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Tables of Response Functions For Silicon Electron Detectors

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Tables of Response Functions for Silicon Electron Detectors

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Abstract

Calculated response functions are presented which describe the pulse-height distributions produced by monoenergetic electrons incident on silicon detectors. It is assumed that the direction of incidence is perpendicular, and that the detectors are wide enough so that lateral leakage of energy is insignificant. The validity of the calculations has been confirmed experimentally for incident energies between 0.25 MeV and 1.0 MeV and detectors with thicknesses between 0.061 mm and 3.0 mm. The calculated response functions cover a wider range of conditions, including fourteen energies between 0.15 MeV and 5.0 MeV and ten detector thicknesses between 0.05 and 10.0 mm. At energies ≥ 1 MeV, response functions are given not only for bare detectors but also for an arrangement in which the detectors are shielded on the transmission side by another detector operating in anti-coincidence.

Key words: Electron; energy absorption; electron backscattering; electron transmission; detector response function; silicon detectors.

Preface

This report is an expanded version of a paper (published in Nuclear Instruments and Methods 69, 181-193 (1969)) on the response of silicon detectors to fast electrons. In that paper it was shown that transport calculations by the Monte Carlo method yield response functions that are in good agreement with experimental results. The new material in the present report consists of nineteen pages of tables listing energy deposition distributions $D(T_o,T)$ obtained in Monte Carlo calculations. These distributions, discussed in Section 2, relate the kinetic energy T_o of the incident electron to the amount T of energy deposited in the detector, taking into account the transmission and reflection of energy carried by electrons and secondary bremsstrahlung. Tables of $D(T_o,T)$ are given for fourteen values of T_o between 0.15 MeV and 5.0 MeV and ten detector thicknesses between 0.05 mm and 10.0 mm. These results can easily be converted to response functions by folding in the experimentally determined noise distribution (intrinsic resolution) according to the procedure given in the Appendix.

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1. Introduction

The use of silicon detectors for radiation measurements has become increasingly important in recent years. The interpretation of such measurements requires knowledge of the response of the detectors to various types of radiation. The purpose of this paper is to provide information about the response to electrons.

Data on the response of silicon detectors to electrons have been reported by McKenzie and Ewan [1][1], West, Burns, Wang and Ziemba [2], Charoenkwan [3], Rester and Rainwater [4], Hühn and Schneider [5], Aitken, Emerson and Zulliger [6], Planskoy [7], and Waldschmidt and Wittig [8]. In the present investigation, extensive new data have been obtained experimentally as well as by a Monte Carlo calculation. The results provide information required for the application of silicon detectors to the counting of electrons and the measurement of electron spectra. They also confirm the accuracy of the Monte Carlo method used as a tool for predicting the penetration and diffusion of electrons in extended media.

Experimental response functions and corresponding Monte Carlo results have been obtained for detectors with six thicknesses (0.061, 0.105, 0.191, 0.530, 1.0 and 3.0 mm) at four electron energies (0.25, 0.5, 0.75, and 1.0 MeV) [9,10]. Monte Carlo response functions have also been calculated at fifteen energies between 0.15 and 5.0 MeV for detectors with ten different thicknesses between 0.05 and 10.0 mm, and are presented in Table 9 of the present report.

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[1] Figures in brackets indicate the literature references at the end of this paper.

2. The Response Function

The pulse-height distribution $H(h)$, observed with a given silicon detector, is related to the actual electron spectrum $S(T_o)$ by the integral equation

$$H(h) = \int_0^\infty S(T_o)R(T_o,h)\,dT_o . \qquad (1)$$

The kernel $R(T_o,h)$ is called the <u>response function</u>[1] of the detector, and $R(T_o,h)dh$ is equal to the probability that an electron incident on the detector with kinetic energy T_o will give rise to a pulse with a height between h and h+dh.

It is useful to express the response function as the combination of an energy deposition distribution $D(T_o,T)$ and a noise distribution $G(T,h)$, by writing

$$R(T_o,h) = \int_0^{T_o} D(T_o,T)\, G(T,h)\,dT. \qquad (2)$$

In this expression $D(T_o,T)dT$ is the probability that an electron incident with kinetic energy T_o will deposit an amount of energy between T and T+dT in the detector, and $G(T,h)dh$ is the probability that the deposition of energy T will give rise to a pulse with a height between h and h+dh.

2.1 Energy Deposition Distribution

It is convenient to express this distribution as the sum of two terms,

$$D(T_o,T) = D_E(T_o,T) + P_A\, \delta(T-T_o), \qquad (3)$$

[1] The response function depends also on other parameters such as the detector thickness and the direction of the incident electron. In the present work, the direction of incidence is perpendicular to the detector surface. For data with oblique incidence, see Ref. 8.

where $D_E(T_o,T)$ is the probability density associated with the escape of some energy from the detector, P_A is the probability of total absorption, and $\delta(T-T_o)$ is a delta function. The calculation of $D(T_o,T)$ was done by a Monte Carlo method which is described in Section 3.

2.2 Noise Distribution

The noise distribution, or intrinsic resolution, can be adequately represented by a Gaussian,

$$G(T,h) = \frac{1}{\sqrt{2\pi}\,\sigma} \exp\left[- (h-h_p)^2/2\sigma^2\right] . \tag{4}$$

The most probable pulse height, h_p, is a linear function of T. In this Section and in the Appendix we shall assume, without loss of generality, that the pulse-height scale is such that h_p is expressed in energy units and is equal to T. The square of the full width at half maximum of this distribution is

$$W_f^2 = 8(\ln 2)\sigma^2 . \tag{5}$$

One can resolve W_f^2 into the sum of three terms, W_1^2, W_2^2, and W_3^2, which take into account, respectively, (1) fluctuations in the number of hole-electron pairs produced, (2) fluctuations of losses occurring during charge collection, and (3) leakage current fluctuations and amplifier noise.

In the present experiment, carried out at room temperature, W_f was found to have values ranging from 13 to 25 keV for different detectors, and to be independent of the incident electron energy. Therefore, the predominant contribution to W_f^2 was W_3^2 which is the only term expected to be energy independent. The first term is relatively small and is given by the equation

$$W_1^2 = 8(\ell n2)\ F\epsilon T, \tag{6}$$

where ϵ is the average energy required to produce a hole-electron pair, and F is the Fano [11] factor which accounts for the fluctuations of the number of pairs produced during the absorption of energy T. The experimental and theoretical information about these parameters has recently been reviewed by Deshpande [12] and Klein [13]. The latter author recommends the values ϵ = 3.6 eV and F = 0.05 and thus obtains the value W_1 = 1 keV when T = 1.0 MeV. The magnitude of the term W_2^2 can be grëatly reduced by increasing the bias voltage applied to the detector. Our data indicate that W_2^2 was small compared to W_3^2.

By combining Eqs. (2-4), one obtains the response function in the form

$$k(T_o,h) = R_E(T_o,h) + \frac{P_A}{\sqrt{2\pi}\ \sigma}\ e^{-(h-T_o)^2/2\sigma^2}, \tag{7}$$

where

$$R_E(T_o,h) = \frac{1}{\sqrt{2\pi}\ \sigma} \int_0^{T_o} dT\ D_E(T_o,T)\ \exp\left[-(h-T)^2/2\sigma^2\right]. \tag{8}$$

The second term on the right-hand side of Eq. (7) is usually said to represent the <u>absorption peak</u>. $R_E(T_o,h)$ may be called the <u>escape component</u> of the response function. The numerical evaluation of the integral in Eq. (8) is described in the Appendix for the case where a histogram representing $D_E(T_o,T)$ is available from a Monte Carlo calculation.

3. Monte Carlo Calculation of the Energy Deposition Distribution

3.1 Assumed Conditions

A narrowly collimated monoenergetic beam of electrons was assumed to be incident perpendicularly on a silicon detector. For the purpose of the calculation, the detector was considered to be a plane-parallel target with lateral dimensions large enough so that the leakage of radiation through the side walls was insignificant. (This condition was also fulfilled in our experimental arrangement.) A one-dimensional treatment of the transport equation was therefore adequate.

Most of our calculations were done for a single detector (case (i) in Fig. 1). In addition, results were obtained for two special anti-coincidence arrangements (cases (ii) and (iii) in Fig. 1), by means of which the escape component of the response function can be substantially reduced.

3.2 Sampling Procedures

The following processes were taken into account: elastic scattering of electrons by atoms, inelastic scattering by atomic electrons and the production of knock-on electrons, the production of secondary bremsstrahlung photons, and the scattering and absorption of these photons. A large number of collisions was sampled until the incident electron and the secondary electrons and photons were either absorbed in the detector or emerged from it.

The sampling procedures have been described elsewhere [14,15] and will be reviewed only briefly here. For the purpose of sampling, each electron track was divided into many short sections, chosen so that the electrons lost, on the average, a fixed fraction (~ 2%) of their energy per section. The actual energy loss in each section, caused by many successive collisions with atomic electrons, was sampled from the Landau [16] energy-loss distribution (with the Blunck-Leisegang [17] correction to take into account binding effects). Each track section was further divided into four subsections which, in our Monte Carlo model, were assumed to be rectilinear. The electrons were allowed to change their direction at the end of each subsection. This change of direction was accomplished by sampling an angular multiple-scattering deflection from the Goudsmit-Saunderson [18] distribution, and compounding it with the original direction at the beginning of the subsection. The Goudsmit-Saunderson multiple-scattering angular distribution was evaluated with the Mott [19] elastic scattering cross section and a screening correction at small angles derived from the theory of Molière [20]. Angular deflections associated with inelastic electron-electron collisions were taken into account approximately by replacing the factor Z^2 in the elastic scattering cross section by $Z(Z+1)$, where Z is the atomic number of the medium. In each subsection, the following kinds of events were allowed to take place with the appropriate frequency: (a) the production of knock-on electrons, sampled according to the Møller [21] cross section; (b) the production of bremsstrahlung photons, sampled according to a cross section based on the Bethe-Heitler theory with empirical modifications suggested in a review article by Koch and Motz [22]. The histories of the bremsstrahlung photons were in turn followed by conventional random sampling [23] through successive Compton scatterings until the photons either emerged from the detector or were absorbed photo-electrically or in a pair-production event. The histories of all secondary Compton electrons, photo-electrons, or electron-positron pairs were followed in the same manner as those of the primary electrons.

3.3 Utilization of Monte Carlo Histories

For each source energy, the histories of 10^4 primary electrons, and the histories of all descendant secondary electrons and photons were sampled. This set of histories was analyzed to determine the energy deposition distribution for many detectors with different thicknesses.

The sampled Monte Carlo histories were grouped into cascades. Each cascade consists of the history of a single primary electron and the histories of all of its descendant particles. Let f_T denote the fraction of the incident energy T_o that escapes through the transmission boundary of the detector, as the result of being carried away by primary or secondary particles. Similarly, let f_R be the corresponding fraction of T_o escaping through the reflection boundary. From each cascade, information was extracted pertinent to the three detector arrangements shown in Fig. 1:

(a) All cascades, regardless of the value of f_T and f_R, were allowed to contribute to the estimate of energy deposition for case (i). The amount of energy left in the detector by the cascade was $T_o(1-f_T-f_R)$. This energy was sorted into one of 50 energy bins covering the region from T_o to 0.

(b) Cascades with $f_T = 0$ were allowed to contribute to the estimate of the energy deposition distribution for case (ii). The amount of energy deposited in this case was $T_o(1-f_R)$.

(c) The relative frequency of cascades with $f_T = f_R = 0$ provided an estimate of the probability of total absorption, P_A.

4. Experimental Method

4.1 Electron Source

The primary source of electrons was a d.c. accelerator which was stable to within ± 0.1 percent in high voltage. The absolute energy of the electrons was known to ± 2 percent. In order to prevent pulse pile-up, a relatively small electron current was required. This requirement was met by scattering the primary beam, which varied from 10^{-9} to 10^{-7} amperes, from a thin gold foil. This foil was about 20 to 30 $\mu g/cm^2$ thick, the gold having been vacuum-deposited on a 2- to 5-$\mu g/cm^2$ thick film of collodion. As is shown in Fig. 2, the scattered electrons were carefully collimated at an angle of approximately 30 degrees with respect to the incident beam, and the electrons emerging from the collimator were moving in a direction perpendicular to the face of the detector. The scattering chamber for this arrangement has been described elsewhere [9].

The scattered beam from the gold foil consisted mainly of elastically-scattered electrons, but also contained some inelastically-scattered electrons of lower energy. The ratio of the inelastic to the elastic scattering cross section is an increasing function of the scattering angle. In order to minimize the relative amount of inelastically-scattered electrons in the beam, it was therefore desirable to make the scattering angle as small as possible. The angle of 30 degrees was the smallest that could conveniently be arranged with our experimental configuration. We have estimated that for primary energies between 0.25 and 1.0 MeV the amount of inelastically-scattered electrons in the beam at 30 degrees was of the order of one percent. The effect of this on the response function measurement is discussed in Section 5.1.

4.2 Detectors

Six silicon detectors which included surface-barrier, diffused, and lithium-drifted types were employed at room temperature. Some of the physical properties of the detectors are given in Table 1. For each detector the magnitude of the reverse bias applied was such that practically the entire thickness was fully depleted. The dead layers at the surfaces were negligibly thin, except for the lithium-drifted detectors which had dead layers approximately 40 μm thick on their exit surfaces. According to the specifications supplied by the manufacturers, the detectors were uniform in thickness to 1 or 2 percent over the entire sensitive area. The area exposed to the electron beam was limited by collimation to a central region of 4 mm^2, which was much smaller than the sensitive area.

4.3 Amplification and Recording of Pulses

The charge collected from the detector was fed into the input of a charge-sensitive preamplifier in which a pulse was formed. This pulse was further amplified and stored in 256 channels of a pulse-height analyzer. A rate of 400 to 800 pulses per second was maintained during each experimental run. The minimum height for pulse detection was established by a discrimination level (cut-off), h_c, which was set at the input of the analyzer. The values of h_c adopted for the various detectors are given in Table 1.

The integral linearity of the entire electronic system was checked with a pulser and found to be within ± 1 percent. The gain of the system was kept approximately the same for all detectors and source energies. By noting the position of the absorption peak of the response function at various source energies,[1] the linearity of the amplification system was confirmed, and the proportionality constant relating pulse height (channel number) and energy was established. With the gain setting employed, each channel had a width of 7.3 keV.

4.4 Background Correction

The background radiation incident on the detector was found to consist of bremsstrahlung photons produced in the beam trap and other parts of the apparatus, and a "dark current" of low-energy electrons originating from components of the accelerator tube other than the filament. The background correction was obtained with two supplementary measurements: one with the scattering foil removed to determine the bremsstrahlung background, and another with the accelerator filament cold and the scattering foil in place to determine the "dark current" background.

The results showed that the bremsstrahlung contribution to the

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[1] A check of the energy output of the d.c. accelerator was performed by matching the channel number vs energy relationship for the electrons from the accelerator to that obtained for conversion electrons from ^{203}Hg(0.196 and 0.264 MeV), ^{137}Cs(0.626 and 0.656 MeV), and ^{207}Bi(0.972 and 1.044 MeV). This was done with a 3-mm thick detector, keeping the gain of the electronic system constant.

background was considerably larger than that of the "dark current", and increased with detector thickness. At primary energies of 0.5 MeV and lower, the entire background correction amounted to less than 1 percent. At higher energies, particularly for thick detectors (1 and 3 mm), the number of pulses in the background distribution amounted to 10 to 25 percent of those in the principal distribution. The distribution of background pulses was concentrated in the vicinity of the cut-off value h_c, decreased strongly with increasing h, and vanished for h approximately equal to one-half the maximum pulse height.

5. Results

5.1 Comparison of Calculated and Measured Response Functions

Response functions for various combinations of electron energy and detector thickness are plotted in Figs. 3a-d versus the relative pulse height, h/h_o.[1] The calculated results were obtained by folding the sampled energy deposition distribution into a noise distribution according to the procedure outlined in the Appendix. The width W_f(see Eq. 5) of the noise distribution, which was determined for each detector by fitting a Gaussian distribution to the experimental absorption peak, was found to be independent of the electron energy for each detector and is given in Table 1. Each experimental response function shown is based on a sample of $\sim 10^5$ counts. The electron current incident on the silicon detectors was not monitored. Nevertheless, it was possible

[1] The quantity h_o is the most probable pulse height which is associated with the deposition of energy T_o in the detector. When pulse heights are expressed in energy units, then $h_o = T_o$.

to normalize the experimental response functions absolutely, and independently of the Monte Carlo calculations, by requiring that the total integral $\int_0^\infty R(T_o,h)dh$ be equal to unity. Actually, the pulse-height distributions were obtained only above the cut-off value h_c. However, in most cases the response function rapidly became small with decreasing h, so that the additional contribution to the integral from pulses below h_c was negligible. In a few exceptional cases, namely, for the 0.061-mm detector at all T_o and for the 0.105-mm detector at $T_o \geq 0.50$ MeV, the normalization was performed by setting the area under the experimental response function down to the cut-off, $\int_{h_c}^\infty R(T_o,h)dh$, equal to the detection efficiency η_d obtained in the Monte Carlo calculations (see Eq. 9 of Section 5.4).

The agreement between calculated and experimental response functions is generally good.[1] For certain cases with energies of 0.25 and 0.50 MeV in Figs. 3a-d the experimental peak of the escape component occurs at a somewhat smaller relative pulse height than the corresponding calculated peak. It appears that in these cases the most probable energy loss of the electrons transmitted through the detector is somewhat smaller than predicted. We have been unable to explain the magnitude and pattern of these discrepancies in terms of experimental errors or

[1] In some of the experimental response functions, a small peak can be seen which is produced by inelastically scattered electrons from the gold foil (see Section 4.1). This peak appears at a relative pulse height $h/h_o \sim 0.6$ as predicted by the Møller formula for electron-electron scattering at 30°.

statistical errors in the Monte Carlo calculations.[1] The Monte Carlo model does not take into account "channeling effects", presumably caused by diffraction, of the type found by various authors [26-29] in electron penetration experiments in crystalline media. It is possible that this omission is responsible for the discrepancies.

5.2 Scaling

The extent to which a detector reflects or transmits electrons depends primarily on the ratio of the detector thickness, z, to the mean range,[2] r_o, of the incident electrons. A list of range values for silicon is given in Table 2. When the ration z/r_o is small, the absorption peak is either absent or quite small, and there is a large escape component associated with the transmission of electrons. As z/r_o increases, the absorption peak becomes more prominent, and the escape component is associated mainly with the reflection of electrons. The

[1] The random numbers needed for the Monte Carlo calculations were obtained with a multiplicative congruential generator. It has recently been shown by Marsaglia [25] that such generators have a defect which makes them unsuitable for certain Monte Carlo problems. The statistical analysis of different runs made with our computer program, and the comparison of results obtained with different congruential generators used singly or in combination, produced no evidence indicating a lack of randomness which would tend to bias the results. In particular, it appears very unlikely that the observed discrepancies between calculation and experiment are due to a deficiency of the random numbers used.

[2] The mean range is calculated from the expression

$$r_o = \int_o^{T_o} dT/\left(-\frac{dE}{dx}\right) ,$$

where $\frac{dE}{dx}$ is the mean energy loss per unit pathlength (stopping power) due to collision losses and bremsstrahlung.

shape of the response function, for a given value of z/r_o, is very insensitive to the value of the incident energy T_o. This can be seen by inspection of Figs. 3a-d and is brought out even more clearly by two experimental examples in Fig. 4.

5.3 Backscattering, Transmission and Absorption Coefficients

The response function calculations also give values of various reflection and transmission coefficients for plane-parallel silicon targets. These coefficients may be defined for primary (incident) electrons, secondary electrons (delta rays, photoelectrons, Compton and pair electrons), and bremsstrahlung. They are in each case equal to the average number of particles per incident electron that emerge from the entrance (backscatter) surface or the exit (transmission) surface. Coefficients for 1-mm and 3-mm thick detectors are shown in Table 3. It can be seen that at high energies, because of the escape of secondary particles, the probability of total absorption of an entire electron-photon cascade is significantly smaller than the probability of absorbing the primary electron.

The probability of total absorption, P_A, for a large number of different detector thicknesses and incident energies is given in Table 4. The estimated uncertainty in these results is ± one unit in the last figure. The statistical error is given by $\sqrt{P_A(1-P_A)/10^4}$, where 10^4 is the size of the Monte Carlo sample. The systematic errors include the effect of round-off, approximations in the Monte Carlo model, and uncertainties in the cross sections, and are believed to be of the same order of magnitude of the statistical error.

Values of the fraction of events without total energy absorption, $(1-P_A)$, reported by various authors are compared in Table 5. The present results (experimental and calculated) and Planskoy's results [7] are in good agreement. They show a moderate rise with increasing T_o which is to be expected because of the increased escape of secondary particles. By contrast, the reflection coefficient shows a decrease with increasing T_o. The values given by Charoenkwan [3], Rester and Rainwater [4], and Hühn and Schneider [5] are higher than the present results at all energies, and those of Waldschmidt and Wittig [8] at some energies. The experimental problems involved in the determination of $(1-P_A)$ have been carefully investigated by Planskoy who found that, depending on the detector and collimator geometry, spuriously high values can easily be obtained in the following circumstances: (a) when the incident electrons can lose some of their energy before reaching the detector, as the result of inelastic scattering in the collimator, and (b) when the electrons can escape with some energy through the side walls of the detector. In the present experiment, precautions were taken to make these effects negligibly small.[1]

Table 5 also gives comparisons of the fraction of electrons backscattered. The calculated values are in good agreement with the experimental result of Rester and Rainwater [4] at 1 MeV, but are one-third

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[1] It was necessary, however, to lower the measured values of $(1-P_A)$ by ~ 0.005, in order to discount the presence of inelastically scattered electrons in the incident beam from the gold scattering foil.

smaller than the coefficients calculated by Waldschmidt and Wittig [8] at 0.3 and 0.6 MeV. The predictions of our Monte Carlo program have also been compared with many other related experiments. For example, the fraction of electrons backscattered from aluminum at 0.6 MeV has been calculated to be 0.105 ± 0.003, which is in good agreement with the experimental values of Glazunov and Guglya [30] (0.094), Cohen and Koral [31] ($0.104^{+0.007}_{-0.002}$), and Miller and Hendricks [32] ($0.109^{+0.002}_{-0.001}$).

5.4 Detection Efficiency

In practice, only those pulses are recorded that are greater than some chosen threshold value, h_c, in order to reduce the pulses produced by noise and background radiation. The detection efficiency, η_d, may then differ significantly from unity, and can be calculated as an integral over the response function, i.e.,

$$\eta_d = \int_{h_c}^{\infty} R(T_o,h_c)\,dh. \tag{9}$$

It is not practical to make a complete tabulation of the efficiency because it depends on a large number of parameters (e.g., incident energy, detector thickness, threshold, width of noise distribution). In Tables 6a-b, sample results are given which indicate the dependence on the various parameters.

5.5 Anticoincidence Arrangements

The escape component of the response function can be reduced through the use of an arrangement in which a detector operating in anticoincidence is placed on the transmission side of the principal detector (case (ii) in Fig. 1). The extent of the reduction is demonstrated in Fig. 5 for incident energies between 2 and 5 MeV and a 3-mm detector. The efficiency η_a of this arrangement, i.e., the fraction of events in which an incident electron gives rise to a recorded pulse, is shown in Table 7 for various incident energies and detector thicknesses. In case (iii), with the silicon detector surrounded on both sides with detectors operating in anticoincidence, the efficiency η_a is, of course, equal to the probability of complete absorption, P_A. It is also of interest to consider the ratio P_A/η_a which represents the fraction of the area of the response function that is under the absorption peak. As can be seen in Table 8, the values of this ratio, for incident energies greater than 1 MeV, are considerably greater in case (ii) than in case (i).

5.6 Tables of Energy Deposition Distributions

The Monte Carlo calculations provide estimates of the energy deposition distribution in the form of histograms. The escape component of the distribution in histogram form is given by

$$D_E^{(n)}(T_o) = (T_{n+1} - T_n)^{-1} \int_{T_n}^{T_{n+1}} D_E(T_o,T)\,dT, \quad n=0,1,2... \qquad (10)$$

where T_n and T_{n+1} are the boundaries of the n+1'st energy interval. The histograms are given in Table 9 for all of the incident energies T_o and detector thicknesses z listed in Table 4. For $T_o \geq 1$ MeV, results are also given for the anticoincidence arrangement (ii), with an auxiliary detector operating in anticoincidence on the transmission side.

Appendix

Convolution of the Energy Deposition and Noise Distributions

Given the energy deposition distribution in histogram form as listed in Table 9, and knowing the experimental value of the standard deviation σ of the noise distribution, one can easily determine the corresponding response function. The histogram of the escape component of the response function may be defined, in analogy to Eq. (10), as

$$R_E^{(n)}(T_o) = (h_{n+1}-h_n)^{-1} \int_{h_n}^{h_{n+1}} R_E(T_o,h)\,dh. \tag{11}$$

The energy deposition and response function histograms are then related by a noise matrix G, i.e.

$$R_E^{(n)} = \sum_m D_E^{(m)} G_{mn} , \tag{12}$$

where

$$G_{mn} = (h_{n+1}-h_n)^{-1} \int_{T_m}^{T_{m+1}} dT \int_{h_n}^{h_{n+1}} \frac{dh}{\sqrt{2\pi}\,\sigma} \exp\{-(h-T)^2/2\sigma^2\} \tag{13}$$

The evaluation of the double integral in Eq. (13) gives the result that

$$G_{mn} = \frac{\sigma\sqrt{2}}{2(h_{n+1}-h_n)} \left\{ F\left(\frac{h_n - T_{m+1}}{\sigma\sqrt{2}}\right) - F\left(\frac{h_n - T_m}{\sigma\sqrt{2}}\right) - F\left(\frac{h_{n+1} - T_{m+1}}{\sigma\sqrt{2}}\right) + F\left(\frac{h_{n+1} - T_m}{\sigma\sqrt{2}}\right)\right\} \tag{14}$$

where $F(x) = x \operatorname{erf}(x) + \frac{1}{\sqrt{\pi}} e^{-x^2}$

and $\operatorname{erf}(x) = \frac{2}{\sqrt{\pi}} \int_0^x e^{-t^2} dt$ is the error function.

