E-05	3.05E-05	4.07E-05	5.59E-05	4.86E-05	3.47E-05	.062	.090	1.30E-02	.464
.100		9.04E-06	4.11E-05	5.01E-05	6.66E-05	5.68E-05	3.80E-05	.066	.100	1.58E-02	.465
.125		6.96E-06	7.59E-05	8.27E-05	1.06E-04	8.79E-05	5.32E-05	.074	.125	2.26E-02	.467
.150		5.62E-06	1.23E-04	1.23E-04	1.62E-04	1.33E-04	7.67E-05	.081	.150	3.06E-02	.469
.200		4.01E-06	2.53E-04	2.57E-04	3.28E-04	2.61E-04	1.45E-04	.092	.200	4.86E-02	.472
.300		2.98E-06	6.42E-04	6.45E-04	7.95E-04	6.45E-04	3.92E-04	.109	.300	9.18E-02	.478
.400		1.82E-06	1.17E-03	1.17E-03	1.43E-03	1.16E-03	6.25E-04	.124	.400	1.39E-01	.484
.500		1.25E-06	2.46E-03	2.46E-03	2.98E-03	2.40E-03	1.27E-03	.133	.500	2.44E-01	.495
.800		1.08E-06	3.92E-03	3.92E-03	4.69E-03	3.76E-03	1.95E-03	.148	.800	3.55E-01	.806
1.000		8.78E-07	5.42E-03	5.43E-03	6.43E-03	5.14E-03	2.60E-03	.152	1.000	4.68E-01	.817
2.000		6.92E-07	1.25E-02	1.23E-02	1.43E-02	1.12E-02	5.18E-03	1.422	2.000	1.03E+00	.563
4.000		5.77E-07	2.32E-02	2.32E-02	2.54E-02	1.95E-02	7.77E-03	3.869	4.000	2.18E+00	.626
7.000		5.02E-07	3.35E-02	3.35E-02	3.67E-02	2.68E-02	9.20E-03	5.606	7.000	3.87E+00	.669
10.000		5.68E-07	4.03E-02	4.03E-02	4.23E-02	3.14E-02	9.66E-03	8.178	10.000	4.93E+00	.720
20.000		5.12E-07	5.22E-02	5.22E-02	5.36E-02	3.92E-02	9.49E-03	16.669	20.000	8.95E+00	.888

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