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Table 1. Characteristics of the Silicon Detectors

Type	Detector Thickness (mm)	Sensitive Area (mm^2)	FWHM,* W_f (keV)	Low-energy Cutoff, h_c (keV)
Surface barrier	0.061	50	12.8	35
" "	0.105	50	11.2	20
" "	0.191	50	15.4	25
Diffused	0.530	50	17.6	35
Lithium drifted	1.0	80	15.8	30
" "	3.0	80	23.1	40

* At room temperature

Table 2. Mean range of electrons in silicon*

Energy (MeV)	r_0 (mm)
5.00	12.7
4.00	10.3
3.00	7.68
2.00	5.02
1.50	3.67
1.00	2.29
0.80	1.74
0.60	1.20
0.50	0.936
0.40	0.687
0.30	0.451
0.25	0.341
0.20	0.242
0.15	0.152

*Calculated by multiplying the values (in g/cm^2) in Ref. 24 by $10/\rho$, where $\rho = 2.33\ g/cm^3$ is the density of silicon.

Table 3. Transmission, Backscattering, and Absorption Coefficients for Silicon Detectors Predicted by Monte Carlo Calculations

Average Number of Events per Incident Electrons*

		Type of Event							
		Transmission of			Backscattering of			Absorption of	
T_o (MeV)	z (mm)	Primary Electrons	Secondary Electrons	Brems-strahlung	Primary Electrons	Secondary Electrons	Brems-strahlung	Primary Electrons	Entire Electron-Photon Cascade
4.0	1.0	0.997 (1)	0.033 (2)	0.068 (3)	0.002 (1)	0.007 (1)	0.001 (1)	0.001 (1)	0.000
	3.0	0.925 (3)	0.036 (2)	0.203 (5)	0.026 (2)	0.007 (1)	0.018 (1)	0.049 (2)	0.024 (2)
2.0	1.0	0.956 (2)	0.027 (2)	0.069 (3)	0.032 (2)	0.007 (1)	0.006 (1)	0.012 (1)	0.008 (1)
	3.0	0.308 (5)	0.008 (1)	0.142 (4)	0.063 (2)	0.007 (1)	0.039 (2)	0.629 (5)	0.500 (5)
1.0	1.0	0.531 (5)	0.008 (1)	0.053 (2)	0.103 (3)	0.005 (1)	0.014 (1)	0.366 (5)	0.328 (5)
	3.0	0.000	0.000	0.045 (2)	0.103 (3)	0.005 (1)	0.021 (1)	0.897 (3)	0.835 (4)
0.5	1.0	0.000	0.000	0.020 (1)	0.119 (3)	0.005 (1)	0.010 (1)	0.881 (3)	0.850 (4)
	3.0	0.000	0.000	0.014 (1)	0.119 (3)	0.005 (1)	0.011 (1)	0.881 (3)	0.855 (4)
0.25	1.0	0.000	0.000	0.005 (1)	0.129 (3)	0.003 (1)	0.004 (1)	0.871 (3)	0.860 (3)
	3.0	0.000	0.000	0.003 (1)	0.129 (3)	0.003 (1)	0.004 (1)	0.871 (3)	0.865 (3)

* Transmitted and backscattered radiation includes only electrons emerging with energies greater than 5 keV and photons emerging with energies greater than 10 keV. In each entry, the number in paranthesis is the estimated standard deviation; e.g., 0.308 (5) means 0.308 ± 0.005.

Table 4. Calculated Probability of Total Absorption, P_A, as a Function of the Electron Energy, T_o, and the Detector Thickness, z.

					P_A					
T_o (MeV)	z(mm) 0.05	0.1	0.2	0.3	0.5	1.0	2.0	3.0	5.0	10.0
5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.48
4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.18	0.65
3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.12	0.49	0.74
2.00	0.00	0.00	0.00	0.00	0.00	0.01	0.19	0.50	0.78	0.80
1.50	0.00	0.00	0.00	0.00	0.00	0.06	0.47	0.80	0.83	0.84
1.00	0.00	0.00	0.00	0.00	0.03	0.33	0.83	0.84	0.84	0.85
0.80	0.00	0.00	0.00	0.01	0.10	0.60	0.85	0.85	0.85	0.86
0.60	0.00	0.00	0.01	0.07	0.33	0.84	0.85	0.85	0.85	0.86
0.50	0.00	0.00	0.03	0.16	0.56	0.85	0.86	0.86	0.86	0.86
0.40	0.00	0.01	0.13	0.39	0.81	0.86	0.86	0.86	0.86	0.86
0.30	0.00	0.05	0.42	0.77	0.86	0.86	0.86	0.86	0.86	0.86
0.25	0.01	0.14	0.68	0.86	0.86	0.86	0.86	0.86	0.86	0.86
0.20	0.03	0.37	0.85	0.86	0.86	0.86	0.86	0.86	0.86	0.86
0.15	0.20	0.76	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86

Table 5. Comparison of Backscattering Results

Fraction of Events Without Total Energy Absorption, $(1 - P_A)$

References	z (mm)	T_o (MeV) 0.25	0.30	0.50	0.60	1.00	1.20
Charoenkwan[3] (expt)	4.3				0.48 ± 0.05*		
Charoenkwan[3] (expt)	1				0.37 ± 0.03*		
Rester and Rainwater[4] (expt)	2		0.16 ± 0.01		0.20 ± 0.01	0.26 ± 0.01	
Hühn and Schneider[5] (expt)	3	0.18	0.19	0.22	0.24	0.30	0.33
Planskoy[7] (expt)	2	0.135 ± 0.015	0.125 ± 0.015	0.110 ± 0.015			
Waldschmidt and Wittig[8] (expt)	3		0.19		0.22		0.22
Waldschmidt and Wittig[8] (calc)	3		0.21		0.22		0.20
This Work (expt)	3	0.134 ± 0.005	0.133 ± 0.005	0.136 ± 0.005	0.140 ± 0.006	0.150 ± 0.012	0.169 ± 0.014
This Work (calc)	2	0.14 ± 0.01	0.14 ± 0.01	0.14_5 ± 0.01	0.15 ± 0.01	0.17_5 ± 0.01	0.23 ± 0.01**
This Work (calc)	3	0.13_5 ± 0.01	0.14 ± 0.01	0.14_5 ± 0.01	0.15 ± 0.01	0.16_5 ± 0.01	0.18 ± 0.01**

Fraction of Electrons Backscattered

References	z (mm)	0.25	0.30	0.50	0.60	1.00	1.20
Rester and Rainwater[4] (expt)	2					0.09 ± 0.01	
Waldschmidt and Wittig[8] (calc)	3		0.20		0.18		0.11
This Work (calc)***	≥2	0.132 ± 0.003	0.132 ± 0.003	0.123 ± 0.003	0.121 ± 0.003	0.108 ± 0.003	0.097 ± 0.03**

* Actual Energy was 0.624 MeV.

** Obtained by interpolation.

*** Includes primary and secondary electrons.

Table 6. Detection Efficiency, η_d, as a Function of Various Parameters

(a) Dependence on Electron Energy T_o, Cut-Off Energy h_c, and Detector Thickness z

T_o (MeV)	h_c (keV)	η_d						
		W_f (keV)	0			20		
		z (mm)	0.5	1.0	2.0	0.5	1.0	2.0
4.0	100		0.98	0.98	0.99	0.95	0.98	0.99
	200		0.17	0.97	0.99	0.19	0.96	0.99
	300		0.05	0.68	0.98	0.05	0.67	0.98
	400		0.02	0.20	0.98	0.02	0.22	0.98
		z (mm)	0.3	0.5	1.0	0.3	0.5	1.0
2.0	50		0.98	0.98	0.99	0.94	0.99	0.99
	100		0.33	0.98	0.99	0.36	0.96	0.99
	150		0.09	0.62	0.99	0.10	0.62	0.99
	200		0.05	0.21	0.98	0.05	0.23	0.98
		z (mm)	0.1	0.2	0.3	0.1	0.2	0.3
1.0	20		0.94	0.99	0.99	0.83	0.99	0.99
	40		0.17	0.98	0.99	0.29	0.92	0.99
	60		0.06	0.59	0.98	0.08	0.60	0.97
	80		0.03	0.23	0.89	0.03	0.27	0.85
		z (mm)	0.05	0.1	0.2	0.05	0.1	0.2
0.5	10		0.94	0.99	1.00	0.80	0.98	1.00
	20		0.27	0.98	1.00	0.44	0.91	1.00
	30		0.09	0.77	0.99	0.17	0.71	0.99
	40		0.05	0.38	0.99	0.07	0.45	0.99
		z (mm)	0.05	0.1	0.2	0.05	0.1	0.2
0.25	10		0.99	1.00	1.00	0.93	1.00	1.00
	20		0.80	1.00	1.00	0.71	0.99	1.00
	30		0.34	0.99	1.00	0.42	0.97	1.00
	40		0.19	0.94	0.99	0.23	0.91	0.99

Table 6. Detection Efficiency, η_d, as a Function of Various Parameters

(b) Dependence on Full Width at Half Maximum, W_f, (T_o = 1 MeV)

h_c (keV)	W_f (keV) → η_d: 0	5	10	15	20	25
			z = 0.1 mm			
20	0.94	0.91	0.89	0.86	0.83	0.81
40	0.17	0.20	0.23	0.26	0.29	0.31
60	0.06	0.06	0.07	0.07	0.08	0.08
80	0.03	0.03	0.03	0.03	0.03	0.04
			z = 0.2 mm			
20	0.99	0.99	0.99	0.99	0.99	0.99
40	0.98	0.96	0.95	0.93	0.92	0.90
60	0.59	0.60	0.60	0.59	0.60	0.60
80	0.23	0.24	0.25	0.26	0.27	0.27

Table 7. The Efficiency of the Anticoincidence Arrangement, η_a, for Case (ii) in Fig. 1.

		η_a					
T_o (MeV)	z(mm)	0.5	1.0	2.0	3.0	5.0	10.0
5		0.00	0.00	0.00	0.02	0.09	0.56
4		0.00	0.00	0.01	0.05	0.23	0.74
3		0.00	0.01	0.05	0.17	0.56	0.84
2		0.01	0.04	0.27	0.59	0.88	0.91
1		0.10	0.44	0.94	0.96	0.96	0.97

Table 8. Dependence of the Ratio P_A/η_a on Detector Arrangements as Shown in Fig. 1: (i) Single Detector and (ii) Anticoincidence Arrangement.

z(mm)	Case	T_o(MeV) 1	2	3	4	5
		P_A/η_a				
2	(i)	0.83	0.19	0.02	0.00	0.00
	(ii)	0.87	0.71	0.41	0.23	0.00
3	(i)	0.83	0.50	0.12	0.02	0.00
	(ii)	0.87	0.85	0.71	0.47	0.27
5	(i)	0.84	0.78	0.49	0.18	0.06
	(ii)	0.87	0.89	0.86	0.78	0.65
10	(i)	0.85	0.80	0.74	0.65	0.48
	(ii)	0.87	0.88	0.88	0.88	0.86

Table 9. Energy deposition distributions calculated by the Monte Carlo method. The results are given in histogram form. The first two columns on the left give the limits of the energy intervals, and the other columns give the quantity $D_E^{(n)}(T_o)$ defined by Eq. (10). The numbers in the bottom row, labelled "TOTAL ABSORPTION", are identical with the values of P_A given in Table 4. The numbers following the symbols (+) or (-) indicate powers of ten.

ENERGY DEPOSITION DISTRIBUTIONS FOR .15 MEV ELFCTRONS NORMALLY INCIDENT ON SILICON DETECTORS
(NUMBER/MEV, NORMALIZED TO ONE INCIDENT ELECTRON)

T (MEV)	Z(MM)= .05	.1	.2	.3	.5	1.0	2.0	3.0	5.0	10.0
.00000 - .00300	2.33-01	6.67-02	6.67-02	6.67-02	6.67-02	6.67-02	6.67-02	6.67-02	6.67-02	6.67-02
.00300 - .00600	1.33-01	6.67-02	6.67-02	6.67-02	6.67-02	6.67-02	6.67-02	6.67-02	6.67-02	6.67-02
.00600 - .00900	3.67-01	3.67-01	3.67-01	3.67-01	3.67-01	3.67-01	3.67-01	3.67-01	3.67-01	3.67-01
.00900 - .01200	6.33-01	5.67-01	5.67-01	5.67-01	5.67-01	5.67-01	5.67-01	5.67-01	5.67-01	5.67-01
.01200 - .01500	8.33-01	5.67-01	5.67-01	5.67-01	5.67-01	5.67-01	5.67-01	5.67-01	5.67-01	5.67-01
.01500 - .01800	1.17+00	4.67-01	4.67-01	4.67-01	4.67-01	4.67-01	4.67-01	4.67-01	4.67-01	4.67-01
.01800 - .02100	2.93+00	7.67-01	7.67-01	7.67-01	7.67-01	7.67-01	7.67-01	7.67-01	7.67-01	7.67-01
.02100 - .02400	6.90+00	9.33-01	9.33-01	9.33-01	9.33-01	9.33-01	9.33-01	9.33-01	9.33-01	9.33-01
.02400 - .02700	1.37+01	1.10+00	1.10+00	1.10+00	1.10+00	1.10+00	1.10+00	1.10+00	1.10+00	1.10+00
.02700 - .03000	1.86+01	7.33-01	7.33-01	7.33-01	7.33-01	7.33-01	7.33-01	7.33-01	7.33-01	7.33-01
.03000 - .03300	2.06+01	1.10+00	1.10+00	1.10+00	1.10+00	1.10+00	1.10+00	1.10+00	1.10+00	1.10+00
.03300 - .03600	2.13+01	1.23+00	1.23+00	1.23+00	1.23+00	1.23+00	1.23+00	1.23+00	1.23+00	1.23+00
.03600 - .03900	1.95+01	1.30+00	1.27+00	1.27+00	1.27+00	1.27+00	1.27+00	1.27+00	1.27+00	1.27+00
.03900 - .04200	1.83+01	1.57+00	1.53+00	1.53+00	1.53+00	1.53+00	1.53+00	1.53+00	1.53+00	1.53+00
.04200 - .04500	1.64+01	2.00+00	1.93+00	1.93+00	1.93+00	1.93+00	1.93+00	1.93+00	1.93+00	1.93+00
.04500 - .04800	1.31+01	1.73+00	1.67+00	1.67+00	1.67+00	1.67+00	1.67+00	1.67+00	1.67+00	1.67+00
.04800 - .05100	1.19+01	1.97+00	1.83+00	1.83+00	1.83+00	1.83+00	1.83+00	1.83+00	1.83+00	1.83+00
.05100 - .05400	1.11+01	1.73+00	1.57+00	1.57+00	1.57+00	1.57+00	1.57+00	1.57+00	1.57+00	1.57+00
.05400 - .05700	8.27+00	1.97+00	1.63+00	1.63+00	1.63+00	1.63+00	1.63+00	1.63+00	1.63+00	1.63+00
.05700 - .06000	8.00+00	2.23+00	1.80+00	1.80+00	1.80+00	1.80+00	1.80+00	1.80+00	1.80+00	1.80+00
.06000 - .06300	7.63+00	2.27+00	1.33+00	1.33+00	1.33+00	1.33+00	1.33+00	1.33+00	1.33+00	1.33+00
.06300 - .06600	6.43+00	3.10+00	1.77+00	1.77+00	1.77+0C	1.77+00	1.77+00	1.77+00	1.77+00	1.77+00
.06600 - .06900	5.57+00	2.57+00	1.57+00	1.57+00	1.57+00	1.57+00	1.57+00	1.57+00	1.57+00	1.57+00
.06900 - .07200	5.77+00	3.10+00	1.63+00	1.63+00	1.60+00	1.60+00	1.60+00	1.60+00	1.60+00	1.60+00
.07200 - .07500	5.03+00	2.93+00	1.37+00	1.37+00	1.37+00	1.37+00	1.33+00	1.33+00	1.33+00	1.33+00
.07500 - .07800	4.30+00	3.23+00	1.53+00	1.53+00	1.57+00	1.57+00	1.57+00	1.57+00	1.57+00	1.57+00
.07800 - .08100	4.27+00	3.10+00	1.53+00	1.53+00	1.53+00	1.53+00	1.57+00	1.57+00	1.57+00	1.57+00
.08100 - .08400	3.63+00	3.00+00	1.13+00	1.13+00	1.13+00	1.13+00	1.13+00	1.13+00	1.13+00	1.13+00
.08400 - .08700	3.50+00	3.20+00	1.40+00	1.40+00	1.37+00	1.37+00	1.37+00	1.37+00	1.37+00	1.33+00
.08700 - .09000	3.17+00	3.50+00	1.40+00	1.40+00	1.40+00	1.40+00	1.40+00	1.40+00	1.40+00	1.40+00
.09000 - .09300	3.43+00	2.90+00	1.37+00	1.37+00	1.37+00	1.37+00	1.37+00	1.37+00	1.37+00	1.37+00
.09300 - .09600	2.27+00	1.93+00	8.67-01	8.67-01	8.67-01	8.67-01	8.67-01	8.67-01	8.33-01	8.33-01
.09600 - .09900	2.77+00	2.53+00	1.10+00	1.10+00	1.10+00	1.10+00	1.10+00	1.10+00	1.03+00	1.03+00
.09900 - .10200	2.30+00	2.47+00	9.33-01	9.33-01	9.33-01	9.33-01	9.00-01	9.00-01	8.67-01	8.67-01
.10200 - .10500	1.77+00	2.23+00	7.67-01	7.67-01	7.67-01	7.67-01	7.67-01	7.33-01	7.33-01	7.33-01
.10500 - .10800	1.97+00	1.90+00	7.00-01	7.00-01	7.00-01	7.00-01	6.67-01	6.67-01	7.00-01	6.67-01
.10800 - .11100	1.30+00	2.03+00	7.00-01	7.00-01	7.00-01	7.00-01	7.00-01	7.00-01	7.00-01	7.00-01
.11100 - .11400	1.23+00	1.50+00	4.00-01	4.00-01	4.00-01	3.67-01	4.00-01	4.00-01	4.00-01	4.00-01
.11400 - .11700	1.27+00	1.37+00	5.67-01	5.67-01	6.00-01	6.00-01	6.00-01	6.00-01	6.00-01	6.00-01
.11700 - .12000	9.33-01	1.47+00	5.67-01	5.67-01	5.67-01	6.00-01	6.00-01	6.00-01	6.00-01	6.00-01
.12000 - .12300	9.00-01	1.30+00	5.67-01	5.67-01	5.67-01	5.67-01	5.67-01	5.67-01	5.67-01	5.33-01
.12300 - .12600	5.67-01	1.03+00	3.67-01	3.67-01	3.67-01	3.67-01	3.67-01	3.67-01	3.67-01	3.67-01
.12600 - .12900	9.00-01	1.30+00	7.67-01	6.67-01	6.00-01	6.00-01	6.00-01	6.00-01	5.67-01	5.67-01
.12900 - .13200	6.33-01	1.10+00	7.00-01	6.00-01	6.00-01	6.00-01	6.00-01	6.00-01	5.67-01	5.67-01
.13200 - .13500	4.67-01	9.00-01	5.67-01	5.00-01	5.00-01	5.00-01	4.67-01	4.67-01	4.67-01	4.67-01
.13500 - .13800	1.67-01	5.67-01	2.33-01	2.33-01	2.33-01	2.00-01	2.00-01	2.00-01	2.00-01	2.00-01
.13800 - .14100	2.00-01	5.67-01	2.33-01	2.00-01	2.00-01	2.00-01	2.00-01	2.00-01	2.00-01	2.00-01
.14100 - .14400	2.00-01	2.33-01	1.67-01	1.67-01	1.67-01	1.67-01	1.67-01	1.67-01	1.67-01	1.67-01
.14400 - .14500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL ABSORPTION	2.01-01	7.60-01	8.57-01	8.58-01	8.58-01	8.58-01	8.58-01	8.59-01	8.59-01	8.59-01

ENERGY DEPOSITION DISTRIBUTIONS FOR .20 MEV ELECTRONS NORMALLY INCIDENT ON SILICON DETECTORS
(NUMBER/MEV, NORMALIZED TO ONE INCIDENT ELECTRON)

T (MEV)	Z(MM)= .05	.1	.2	.3	.5	1.0	2.0	3.0	5.0	10.0
.00000 - .00400	9.00-01	5.00-02	2.50-02	2.50-02	2.50-02	2.50-02	2.50-02	2.50-02	2.50-02	2.50-02
.00400 - .00800	2.75-01	7.50-02	7.50-02	7.50-02	7.50-02	7.50-02	7.50-02	7.50-02	7.50-02	7.50-02
.00800 - .01200	5.00-01	2.00-01	1.75-01	1.75-01	1.75-01	1.75-01	1.75-01	1.75-01	1.75-01	1.75-01
.01200 - .01600	3.10+00	3.75-01	3.75-01	3.75-01	3.75-01	3.75-01	3.75-01	3.75-01	3.75-01	3.75-01
.01600 - .02000	1.40+01	5.00-01	4.75-01	4.75-01	4.75-01	4.75-01	4.75-01	4.75-01	4.75-01	4.75-01
.02000 - .02400	3.15+01	3.25-01	3.25-01	3.25-01	3.25-01	3.25-01	3.25-01	3.25-01	3.25-01	3.25-01
.02400 - .02800	3.69+01	5.50-01	5.25-01	5.25-01	5.25-01	5.25-01	5.25-01	5.25-01	5.25-01	5.25-01
.02800 - .03200	3.22+01	9.00-01	8.00-01	8.00-01	8.00-01	8.00-01	8.00-01	8.00-01	8.00-01	8.00-01
.03200 - .03600	2.38+01	1.02+00	8.00-01	8.00-01	8.00-01	8.00-01	8.00-01	8.00-01	8.00-01	8.00-01
.03600 - .04000	1.73+01	1.35+00	7.25-01	7.25-01	7.25-01	7.25-01	7.25-01	7.25-01	7.25-01	7.25-01
.04000 - .04400	1.23+01	3.18+00	6.75-01	6.75-01	6.75-01	6.75-01	6.75-01	6.75-01	6.75-01	6.75-01
.04400 - .04800	9.17+00	4.85+00	7.00-01	7.00-01	7.00-01	7.00-01	7.00-01	7.00-01	7.00-01	7.00-01
.04800 - .05200	7.25+00	8.45+00	1.17+00	1.17+00	1.17+00	1.17+00	1.17+00	1.17+00	1.17+00	1.17+00
.05200 - .05600	6.35+00	8.80+00	1.38+00	1.38+00	1.38+00	1.38+00	1.38+00	1.38+00	1.38+00	1.38+00
.05600 - .06000	5.52+00	9.57+00	1.27+00	1.27+00	1.27+00	1.27+00	1.27+00	1.27+00	1.27+00	1.27+00
.06000 - .06400	4.30+00	1.00+01	9.00-01	9.00-01	9.00-01	9.00-01	9.00-01	9.00-01	9.00-01	9.00-01
.06400 - .06800	4.40+00	9.13+00	1.10+00	1.10+00	1.10+00	1.10+00	1.10+00	1.10+00	1.10+00	1.10+00
.06800 - .07200	3.70+00	9.40+00	1.32+00	1.32+00	1.32+00	1.32+00	1.32+00	1.32+00	1.32+00	1.32+00
.07200 - .07600	2.92+00	9.10+00	1.13+00	1.13+00	1.13+00	1.13+00	1.13+00	1.13+00	1.13+00	1.13+00
.07600 - .08000	2.88+00	7.92+00	1.22+00	1.22+00	1.22+00	1.22+00	1.22+00	1.22+00	1.22+00	1.22+00
.08000 - .08400	2.42+00	6.12+00	1.20+00	1.20+00	1.20+00	1.20+00	1.20+00	1.20+00	1.20+00	1.20+00
.08400 - .08800	2.03+00	6.12+00	1.13+00	1.13+00	1.13+00	1.10+00	1.10+00	1.10+00	1.10+00	1.10+00
.08800 - .09200	2.00+00	6.57+00	1.20+00	1.20+00	1.20+00	1.20+00	1.20+00	1.20+00	1.20+00	1.20+00
.09200 - .09600	1.75+00	5.30+00	1.25+00	1.22+00	1.22+00	1.22+00	1.22+00	1.22+00	1.22+00	1.22+00
.09600 - .10000	1.72+00	4.75+00	1.35+00	1.35+00	1.35+00	1.35+00	1.35+00	1.35+00	1.32+00	1.32+00
.10000 - .10400	1.40+00	4.53+00	1.32+00	1.32+00	1.32+00	1.32+00	1.32+00	1.32+00	1.32+00	1.32+00
.10400 - .10800	1.15+00	4.05+00	1.22+00	1.22+00	1.20+00	1.20+00	1.20+00	1.20+00	1.20+00	1.20+00
.10800 - .11200	1.32+00	3.77+00	1.00+00	9.50-01	9.50-01	9.50-01	9.50-01	9.50-01	9.75-01	9.75-01
.11200 - .11600	9.00-01	3.48+00	7.00-01	6.75-01	6.75-01	6.75-01	6.75-01	6.75-01	6.75-01	6.75-01
.11600 - .12000	9.00-01	2.85+00	9.25-01	9.00-01	9.00-01	9.00-01	9.00-01	9.00-01	9.00-01	9.00-01
.12000 - .12400	7.00-01	2.45+00	8.25-01	7.50-01	7.75-01	7.75-01	7.75-01	7.50-01	7.50-01	7.50-01
.12400 - .12800	7.75-01	3.05+00	8.75-01	7.50-01	7.50-01	7.50-01	7.50-01	7.50-01	7.50-01	7.25-01
.12800 - .13200	5.25-01	2.23+00	9.50-01	7.25-01	7.25-01	7.25-01	7.25-01	7.25-01	7.25-01	7.00-01
.13200 - .13600	9.25-01	2.23+00	8.00-01	7.25-01	7.25-01	7.25-01	7.25-01	7.00-01	7.00-01	6.75-01
.13600 - .14000	6.75-01	1.95+00	8.50-01	6.00-01	6.00-01	6.25-01	6.25-01	6.50-01	6.25-01	6.25-01
.14000 - .14400	4.50-01	1.75+00	8.75-01	7.25-01	7.25-01	7.25-01	7.25-01	7.25-01	7.25-01	7.00-01
.14400 - .14800	3.75-01	1.38+00	6.00-01	5.50-01	5.50-01	5.50-01	5.50-01	5.75-01	5.75-01	5.75-01
.14800 - .15200	4.00-01	1.45+00	6.75-01	6.00-01	6.00-01	6.00-01	6.00-01	5.75-01	5.25-01	5.25-01
.15200 - .15600	3.25-01	1.63+00	7.75-01	7.25-01	7.25-01	7.00-01	6.75-01	6.25-01	6.00-01	6.00-01
.15600 - .16000	3.00-01	9.00-01	4.00-01	3.00-01	3.00-01	2.75-01	2.75-01	2.75-01	3.00-01	2.75-01
.16000 - .16400	2.75-01	8.50-01	4.25-01	2.75-01	2.50-01	2.75-01	2.50-01	2.75-01	2.75-01	2.50-01
.16400 - .16800	4.00-01	7.50-01	4.25-01	3.50-01	3.50-01	3.00-01	3.00-01	3.00-01	3.00-01	3.00-01
.16800 - .17200	1.50-01	8.25-01	4.50-01	3.50-01	2.75-01	2.75-01	2.75-01	2.75-01	2.75-01	2.75-01
.17200 - .17600	1.50-01	8.25-01	6.25-01	5.00-01	5.00-01	4.50-01	4.25-01	4.25-01	4.25-01	4.25-01
.17600 - .18000	1.00-01	3.75-01	4.25-01	3.25-01	2.75-01	2.75-01	2.75-01	2.75-01	2.50-01	2.50-01
.18000 - .18400	7.50-02	2.75-01	4.00-01	3.75-01	2.00-01	2.00-01	2.00-01	1.75-01	1.75-01	1.75-01
.18400 - .18800	5.00-02	3.75-01	2.75-01	2.25-01	2.00-01	1.75-01	1.50-01	1.50-01	1.50-01	1.50-01
.18800 - .19200	2.50-02	3.00-01	2.00-01	2.00-01	1.75-01	1.75-01	1.75-01	1.75-01	1.75-01	1.75-01
.19200 - .19500	0.00	6.67-02	3.33-02	3.33-02	3.33-02	3.33-02	3.33-02	3.33-02	3.33-02	3.33-02
TOTAL ABSORPTION	3.36-02	3.72-01	8.50-01	8.58-01	8.60-01	8.60-01	8.61-01	8.61-01	8.61-01	8.62-01

ENERGY DEPOSITION DISTRIBUTIONS FOR .25 MEV ELECTRONS NORMALLY INCIDENT ON SILICON DETECTORS
(NUMBER/MEV, NORMALIZED TO ONE INCIDENT ELECTRON)

T (MEV)	Z(MM)= .05	.1	.2	.3	.5	1.0	2.0	3.0	5.0	10.0
.00000 - .00500	1.24+00	3.40-01	2.00-02	2.00-02	2.00-02	2.00-02	2.00-02	2.00-02	2.00-02	2.00-02
.00500 - .01000	5.20-01	1.00-01	4.00-02	4.00-02	4.00-02	4.00-02	4.00-02	4.00-02	4.00-02	4.00-02
.01000 - .01500	7.60+00	1.80-01	1.20-01	1.20-01	1.20-01	1.20-01	1.20-01	1.20-01	1.20-01	1.20-01
.01500 - .02000	3.69+01	3.20-01	2.40-01	2.40-01	2.40-01	2.40-01	2.40-01	2.40-01	2.40-01	2.40-01
.02000 - .02500	5.23+01	3.80-01	1.40-01	1.40-01	1.40-01	1.40-01	1.40-01	1.40-01	1.40-01	1.40-01
.02500 - .03000	3.38+01	8.00-01	2.20-01	2.20-01	2.20-01	2.20-01	2.20-01	2.20-01	2.20-01	2.20-01
.03000 - .03500	1.81+01	2.82+00	3.20-01	3.20-01	3.20-01	3.20-01	3.20-01	3.20-01	3.20-01	3.20-01
.03500 - .04000	1.16+01	7.52+00	4.40-01	4.40-01	4.40-01	4.40-01	4.40-01	4.40-01	4.40-01	4.40-01
.04000 - .04500	7.06+00	1.34+01	6.40-01	6.40-01	6.40-01	6.40-01	6.40-01	6.40-01	6.40-01	6.20-01
.04500 - .05000	5.24+00	1.66+01	5.40-01	5.40-01	5.40-01	5.40-01	5.40-01	5.40-01	5.40-01	5.40-01
.05000 - .05500	4.08+00	1.73+01	6.40-01	6.20-01	6.20-01	6.20-01	6.20-01	6.20-01	6.20-01	6.20-01
.05500 - .06000	3.04+00	1.49+01	4.40-01	4.40-01	4.40-01	4.40-01	4.40-01	4.40-01	4.40-01	4.60-01
.06000 - .06500	2.36+00	1.22+01	6.00-01	6.00-01	6.00-01	6.00-01	6.00-01	6.00-01	6.00-01	6.00-01
.06500 - .07000	2.02+00	9.88+00	9.80-01	9.60-01	9.60-01	9.60-01	9.60-01	9.60-01	9.60-01	9.60-01
.07000 - .07500	1.84+00	8.46+00	9.60-01	8.60-01	8.60-01	8.60-01	8.60-01	8.60-01	8.60-01	8.60-01
.07500 - .08000	1.48+00	7.64+00	1.12+00	9.20-01	9.20-01	9.20-01	9.20-01	9.20-01	9.20-01	9.20-01
.08000 - .08500	1.44+00	6.62+00	1.08+00	8.80-01	8.80-01	8.80-01	8.80-01	8.80-01	8.80-01	8.80-01
.08500 - .09000	1.30+00	5.18+00	1.52+00	9.40-01	9.40-01	9.40-01	9.40-01	9.40-01	9.40-01	9.40-01
.09000 - .09500	1.04+00	4.80+00	1.82+00	9.80-01	9.80-01	9.80-01	9.80-01	9.80-01	9.80-01	9.80-01
.09500 - .10000	7.00-01	4.46+00	2.18+00	1.00+00	9.80-01	9.80-01	9.80-01	9.80-01	9.80-01	9.80-01
.10000 - .10500	5.20-01	3.98+00	2.56+00	9.60-01	9.60-01	9.60-01	9.60-01	9.60-01	9.60-01	9.60-01
.10500 - .11000	7.20-01	3.66+00	3.06+00	1.04+00	1.04+00	1.02+00	1.02+00	1.02+00	1.02+00	1.02+00
.11000 - .11500	5.40-01	3.16+00	3.06+00	1.04+00	1.06+00	1.06+00	1.06+00	1.06+00	1.06+00	1.06+00
.11500 - .12000	5.40-01	2.70+00	2.94+00	9.20-01	9.20-01	9.20-01	9.20-01	9.20-01	9.20-01	9.20-01
.12000 - .12500	3.80-01	2.66+00	3.12+00	6.60-01	6.60-01	6.80-01	6.80-01	6.80-01	6.80-01	6.80-01
.12500 - .13000	2.20-01	2.30+00	3.00+00	9.40-01	9.40-01	9.40-01	9.20-01	9.20-01	9.20-01	9.20-01
.13000 - .13500	3.00-01	1.76+00	2.62+00	5.40-01	5.40-01	5.40-01	5.40-01	5.40-01	5.40-01	5.40-01
.13500 - .14000	3.60-01	2.30+00	2.84+00	8.80-01	8.80-01	8.80-01	8.80-01	8.80-01	8.80-01	8.80-01
.14000 - .14500	3.00-01	1.80+00	2.44+00	9.20-01	9.00-01	9.00-01	9.00-01	9.00-01	9.00-01	9.00-01
.14500 - .15000	1.00-01	1.88+00	2.72+00	5.80-01	5.80-01	5.80-01	5.80-01	5.80-01	5.80-01	5.80-01
.15000 - .15500	1.20-01	1.60+00	2.58+00	7.40-01	7.20-01	7.20-01	7.20-01	7.20-01	7.20-01	7.00-01
.15500 - .16000	2.00-01	1.62+00	2.58+00	9.00-01	8.60-01	8.60-01	8.60-01	8.60-01	8.60-01	8.40-01
.16000 - .16500	2.20-01	1.30+00	2.06+00	8.20-01	8.00-01	8.00-01	8.00-01	8.00-01	8.00-01	8.00-01
.16500 - .17000	1.20-01	8.80-01	1.82+00	5.60-01	5.20-01	5.20-01	5.20-01	5.20-01	5.20-01	5.00-01
.17000 - .17500	1.20-01	1.12+00	2.32+00	8.20-01	7.80-01	7.80-01	7.80-01	7.80-01	7.60-01	7.80-01
.17500 - .18000	8.00-02	1.12+00	1.44+00	5.20-01	5.00-01	5.00-01	5.20-01	5.20-01	5.20-01	5.20-01
.18000 - .18500	1.00-01	8.00-01	1.34+00	5.20-01	5.20-01	5.20-01	5.20-01	5.20-01	5.20-01	5.40-01
.18500 - .19000	2.00-02	6.80-01	1.08+00	5.20-01	4.60-01	4.60-01	4.60-01	4.60-01	4.60-01	4.80-01
.19000 - .19500	2.00-02	6.20-01	1.34+00	3.80-01	3.40-01	3.40-01	3.40-01	3.20-01	2.80-01	2.60-01
.19500 - .20000	6.00-02	3.80-01	9.20-01	3.40-01	3.20-01	3.20-01	3.20-01	3.00-01	2.60-01	2.40-01
.20000 - .20500	4.00-02	5.20-01	7.60-01	2.60-01	2.60-01	2.20-01	2.00-01	2.00-01	2.20-01	2.20-01
.20500 - .21000	4.00-02	5.60-01	9.00-01	4.40-01	4.20-01	4.20-01	4.20-01	4.00-01	3.60-01	3.60-01
.21000 - .21500	4.00-02	2.60-01	6.00-01	3.20-01	2.80-01	2.60-01	2.60-01	2.60-01	2.60-01	2.60-01
.21500 - .22000	4.00-02	3.00-01	7.40-01	5.40-01	4.40-01	4.00-01	3.40-01	3.20-01	3.00-01	3.00-01
.22000 - .22500	2.00-02	2.80-01	6.80-01	5.00-01	4.40-01	3.80-01	3.40-01	3.40-01	3.40-01	3.00-01
.22500 - .23000	2.00-02	2.40-01	4.80-01	3.00-01	2.40-01	2.20-01	2.20-01	2.20-01	2.20-01	2.20-01
.23000 - .23500	0.00	1.20-01	5.40-01	4.40-01	3.60-01	3.00-01	2.40-01	2.20-01	2.20-01	2.20-01
.23500 - .24000	4.00-02	1.40-01	3.40-01	3.00-01	2.40-01	2.20-01	2.20-01	2.20-01	2.20-01	2.20-01
.24000 - .24500	0.00	2.00-02	6.00-02	6.00-02	6.00-02	6.00-02	6.00-02	6.00-02	6.00-02	6.00-02
TOTAL ABSORPTION	5.10-03	1.37-01	6.75-01	8.56-01	8.60-01	8.61-01	8.62-01	8.63-01	8.64-01	8.64-01

ENERGY DEPOSITION DISTRIBUTIONS FOR .30 MEV ELECTRONS NORMALLY INCIDENT ON SILICON DETECTORS
(NUMBER/MEV, NORMALIZED TO ONE INCIDENT ELECTRON)

T (MEV)	Z(MM)= .05	.1	.2	.3	.5	1.0	2.0	3.0	5.0	10.0
.00000 - .00600	1.40+00	5.17-01	1.67-02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.00600 - .01200	3.25+00	1.50-01	3.33-02	3.33-02	3.33-02	3.33-02	3.33-02	3.33-02	3.33-02	3.33-02
.01200 - .01800	4.02+01	2.00-01	8.33-02	8.33-02	8.33-02	8.33-02	8.33-02	8.33-02	8.33-02	8.33-02
.01800 - .02400	5.81+01	4.17-01	1.50-01	1.33-01	1.33-01	1.33-01	1.33-01	1.33-01	1.33-01	1.33-01
.02400 - .03000	2.67+01	2.03+00	1.33-01	1.33-01	1.33-01	1.33-01	1.33-01	1.33-01	1.33-01	1.33-01
.03000 - .03600	1.23+01	1.07+01	1.67-01	1.67-01	1.67-01	1.67-01	1.67-01	1.67-01	1.67-01	1.67-01
.03600 - .04200	6.48+00	2.11+01	3.00-01	2.83-01	2.83-01	2.83-01	2.83-01	2.83-01	2.83-01	2.83-01
.04200 - .04800	3.98+00	2.37+01	3.83-01	3.50-01	3.50-01	3.50-01	3.50-01	3.50-01	3.50-01	3.50-01
.04800 - .05400	2.70+00	1.96+01	5.17-01	4.83-01	4.83-01	4.83-01	4.83-01	4.83-01	4.83-01	4.67-01
.05400 - .06000	2.00+00	1.50+01	4.00-01	3.83-01	3.83-01	3.83-01	3.83-01	3.83-01	3.83-01	3.83-01
.06000 - .06600	1.78+00	1.04+01	7.00-01	4.67-01	4.67-01	4.67-01	4.67-01	4.67-01	4.67-01	4.67-01
.06600 - .07200	1.07+00	7.90+00	1.00+00	4.33-01	4.33-01	4.33-01	4.33-01	4.33-01	4.33-01	4.33-01
.07200 - .07800	1.25+00	6.15+00	2.20+00	7.50-01	7.50-01	7.50-01	7.50-01	7.50-01	7.50-01	7.67-01
.07800 - .08400	1.03+00	4.87+00	3.12+00	6.50-01	6.33-01	6.33-01	6.33-01	6.33-01	6.33-01	6.33-01
.08400 - .09000	7.17-01	3.95+00	4.58+00	6.67-01	6.67-01	6.67-01	6.67-01	6.67-01	6.67-01	6.67-01
.09000 - .09600	5.67-01	3.80+00	4.97+00	7.50-01	7.50-01	7.50-01	7.50-01	7.50-01	7.00-01	7.50-01
.09600 - .10200	4.83-01	3.17+00	6.27+00	8.00-01	7.83-01	7.83-01	7.83-01	7.83-01	7.83-01	7.83-01
.10200 - .10800	4.17-01	2.62+00	6.37+00	5.67-01	5.67-01	5.67-01	5.67-01	5.67-01	5.67-01	5.67-01
.10800 - .11400	3.17-01	2.32+00	5.33+00	7.50-01	7.33-01	7.17-01	7.17-01	7.17-01	7.17-01	7.17-01
.11400 - .12000	1.83-01	1.97+00	5.10+00	7.67-01	7.17-01	7.17-01	7.17-01	7.17-01	7.17-01	7.17-01
.12000 - .12600	2.50-01	1.75+00	4.83+00	8.50-01	6.83-01	6.83-01	6.83-01	6.83-01	6.83-01	6.83-01
.12600 - .13200	1.67-01	1.90+00	4.85+00	1.22+00	1.10+00	1.12+00	1.12+00	1.10+00	1.10+00	1.08+00
.13200 - .13800	1.67-01	1.93+00	4.35+00	1.35+00	9.33-01	9.33-01	9.33-01	9.33-01	9.33-01	9.50-01
.13800 - .14400	1.33-01	1.48+00	4.07+00	1.38+00	7.17-01	7.17-01	7.17-01	7.17-01	7.17-01	7.17-01
.14400 - .15000	1.33-01	1.37+00	3.25+00	1.38+00	7.83-01	7.83-01	7.83-01	7.83-01	7.83-01	7.67-01
.15000 - .15600	5.00-02	1.23+00	3.37+00	1.48+00	8.50-01	8.50-01	8.50-01	8.50-01	8.50-01	8.50-01
.15600 - .16200	8.33-02	1.05+00	2.97+00	1.55+00	8.33-01	8.33-01	8.33-01	8.50-01	8.50-01	8.50-01
.16200 - .16800	5.00-02	1.00+00	3.27+00	1.53+00	7.00-01	7.00-01	7.00-01	7.00-01	7.00-01	7.00-01
.16800 - .17400	1.67-02	6.67-01	2.58+00	1.30+00	5.17-01	5.17-01	5.17-01	5.17-01	5.17-01	5.17-01
.17400 - .18000	3.33-02	5.67-01	2.17+00	1.18+00	4.50-01	4.50-01	4.50-01	4.50-01	4.50-01	4.50-01
.18000 - .18600	3.33-02	7.50-01	2.32+00	1.73+00	7.67-01	7.67-01	7.67-01	7.67-01	7.67-01	7.83-01
.18600 - .19200	6.67-02	6.33-01	2.23+00	1.53+00	6.00-01	5.83-01	5.83-01	5.83-01	5.83-01	5.83-01
.19200 - .19800	3.33-02	5.17-01	1.97+00	1.38+00	5.67-01	5.67-01	5.67-01	5.67-01	5.67-01	5.67-01
.19800 - .20400	3.33-02	4.33-01	1.70+00	1.32+00	5.17-01	5.17-01	5.17-01	5.17-01	5.17-01	5.17-01
.20400 - .21000	5.00-02	3.33-01	1.37+00	1.07+00	4.17-01	4.17-01	4.17-01	4.17-01	3.83-01	3.67-01
.21000 - .21600	5.00-02	4.17-01	1.03+00	1.10+00	4.33-01	4.33-01	4.33-01	4.33-01	4.33-01	4.17-01
.21600 - .22200	1.67-02	3.00-01	1.27+00	1.08+00	5.50-01	5.50-01	5.50-01	5.50-01	5.50-01	5.17-01
.22200 - .22800	3.33-02	3.83-01	1.05+00	1.17+00	4.67-01	4.83-01	4.83-01	4.83-01	4.83-01	5.17-01
.22800 - .23400	0.00	2.33-01	9.00-01	7.50-01	3.83-01	3.83-01	3.83-01	3.83-01	4.00-01	3.67-01
.23400 - .24000	5.00-02	2.17-01	8.33-01	6.67-01	3.17-01	3.00-01	3.00-01	3.00-01	2.83-01	2.50-01
.24000 - .24600	1.67-02	2.17-01	9.00-01	7.50-01	3.50-01	3.17-01	3.00-01	3.00-01	2.67-01	2.83-01
.24600 - .25200	0.00	1.50-01	6.33-01	8.17-01	3.83-01	3.67-01	3.50-01	3.50-01	3.50-01	3.33-01
.25200 - .25800	0.00	1.50-01	5.67-01	5.17-01	3.00-01	2.83-01	2.83-01	2.50-01	2.33-01	2.50-01
.25800 - .26400	0.00	2.00-01	6.17-01	5.33-01	4.67-01	4.00-01	3.50-01	3.50-01	3.33-01	3.33-01
.26400 - .27000	0.00	3.33-02	3.67-01	4.17-01	2.67-01	2.33-01	1.83-01	1.50-01	1.33-01	1.33-01
.27000 - .27600	0.00	5.00-02	4.17-01	4.17-01	2.67-01	2.33-01	1.67-01	1.67-01	1.67-01	1.50-01
.27600 - .28200	0.00	1.17-01	3.83-01	6.00-01	3.50-01	2.50-01	1.67-01	1.33-01	1.17-01	1.17-01
.28200 - .28800	0.00	1.67-02	2.00-01	2.67-01	1.83-01	1.17-01	1.17-01	1.17-01	1.17-01	1.17-01
.28800 - .29400	0.00	6.67-02	1.17-01	1.67-01	1.67-01	1.50-01	1.50-01	1.50-01	1.50-01	1.50-01
.29400 - .29500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL ABSORPTION	1.40-03	4.81-02	4.22-01	7.70-01	8.56-01	8.59-01	8.60-01	8.61-01	8.62-01	8.62-01

ENERGY DEPOSITION DISTRIBUTIONS FOR .40 MEV ELECTRONS NORMALLY INCIDENT ON SILICON DETECTORS
(NUMBER/MEV, NORMALIZED TO ONE INCIDENT ELECTRON)

T (MEV)	Z(MM)= .05	.1	.2	.3	.5	1.0	2.0	3.0	5.0	10.0
.00000 - .00800	1.70+00	7.62-01	1.25-01	1.25-02	0.00	0.00	0.00	0.00	0.00	0.00
.00800 - .01600	3.86+01	1.25-01	2.50-02	2.50-02	1.25-02	1.25-02	1.25-02	1.25-02	1.25-02	1.25-02
.01600 - .02400	5.58+01	1.21+00	1.25-01	8.75-02	6.25-02	6.25-02	6.25-02	6.25-02	6.25-02	6.25-02
.02400 - .03200	1.52+01	1.52+01	1.38-01	1.00-01	8.75-02	8.75-02	8.75-02	8.75-02	8.75-02	8.75-02
.03200 - .04000	5.81+00	3.39+01	1.50-01	1.38-01	1.38-01	1.38-01	1.38-01	1.38-01	1.38-01	1.38-01
.04000 - .04800	2.48+00	2.55+01	1.50-01	8.75-02	7.50-02	7.50-02	7.50-02	7.50-02	7.50-02	7.50-02
.04800 - .05600	1.42+00	1.42+01	5.25-01	1.88-01	1.75-01	1.75-01	1.75-01	1.75-01	1.75-01	1.75-01
.05600 - .06400	1.19+00	8.40+00	2.51+00	2.25-01	1.88-01	1.88-01	1.88-01	1.88-01	1.88-01	1.88-01
.06400 - .07200	8.13-01	5.51+00	6.82+00	2.88-01	2.63-01	6.00-02	2.63-01	2.63-01	2.63-01	2.50-01
.07200 - .08000	5.63-01	3.43+00	1.11+01	3.37-01	3.25-01	3.25-01	3.25-01	3.25-01	3.25-01	3.25-01
.08000 - .08800	3.50-01	2.79+00	1.19+01	4.25-01	3.62-01	3.62-01	3.62-01	3.62-01	3.62-01	3.62-01
.08800 - .09600	2.25-01	1.82+00	9.84+00	5.87-01	3.00-01	3.00-01	3.00-01	3.00-01	3.00-01	3.00-01
.09600 - .10400	7.50-02	1.75+00	8.03+00	1.11+00	3.25-01	3.05-01	3.25-01	3.25-01	3.25-01	3.37-01
.10400 - .11200	1.00-01	1.38+00	6.84+00	2.00+00	4.38-01	4.38-01	4.38-01	4.38-01	4.38-01	4.38-01
.11200 - .12000	1.12-01	1.21+00	6.36+00	3.56+00	4.75-01	4.75-01	4.75-01	4.75-01	4.75-01	4.75-01
.12000 - .12800	7.50-02	8.75-01	4.84+00	4.07+00	3.62-01	3.61-01	3.62-01	3.62-01	3.62-01	3.62-01
.12800 - .13600	3.75-02	9.75-01	4.49+00	4.69+00	5.37-01	5.37-01	5.37-01	5.37-01	5.37-01	5.37-01
.13600 - .14400	1.25-01	7.12-01	3.95+00	4.74+00	6.37-01	6.37-01	6.37-01	6.37-01	6.37-01	6.37-01
.14400 - .15200	1.00-01	6.25-01	3.25+00	5.17+00	5.37-01	5.37-01	5.37-01	5.37-01	5.37-01	5.37-01
.15200 - .16000	5.00-02	4.38-01	3.05+00	4.26+00	5.63-01	5.63-01	5.63-01	5.63-01	5.63-01	5.63-01
.16000 - .16800	2.50-02	4.75-01	2.59+00	4.38+00	5.75-01	5.63-01	5.63-01	5.63-01	5.63-01	5.63-01
.16800 - .17600	1.25-02	4.50-01	2.14+00	3.51+00	4.87-01	4.87-01	4.87-01	4.87-01	4.87-01	4.87-01
.17600 - .18400	3.75-02	4.38-01	1.91+00	3.29+00	6.12-01	6.12-01	6.12-01	6.12-01	6.00-01	6.00-01
.18400 - .19200	0.00	4.13-01	1.96+00	3.19+00	6.75-01	6.62-01	6.50-01	6.50-01	6.62-01	6.62-01
.19200 - .20000	0.00	2.88-01	1.63+00	3.13+00	6.88-01	6.00-01	6.00-01	5.87-01	5.75-01	5.75-01
.20000 - .20800	0.00	1.50-01	1.76+00	2.77+00	6.37-01	5.37-01	5.37-01	5.37-01	5.50-01	5.50-01
.20800 - .21600	0.00	1.88-01	1.25+00	2.25+00	6.12-01	4.75-01	4.87-01	4.87-01	4.87-01	4.75-01
.21600 - .22400	1.25-02	1.12-01	1.36+00	2.15+00	7.00-01	6.00-01	6.00-01	6.00-01	6.00-01	6.00-01
.22400 - .23200	1.25-02	1.75-01	1.07+00	2.06+00	7.50-01	5.50-01	5.50-01	5.50-01	5.50-01	5.50-01
.23200 - .24000	0.00	7.50-02	1.00+00	1.89+00	8.25-01	5.00-01	5.00-01	5.00-01	5.00-01	5.12-01
.24000 - .24800	0.00	6.25-02	8.25-01	1.66+00	7.25-01	3.62-01	3.62-01	3.62-01	3.62-01	3.62-01
.24800 - .25600	0.00	1.25-01	9.50-01	1.76+00	8.37-01	4.87-01	4.75-01	4.75-01	4.75-01	4.75-01
.25600 - .26400	0.00	1.00-01	8.25-01	1.44+00	6.88-01	4.00-01	4.00-01	4.00-01	4.00-01	4.00-01
.26400 - .27000	1.25-02	1.38-01	6.25-01	1.24+00	7.87-01	3.50-01	3.50-01	3.62-01	3.62-01	3.50-01
.27000 - .08000	0.00	7.50-02	8.25-01	1.00+00	7.75-01	4.00-01	4.00-01	4.00-01	4.00-01	3.88-01
.08000 - .28800	0.00	7.50-02	6.12-01	1.39+00	8.37-01	5.25-01	5.00-01	5.00-01	5.00-01	5.00-01
.28800 - .29600	0.00	3.75-02	5.50-01	7.75-01	4.87-01	2.37-01	2.50-01	2.50-01	2.50-01	2.50-01
.29600 - .30400	0.00	3.75-02	4.62-01	7.87-01	6.75-01	3.75-01	3.75-01	3.75-01	3.75-01	3.50-01
.30400 - .31200	0.00	2.50-02	4.75-01	8.00-01	7.12-01	3.62-01	3.62-01	3.62-01	3.62-01	3.37-01
.31200 - .32000	0.00	5.00-02	3.25-01	5.63-01	5.37-01	3.05-01	3.37-01	3.37-01	3.37-01	3.37-01
.32000 - .32800	0.00	5.00-02	3.25-01	7.75-01	6.00-01	3.37-01	3.25-01	3.25-01	3.25-01	3.62-01
.32800 - .33600	0.00	0.00	2.50-01	4.13-01	4.38-01	2.50-01	2.50-01	2.37-01	2.25-01	2.25-01
.33600 - .34400	0.00	1.25-02	1.50-01	5.25-01	4.00-01	2.00-01	2.00-01	1.75-01	1.75-01	1.75-01
.34400 - .35200	0.00	2.50-02	2.88-01	3.88-01	5.00-01	3.50-01	3.25-01	3.00-01	2.50-01	2.12-01
.35200 - .36000	0.00	1.25-02	1.63-01	5.00-01	4.50-01	3.13-01	2.75-01	2.50-01	2.12-01	1.88-01
.36000 - .36800	0.00	1.25-02	2.12-01	4.62-01	4.25-01	8.75-02	2.50-01	2.37-01	1.75-01	1.63-01
.36800 - .37600	0.00	0.00	1.50-01	3.37-01	5.63-01	4.25-01	3.37-01	2.63-01	2.50-01	2.25-01
.37600 - .38400	0.00	1.25-02	2.12-01	3.25-01	5.37-01	3.37-01	2.50-01	2.25-01	2.00-01	2.00-01
.38400 - .39200	0.00	1.25-02	1.12-01	2.12-01	2.50-01	1.38-01	1.38-01	1.38-01	1.38-01	1.38-01
.39200 - .39500	0.00	0.00	0.00	6.67-02	3.33-02	3.33-02	3.33-02	3.33-02	3.33-02	3.33-02
TOTAL ABSORPTION	1.00-04	4.50-03	1.26-01	3.91-01	8.10-01	8.56-01	8.58-01	8.60-01	8.62-01	8.63-01

ENERGY DEPOSITION DISTRIBUTIONS FOR .50 MEV ELECTRONS NORMALLY INCIDENT ON SILICON DETECTORS
(NUMBER/MEV, NORMALIZED TO ONE INCIDENT ELECTRON)

T (MEV)	Z(MM)= .05	.1	.2	.3	.5	1.0	2.0	3.0	5.0	10.0
.00000 - .01000	5.68+00	1.02+00	4.10-01	5.00-02	0.00	0.00	0.00	0.00	0.00	0.00
.01000 - .02000	6.71+01	7.40-01	1.30-01	2.00-02	0.00	0.00	0.00	0.00	0.00	0.00
.02000 - .03000	1.82+01	2.11+01	1.20-01	7.00-02	5.00-02	5.00-02	5.00-02	5.00-02	5.00-02	5.00-02
.03000 - .04000	4.26+00	3.96+01	1.00-01	3.00-02	3.00-02	2.00-02	2.00-02	2.00-02	2.00-02	2.00-02
.04000 - .05000	1.81+00	1.70+01	5.60-01	1.30-01	7.00-02	7.00-02	7.00-02	7.00-02	7.00-02	7.00-02
.05000 - .06000	1.07+00	7.33+00	4.47+00	7.00-02	5.00-02	4.00-02	4.00-02	4.00-02	4.00-02	4.00-02
.06000 - .07000	7.20-01	3.52+00	1.34+01	1.20-01	7.00-02	7.00-02	7.00-02	7.00-02	7.00-02	7.00-02
.07000 - .08000	4.60-01	2.10+00	1.57+01	3.50-01	1.00-01	1.00-01	1.00-01	1.00-01	1.00-01	1.00-01
.08000 - .09000	2.10-01	1.53+00	1.42+01	1.02+00	1.50-01	1.40-01	1.40-01	1.40-01	1.40-01	1.40-01
.09000 - .10000	9.00-02	9.60-01	9.84+00	3.68+00	2.50-01	2.30-01	2.30-01	2.30-01	2.30-01	2.30-01
.10000 - .11000	1.10-01	9.50-01	6.85+00	6.30+00	3.90-01	3.90-01	3.90-01	3.90-01	3.90-01	3.80-01
.11000 - .12000	9.00-02	7.90-01	4.80+00	7.84+00	2.80-01	2.80-01	2.80-01	2.80-01	2.80-01	2.80-01
.12000 - .13000	5.00-02	5.70-01	3.65+00	7.70+00	2.30-01	2.20-01	2.20-01	2.20-01	2.20-01	2.20-01
.13000 - .14000	1.00-02	5.60-01	2.99+00	6.65+00	3.60-01	3.60-01	3.60-01	3.60-01	3.60-01	3.50-01
.14000 - .15000	0.00	3.40-01	2.29+00	6.21+00	3.30-01	3.10-01	3.10-01	3.10-01	3.10-01	3.00-01
.15000 - .16000	1.00-02	3.30-01	2.06+00	5.10+00	5.20-01	4.10-01	4.10-01	4.10-01	4.10-01	4.00-01
.16000 - .17000	1.00-02	2.30-01	1.73+00	4.21+00	5.70-01	3.40-01	3.40-01	3.40-01	3.30-01	3.30-01
.17000 - .18000	0.00	1.80-01	1.44+00	3.56+00	1.03+00	3.60-01	3.60-01	3.60-01	3.60-01	3.60-01
.18000 - .19000	1.00-02	2.10-01	1.42+00	3.14+00	1.17+00	4.20-01	4.20-01	4.20-01	4.20-01	4.20-01
.19000 - .20000	1.00-02	1.10-01	1.16+00	2.96+00	1.82+00	4.10-01	4.10-01	4.10-01	4.10-01	4.10-01
.20000 - .21000	1.00-02	1.40-01	9.60-01	2.65+00	2.10+00	4.50-01	4.50-01	4.50-01	4.50-01	4.50-01
.21000 - .22000	0.00	8.00-02	8.60-01	2.31+00	2.28+00	4.30-01	4.30-01	4.30-01	4.30-01	4.30-01
.22000 - .23000	0.00	1.50-01	9.10-01	2.00+00	2.23+00	5.20-01	5.10-01	5.10-01	5.00-01	5.00-01
.23000 - .24000	0.00	9.00-02	7.80-01	1.70+00	2.17+00	4.70-01	4.70-01	4.60-01	4.60-01	4.60-01
.24000 - .25000	0.00	6.00-02	8.30-01	1.51+00	2.39+00	4.70-01	4.70-01	4.70-01	4.70-01	4.70-01
.25000 - .26000	1.00-02	5.00-02	6.00-01	1.36+00	2.24+00	4.70-01	4.70-01	4.70-01	4.50-01	4.50-01
.26000 - .27000	0.00	3.00-02	5.90-01	1.45+00	2.08+00	4.80-01	4.90-01	4.90-01	4.90-01	4.80-01
.27000 - .28000	0.00	3.00-02	5.10-01	1.29+00	1.77+00	4.40-01	4.40-01	4.30-01	4.10-01	4.20-01
.28000 - .29000	0.00	3.00-02	4.30-01	1.02+00	1.72+00	4.40-01	4.40-01	4.40-01	4.40-01	4.40-01
.29000 - .30000	0.00	3.00-02	3.70-01	1.10+00	2.01+00	5.10-01	5.10-01	5.10-01	4.90-01	4.80-01
.30000 - .31000	0.00	0.00	3.10-01	8.80-01	1.61+00	3.70-01	3.70-01	3.70-01	3.70-01	3.80-01
.31000 - .32000	0.00	0.00	3.30-01	7.20-01	1.43+00	2.90-01	2.90-01	2.90-01	2.90-01	3.10-01
.32000 - .33000	0.00	2.00-02	2.30-01	7.30-01	1.32+00	2.60-01	2.60-01	2.60-01	2.60-01	2.70-01
.33000 - .34000	0.00	0.00	2.70-01	7.10-01	1.37+00	3.70-01	3.70-01	3.80-01	3.90-01	3.80-01
.34000 - .35000	0.00	1.00-02	2.30-01	6.50-01	1.03+00	2.50-01	2.50-01	2.50-01	2.70-01	2.50-01
.35000 - .36000	0.00	2.00-02	2.20-01	6.10-01	1.14+00	4.00-01	4.00-01	4.10-01	4.10-01	4.00-01
.36000 - .37000	0.00	1.00-02	1.50-01	5.70-01	1.06+00	3.50-01	3.30-01	3.30-01	3.30-01	3.20-01
.37000 - .38000	0.00	2.00-02	2.30-01	5.60-01	9.90-01	3.50-01	3.50-01	3.50-01	3.60-01	3.70-01
.38000 - .39000	0.00	0.00	1.40-01	3.50-01	7.20-01	2.50-01	2.60-01	2.40-01	2.70-01	2.70-01
.39000 - .40000	0.00	2.00-02	1.80-01	3.70-01	8.00-01	2.90-01	2.90-01	2.80-01	2.80-01	2.80-01
.40000 - .41000	0.00	0.00	1.00-01	2.60-01	5.60-01	2.70-01	2.60-01	2.60-01	2.60-01	2.70-01
.41000 - .42000	0.00	0.00	9.00-02	2.70-01	5.60-01	1.80-01	1.60-01	1.70-01	1.50-01	1.30-01
.42000 - .43000	0.00	0.00	1.10-01	2.80-01	4.40-01	2.10-01	2.00-01	2.10-01	2.10-01	2.50-01
.43000 - .44000	0.00	0.00	9.00-02	2.30-01	4.60-01	3.00-01	2.70-01	2.40-01	2.50-01	2.00-01
.44000 - .45000	0.00	0.00	4.00-02	2.20-01	4.00-01	2.70-01	2.80-01	3.10-01	2.60-01	2.30-01
.45000 - .46000	0.00	0.00	7.00-02	1.20-01	4.80-01	4.80-01	4.60-01	3.90-01	3.40-01	2.50-01
.46000 - .47000	0.00	0.00	7.00-02	1.70-01	4.40-01	5.20-01	3.90-01	3.50-01	2.60-01	2.30-01
.47000 - .48000	0.00	1.00-02	5.00-02	2.10-01	3.90-01	3.70-01	2.50-01	1.60-01	1.40-01	1.30-01
.48000 - .49000	0.00	0.00	3.00-02	1.90-01	3.20-01	2.30-01	2.00-01	1.80-01	1.80-01	1.80-01
.49000 - .49500	0.00	0.00	0.00	4.00-02	4.00-02	8.00-02	8.00-02	8.00-02	8.00-02	8.00-02
TOTAL ABSORPTION	0.00	1.00-04	2.97-02	1.63-01	5.60-01	8.50-01	8.54-01	8.56-01	8.59-01	8.61-01

ENERGY DEPOSITION DISTRIBUTIONS FOR .60 MEV ELECTRONS NORMALLY INCIDENT ON SILICON DETECTORS
(NUMBER/MEV, NORMALIZED TO ONE INCIDENT ELECTRON)

T (MEV)	Z(MM)= .05	.1	.2	.3	.5	1.0	2.0	3.0	5.0	10.0
.00000 - .01200	1.64+01	9.42-01	5.92-01	2.75-01	0.00	0.00	0.00	0.00	0.00	0.00
.01200 - .02400	5.60+01	5.52+00	7.50-02	1.67-02	2.50-02	8.33-03	8.33-03	8.33-03	8.33-03	8.33-03
.02400 - .03600	6.87+00	4.33+01	1.00-01	6.67-02	5.00-02	3.33-02	3.33-02	3.33-02	3.33-02	3.33-02
.03600 - .04800	1.91+00	1.88+01	6.83-01	9.17-02	2.50-02	1.67-02	1.67-02	1.67-02	1.67-02	1.67-02
.04800 - .06000	1.03+00	6.27+00	8.40+00	1.58-01	5.00-02	5.00-02	5.00-02	5.00-02	5.00-02	5.00-02
.06000 - .07200	5.92-01	2.90+00	2.00+01	1.33-01	4.17-02	2.50-02	2.50-02	2.50-02	2.50-02	2.50-02
.07200 - .08400	2.17-01	1.36+00	1.66+01	1.30+00	1.08-01	1.00-01	1.00-01	1.00-01	1.00-01	1.00-01
.08400 - .09600	1.08-01	9.17-01	9.87+00	5.56+00	8.33-02	8.33-02	8.33-02	8.33-02	8.33-02	8.33-02
.09600 - .10800	1.00-01	7.83-01	6.26+00	9.78+00	1.83-01	1.67-01	1.67-01	1.67-01	1.67-01	1.67-01
.10800 - .12000	3.33-02	5.92-01	3.83+00	9.72+00	1.92-01	1.67-01	1.67-01	1.67-01	1.67-01	1.58-01
.12000 - .13200	1.67-02	5.33-01	2.81+00	9.18+00	2.50-01	1.75-01	1.75-01	1.75-01	1.75-01	1.75-01
.13200 - .14400	8.33-03	2.17-01	2.08+00	6.81+00	2.58-01	1.58-01	1.58-01	1.58-01	1.58-01	1.58-01
.14400 - .15600	8.33-03	2.67-01	1.64+00	4.81+00	7.67-01	1.50-01	1.50-01	1.50-01	1.50-01	1.50-01
.15600 - .16800	0.00	1.17-01	1.29+00	3.98+00	1.62+00	2.00-01	2.00-01	2.00-01	2.00-01	2.00-01
.16800 - .18000	0.00	1.00-01	1.07+00	3.43+00	2.33+00	2.08-01	2.08-01	2.08-01	2.08-01	2.08-01
.18000 - .19200	8.33-03	1.25-01	9.00-01	2.28+00	3.18+00	2.67-01	2.67-01	2.67-01	2.67-01	2.58-01
.19200 - .20400	0.00	3.33-02	7.17-01	2.21+00	4.00+00	3.42-01	3.42-01	3.42-01	3.33-01	3.25-01
.20400 - .21600	8.33-03	5.00-02	5.75-01	1.86+00	3.59+00	3.17-01	3.17-01	3.17-01	3.08-01	3.08-01
.21600 - .22800	0.00	5.00-02	5.00-01	1.72+00	3.52+00	2.75-01	2.75-01	2.75-01	2.67-01	2.67-01
.22800 - .24000	0.00	2.50-02	5.25-01	1.59+00	3.21+00	3.17-01	3.17-01	3.17-01	3.17-01	3.17-01
.24000 - .25200	0.00	8.33-02	5.00-01	1.27+00	3.18+00	3.17-01	3.17-01	3.17-01	3.17-01	3.17-01
.25200 - .26400	0.00	5.83-02	4.67-01	1.20+00	2.77+00	4.08-01	4.00-01	4.00-01	4.08-01	4.08-01
.26400 - .27600	0.00	4.17-02	3.00-01	1.00+00	2.48+00	4.00-01	4.00-01	4.00-01	4.00-01	4.00-01
.27600 - .28800	0.00	4.17-02	3.25-01	9.67-01	2.17+00	3.58-01	3.67-01	3.67-01	3.67-01	3.67-01
.28800 - .30000	0.00	3.33-02	3.50-01	8.17-01	2.17+00	4.25-01	4.25-01	4.25-01	4.17-01	4.17-01
.30000 - .31200	0.00	1.67-02	2.75-01	7.42-01	1.92+00	4.17-01	4.17-01	4.17-01	4.08-01	4.00-01
.31200 - .32400	0.00	0.00	3.17-01	8.75-01	1.68+00	4.25-01	4.25-01	4.25-01	4.17-01	4.17-01
.32400 - .33600	0.00	0.00	1.50-01	5.00-01	1.37+00	2.25-01	2.25-01	2.25-01	2.25-01	2.25-01
.33600 - .34800	0.00	8.33-03	1.58-01	5.92-01	1.61+00	4.00-01	4.00-01	4.00-01	3.92-01	3.92-01
.34800 - .36000	0.00	1.67-02	1.17-01	4.50-01	1.25+00	3.42-01	3.33-01	3.33-01	3.25-01	3.17-01
.36000 - .37200	0.00	8.33-03	1.67-01	5.83-01	1.21+00	4.42-01	4.25-01	4.25-01	4.08-01	4.08-01
.37200 - .38400	0.00	8.33-03	1.00-01	4.25-01	1.12+00	3.25-01	3.08-01	3.08-01	3.17-01	3.25-01
.38400 - .39600	0.00	8.33-03	1.17-01	3.83-01	1.13+00	3.25-01	2.92-01	2.92-01	2.92-01	2.92-01
.39600 - .40800	0.00	0.00	1.25-01	3.33-01	8.50-01	3.08-01	2.67-01	2.67-01	2.67-01	2.83-01
.40800 - .42000	0.00	0.00	1.08-01	4.75-01	8.75-01	4.56-01	4.00-01	3.92-01	4.17-01	3.83-01
.42000 - .43200	0.00	0.00	7.50-02	3.75-01	7.08-01	3.33-01	2.75-01	2.75-01	2.83-01	2.83-01
.43200 - .44400	0.00	0.00	5.00-02	2.83-01	6.42-01	3.00-01	2.58-01	2.58-01	2.67-01	2.42-01
.44400 - .45600	0.00	0.00	8.33-02	2.42-01	6.92-01	3.83-01	3.33-01	3.25-01	3.33-01	3.17-01
.45600 - .46800	0.00	0.00	4.17-02	8.30-03	5.00-01	2.75-01	2.42-01	2.50-01	2.42-01	2.58-01
.46800 - .48000	0.00	0.00	2.50-02	2.08-01	5.25-01	3.25-01	2.67-01	2.67-01	2.58-01	2.75-01
.48000 - .49200	0.00	0.00	6.67-02	1.25-01	3.92-01	2.50-01	2.25-01	2.08-01	2.08-01	1.92-01
.49200 - .50400	0.00	0.00	4.17-02	1.50-01	4.42-01	2.92-01	2.50-01	2.42-01	2.42-01	2.50-01
.50400 - .51600	0.00	0.00	5.00-02	1.33-01	4.08-01	3.67-01	3.25-01	3.42-01	3.50-01	3.17-01
.51600 - .52800	0.00	8.33-03	6.67-02	1.33-01	4.17-01	3.25-01	2.83-01	2.75-01	2.83-01	2.75-01
.52800 - .54000	0.00	0.00	2.50-02	7.50-02	3.08-01	3.83-01	3.83-01	3.75-01	3.58-01	3.17-01
.54000 - .55200	0.00	0.00	0.00	9.17-02	2.83-01	3.08-01	2.92-01	2.67-01	2.25-01	1.83-01
.55200 - .56400	0.00	0.00	2.50-02	1.33-01	3.17-01	5.08-01	4.58-01	4.17-01	3.75-01	3.00-01
.56400 - .57600	0.00	0.00	8.33-03	1.08-01	4.42-01	5.83-01	4.50-01	3.58-01	3.08-01	2.67-01
.57600 - .58800	0.00	0.00	2.50-02	9.17-02	2.67-01	2.58-01	1.33-01	1.25-01	1.17-01	1.17-01
.58800 - .59500	0.00	0.00	0.00	1.43-02	7.14-02	4.29-02	4.29-02	4.29-02	4.29-02	4.29-02
TOTAL ABSORPTION	0.00	1.00-04	8.10-03	6.44-02	3.32-01	8.37-01	8.47-01	8.50-01	8.52-01	8.56-01

ENERGY DEPOSITION DISTRIBUTIONS FOR .80 MEV ELECTRONS NORMALLY INCIDENT ON SILICON DETECTORS
(NUMBER/MEV, NORMALIZED TO ONE INCIDENT ELECTRON)

T (MEV)	Z(MM)= .05	.1	.2	.3	.5	1.0	2.0	3.0	5.0	10.0
.00000 - .01600	3.97+01	1.04+00	7.50-01	4.25-01	1.44-01	0.00	6.25-03	6.25-03	0.00	0.00
.01600 - .03200	1.96+01	3.29+01	1.00-01	8.12-02	3.75-02	6.25-03	6.25-03	6.25-03	6.25-03	6.25-03
.03200 - .04800	1.99+00	2.08+01	1.89+00	8.75-02	2.50-02	1.25-02	1.25-02	1.25-02	1.25-02	1.25-02
.04800 - .06400	8.25-01	3.94+00	2.08+01	1.00-01	6.25-02	1.88-02	1.88-02	1.88-02	1.88-02	1.88-02
.06400 - .08000	2.00-01	1.44+00	1.90+01	2.33+00	3.75-02	1.25-02	1.25-02	1.25-02	1.88-02	1.25-02
.08000 - .09600	8.12-02	7.69-01	8.08+00	1.21+01	5.62-02	3.13-02	3.13-02	3.13-02	3.13-02	3.13-02
.09600 - .11200	6.87-02	5.19-01	3.86+00	1.36+01	1.06-01	5.62-02	5.62-02	5.62-02	5.62-02	5.62-02
.11200 - .12800	2.50-02	4.19-01	2.10+00	9.60+00	2.37-01	7.50-02	7.50-02	7.50-02	7.50-02	7.50-02
.12800 - .14400	0.00	2.00-01	1.47+00	5.96+00	1.30+00	5.00-02	5.00-02	5.00-02	5.00-02	5.00-02
.14400 - .16000	1.25-02	1.25-01	7.87-01	3.77+00	4.05+00	6.25-02	5.62-02	5.62-02	5.62-02	5.62-02
.16000 - .17600	0.00	8.12-02	7.19-01	2.59+00	5.81+00	7.50-02	7.50-02	7.50-02	7.50-02	7.50-02
.17600 - .19200	6.25-03	5.00-02	5.12-01	1.73+00	6.32+00	1.00-01	9.38-02	9.38-02	9.38-02	9.38-02
.19200 - .20800	0.00	5.00-02	4.81-01	1.42+00	5.38+00	1.25-01	1.25-01	1.25-01	1.19-01	1.19-01
.20800 - .22400	0.00	1.88-02	3.50-01	1.04+00	4.51+00	1.25-01	1.25-01	1.25-01	1.25-01	1.19-01
.22400 - .24000	0.00	5.62-02	1.94-01	9.38-01	3.56+00	1.75-01	1.63-01	1.63-01	1.63-01	1.63-01
.24000 - .25600	0.00	1.25-02	2.56-01	8.69-01	3.07+00	1.94-01	1.94-01	1.94-01	1.94-01	1.94-01
.25600 - .27200	0.00	6.25-03	1.50-01	6.06-01	2.54+00	1.63-01	1.56-01	1.56-01	1.56-01	1.69-01
.27200 - .28800	0.00	0.00	1.19-01	4.81-01	1.96+00	1.44-01	1.38-01	1.38-01	1.38-01	1.38-01
.28800 - .30400	0.00	0.00	1.50-01	5.06-01	2.18+00	3.75-01	2.94-01	2.94-01	2.94-01	2.94-01
.30400 - .32000	0.00	1.25+00	1.00-01	3.75-01	1.51+00	3.00-01	1.69-01	1.69-01	1.69-01	1.69-01
.32000 - .33600	0.00	0.00	7.50-02	3.19-01	1.44+00	5.06-01	2.06-01	2.06-01	2.06-01	2.06-01
.33600 - .35200	0.00	6.25-03	9.38-02	3.00-01	1.11+00	7.25-01	2.94-01	2.94-01	2.94-01	2.94-01
.35200 - .36800	0.00	6.25-03	7.50-02	3.06-01	1.05+00	8.69-01	2.94-01	2.94-01	3.00-01	2.94-01
.36800 - .38400	0.00	0.00	6.87-02	3.00-01	1.01+00	1.19+00	3.00-01	3.00-01	3.00-01	3.00-01
.38400 - .40000	0.00	0.00	4.38-02	2.31-01	7.56-01	1.13+00	2.69-01	2.69-01	2.63-01	2.63-01
.40000 - .41600	0.00	0.00	6.25-02	2.69-01	8.19-01	1.21+00	2.63-01	2.63-01	2.56-01	2.56-01
.41600 - .43200	0.00	0.00	5.62-02	1.63-01	7.31-01	1.24+00	2.25-01	2.19-01	2.19-01	2.12-01
.43200 - .44800	0.00	0.00	3.13-02	1.44-01	6.94-01	1.17+00	2.44-01	2.44-01	2.37-01	2.44-01
.44800 - .46400	0.00	0.00	1.88-02	1.19-01	5.44-01	1.10+00	2.12-01	2.19-01	2.06-01	2.06-01
.46400 - .48000	0.00	0.00	2.50-02	1.25-01	6.06-01	1.16+00	2.56-01	2.56-01	2.56-01	2.56-01
.48000 - .49600	0.00	0.00	3.13-02	1.19-01	5.31-01	1.07+00	3.44-01	3.44-01	3.37-01	3.37-01
.49600 - .51200	0.00	0.00	0.00	1.31-01	3.44-01	9.62-01	2.06-01	2.06-01	1.94-01	1.94-01
.51200 - .52800	0.00	0.00	6.25-03	1.25-01	4.69-01	1.05+00	2.37-01	2.37-01	2.44-01	2.44-01
.52800 - .54400	0.00	0.00	0.00	1.25-01	3.56-01	8.81-01	2.12-01	2.12-01	2.06-01	2.06-01
.54400 - .56000	0.00	0.00	0.00	6.87-02	3.88-01	8.87-01	2.31-01	2.05-01	2.31-01	2.31-01
.56000 - .57600	0.00	0.00	0.00	3.75-02	3.44-01	7.94-01	2.12-01	2.06-01	2.00-01	2.00-01
.57600 - .59200	0.00	0.00	0.00	7.50-02	3.13-01	7.31-01	2.00-01	1.94-01	2.00-01	1.88-01
.59200 - .60800	0.00	0.00	0.00	1.88-02	2.75-01	5.75-01	2.12-01	2.12-01	2.00-01	1.94-01
.60800 - .62400	0.00	0.00	6.25-03	5.00-02	2.75-01	7.19-01	2.75-01	2.75-01	2.69-01	2.56-01
.62400 - .64000	0.00	0.00	6.25-03	4.38-02	1.63-01	6.44-01	1.88-01	1.88-01	1.75-01	1.69-01
.64000 - .65600	0.00	0.00	0.00	1.25-02	1.69-01	5.94-01	1.94-01	2.06-01	2.37-01	1.94-01
.65600 - .67200	0.00	0.00	0.00	3.75-02	1.63-01	5.00-01	2.12-01	2.06-01	2.00-01	2.06-01
.67200 - .68800	0.00	0.00	6.25-03	5.00-02	1.25-01	3.50-01	2.06-01	2.12-01	2.06-01	2.25-01
.68800 - .70400	0.00	0.00	6.25-03	5.00-02	1.69-01	4.81-01	3.37-01	3.25-01	3.44-01	3.50-01
.70400 - .72000	0.00	0.00	6.25-03	2.50-02	1.12-01	3.69-01	2.88-01	2.88-01	2.94-01	2.88-01
.72000 - .73600	0.00	0.00	0.00	6.25-03	9.38-02	4.13-01	3.94-01	4.06-01	4.00-01	3.56-01
.73600 - .75200	0.00	0.00	0.00	1.88-02	1.00-01	4.81-01	4.56-01	4.13-01	4.00-01	3.56-01
.75200 - .76800	0.00	0.00	6.25-03	6.25-03	1.06-01	5.50-01	5.00-01	4.19-01	3.50-01	2.56-01
.76800 - .78400	0.00	0.00	0.00	0.00	1.12-01	5.00-01	2.75-01	1.94-01	1.63-01	1.50-01
.78400 - .79500	0.00	0.00	0.00	9.09-03	3.64-02	1.00-01	6.36-02	6.36-02	6.36-02	6.36-02
TOTAL ABSORPTION	0.00	0.00	5.00-04	8.90-03	9.94-02	5.99-01	8.46-01	8.49-01	8.51-01	8.55-01

ENERGY DEPOSITION DISTRIBUTIONS FOR 1.00 MEV ELECTRONS NORMALLY INCIDENT ON SILICON DETECTORS
(NUMBER/MEV, NORMALIZED TO ONE INCIDENT ELECTRON)

T (MEV)	Z(MM)= .05	.1	.2	.3	.5	1.0	2.0	3.0	5.0	10.0
.00000 - .02000	4.25+01	2.92+00	6.50-01	5.85-01	2.25-01	0.00	0.00	0.00	0.00	0.00
.02000 - .04000	6.23+00	3.84+01	4.30-01	9.50-02	3.50-02	5.00-03	5.00-03	5.00-03	5.00-03	5.00-03
.04000 - .06000	9.15-01	5.74+00	1.92+01	1.35-01	8.50-02	0.00	0.00	0.00	0.00	0.00
.06000 - .08000	1.95-01	1.40+00	1.82+01	4.58+00	4.50-02	1.50-02	1.00-02	1.00-02	1.00-02	1.00-02
.08000 - .10000	1.00-01	7.25-01	5.50+00	1.69+01	8.50-02	2.00-02	1.50-02	1.50-02	1.50-02	1.50-02
.10000 - .12000	5.00-02	3.25-01	2.15+00	1.19+01	2.25-01	2.00-02	1.50-02	1.50-02	1.50-02	1.50-02
.12000 - .14000	0.00	1.80-01	9.90-01	5.45+00	2.12+00	2.00-02	2.00-02	2.00-02	2.00-02	2.00-02
.14000 - .16000	0.00	1.20-01	7.10-01	3.19+00	6.88+00	4.00-02	4.00-02	4.00-02	4.00-02	4.00-02
.16000 - .18000	0.00	6.50-02	5.30-01	1.87+00	8.28+00	6.50-02	5.00-02	5.00-02	5.00-02	5.00-02
.18000 - .20000	0.00	7.00-02	3.50-01	1.14+00	6.73+00	5.00-02	3.50-02	3.50-02	3.50-02	3.50-02
.20000 - .22000	0.00	4.00-02	2.50-01	8.00-01	4.68+00	6.00-02	4.50-02	4.50-02	4.50-02	4.50-02
.22000 - .24000	0.00	1.00-02	1.55-01	5.95-01	3.36+00	1.10-01	9.00-02	9.00-02	9.00-02	9.00-02
.24000 - .26000	0.00	0.00	1.75-01	5.30-01	2.57+00	8.50-02	6.50-02	6.50-02	6.50-02	6.50-02
.26000 - .28000	0.00	1.00-02	1.80-01	3.45-01	1.98+00	1.95-01	1.10-01	1.10-01	1.10-01	1.10-01
.28000 - .30000	0.00	5.00-03	7.50-02	2.90-01	1.51+00	4.90-01	1.00-01	1.00-01	1.00-01	1.00-01
.30000 - .32000	0.00	0.00	8.00-02	1.70-01	1.25+00	9.80-01	1.00-01	1.00-01	1.00-01	1.00-01
.32000 - .34000	0.00	0.00	4.50-02	1.20-01	1.00+00	1.55+00	8.00-02	8.00-02	8.00-02	8.00-02
.34000 - .36000	0.00	0.00	5.50-02	1.55-01	7.35-01	1.80+00	1.20-01	1.20-01	1.20-01	1.20-01
.36000 - .38000	0.00	0.00	4.00-02	1.70-01	6.50-01	2.18+00	1.55-01	1.55-01	1.50-01	1.50-01
.38000 - .40000	0.00	0.00	2.50-02	1.35-01	6.40-01	2.23+00	1.55-01	1.55-01	1.50-01	1.50-01
.40000 - .42000	0.00	0.00	4.50-02	8.50-02	5.80-01	2.04+00	1.90-01	1.90-01	1.95-01	1.95-01
.42000 - .44000	0.00	0.00	3.00-02	8.00-02	5.20-01	1.83+00	1.50-01	1.50-01	1.55-01	1.50-01
.44000 - .46000	0.00	0.00	3.00-02	9.00-02	4.25-01	1.94+00	2.10-01	2.05-01	2.00-01	1.95-01
.46000 - .48000	0.00	0.00	3.00-02	7.00-02	4.60-01	1.76+00	2.45-01	2.50-01	2.55-01	2.50-01
.48000 - .50000	0.00	0.00	5.00-03	5.00-02	3.30-01	1.41+00	1.60-01	1.60-01	1.60-01	1.60-01
.50000 - .52000	0.00	0.00	0.00	7.00-02	3.30-01	1.41+00	1.80-01	1.80-01	1.80-01	1.70-01
.52000 - .54000	0.00	0.00	0.00	4.50-02	3.55-01	1.31+00	2.20-01	2.20-01	2.10-01	2.05-01
.54000 - .56000	0.00	0.00	1.50-02	3.50-02	3.00-01	1.11+00	2.30-01	2.30-01	2.30-01	2.25-01
.56000 - .58000	0.00	0.00	0.00	3.00-02	2.65-01	1.09+00	2.35-01	2.30-01	2.15-01	2.10-01
.58000 - .60000	0.00	0.00	0.00	2.50-02	2.30-01	7.85-01	1.30-01	1.30-01	1.30-01	1.30-01
.60000 - .62000	0.00	0.00	1.50-02	5.00-02	1.95-01	8.90-01	1.95-01	1.95-01	2.00-01	2.00-01
.62000 - .64000	0.00	0.00	5.00-03	3.00-02	1.90-01	7.35-01	1.75-01	1.70-01	1.70-01	1.55-01
.64000 - .66000	0.00	0.00	5.00-03	2.00-02	1.65-01	7.40-01	2.40-01	2.30-01	2.30-01	2.30-01
.66000 - .68000	0.00	0.00	0.00	2.00-02	1.25-01	6.80-01	2.00-01	2.10-01	2.00-01	1.95-01
.68000 - .70000	0.00	0.00	0.00	5.00-03	1.35-01	6.25-01	1.85-01	1.85-01	1.75-01	1.75-01
.70000 - .72000	0.00	0.00	5.00-03	1.00-02	1.15-01	5.55-01	2.40-01	2.15-01	2.25-01	2.20-01
.72000 - .74000	0.00	0.00	0.00	5.00-03	1.20-01	5.05-01	2.15-01	2.10-01	2.15-01	2.05-01
.74000 - .76000	0.00	0.00	0.00	5.00-03	1.15-01	5.10-01	2.30-01	2.00-01	1.95-01	1.95-01
.76000 - .78000	0.00	0.00	0.00	5.00-03	1.15-01	4.75-01	2.40-01	2.25-01	2.15-01	2.10-01
.78000 - .80000	0.00	0.00	0.00	5.00-03	5.50-02	3.85-01	1.95-01	1.80-01	1.85-01	1.75-01
.80000 - .82000	0.00	0.00	0.00	0.00	6.00-02	3.40-01	2.10-01	1.65-01	1.70-01	1.55-01
.82000 - .84000	0.00	0.00	0.00	1.00-02	7.00-02	3.75-01	2.35-01	2.00-01	1.95-01	2.00-01
.84000 - .86000	0.00	0.00	0.00	2.50-02	9.00-02	3.55-01	3.00-01	2.75-01	2.60-01	2.55-01
.86000 - .88000	0.00	0.00	0.00	0.00	4.50-02	2.70-01	2.60-01	2.55-01	2.70-01	2.85-01
.88000 - .90000	0.00	0.00	0.00	5.00-03	3.50-02	3.00-01	3.75-01	3.60-01	3.70-01	3.65-01
.90000 - .92000	0.00	0.00	0.00	0.00	4.50-02	2.55-01	4.10-01	3.90-01	3.80-01	3.90-01
.92000 - .94000	0.00	0.00	0.00	0.00	4.50-02	2.55-01	5.10-01	4.95-01	4.75-01	4.50-01
.94000 - .96000	0.00	0.00	0.00	0.00	3.00-02	3.05-01	5.85-01	5.55-01	4.90-01	3.85-01
.96000 - .98000	0.00	0.00	0.00	5.00-03	2.50-02	3.25-01	5.00-01	3.60-01	2.35-01	1.70-01
.98000 - .99500	0.00	0.00	0.00	0.00	2.67-02	1.53-01	1.13-01	6.67-02	6.00-02	6.00-02
TOTAL ABSORPTION	0.00	0.00	0.00	1.00-03	2.62-02	3.27-01	8.25-01	8.34-01	8.39-01	8.45-01

ENERGY DEPOSITION DISTRIBUTIONS FOR 1.50 MEV ELECTRONS NORMALLY INCIDENT ON SILICON DETECTORS
(NUMBER/MEV, NORMALIZED TO ONE INCIDENT ELECTRON)

T (MEV)	Z(MM)= .05	.1	.2	.3	.5	1.0	2.0	3.0	5.0	10.0
.00000 - .03750	2.60+01	2.20+01	6.00-01	4.72-01	4.05-01	1.36-01	0.00	0.00	0.00	0.00
.03750 - .07500	5.84-01	3.95+00	2.05+01	2.79+00	5.60-02	1.87-02	2.67-03	2.67-03	2.67-03	2.67-03
.07500 - .11250	8.80-02	5.55-01	3.83+00	1.68+01	1.49-01	2.67-02	0.00	0.00	0.00	0.00
.11250 - .15000	0.00	1.15-01	8.40-01	3.86+00	7.18+00	4.53-02	0.00	0.00	0.00	0.00
.15000 - .18750	0.00	4.53-02	4.11-01	1.19+00	9.79+00	4.27-02	5.33-03	5.33-03	5.33-03	5.33-03
.18750 - .22500	0.00	2.93-02	2.32-01	5.47-01	4.10+00	5.87-02	5.33-03	5.33-03	5.33-03	5.33-03
.22500 - .26250	0.00	0.00	8.80-02	2.85-01	1.66+00	2.29-01	2.67-03	2.67-03	2.67-03	2.67-03
.26250 - .30000	0.00	0.00	5.87-02	2.51-01	9.60-01	1.87+00	1.60-02	1.33-02	1.33-02	1.07-02
.30000 - .33750	0.00	0.00	2.93-02	1.33-01	6.00-01	4.02+00	1.87-02	1.87-02	1.87-02	2.13-02
.33750 - .37500	0.00	0.00	2.13-02	9.33-02	3.84-01	3.86+00	1.07-02	1.07-02	1.07-02	1.07-02
.37500 - .41250	0.00	0.00	2.93-02	4.53-02	2.64-01	3.13+00	2.93-02	2.93-02	2.93-02	2.67-02
.41250 - .45000	0.00	0.00	1.33-02	5.87-02	2.16-01	2.19+00	4.80-02	4.00-02	4.00-02	4.00-02
.45000 - .48750	0.00	0.00	5.33-03	4.27-02	1.33-01	1.54+00	3.20-02	2.93-02	2.93-02	2.93-02
.48750 - .52500	0.00	0.00	0.00	2.67-02	1.33-01	1.35+00	5.07-02	4.53-02	4.53-02	4.53-02
.52500 - .56250	0.00	0.00	8.00-03	1.87-02	8.80-02	1.00+00	9.07-02	5.60-02	5.60-02	5.60-02
.56250 - .60000	0.00	0.00	0.00	1.87-02	7.73-02	6.96-01	1.28-01	5.07-02	5.07-02	5.07-02
.60000 - .63750	0.00	0.00	2.67-03	8.00-03	7.47-02	6.03-01	3.47-01	5.87-02	5.87-02	5.87-02
.63750 - .67500	0.00	0.00	0.00	1.60-02	6.93-02	5.41-01	6.61-01	1.23-01	1.23-01	1.20-01
.67500 - .71250	0.00	0.00	0.00	1.33-02	5.07-02	4.77-01	8.29-01	9.87-02	9.60-02	8.80-02
.71250 - .75000	0.00	0.00	0.00	5.33-03	5.33-02	3.95-01	8.21-01	9.60-02	9.60-02	9.33-02
.75000 - .78750	0.00	0.00	0.00	0.00	2.13-02	3.12-01	9.55-01	9.07-02	9.07-02	8.53-02
.78750 - .82500	0.00	0.00	0.00	5.33-03	2.40-02	3.20-01	9.71-01	1.15-01	1.12-01	1.12-01
.82500 - .86250	0.00	0.00	0.00	0.00	3.20-02	2.51-01	9.07-01	1.31-01	1.33-01	1.28-01
.86250 - .90000	0.00	0.00	0.00	2.67-03	4.00-02	2.72-01	8.72-01	1.12-01	1.12-01	1.04-01
.90000 - .93750	0.00	0.00	0.00	0.00	1.07-02	2.45-01	7.57-01	1.28-01	1.17-01	1.15-01
.93750 - .97500	0.00	0.00	0.00	0.00	0.00	1.68-01	7.87-01	1.41-01	1.25-01	1.20-01
.97500 - 1.01250	0.00	0.00	0.00	0.00	5.33-03	1.52-01	6.27-01	1.44-01	1.28-01	1.28-01
1.01250 - 1.05000	0.00	0.00	0.00	0.00	2.67-03	1.81-01	6.11-01	1.60-01	1.31-01	1.20-01
1.05000 - 1.08750	0.00	0.00	0.00	0.00	1.07-02	1.25-01	5.20-01	1.84-01	1.41-01	1.36-01
1.08750 - 1.12500	0.00	0.00	0.00	0.00	1.07-02	1.41-01	4.59-01	1.76-01	1.36-01	1.39-01
1.12500 - 1.16250	0.00	0.00	0.00	0.00	5.33-03	1.31-01	3.89-01	2.19-01	1.41-01	1.47-01
1.16250 - 1.20000	0.00	0.00	0.00	0.00	2.67-03	9.07-02	4.13-01	1.97-01	1.17-01	1.17-01
1.20000 - 1.23750	0.00	0.00	0.00	0.00	1.33-02	9.07-02	3.25-01	2.48-01	1.65-01	1.47-01
1.23750 - 1.27500	0.00	0.00	0.00	0.00	8.00-03	8.00-02	3.33-01	1.95-01	1.39-01	1.33-01
1.27500 - 1.31250	0.00	0.00	0.00	2.67-03	8.00-03	8.80-02	3.12-01	2.48-01	2.11-01	2.16-01
1.31250 - 1.35000	0.00	0.00	0.00	0.00	6.67-04	4.27-02	2.59-01	2.80-01	2.40-01	2.40-01
1.35000 - 1.38750	0.00	0.00	0.00	0.00	2.67-03	6.93-02	3.28-01	3.81-01	3.28-01	3.36-01
1.38750 - 1.42500	0.00	0.00	0.00	0.00	0.00	9.07-02	3.65-01	5.39-01	5.17-01	5.09-01
1.42500 - 1.46250	0.00	0.00	0.00	0.00	0.00	7.20-02	5.12-01	7.95-01	6.85-01	5.97-01
1.46250 - 1.46625	0.00	0.00	0.00	0.00	0.00	8.00-02	6.13-01	5.87-01	4.53-01	2.13-01
1.46625 - 1.47000	0.00	0.00	0.00	0.00	0.00	8.00-02	4.27-01	5.60-01	5.07-01	2.40-01
1.47000 - 1.47375	0.00	0.00	0.00	0.00	0.00	1.07-01	6.13-01	7.73-01	5.33-01	3.20-01
1.47375 - 1.47750	0.00	0.00	0.00	0.00	0.00	2.67-02	3.20-01	4.27-01	3.20-01	1.87-01
1.47750 - 1.48125	0.00	0.00	0.00	0.00	0.00	8.00-02	2.67-01	3.47-01	1.07-01	8.00-02
1.48125 - 1.48500	0.00	0.00	0.00	0.00	0.00	2.67-02	3.73-01	2.40-01	1.07-01	1.07-01
1.48500 - 1.48875	0.00	0.00	0.00	0.00	0.00	5.33-02	2.67-01	1.33-01	5.33-02	5.33-02
1.48875 - 1.49250	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.49250 - 1.49500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00-02	4.00-02	4.00-02
TOTAL ABSORPTION	0.00	0.00	0.00	0.00	6.00-04	5.52-02	4.72-01	7.94-01	8.25-01	8.34-01

ENERGY DEPOSITION DISTRIBUTIONS FOR 2.00 MEV ELECTRONS NORMALLY INCIDENT ON SILICON DETECTORS
(NUMBER/MEV, NORMALIZED TO ONE INCIDENT ELECTRON)

T (MEV)	Z(MM)= .05	.1	.2	.3	.5	1.0	2.0	3.0	5.0	10.0
.00000 - .05000	1.98+01	1.85+01	4.43+00	3.84-01	3.12-01	1.88-01	2.00-03	2.00-03	2.00-03	2.00-03
.05000 - .10000	2.02-01	1.29+00	1.39+01	1.30+01	5.00-02	4.20-02	4.00-03	2.00-03	2.00-03	2.00-03
.10000 - .15000	8.00-03	1.32-01	1.13+00	4.78+00	7.29+00	4.20-02	8.00-03	0.00	0.00	0.00
.15000 - .20000	0.00	2.00-02	3.24-01	9.42-01	8.13+00	4.80-02	4.00-03	2.00-03	2.00-03	2.00-03
.20000 - .25000	0.00	1.40-02	1.10-01	3.84-01	2.20+00	1.46-01	2.60-02	1.20-02	1.20-02	1.20-02
.25000 - .30000	0.00	0.00	3.60-02	2.18-01	7.50-01	2.84+00	2.60-02	1.20-02	1.20-02	1.20-02
.30000 - .35000	0.00	0.00	2.20-02	1.36-01	4.46-01	5.50+00	2.00-02	1.40-02	1.40-02	1.40-02
.35000 - .40000	0.00	0.00	6.00-03	5.00-02	2.26-01	3.85+00	3.60-02	8.00-03	8.00-03	8.00-03
.40000 - .45000	0.00	0.00	6.00-03	2.00-02	1.80-01	2.14+00	3.40-02	1.60-02	1.60-02	1.60-02
.45000 - .50000	0.00	0.00	2.00-03	1.00-02	1.14-01	1.28+00	4.40-02	1.80-02	1.80-02	1.80-02
.50000 - .55000	0.00	0.00	0.00	1.00-02	7.40-02	7.66-01	8.00-02	1.00-02	8.00-03	8.00-03
.55000 - .60000	0.00	0.00	0.00	1.00-02	5.40-02	5.90-01	3.74-01	2.00-02	1.80-02	1.80-02
.60000 - .65000	0.00	0.00	0.00	6.00-03	2.40-02	4.36-01	1.11+00	6.00-03	6.00-03	6.00-03
.65000 - .70000	0.00	0.00	0.00	6.00-03	2.80-02	2.76-01	1.62+00	2.80-02	2.20-02	2.20-02
.70000 - .75000	0.00	0.00	0.00	0.00	1.00-02	2.40-01	1.50+00	2.20-02	2.00-02	2.00-02
.75000 - .80000	0.00	0.00	0.00	2.00-03	2.60-02	1.92-01	1.49+00	4.40-02	4.00-02	4.00-02
.80000 - .85000	0.00	0.00	0.00	4.00-03	1.40-02	1.58-01	1.33+00	3.60-02	2.60-02	2.40-02
.85000 - .90000	0.00	0.00	0.00	2.00-03	1.40-02	1.48-01	1.09+00	8.60-02	3.20-02	2.80-02
.90000 - .95000	0.00	0.00	0.00	0.00	1.00-02	9.40-02	9.36-01	1.68-01	5.40-02	5.20-02
.95000 - 1.00000	0.00	0.00	0.00	0.00	1.40-02	1.26-01	7.86-01	2.86-01	6.40-02	6.20-02
1.00000 - 1.05000	0.00	0.00	0.00	0.00	4.00-03	8.00-02	7.44-01	4.46-01	7.60-02	7.00-02
1.05000 - 1.10000	0.00	0.00	0.00	0.00	2.00-03	7.00-02	5.40-01	5.04-01	5.00-02	5.40-02
1.10000 - 1.15000	0.00	0.00	0.00	0.00	0.00	6.80-02	4.78-01	6.04-01	7.40-02	6.80-02
1.15000 - 1.20000	0.00	0.00	0.00	0.00	0.00	5.80-02	3.78-01	5.82-01	7.40-02	7.20-02
1.20000 - 1.25000	0.00	0.00	0.00	0.00	6.00-03	4.80-02	3.78-01	6.44-01	6.20-02	5.80-02
1.25000 - 1.30000	0.00	0.00	0.00	0.00	2.00-03	5.60-02	3.42-01	5.66-01	1.12-01	1.06-01
1.30000 - 1.35000	0.00	0.00	0.00	0.00	4.00-03	5.00-02	2.96-01	5.60-01	1.08-01	1.04-01
1.35000 - 1.40000	0.00	0.00	0.00	0.00	0.00	3.80-02	2.62-01	5.10-01	9.40-02	9.20-02
1.40000 - 1.45000	0.00	0.00	0.00	0.00	0.00	4.00-02	2.98-01	5.10-01	1.08-01	1.08-01
1.45000 - 1.50000	0.00	0.00	0.00	0.00	2.00-03	2.20-02	2.18-01	3.92-01	8.00-02	7.60-02
1.50000 - 1.55000	0.00	0.00	0.00	0.00	0.00	3.80-02	2.12-01	3.94-01	1.18-01	1.06-01
1.55000 - 1.60000	0.00	0.00	0.00	0.00	0.00	3.20-02	1.58-01	3.62-01	1.16-01	1.20-01
1.60000 - 1.65000	0.00	0.00	0.00	0.00	2.00-03	1.40-02	1.54-01	3.22-01	1.28-01	1.26-01
1.65000 - 1.70000	0.00	0.00	0.00	0.00	0.00	2.40-02	1.40-01	3.00-01	1.46-01	1.34-01
1.70000 - 1.75000	0.00	0.00	0.00	0.00	4.00-03	1.40-02	1.54-01	2.74-01	2.00-01	1.92-01
1.75000 - 1.80000	0.00	0.00	0.00	0.00	2.00-03	2.20-02	1.68-01	3.16-01	2.36-01	2.16-01
1.80000 - 1.85000	0.00	0.00	0.00	0.00	0.00	4.00-03	1.42-01	3.20-01	3.46-01	3.58-01
1.85000 - 1.90000	0.00	0.00	0.00	0.00	0.00	2.40-02	2.30-01	4.94-01	5.64-01	5.44-01
1.90000 - 1.95000	0.00	0.00	0.00	0.00	0.00	1.40-02	1.90-01	6.04-01	8.22-01	7.64-01
1.95000 - 1.95500	0.00	0.00	0.00	0.00	0.00	6.00-02	3.60-01	9.40-01	1.32+00	9.40-01
1.95500 - 1.96000	0.00	0.00	0.00	0.00	0.00	2.00-02	2.20-01	8.20-01	1.08+00	7.80-01
1.96000 - 1.96500	0.00	0.00	0.00	0.00	0.00	2.00-02	3.80-01	9.80-01	1.18+00	6.40-01
1.96500 - 1.97000	0.00	0.00	0.00	0.00	0.00	2.00-02	3.40-01	6.60-01	7.20-01	3.20-01
1.97000 - 1.97500	0.00	0.00	0.00	0.00	0.00	4.00-02	3.00-01	6.80-01	5.40-01	2.40-01
1.97500 - 1.98000	0.00	0.00	0.00	0.00	0.00	2.00-02	2.60-01	5.20-01	3.60-01	1.60-01
1.98000 - 1.98500	0.00	0.00	0.00	0.00	0.00	0.00	1.40-01	1.60-01	1.40-01	8.00-02
1.98500 - 1.99000	0.00	0.00	0.00	0.00	0.00	0.00	1.00-01	6.00-02	4.00-02	4.00-02
1.99000 - 1.99500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00-02	2.00-02
TOTAL ABSORPTION	0.00	0.00	0.00	0.00	1.00-04	8.10-03	1.89-01	5.01-01	7.78-01	7.97-01

ENERGY DEPOSITION DISTRIBUTIONS FOR 3.00 MEV ELECTRONS NORMALLY INCIDENT ON SILICON DETECTORS
(NUMBER/MEV, NORMALIZED TO ONE INCIDENT ELECTRON)

T (MEV)	Z(MM)= .05	.1	.2	.3	.5	1.0	2.0	3.0	5.0	10.0
.00000 - .07500	1.33+01	1.30+01	1.09+01	2.33+00	2.89-01	2.21-01	6.27-02	1.33-03	0.00	0.00
.07500 - .15000	3.20-02	2.68-01	2.11+00	9.98+00	5.82+00	3.60-02	1.60-02	5.33-03	0.00	0.00
.15000 - .22500	0.00	2.13-02	2.61-01	6.53-01	5.59+00	7.07-02	1.20-02	8.00-03	2.67-03	2.67-03
.22500 - .30000	0.00	0.00	6.13-02	2.13-01	8.95-01	3.34+00	1.60-02	1.33-03	0.00	0.00
.30000 - .37500	0.00	0.00	1.20-02	9.87-02	3.20-01	5.60+00	2.40-02	6.67-03	1.33-03	1.33-03
.37500 - .45000	0.00	0.00	8.00-03	2.53-02	1.71-01	2.03+00	3.20-02	1.07-02	4.00-03	4.00-03
.45000 - .52500	0.00	0.00	0.00	8.00-03	1.16-01	7.84-01	5.87-02	9.33-03	1.33-03	1.33-03
.52500 - .60000	0.00	0.00	0.00	1.33-02	6.40-02	4.23-01	9.35-01	8.00-03	4.00-03	4.00-03
.60000 - .67500	0.00	0.00	0.00	2.67-03	1.60-02	2.68-01	2.63+00	1.33-02	8.00-03	8.00-03
.67500 - .75000	0.00	0.00	0.00	0.00	1.47-02	1.81-01	2.58+00	1.87-02	5.33-03	5.33-03
.75000 - .82500	0.00	0.00	0.00	0.00	8.00-03	1.03-01	1.78+00	3.60-02	1.33-03	1.33-03
.82500 - .90000	0.00	0.00	0.00	0.00	6.67-03	6.67-02	1.22+00	2.88-01	6.67-03	6.67-03
.90000 - .97500	0.00	0.00	0.00	0.00	6.67-03	4.40-02	8.55-01	8.52-01	8.00-03	8.00-03
.97500 - 1.05000	0.00	0.00	0.00	0.00	2.67-03	2.93-02	5.69-01	1.28+00	9.33-03	9.33-03
1.05000 - 1.12500	0.00	0.00	0.00	0.00	1.33-03	1.73-02	4.27-01	1.39+00	9.33-03	8.00-03
1.12500 - 1.20000	0.00	0.00	0.00	0.00	2.67-03	1.73-02	3.21-01	1.18+00	2.00-02	1.73-02
1.20000 - 1.27500	0.00	0.00	0.00	0.00	0.00	1.20-02	2.15-01	9.80-01	1.20-02	1.20-02
1.27500 - 1.35000	0.00	0.00	0.00	0.00	1.33-03	1.73-02	1.59-01	8.39-01	2.40-02	2.13-02
1.35000 - 1.42500	0.00	0.00	0.00	0.00	1.33-03	5.33-03	1.29-01	7.05-01	2.27-02	1.87-02
1.42500 - 1.50000	0.00	0.00	0.00	0.00	0.00	1.07-02	1.12-01	5.64-01	3.20-02	2.40-02
1.50000 - 1.57500	0.00	0.00	0.00	0.00	0.00	4.00-03	1.01-01	4.41-01	7.87-02	2.93-02
1.57500 - 1.65000	0.00	0.00	0.00	0.00	0.00	1.07-02	8.40-02	3.89-01	1.53-01	3.33-02
1.65000 - 1.72500	0.00	0.00	0.00	0.00	0.00	4.00-03	7.87-02	2.80-01	2.29-01	2.93-02
1.72500 - 1.80000	0.00	0.00	0.00	0.00	0.00	6.67-03	8.93-02	2.64-01	2.88-01	4.40-02
1.80000 - 1.87500	0.00	0.00	0.00	0.00	0.00	2.67-03	5.60-02	2.35-01	3.57-01	4.27-02
1.87500 - 1.95000	0.00	0.00	0.00	0.00	0.00	4.00-03	5.47-02	2.12-01	4.09-01	5.47-02
1.95000 - 2.02500	0.00	0.00	0.00	0.00	0.00	4.00-03	3.60-02	1.65-01	3.84-01	4.80-02
2.02500 - 2.10000	0.00	0.00	0.00	0.00	0.00	1.33-03	5.07-02	1.47-01	3.93-01	5.73-02
2.10000 - 2.17500	0.00	0.00	0.00	0.00	0.00	0.00	4.13-02	1.44-01	3.49-01	5.47-02
2.17500 - 2.25000	0.00	0.00	0.00	0.00	0.00	1.33-03	4.00-02	1.25-01	3.05-01	6.80-02
2.25000 - 2.32500	0.00	0.00	0.00	0.00	0.00	0.00	3.33-02	1.45-01	3.53-01	9.20-02
2.32500 - 2.40000	0.00	0.00	0.00	0.00	0.00	1.33-03	4.53-02	1.07-01	3.17-01	8.53-02
2.40000 - 2.47500	0.00	0.00	0.00	0.00	1.33-03	1.33-03	2.67-02	9.60-02	2.87-01	1.00-01
2.47500 - 2.55000	0.00	0.00	0.00	0.00	0.00	1.33-03	2.93-02	9.33-02	2.65-01	1.07-01
2.55000 - 2.62500	0.00	0.00	0.00	0.00	0.00	1.33-03	2.27-02	8.27-02	2.69-01	1.44-01
2.62500 - 2.70000	0.00	0.00	0.00	0.00	0.00	0.00	2.00-02	1.15-01	2.73-01	2.09-01
2.70000 - 2.77500	0.00	0.00	0.00	0.00	0.00	2.67-03	2.13-02	8.93-02	3.04-01	2.88-01
2.77500 - 2.85000	0.00	0.00	0.00	0.00	0.00	0.00	2.00-02	1.19-01	3.93-01	4.32-01
2.85000 - 2.92500	0.00	0.00	0.00	0.00	0.00	0.00	3.47-02	1.49-01	6.07-01	7.85-01
2.92500 - 2.93250	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.87-01	8.27-01	1.13+00
2.93250 - 2.94000	0.00	0.00	0.00	0.00	0.00	0.00	5.33-02	2.93-01	9.20-01	1.13+00
2.94000 - 2.94750	0.00	0.00	0.00	0.00	0.00	0.00	5.33-02	2.40-01	8.67-01	8.13-01
2.94750 - 2.95500	0.00	0.00	0.00	0.00	0.00	0.00	2.67-02	2.40-01	1.15+00	1.24+00
2.95500 - 2.96250	0.00	0.00	0.00	0.00	0.00	0.00	8.00-02	2.93-01	1.04+00	7.87-01
2.96250 - 2.97000	0.00	0.00	0.00	0.00	0.00	0.00	4.00-02	2.40-01	8.27-01	5.33-01
2.97000 - 2.97750	0.00	0.00	0.00	0.00	0.00	0.00	2.67-02	1.73-01	5.73-01	3.20-01
2.97750 - 2.98500	0.00	0.00	0.00	0.00	0.00	0.00	1.33-02	5.33-02	1.87-01	2.67-02
2.98500 - 2.99250	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33-02	2.67-02	4.00-02
2.99250 - 2.99500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL ABSORPTION	0.00	0.00	0.00	0.00	0.00	3.00-04	2.01-02	1.17-01	4.88-01	7.40-01

ENERGY DEPOSITION DISTRIBUTIONS FOR 4.00 MEV ELECTRONS NORMALLY INCIDENT ON SILICON DETECTORS
(NUMBER/MEV, NORMALIZED TO ONE INCIDENT ELECTRON)

T (MEV)	Z(MM)= .05	.1	.2	.3	.5	1.0	2.0	3.0	5.0	10.0
.00000 - .10000	9.99+00	9.91+00	9.28+00	7.04+00	2.43-01	2.31-01	1.08-01	2.10-02	0.00	0.00
.10000 - .20000	3.00-03	7.60-02	6.15-01	2.60+00	8.11+00	4.50-02	2.10-02	1.20-02	0.00	0.00
.20000 - .30000	0.00	5.00-03	8.70-02	2.55-01	1.16+00	2.92+00	3.50-02	1.70-02	1.00-03	1.00-03
.30000 - .40000	0.00	0.00	1.40-02	7.10-02	2.56-01	4.76+00	4.00-02	1.70-02	1.00-03	0.00
.40000 - .50000	0.00	0.00	3.00-03	1.80-02	1.27-01	1.16+00	5.40-02	1.80-02	1.00-03	2.00-03
.50000 - .60000	0.00	0.00	0.00	9.00-03	4.60-02	3.89-01	1.12+00	1.60-02	1.00-03	1.00-03
.60000 - .70000	0.00	0.00	0.00	3.00-03	2.40-02	1.82-01	3.27+00	3.90-02	3.00-03	2.00-03
.70000 - .80000	0.00	0.00	0.00	0.00	1.40-02	9.60-02	2.23+00	4.60-02	7.00-03	4.00-03
.80000 - .90000	0.00	0.00	0.00	0.00	6.00-03	7.90-02	1.17+00	4.25-01	6.00-03	3.00-03
.90000 - 1.00000	0.00	0.00	0.00	0.00	5.00-03	3.80-02	6.24-01	1.49+00	8.00-03	4.00-03
1.00000 - 1.10000	0.00	0.00	0.00	0.00	5.00-03	2.80-02	3.69-01	1.92+00	5.00-03	2.00-03
1.10000 - 1.20000	0.00	0.00	0.00	0.00	1.00-03	1.00-02	2.70-01	1.41+00	1.20-02	4.00-03
1.20000 - 1.30000	0.00	0.00	0.00	0.00	0.00	1.30-02	1.64-01	1.03+00	1.30-02	5.00-03
1.30000 - 1.40000	0.00	0.00	0.00	0.00	0.00	4.00-03	1.21-01	6.82-01	2.00-02	8.00-03
1.40000 - 1.50000	0.00	0.00	0.00	0.00	0.00	1.00-02	6.70-02	5.35-01	6.40-02	8.00-03
1.50000 - 1.60000	0.00	0.00	0.00	0.00	0.00	7.00-03	5.30-02	3.97-01	2.54-01	7.00-03
1.60000 - 1.70000	0.00	0.00	0.00	0.00	0.00	8.00-03	3.30-02	3.16-01	4.88-01	1.50-02
1.70000 - 1.80000	0.00	0.00	0.00	0.00	0.00	4.00-03	2.60-02	2.15-01	6.54-01	1.10-02
1.80000 - 1.90000	0.00	0.00	0.00	0.00	0.00	6.00-03	3.10-02	1.67-01	7.35-01	2.00-02
1.90000 - 2.00000	0.00	0.00	0.00	0.00	0.00	4.00-03	1.80-02	1.11-01	6.73-01	9.00-03
2.00000 - 2.10000	0.00	0.00	0.00	0.00	0.00	0.00	1.90-02	8.60-02	6.34-01	2.50-02
2.10000 - 2.20000	0.00	0.00	0.00	0.00	0.00	1.00-03	1.60-02	8.70-02	5.40-01	2.90-02
2.20000 - 2.30000	0.00	0.00	0.00	0.00	0.00	0.00	1.40-02	7.00-02	4.10-01	2.60-02
2.30000 - 2.40000	0.00	0.00	0.00	0.00	0.00	0.00	9.00-03	7.10-02	3.88-01	3.00-02
2.40000 - 2.50000	0.00	0.00	0.00	0.00	0.00	0.00	1.70-02	6.60-02	3.72-01	4.00-02
2.50000 - 2.60000	0.00	0.00	0.00	0.00	0.00	1.00-03	9.00-03	5.80-02	3.02-01	4.40-02
2.60000 - 2.70000	0.00	0.00	0.00	0.00	0.00	0.00	8.00-03	4.90-02	2.71-01	5.40-02
2.70000 - 2.80000	0.00	0.00	0.00	0.00	0.00	0.00	6.00-03	4.20-02	2.28-01	5.40-02
2.80000 - 2.90000	0.00	0.00	0.00	0.00	0.00	0.00	7.00-03	3.70-02	2.10-01	6.70-02
2.90000 - 3.00000	0.00	0.00	0.00	0.00	0.00	0.00	1.10-02	3.70-02	1.94-01	5.40-02
3.00000 - 3.10000	0.00	0.00	0.00	0.00	0.00	0.00	4.00-03	2.30-02	1.74-01	7.00-02
3.10000 - 3.20000	0.00	0.00	0.00	0.00	0.00	0.00	2.00-03	2.20-02	1.37-01	7.30-02
3.20000 - 3.30000	0.00	0.00	0.00	0.00	0.00	0.00	4.00-03	3.20-02	1.41-01	8.60-02
3.30000 - 3.40000	0.00	0.00	0.00	0.00	0.00	0.00	3.00-03	2.10-02	1.31-01	1.14-01
3.40000 - 3.50000	0.00	0.00	0.00	0.00	0.00	0.00	4.00-03	2.30-02	1.14-01	1.49-01
3.50000 - 3.60000	0.00	0.00	0.00	0.00	0.00	0.00	2.00-03	3.00-02	1.25-01	2.08-01
3.60000 - 3.70000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50-02	1.38-01	2.87-01
3.70000 - 3.80000	0.00	0.00	0.00	0.00	0.00	0.00	4.00-03	3.00-02	1.68-01	4.20-01
3.80000 - 3.90000	0.00	0.00	0.00	0.00	0.00	0.00	6.00-03	3.70-02	2.58-01	7.26-01
3.90000 - 3.91000	0.00	0.00	0.00	0.00	0.00	0.00	1.00-02	7.00-02	3.90-01	1.18+00
3.91000 - 3.92000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00-02	4.00-01	1.14+00
3.92000 - 3.93000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00-02	3.60-01	1.22+00
3.93000 - 3.94000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00-02	3.20-01	1.33+00
3.94000 - 3.95000	0.00	0.00	0.00	0.00	0.00	0.00	1.00-02	8.00-02	4.50-01	1.39+00
3.95000 - 3.96000	0.00	0.00	0.00	0.00	0.00	0.00	1.00-02	9.00-02	4.70-01	1.05+00
3.96000 - 3.97000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00-02	3.80-01	8.40-01
3.97000 - 3.98000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00-02	2.20-01	3.80-01
3.98000 - 3.99000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00-02	6.00-02	7.00-02
3.99000 - 3.99500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL ABSORPTION	0.00	0.00	0.00	0.00	0.00	0.00	3.00-03	2.35-02	1.81-01	6.48-01

ENERGY DEPOSITION DISTRIBUTIONS FOR 5.00 MEV ELECTRONS NORMALLY INCIDENT ON SILICON DETECTORS
(NUMBER/MEV, NORMALIZED TO ONE INCIDENT ELECTRON)

T (MEV)	Z(MM)= .05	.1	.2	.3	.5	1.0	2.0	3.0	5.0	10.0
.00000 - .12500	8.00+00	7.97+00	7.67+00	7.03+00	7.77-01	1.74-01	1.09-01	6.24-02	3.20-03	3.20-03
.12500 - .25000	0.00	2.40-02	2.98-01	8.36-01	6.57+00	1.34-01	2.56-02	1.20-02	8.00-04	0.00
.25000 - .37500	0.00	0.00	2.08-02	1.02-01	4.08-01	5.69+00	2.64-02	1.76-02	2.40-03	8.00-04
.37500 - .50000	0.00	0.00	3.20-03	2.00-02	1.46-01	1.26+00	5.36-02	2.00-02	1.60-03	8.00-04
.50000 - .62500	0.00	0.00	0.00	7.20-03	6.08-02	3.49-01	1.86+00	2.72-02	3.20-03	8.00-04
.62500 - .75000	0.00	0.00	0.00	8.00-04	1.92-02	1.58-01	3.21+00	3.52-02	5.60-03	0.00
.75000 - .87500	0.00	0.00	0.00	0.00	3.20-03	8.48-02	1.29+00	2.89-01	4.80-03	0.00
.87500 - 1.00000	0.00	0.00	0.00	0.00	8.80-03	5.60-02	5.62-01	1.91+00	9.60-03	1.60-03
1.00000 - 1.12500	0.00	0.00	0.00	0.00	2.40-03	3.76-02	3.34-01	2.05+00	1.68-02	1.60-03
1.12500 - 1.25000	0.00	0.00	0.00	0.00	0.00	2.00-02	1.76-01	1.25+00	2.08-02	4.00-03
1.25000 - 1.37500	0.00	0.00	0.00	0.00	0.00	8.00-03	1.24-01	7.48-01	3.20-02	6.40-03
1.37500 - 1.50000	0.00	0.00	0.00	0.00	8.00-04	7.20-03	6.40-02	4.40-01	1.08-01	2.40-03
1.50000 - 1.62500	0.00	0.00	0.00	0.00	0.00	8.80-03	4.48-02	2.92-01	5.03-01	4.00-03
1.62500 - 1.75000	0.00	0.00	0.00	0.00	0.00	3.20-03	2.16-02	2.10-01	9.13-01	2.40-03
1.75000 - 1.87500	0.00	0.00	0.00	0.00	0.00	2.40-03	2.16-02	1.29-01	1.01+00	8.80-03
1.87500 - 2.00000	0.00	0.00	0.00	0.00	0.00	8.00-04	1.60-02	1.06-01	9.03-01	7.20-03
2.00000 - 2.12500	0.00	0.00	0.00	0.00	0.00	1.60-03	1.04-02	5.04-02	7.22-01	9.60-03
2.12500 - 2.25000	0.00	0.00	0.00	0.00	0.00	8.00-04	1.20-02	4.56-02	6.13-01	1.04-02
2.25000 - 2.37500	0.00	0.00	0.00	0.00	0.00	0.00	8.00-03	4.16-02	4.36-01	1.20-02
2.37500 - 2.50000	0.00	0.00	0.00	0.00	0.00	0.00	5.60-03	2.32-02	3.34-01	1.68-02
2.50000 - 2.62500	0.00	0.00	0.00	0.00	0.00	0.00	4.80-03	2.00-02	2.74-01	4.80-03
2.62500 - 2.75000	0.00	0.00	0.00	0.00	0.00	8.00-04	3.20-03	1.76-02	2.18-01	2.40-02
2.75000 - 2.87500	0.00	0.00	0.00	0.00	0.00	0.00	2.40-03	2.00-02	1.64-01	1.92-02
2.87500 - 3.00000	0.00	0.00	0.00	0.00	0.00	0.00	1.60-03	1.68-02	1.34-01	2.24-02
3.00000 - 3.12500	0.00	0.00	0.00	0.00	0.00	0.00	8.00-04	1.68-02	1.10-01	4.56-02
3.12500 - 3.25000	0.00	0.00	0.00	0.00	0.00	8.00-04	3.20-03	1.60-02	9.36-02	4.72-02
3.25000 - 3.37500	0.00	0.00	0.00	0.00	0.00	0.00	2.40-03	1.20-02	8.88-02	6.00-02
3.37500 - 3.50000	0.00	0.00	0.00	0.00	0.00	0.00	1.60-03	7.20-03	5.76-02	8.40-02
3.50000 - 3.62500	0.00	0.00	0.00	0.00	0.00	0.00	2.40-03	7.20-03	6.88-02	1.44-01
3.62500 - 3.75000	0.00	0.00	0.00	0.00	0.00	0.00	8.00-04	5.60-03	5.12-02	1.43-01
3.75000 - 3.87500	0.00	0.00	0.00	0.00	0.00	0.00	1.60-03	8.80-03	6.32-02	1.74-01
3.87500 - 4.00000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.80-03	6.96-02	1.84-01
4.00000 - 4.12500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.00-03	5.12-02	2.04-01
4.12500 - 4.25000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.60-03	4.08-02	1.96-01
4.25000 - 4.37500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00-03	4.32-02	2.36-01
4.37500 - 4.50000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.00-03	5.36-02	2.56-01
4.50000 - 4.62500	0.00	0.00	0.00	0.00	0.00	0.00	1.60-03	6.40-03	4.96-02	3.00-01
4.62500 - 4.75000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.40-03	6.24-02	3.81-01
4.75000 - 4.87500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.00-04	8.72-02	6.33-01
4.87500 - 4.88750	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12-01	9.92-01
4.88750 - 4.90000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.00-03	9.60-02	9.28-01
4.90000 - 4.91250	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.60-02	9.68-01
4.91250 - 4.92500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.40-02	1.60-01	9.76-01
4.92500 - 4.93750	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.20-02	2.48-01	1.42+00
4.93750 - 4.95000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.00-03	2.00-01	1.51+00
4.95000 - 4.96250	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.68-01	1.16+00
4.96250 - 4.97500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.60-02	1.36-01	6.96-01
4.97500 - 4.98750	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.60-02	1.52-01
4.98750 - 4.99500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33-02
TOTAL ABSORPTION	0.00	0.00	0.00	0.00	0.00	0.00	3.00-04	4.40-03	5.57-02	4.83-01

ENERGY DEPOSITION DISTRIBUTIONS FOR 1.00 MEV ELECTRONS NORMALLY INCIDENT ON SILICON DETECTORS
IN AN ANTI-COINCIDENCE ARRANGEMENT (CASE II)
(NUMBER/MEV, NORMALIZED TO ONE INCIDENT ELECTRON)

T (MEV)	Z(MM)= .05	.1	.2	.3	.5	1.0	2.0	3.0	5.0	10.0
.00000 - .02000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.02000 - .04000	0.00	5.00-03	5.00-03	5.00-03	5.00-03	5.00-03	5.00-03	5.00-03	5.00-03	5.00-03
.04000 - .06000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.06000 - .08000	0.00	1.00-02	1.00-02	1.00-02	1.00-02	1.00-02	1.00-02	1.00-02	1.00-02	1.00-02
.08000 - .10000	0.00	1.00-02	1.50-02	1.50-02	1.50-02	1.50-02	1.50-02	1.50-02	1.50-02	1.50-02
.10000 - .12000	0.00	1.50-02	1.50-02	1.50-02	1.50-02	1.50-02	1.50-02	1.50-02	1.50-02	1.50-02
.12000 - .14000	0.00	5.00-03	1.00-02	2.00-02	2.00-02	2.00-02	2.00-02	2.00-02	2.00-02	2.00-02
.14000 - .16000	0.00	1.00-02	3.50-02	3.50-02	4.00-02	4.00-02	4.00-02	4.00-02	4.00-02	4.00-02
.16000 - .18000	0.00	1.00-02	4.00-02	5.00-02	5.00-02	5.00-02	5.00-02	5.00-02	5.00-02	5.00-02
.18000 - .20000	0.00	0.00	2.00-02	3.00-02	3.50-02	3.50-02	3.50-02	3.50-02	3.50-02	3.50-02
.20000 - .22000	0.00	0.00	3.50-02	4.50-02	4.50-02	4.50-02	4.50-02	4.50-02	4.50-02	4.50-02
.22000 - .24000	0.00	0.00	1.50-02	7.00-02	9.00-02	9.00-02	9.00-02	9.00-02	9.00-02	9.00-02
.24000 - .26000	0.00	0.00	1.00-02	4.00-02	6.50-02	6.50-02	6.50-02	6.50-02	6.50-02	6.50-02
.26000 - .28000	0.00	1.00-02	3.50-02	8.50-02	1.10-01	1.10-01	1.10-01	1.10-01	1.10-01	1.10-01
.28000 - .30000	0.00	0.00	3.50-02	7.50-02	1.00-01	1.00-01	1.00-01	1.00-01	1.00-01	1.00-01
.30000 - .32000	0.00	0.00	1.00-02	5.50-02	1.00-01	1.00-01	1.00-01	1.00-01	1.00-01	1.00-01
.32000 - .34000	0.00	0.00	2.00-02	4.00-02	8.00-02	8.00-02	8.00-02	8.00-02	8.00-02	8.00-02
.34000 - .36000	0.00	0.00	2.50-02	6.00-02	1.15-01	1.15-01	1.20-01	1.20-01	1.20-01	1.20-01
.36000 - .38000	0.00	0.00	1.50-02	6.00-02	1.40-01	1.45-01	1.45-01	1.45-01	1.45-01	1.45-01
.38000 - .40000	0.00	0.00	1.00-02	7.50-02	1.40-01	1.40-01	1.40-01	1.40-01	1.40-01	1.40-01
.40000 - .42000	0.00	0.00	1.50-02	4.00-02	1.75-01	1.90-01	1.90-01	1.90-01	1.95-01	1.95-01
.42000 - .44000	0.00	0.00	1.00-02	2.50-02	1.40-01	1.45-01	1.45-01	1.45-01	1.50-01	1.50-01
.44000 - .46000	0.00	0.00	5.00-03	3.50-02	1.65-01	1.95-01	1.95-01	1.95-01	1.95-01	1.95-01
.46000 - .48000	0.00	0.00	1.00-02	3.00-02	1.95-01	2.35-01	2.35-01	2.40-01	2.45-01	2.50-01
.48000 - .50000	0.00	0.00	5.00-03	3.00-02	1.20-01	1.50-01	1.50-01	1.50-01	1.50-01	1.50-01
.50000 - .52000	0.00	0.00	0.00	2.00-02	1.15-01	1.65-01	1.70-01	1.70-01	1.70-01	1.70-01
.52000 - .54000	0.00	0.00	0.00	2.00-02	1.50-01	1.90-01	1.95-01	1.95-01	1.95-01	1.95-01
.54000 - .56000	0.00	0.00	1.50-02	1.50-02	1.40-01	1.95-01	2.00-01	2.00-01	2.00-01	2.00-01
.56000 - .58000	0.00	0.00	0.00	2.00-02	1.15-01	1.80-01	1.80-01	1.80-01	1.80-01	1.80-01
.58000 - .60000	0.00	0.00	0.00	5.00-03	7.50-02	1.25-01	1.25-01	1.25-01	1.25-01	1.25-01
.60000 - .62000	0.00	0.00	5.00-03	2.00-02	9.00-02	1.85-01	1.85-01	1.85-01	1.90-01	1.90-01
.62000 - .64000	0.00	0.00	0.00	1.50-02	9.50-02	1.40-01	1.40-01	1.40-01	1.45-01	1.45-01
.64000 - .66000	0.00	0.00	5.00-03	5.00-03	9.00-02	1.90-01	1.90-01	1.90-01	1.90-01	1.95-01
.66000 - .68000	0.00	0.00	0.00	0.00	6.50-02	1.70-01	1.70-01	1.75-01	1.75-01	1.75-01
.68000 - .70000	0.00	0.00	0.00	0.00	6.00-02	1.55-01	1.55-01	1.00-01	1.55-01	1.60-01
.70000 - .72000	0.00	0.00	5.00-03	5.00-03	5.50-02	1.75-01	1.75-01	1.75-01	1.75-01	1.90-01
.72000 - .74000	0.00	0.00	0.00	5.00-03	6.50-02	1.60-01	1.70-01	1.70-01	1.70-01	1.70-01
.74000 - .76000	0.00	0.00	0.00	0.00	7.50-02	1.60-01	1.60-01	1.60-01	1.60-01	1.70-01
.76000 - .78000	0.00	0.00	0.00	0.00	8.00-02	1.75-01	1.80-01	1.80-01	1.80-01	1.80-01
.78000 - .80000	0.00	0.00	0.00	0.00	3.00-02	1.20-01	1.20-01	1.20-01	1.20-01	1.20-01
.80000 - .82000	0.00	0.00	0.00	0.00	3.00-02	1.05-01	1.15-01	1.15-01	1.15-01	1.15-01
.82000 - .84000	0.00	0.00	0.00	5.00-03	3.00-02	1.05-01	1.10-01	1.10-01	1.10-01	1.10-01
.84000 - .86000	0.00	0.00	0.00	2.00-02	7.00-02	1.55-01	1.65-01	1.70-01	1.70-01	1.70-01
.86000 - .88000	0.00	0.00	0.00	0.00	2.00-02	9.00-02	1.10-01	1.15-01	1.25-01	1.35-01
.88000 - .90000	0.00	0.00	0.00	5.00-03	1.00-02	1.20-01	1.50-01	1.60-01	1.65-01	1.75-01
.90000 - .92000	0.00	0.00	0.00	0.00	1.50+00	1.10-01	1.70-01	1.75-01	1.75-01	2.05-01
.92000 - .94000	0.00	0.00	0.00	0.00	3.50-02	1.10-01	2.00-01	2.10-01	2.30-01	2.60-01
.94000 - .96000	0.00	0.00	0.00	0.00	5.00-03	6.00-02	1.40-01	1.55-01	1.90-01	2.00-01
.96000 - .98000	0.00	0.00	0.00	0.00	0.00	1.05-01	1.50-01	1.60-01	1.60-01	1.60-01
.98000 - .99500	0.00	0.00	0.00	0.00	6.67-03	4.67-02	6.00-02	6.00-02	6.00-02	6.00-02
TOTAL ABSORPTION	0.00	0.00	0.00	1.00-03	0.00	3.27-01	8.25-01	8.34-01	8.39-01	8.45-01

ENERGY DEPOSITION DISTRIBUTIONS FOR 2.00 MEV ELECTRONS NORMALLY INCIDENT ON SILICON DETECTORS
IN AN ANTI-COINCIDENCE ARRANGEMENT (CASE II)
(NUMBER/MEV, NORMALIZED TO ONE INCIDENT ELECTRON)

T (MEV) Z(MM)=	.05	.1	.2	.3	.5	1.0	2.0	3.0	5.0	10.0
.00000 - .05000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.05000 - .10000	0.00	0.00	2.00-03	2.00-03	2.00-03	2.00-03	2.00-03	2.00-03	2.00-03	2.00-03
.10000 - .15000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.15000 - .20000	0.00	0.00	2.00-03	2.00-03	2.00-03	2.00-03	2.00-03	2.00-03	2.00-03	2.00-03
.20000 - .25000	0.00	0.00	2.00-03	8.00-03	1.00-02	1.00-02	1.00-02	1.00-02	1.00-02	1.00-02
.25000 - .30000	0.00	0.00	0.00	6.00-03	1.20-02	1.20-02	1.20-02	1.20-02	1.20-02	1.20-02
.30000 - .35000	0.00	0.00	2.00-03	6.00-03	1.20-02	1.40-02	1.40-02	1.40-02	1.40-02	1.40-02
.35000 - .40000	0.00	0.00	0.00	2.00-03	2.00-03	6.00-03	6.00-03	6.00-03	6.00-03	6.00-03
.40000 - .45000	0.00	0.00	0.00	0.00	1.20-02	1.60-02	1.60-02	1.60-02	1.60-02	1.60-02
.45000 - .50000	0.00	0.00	2.00-03	2.00-03	1.20-02	1.80-02	1.80-02	1.80-02	1.80-02	1.80-02
.50000 - .55000	0.00	0.00	0.00	0.00	4.00-03	8.00-03	8.00-03	8.00-03	8.00-03	8.00-03
.55000 - .60000	0.00	0.00	0.00	2.00-03	8.00-03	1.80-02	1.80-02	1.80-02	1.80-02	1.80-02
.60000 - .65000	0.00	0.00	0.00	2.00-03	2.00-03	6.00-03	6.00-03	6.00-03	6.00-03	6.00-03
.65000 - .70000	0.00	0.00	0.00	0.00	4.00-03	2.00-02	2.00-02	2.00-02	2.00-02	2.00-02
.70000 - .75000	0.00	0.00	0.00	0.00	2.00-03	1.80-02	2.00-02	2.00-02	0.00	2.00-02
.75000 - .80000	0.00	0.00	0.00	0.00	6.00-03	3.20-02	3.80-02	3.80-02	3.80-02	3.80-02
.80000 - .85000	0.00	0.00	0.00	2.00-03	4.00-03	2.20-02	2.20-02	2.20-02	2.20-02	2.20-02
.85000 - .90000	0.00	0.00	0.00	0.00	2.00-03	2.20-02	2.40-02	2.40-02	2.40-02	2.40-02
.90000 - .95000	0.00	0.00	0.00	0.00	0.00	3.20-02	4.40-02	4.60-02	4.60-02	4.60+00
.95000 - 1.00000	0.00	0.00	0.00	0.00	6.00-03	4.80-02	5.40-02	5.40-02	5.40-02	5.40-02
1.00000 - 1.05000	0.00	0.00	0.00	0.00	4.00-03	3.60-02	5.40-02	5.40-02	5.40-02	5.40-02
1.05000 - 1.10000	0.00	0.00	0.00	0.00	0.00	2.20-02	4.00-02	4.00-02	4.00-02	4.00-02
1.10000 - 1.15000	0.00	0.00	0.00	0.00	0.00	2.20-02	6.00-02	6.00-02	6.00-02	6.00-02
1.15000 - 1.20000	0.00	0.00	0.00	0.00	0.00	2.40-02	6.20-02	6.20-02	6.20-02	6.40-02
1.20000 - 1.25000	0.00	0.00	0.00	0.00	2.00-03	2.00-02	5.00-02	5.00-02	5.00-02	5.20-02
1.25000 - 1.30000	0.00	0.00	0.00	0.00	0.00	2.20-02	7.60-02	7.60-02	8.00-02	8.20-02
1.30000 - 1.35000	0.00	0.00	0.00	0.00	0.00	2.80-02	6.40-02	6.40-02	6.40-02	6.60-02
1.35000 - 1.40000	0.00	0.00	0.00	0.00	0.00	1.60-02	6.20-02	6.40-02	6.60-02	7.00-02
1.40000 - 1.45000	0.00	0.00	0.00	0.00	0.00	2.40-02	8.40-02	8.40-02	8.40-02	8.40-02
1.45000 - 1.50000	0.00	0.00	0.00	0.00	0.00	4.00-03	4.20-02	4.60-02	4.60-02	5.00-02
1.50000 - 1.55000	0.00	0.00	0.00	0.00	0.00	1.60-02	6.60-02	7.00-02	7.00-02	7.00+00
1.55000 - 1.60000	0.00	0.00	0.00	0.00	0.00	1.60-02	6.00-02	6.40-02	6.40-02	6.40-02
1.60000 - 1.65000	0.00	0.00	0.00	0.00	0.00	4.00-03	5.00-02	5.20-02	5.60-02	5.60-02
1.65000 - 1.70000	0.00	0.00	0.00	0.00	0.00	1.40-02	4.80-02	5.40-02	5.60-02	5.60-02
1.70000 - 1.75000	0.00	0.00	0.00	0.00	2.00-03	6.00-03	3.60-02	4.60-02	5.40-02	5.40+00
1.75000 - 1.80000	0.00	0.00	0.00	0.00	0.00	8.00-03	5.00-02	7.00-02	8.80-02	9.80+00
1.80000 - 1.85000	0.00	0.00	0.00	0.00	0.00	4.00-03	5.00-02	6.60-02	9.20-02	1.06-01
1.85000 - 1.90000	0.00	0.00	0.00	0.00	0.00	1.20-02	7.20-02	1.08-01	1.60-01	1.90-01
1.90000 - 1.95000	0.00	0.00	0.00	0.00	0.00	6.00-03	7.00-02	1.70-01	2.56-01	3.40-01
1.95000 - 1.95500	0.00	0.00	0.00	0.00	0.00	2.00-02	1.80-01	3.80-01	6.60-01	7.00-01
1.95500 - 1.96000	0.00	0.00	0.00	0.00	0.00	2.00-02	1.40-01	3.20-01	4.00-01	4.20-01
1.96000 - 1.96500	0.00	0.00	0.00	0.00	0.00	0.00	1.20-01	2.00-01	2.80-01	2.80-01
1.96500 - 1.97000	0.00	0.00	0.00	0.00	0.00	0.00	8.00-02	1.00-01	1.20-01	1.40-01
1.97000 - 1.97500	0.00	0.00	0.00	0.00	0.00	0.00	6.00-02	1.60-01	1.80-01	1.80-01
1.97500 - 1.98000	0.00	0.00	0.00	0.00	0.00	2.00-02	8.00-02	1.20-01	1.40-01	1.60-01
1.98000 - 1.98500	0.00	0.00	0.00	0.00	0.00	0.00	2.00-02	2.00-02	6.00-02	8.00+00
1.98500 - 1.99000	0.00	0.00	0.00	0.00	0.00	0.00	4.00-02	4.00-02	4.00-02	0.00
1.99000 - 1.99500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00-02
TOTAL ABSORPTION	0.00	0.00	0.00	0.00	1.00-04	8.10-03	1.89-01	5.01-01	7.78-01	7.97-01
A-C EFFICIENCY	0.00	0.00	5.00-04	1.70-03	5.60-03	3.89-02	2.65-01	5.90-01	8.78-01	2.27+00

ENERGY DEPOSITION DISTRIBUTIONS FOR 3.00 MEV ELECTRONS NORMALLY INCIDENT ON SILICON DETECTORS
IN AN ANTI-COINCIDENCE ARRANGEMENT (CASE II)
(NUMBER/MEV, NORMALIZED TO ONE INCIDENT ELECTRON)

T (MEV)	Z(MM)= .05	.1	.2	.3	.5	1.0	2.0	3.0	5.0	10.0
.00000 - .07500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.07500 - .15000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.15000 - .22500	0.00	0.00	1.33-03	1.33-03	1.33-03	1.33-03	2.67-03	2.67-03	2.67-03	2.67-03
.22500 - .30000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.30000 - .37500	0.00	0.00	0.00	0.00	1.33-03	1.33-03	1.33-03	1.33-03	1.33-03	1.33-03
.37500 - .45000	0.00	0.00	0.00	0.00	6.67-04	4.00-03	4.00-03	4.00-03	4.00-03	4.00-03
.45000 - .52500	0.00	0.00	0.00	0.00	0.00	1.33-03	1.33-03	1.33-03	1.33-03	1.33-03
.52500 - .60000	0.00	0.00	0.00	0.00	1.33-03	2.67-03	2.67-03	2.67-03	2.67-03	2.67-03
.60000 - .67500	0.00	0.00	0.00	1.33-03	1.33-03	6.67-03	6.67-03	6.67-03	6.67-03	6.67-03
.67500 - .75000	0.00	0.00	0.00	0.00	1.33-03	2.67-03	4.00-03	4.00-03	4.00-03	4.00-03
.75000 - .82500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.82500 - .90000	0.00	0.00	0.00	0.00	2.67-03	5.33-03	6.67-03	6.67-03	6.67-03	6.67-03
.90000 - .97500	0.00	0.00	0.00	0.00	0.00	1.33-03	5.33-03	5.33-03	6.67-03	6.67-03
.97500 - 1.05000	0.00	0.00	0.00	0.00	0.00	5.33-03	5.33-03	5.33-03	5.33-03	5.33-03
1.05000 - 1.12500	0.00	0.00	0.00	0.00	0.00	1.33-03	6.67-03	6.67-03	8.00-03	8.00-03
1.12500 - 1.20000	0.00	0.00	0.00	0.00	0.00	2.67-03	1.07-02	1.07-02	1.07+00	1.07-02
1.20000 - 1.27500	0.00	0.00	0.00	0.00	0.00	0.00	4.00-03	4.00-03	4.00-03	4.00-03
1.27500 - 1.35000	0.00	0.00	0.00	0.00	1.33-03	6.67-03	1.47-02	1.47-02	1.47-02	1.47-02
1.35000 - 1.42500	0.00	0.00	0.00	0.00	1.33-03	2.67-03	1.20-02	1.33-02	1.33-02	1.33-02
1.42500 - 1.50000	0.00	0.00	0.00	0.00	0.00	1.33-03	1.47-02	1.47-02	1.60-02	1.60-02
1.50000 - 1.57500	0.00	0.00	0.00	0.00	0.00	0.00	1.47-02	1.60-02	1.60-02	1.60-02
1.57500 - 1.65000	0.00	0.00	0.00	0.00	0.00	0.00	1.73-02	1.73-02	1.73-02	1.87-02
1.65000 - 1.72500	0.00	0.00	0.00	0.00	0.00	1.33-03	1.33-02	1.33-02	1.47-02	1.47-02
1.72500 - 1.80000	0.00	0.00	0.00	0.00	0.00	1.33-03	2.27-02	2.40-02	2.53-02	2.53-02
1.80000 - 1.87500	0.00	0.00	0.00	0.00	0.00	1.33-03	1.73-02	2.13-02	2.13-02	2.13-02
1.87500 - 1.95000	0.00	0.00	0.00	0.00	0.00	2.67-03	2.67-02	3.20-02	3.20-02	3.20-02
1.95000 - 2.02500	0.00	0.00	0.00	0.00	0.00	0.00	1.33-02	1.87-02	2.00-02	2.00-02
2.02500 - 2.10000	0.00	0.00	0.00	0.00	0.00	0.00	2.13-02	2.53-02	2.67-02	2.80-02
2.10000 - 2.17500	0.00	0.00	0.00	0.00	0.00	0.00	1.87-02	3.20-02	3.33-02	3.33-02
2.17500 - 2.25000	0.00	0.00	0.00	0.00	0.00	1.00-03	1.47-02	2.67-02	2.67-02	2.80-02
2.25000 - 2.32500	0.00	0.00	0.00	0.00	0.00	0.00	1.47-02	3.33-02	3.60-02	3.87-02
2.32500 - 2.40000	0.00	0.00	0.00	0.00	0.00	0.00	1.33-02	2.27-02	2.40+00	2.80-02
2.40000 - 2.47500	0.00	0.00	0.00	0.00	1.33-03	1.33-03	1.20-02	2.53-02	2.67-02	2.80-02
2.47500 - 2.55000	0.00	0.00	0.00	0.00	0.00	1.33-03	8.00-03	2.00-02	2.53-02	2.93-02
2.55000 - 2.62500	0.00	0.00	0.00	0.00	0.00	1.33-03	6.67-03	2.13-02	2.67-02	3.07-02
2.62500 - 2.70000	0.00	0.00	0.00	0.00	0.00	0.00	8.00-03	4.00-02	6.40-02	7.20-02
2.70000 - 2.77500	0.00	0.00	0.00	0.00	0.00	1.33-03	8.00-03	2.80-02	5.73-02	7.33-02
2.77500 - 2.85000	0.00	0.00	0.00	0.00	0.00	0.00	5.33-03	2.80-02	8.00-02	1.23-01
2.85000 - 2.92500	0.00	0.00	0.00	0.00	0.00	0.00	1.07-02	4.67-02	1.65-01	2.85-01
2.92500 - 2.93250	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.07-01	9.33-02	5.20-01
2.93250 - 2.94000	0.00	0.00	0.00	0.00	0.00	0.00	4.00-02	1.47-01	2.53-01	3.87-01
2.94000 - 2.94750	0.00	0.00	0.00	0.00	0.00	0.00	2.67-02	8.00-02	2.67-01	3.47-01
2.94750 - 2.95500	0.00	0.00	0.00	0.00	0.00	0.00	6.67-03	8.00-02	3.07-01	4.27-01
2.95500 - 2.96250	0.00	0.00	0.00	0.00	0.00	0.00	6.67-03	1.20-01	2.40-01	2.80-01
2.96250 - 2.97000	0.00	0.00	0.00	0.00	0.00	0.00	1.33-02	5.33-02	1.47-01	1.60-01
2.97000 - 2.97750	0.00	0.00	0.00	0.00	0.00	0.00	1.33-02	5.33-02	1.73-01	2.13-01
2.97750 - 2.98500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33-02	1.33-02
2.98500 - 2.99250	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33-02	2.67-02	4.00-02
2.99250 - 2.99500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL ABSORPTION	0.00	0.00	0.00	0.00	0.00	3.00-04	2.01-02	1.17-01	4.88-01	7.40-01

ENERGY DEPOSITION DISTRIBUTIONS FOR 4.00 MEV ELECTRONS NORMALLY INCIDENT ON SILICON DETECTORS
IN AN ANTI-COINCIDENCE ARRANGEMENT (CASE II)
(NUMBER/MEV, NORMALIZED TO ONE INCIDENT ELECTRON)

T (MEV)	Z(MM)= .05	.1	.2	.3	.5	1.0	2.0	3.0	5.0	10.0
.00000 - .10000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.10000 - .20000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.20000 - .30000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.30000 - .40000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.40000 - .50000	0.00	0.00	0.00	1.00-03	1.00-03	1.00-03	1.00-03	1.00-03	1.00-03	1.00-03
.50000 - .60000	0.00	0.00	0.00	0.00	0.00	1.00-03	1.00-03	1.00-03	1.00-03	1.00-03
.60000 - .70000	0.00	0.00	0.00	0.00	0.00	2.00-03	2.00-03	2.00-03	2.00-03	2.00-03
.70000 - .80000	0.00	0.00	0.00	0.00	1.00-03	2.00-03	2.00-03	2.00-03	2.00-03	2.00-03
.80000 - .90000	0.00	0.00	0.00	0.00	0.00	1.00-03	1.00-03	1.00-03	1.00-03	1.00-03
.90000 - 1.00000	0.00	0.00	0.00	0.00	0.00	2.00-03	2.00-03	2.00-03	2.00-03	2.00-03
1.00000 - 1.10000	0.00	0.00	0.00	0.00	0.00	0.00	2.00-03	2.00-03	2.00-03	2.00-03
1.10000 - 1.20000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00-03
1.20000 - 1.30000	0.00	0.00	0.00	0.00	0.00	1.00-03	2.00-03	2.00-03	2.00-03	2.00-03
1.30000 - 1.40000	0.00	0.00	0.00	0.00	0.00	1.00-03	4.00-03	4.00-03	4.00-03	4.00-03
1.40000 - 1.50000	0.00	0.00	0.00	0.00	0.00	2.00-03	5.00-03	6.00-03	6.00-03	6.00-03
1.50000 - 1.60000	0.00	0.00	0.00	0.00	0.00	1.00-03	3.00-03	4.00-03	4.00-03	4.00-03
1.60000 - 1.70000	0.00	0.00	0.00	0.00	0.00	0.00	4.00-03	5.00-03	5.00-03	5.00-03
1.70000 - 1.80000	0.00	0.00	0.00	0.00	0.00	0.00	4.00-03	5.00-03	6.00-03	6.00-03
1.80000 - 1.90000	0.00	0.00	0.00	0.00	0.00	3.00-03	8.00-03	1.00-02	1.10-02	1.20-02
1.90000 - 2.00000	0.00	0.00	0.00	0.00	0.00	2.00-03	3.00-03	4.00-03	4.00-03	4.00-03
2.00000 - 2.10000	0.00	0.00	0.00	0.00	0.00	0.00	6.00-03	9.00-03	9.00-03	9.00-03
2.10000 - 2.20000	0.00	0.00	0.00	0.00	0.00	0.00	3.00-03	1.00-02	1.00-02	1.00-02
2.20000 - 2.30000	0.00	0.00	0.00	0.00	0.00	0.00	5.00-03	1.00-02	1.00-02	1.00-02
2.30000 - 2.40000	0.00	0.00	0.00	0.00	0.00	0.00	3.00-03	9.00-03	1.00-02	1.00-02
2.40000 - 2.50000	0.00	0.00	0.00	0.00	0.00	0.00	6.00-03	1.40-02	1.40-02	1.40-02
2.50000 - 2.60000	0.00	0.00	0.00	0.00	0.00	1.00-03	3.00-03	1.30-02	1.50-02	1.50-02
2.60000 - 2.70000	0.00	0.00	0.00	0.00	0.00	0.00	3.00-03	1.50-02	1.70-02	1.70-02
2.70000 - .80000	0.00	0.00	0.00	0.00	0.00	0.00	2.00-03	1.30-02	1.50-02	1.50-02
.80000 - .90000	0.00	0.00	0.00	0.00	0.00	0.00	5.00-03	1.70-02	1.90-02	1.90-02
.90000 - 3.00000	0.00	0.00	0.00	0.00	0.00	0.00	6.00-03	1.50-02	1.70-02	1.70-02
3.00000 - 3.10000	0.00	0.00	0.00	0.00	0.00	0.00	3.00-03	1.20-02	1.60-02	1.60-02
3.10000 - 3.20000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.00-03	8.00-03	1.50-02
3.20000 - 3.30000	0.00	0.00	0.00	0.00	0.00	0.00	2.00-03	1.00-02	1.60-02	1.80-02
3.30000 - 3.40000	0.00	0.00	0.00	0.00	0.00	0.00	1.00-03	6.00-03	1.10-02	1.30-02
3.40000 - 3.50000	0.00	0.00	0.00	0.00	0.00	0.00	1.00-03	5.00-03	1.40-02	1.80-02
3.50000 - 3.60000	0.00	0.00	0.00	0.00	0.00	0.00	2.00-03	1.10-02	3.40-02	4.00-02
3.60000 - 3.70000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.00-03	3.30-02	5.10-02
3.70000 - 3.80000	0.00	0.00	0.00	0.00	0.00	0.00	1.00-03	9.00-03	3.40-02	8.10-02
3.80000 - 3.90000	0.00	0.00	0.00	0.00	0.00	0.00	2.00-03	1.30-02	5.90-02	1.97-01
3.90000 - 3.91000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00-02	1.20-01	3.90-01
3.91000 - 3.92000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00-02	1.20-01	4.00-01
3.92000 - 3.93000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00-02	1.10-01	3.90-01
3.93000 - 3.94000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00-02	1.00-01	3.00-01
3.94000 - 3.95000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00-02	1.30-01	4.00-01
3.95000 - 3.96000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00-02	1.30-01	2.90-01
3.96000 - 3.97000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.10-01	2.20-01
3.97000 - 3.98000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00-02	7.00-02	1.40-01
3.98000 - 3.99000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00-02	5.00-02
3.99000 - 3.99500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL ABSORPTION	0.00	0.00	0.00	0.00	0.00	0.00	3.00-03	2.35-02	1.81-01	6.48-01

ENERGY DEPOSITION DISTRIBUTIONS FOR 5.00 MEV ELECTRONS NORMALLY INCIDENT ON SILICON DETECTORS
IN AN ANTI-COINCIDENCE ARRANGEMENT (CASE II)
(NUMBER/MEV, NORMALIZED TO ONE INCIDENT ELECTRON)

T (MEV)	Z(MM)= .05	.1	.2	.3	.5	1.0	2.0	3.0	5.0	10.0
.00000 - .12500	0.00	0.00	0.00	0.00	0.00	8.00-04	8.00-04	8.00-04	8.00-04	8.00-04
.12500 - .25000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.25000 - .37500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.37500 - .50000	0.00	0.00	0.00	0.00	0.00	8.00-04	8.00-04	8.00-04	8.00-04	8.00-04
.50000 - .62500	0.00	0.00	0.00	0.00	0.00	8.00-04	8.00-04	8.00-04	8.00-04	8.00-04
.62500 - .75000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.75000 - .87500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
.87500 - 1.00000	0.00	0.00	0.00	0.00	0.00	8.00-04	1.60-03	1.60-03	1.60-03	1.60-03
1.00000 - 1.12500	0.00	0.00	0.00	0.00	0.00	0.00	1.60-03	1.60-03	1.60-03	1.60-03
1.12500 - 1.25000	0.00	0.00	0.00	0.00	0.00	0.00	1.60-03	1.60-03	1.60-03	1.60-03
1.25000 - 1.37500	0.00	0.00	0.00	0.00	0.00	8.00-04	3.20-03	3.20-03	3.20-03	3.20-03
1.37500 - 1.50000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.50000 - 1.62500	0.00	0.00	0.00	0.00	0.00	8.00-04	2.40-03	2.40-03	2.40-03	2.40-03
1.62500 - 1.75000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.75000 - 1.87500	0.00	0.00	0.00	0.00	0.00	0.00	2.40-03	4.00-03	4.00-03	4.00-03
1.87500 - 2.00000	0.00	0.00	0.00	0.00	0.00	0.00	8.00-04	8.00-04	8.00-04	8.00-04
2.00000 - 2.12500	0.00	0.00	0.00	0.00	0.00	0.00	1.60-03	2.40-03	2.40-03	2.40-03
2.12500 - 2.25000	0.00	0.00	0.00	0.00	0.00	0.00	8.00-04	1.60-03	2.40-03	2.40-03
2.25000 - 2.37500	0.00	0.00	0.00	0.00	0.00	0.00	1.60-03	1.60-03	1.60-03	1.60-03
2.37500 - 2.50000	0.00	0.00	0.00	0.00	0.00	0.00	8.00-04	2.40-03	3.20-03	3.20-03
2.50000 - 2.62500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.00-04	8.00-04	8.00-04
2.62500 - 2.75000	0.00	0.00	0.00	0.00	0.00	8.00-04	2.40-03	3.20-03	4.00-03	4.00-03
2.75000 - 2.87500	0.00	0.00	0.00	0.00	0.00	0.00	8.00-04	4.00-03	4.80-03	4.80-03
2.87500 - 3.00000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.20-03	3.20-03	3.20-03
3.00000 - 3.12500	0.00	0.00	0.00	0.00	0.00	0.00	8.00-04	4.00-03	4.00-03	4.80-03
3.12500 - 3.25000	0.00	0.00	0.00	0.00	0.00	8.00-04	1.60-03	5.60-03	6.40-03	7.20-03
3.25000 - 3.37500	0.00	0.00	0.00	0.00	0.00	0.00	1.60-03	3.20-03	5.60-03	5.60-03
3.37500 - 3.50000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.40-03	3.20-03
3.50000 - 3.62500	0.00	0.00	0.00	0.00	0.00	0.00	1.60-03	4.00-03	1.04-02	1.12-02
3.62500 - 3.75000	0.00	0.00	0.00	0.00	0.00	0.00	8.00-04	2.40-03	8.00-03	8.00-03
3.75000 - 3.87500	0.00	0.00	0.00	0.00	0.00	0.00	8.00-04	4.00-03	6.40-03	6.40-03
3.87500 - 4.00000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00-03	8.80-03	1.04-02
4.00000 - 4.12500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.20-03	8.80-03	1.28-02
4.12500 - 4.25000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.20-03	8.80-03	1.20-02
4.25000 - 4.37500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.20-03	1.36-02	1.92-02
4.37500 - 4.50000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.40-03	1.52-02	2.72-02
4.50000 - 4.62500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.40-03	1.20-02	3.20-02
4.62500 - 4.75000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.60-03	1.68-02	5.04-02
4.75000 - 4.87500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.48-02	1.34-01
4.87500 - 4.88750	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.20-02	2.16-01
4.88750 - 4.90000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.00-03	4.00-02	2.64-01
4.90000 - 4.91250	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.80-02	2.64-01
4.91250 - 4.92500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.60-02	6.40-02	2.72-01
4.92500 - 4.93750	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.00-03	9.60-02	4.00-01
4.93750 - 4.95000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12-01	4.32-01
4.95000 - 4.96250	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.60-02	2.72-01
4.96250 - 4.97500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.00-03	7.20-02	1.68-01
4.97500 - 4.98750	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.00-03	4.80-02
4.98750 - 4.99500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL ABSORPTION	0.00	0.00	0.00	0.00	0.00	0.00	3.00-04	4.40-03	5.57-02	4.83-01

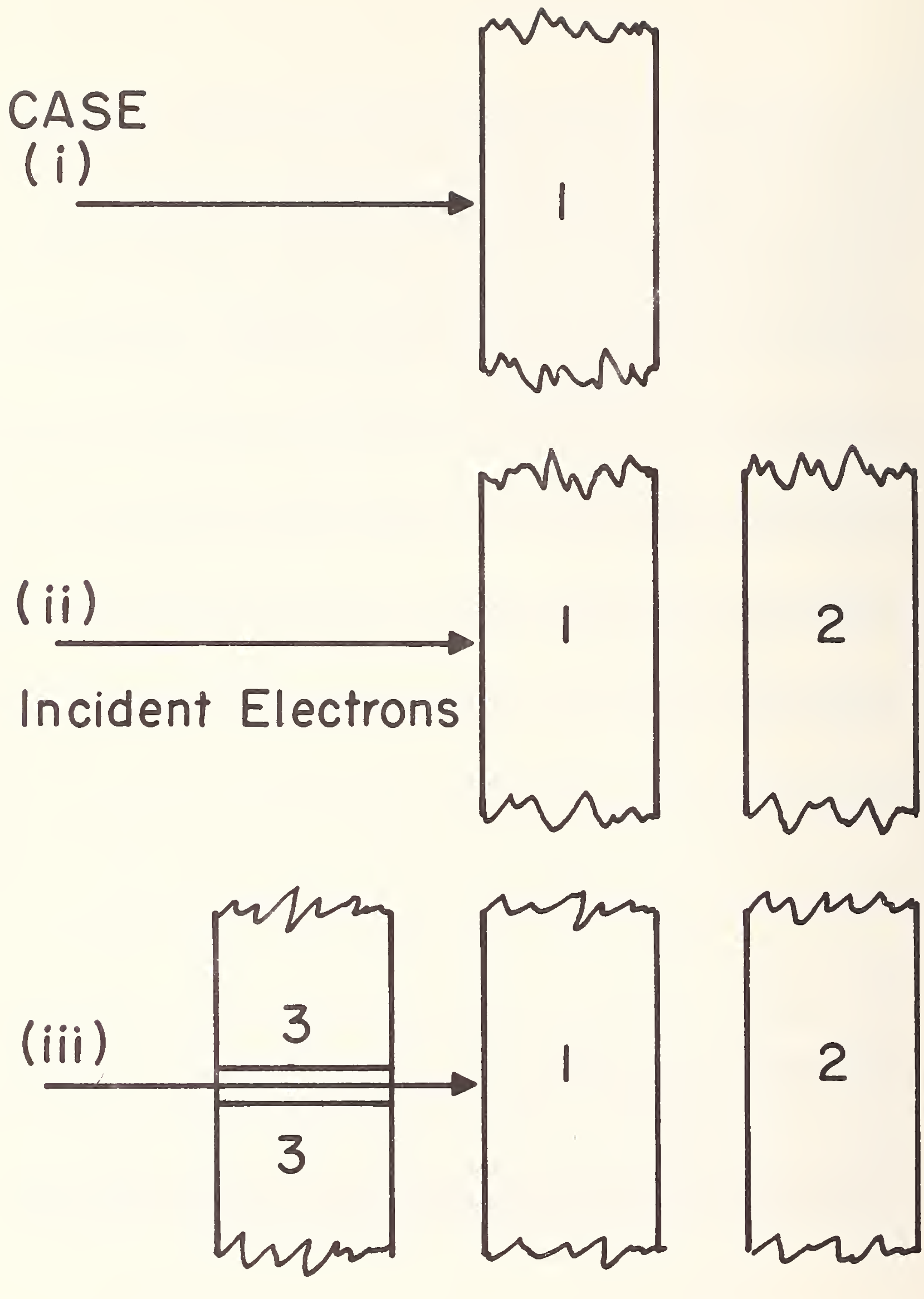

Fig. 1. Arrangements for silicon detectors considered in calculations: Case (i): Single detector; Case (ii): Detector 2 in anticoincidence with detector 1; Case (iii): Detectors 2 and 3 in anticoincidence with detector 1.

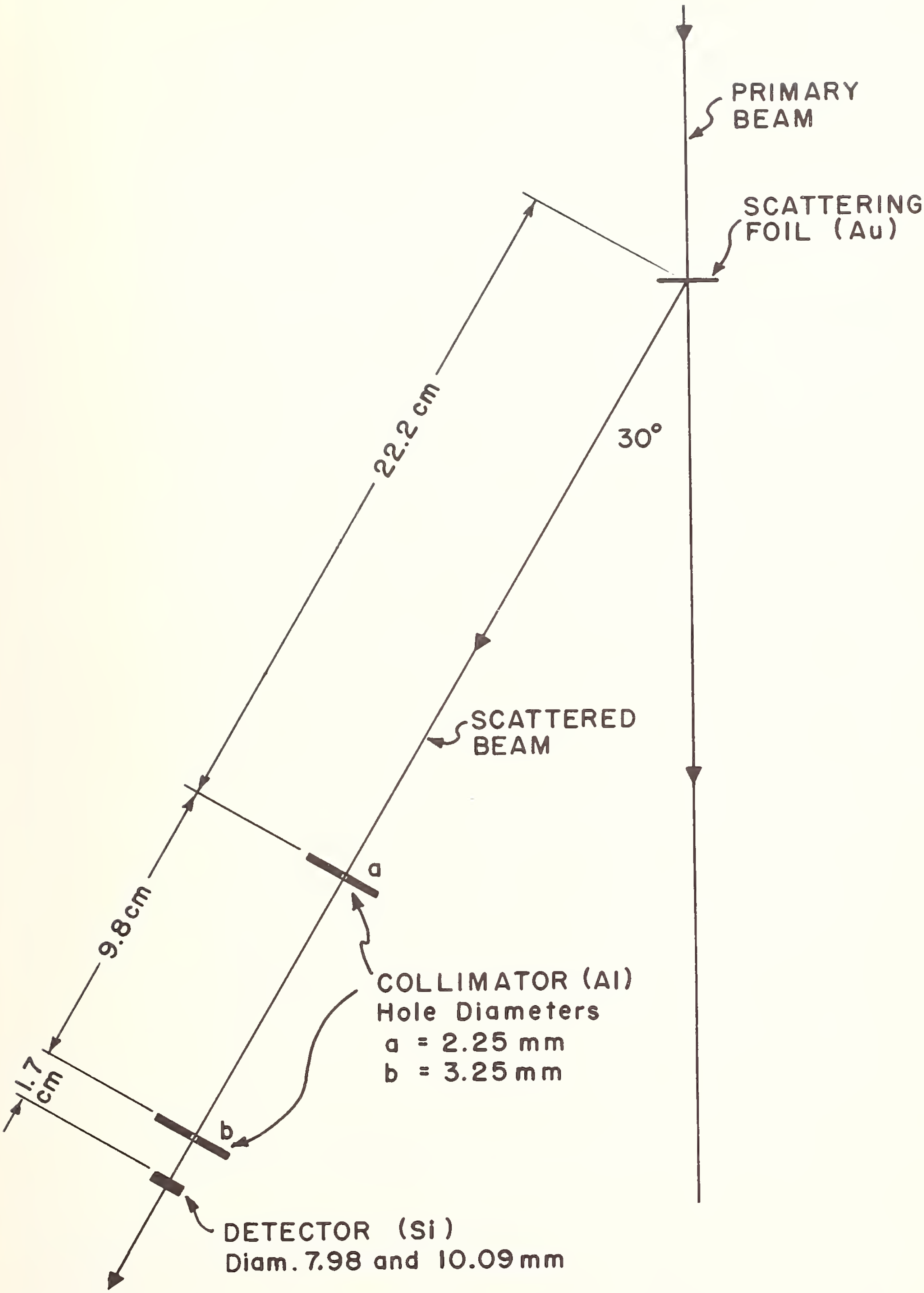

Fig. 2. Experimental arrangement of scattering foil, collimator, and silicon detector.

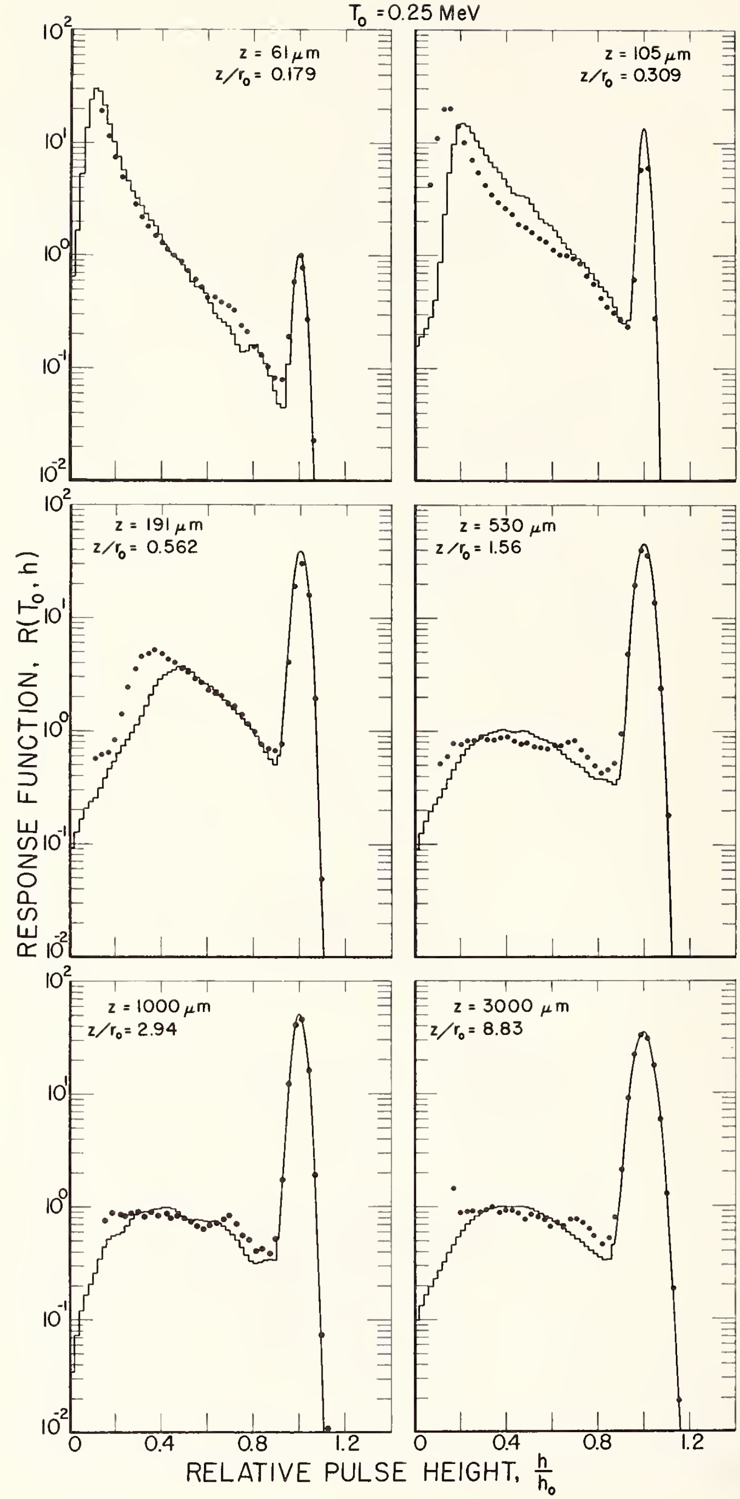

Fig. 3a. Response functions of silicon detectors for various thicknesses z. T_0 = 0.25 MeV. The points are experimental and the solid lines are calculated.

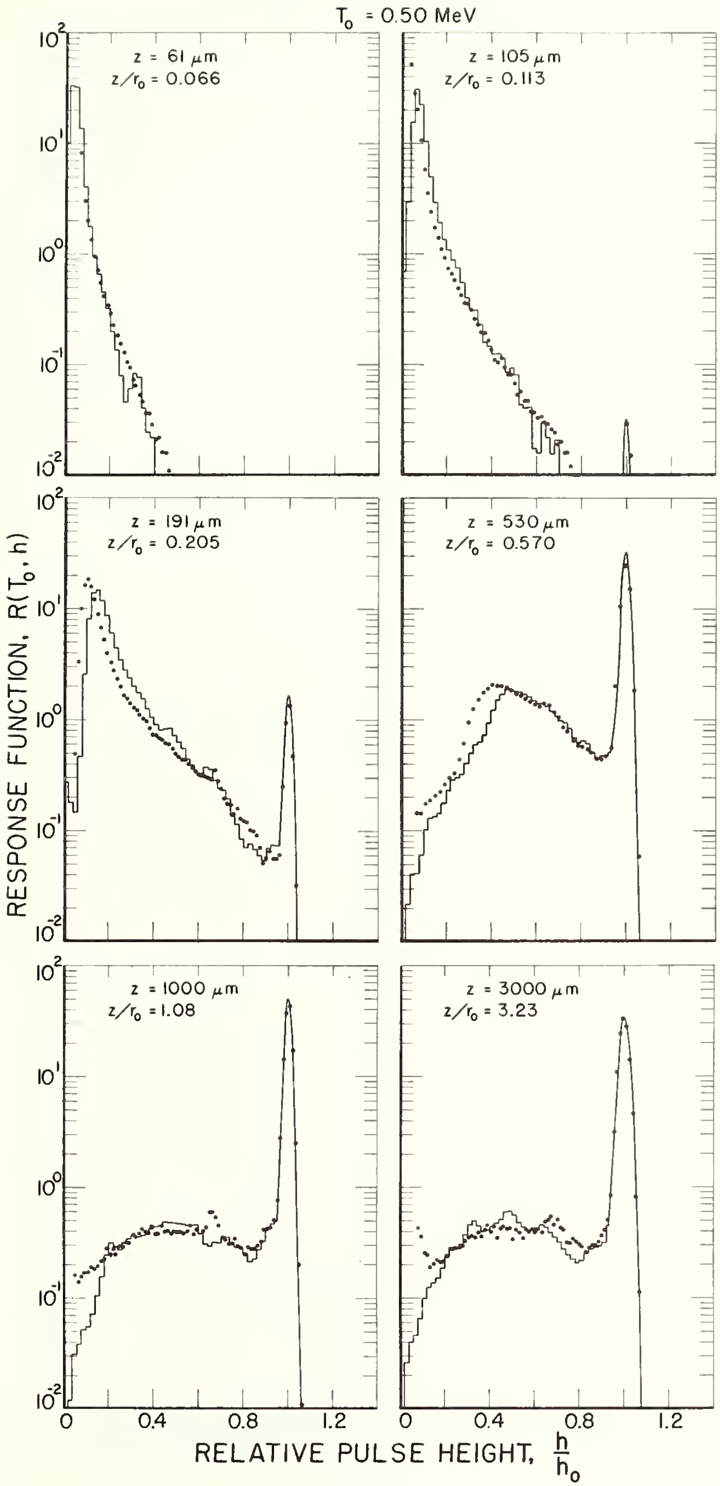

Fig. 3b. Response functions of silicon detectors for various thicknesses z. T_0 = 0.50 MeV. The points are experimental and the solid lines are calculated.

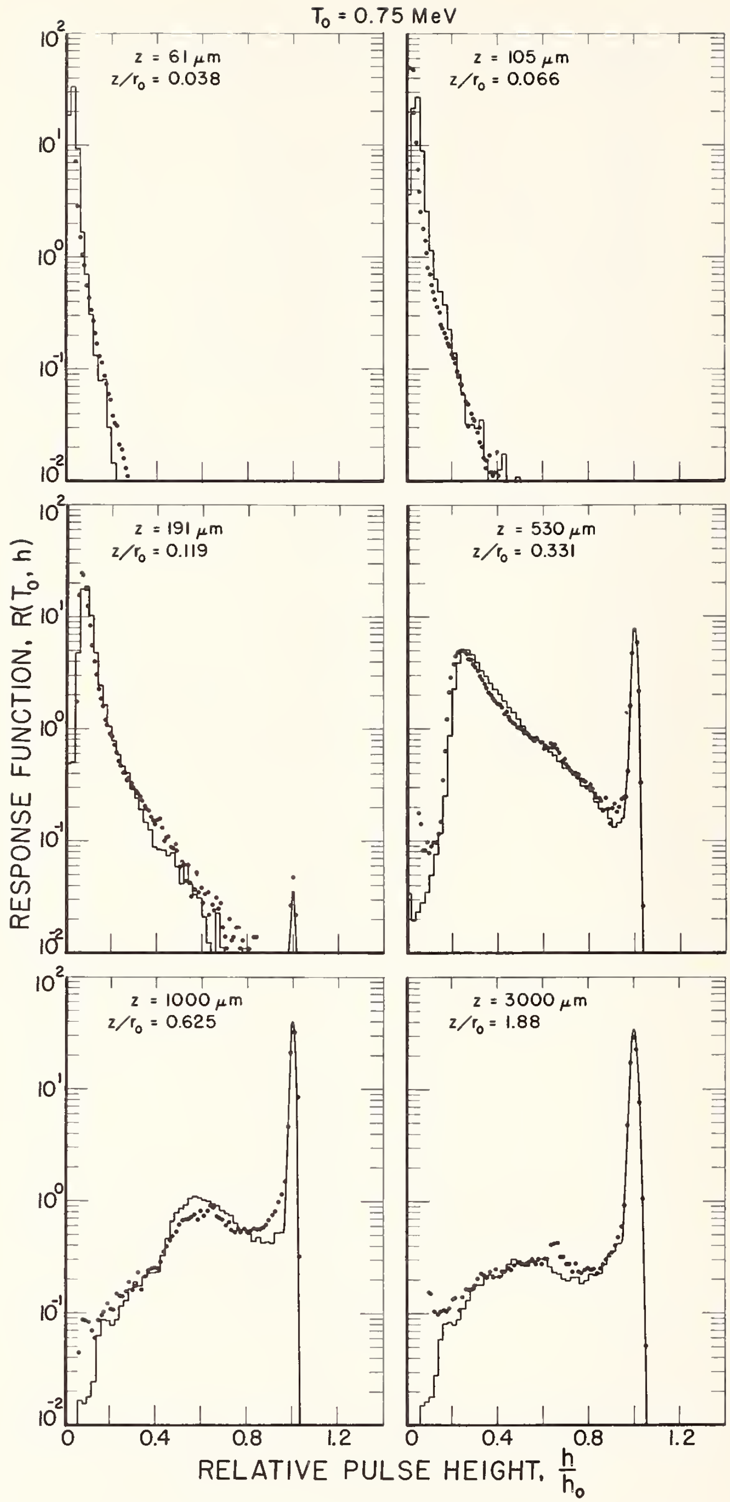

Fig. 3c. Response functions of silicon detectors for various thicknesses z. $T_0 = 0.75$ MeV. The points are experimental and the solid lines are calculated.

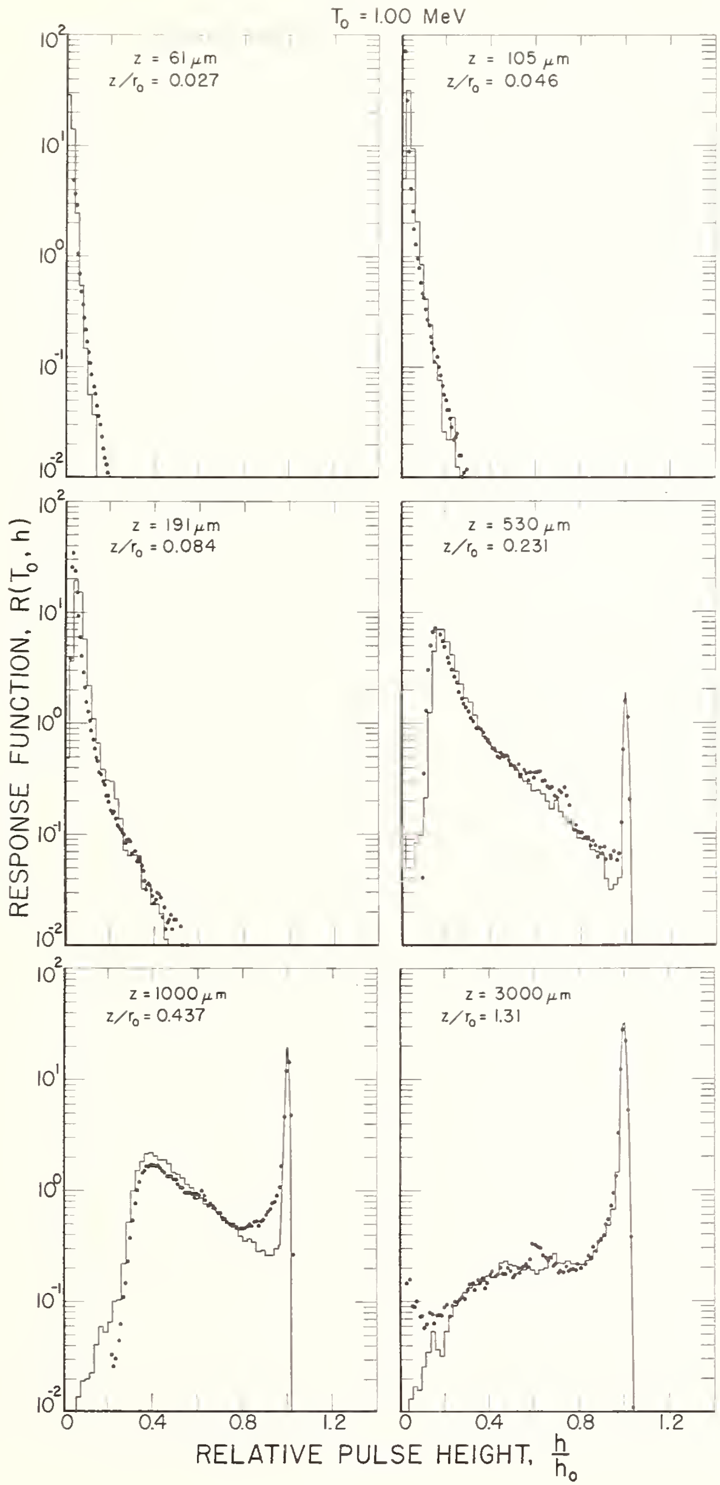

Fig. 3d. Response functions of silicon detectors for various thicknesses z. T_0 = 1.00 MeV. The points are experimental and the solid lines are calculated.

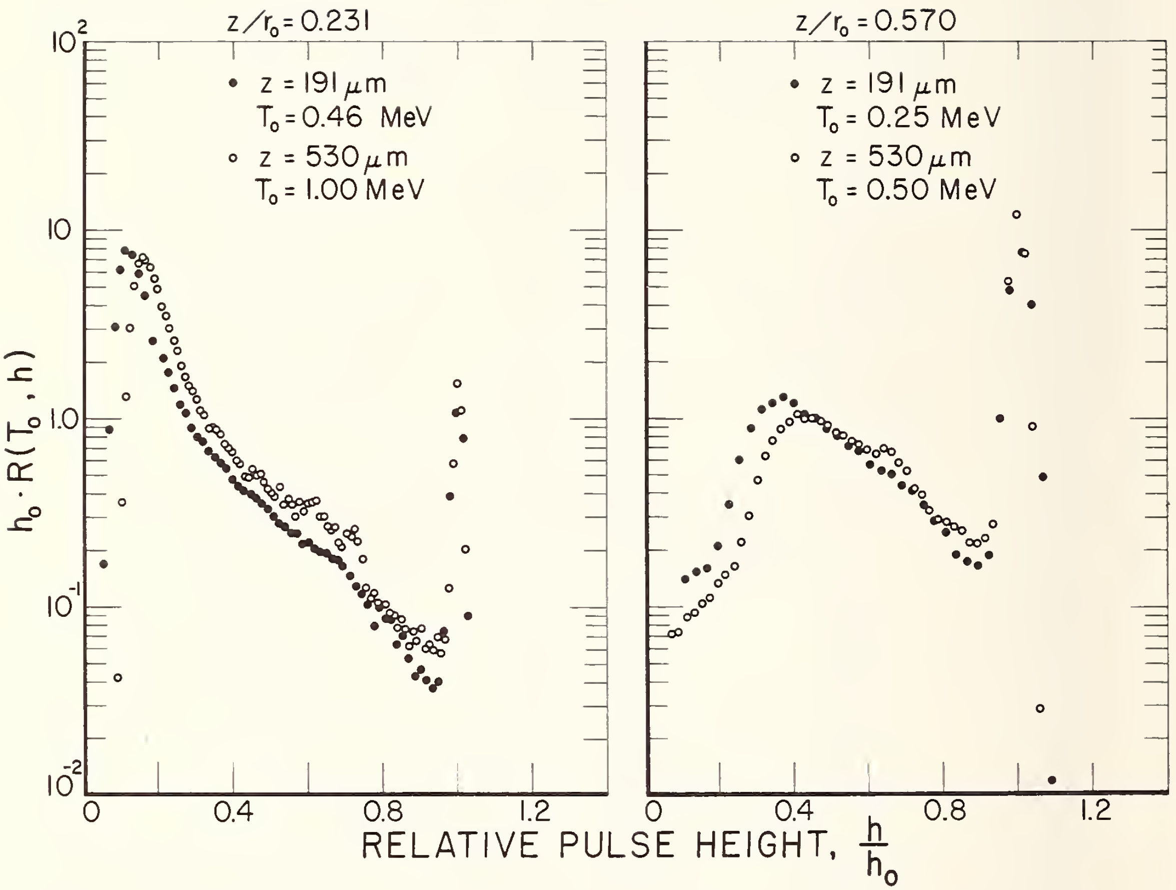

Fig. 4. Comparison of experimental response functions for cases in which the incident energy and detector thickness are varied such that the scaled thickness, z/r_0, is constant.

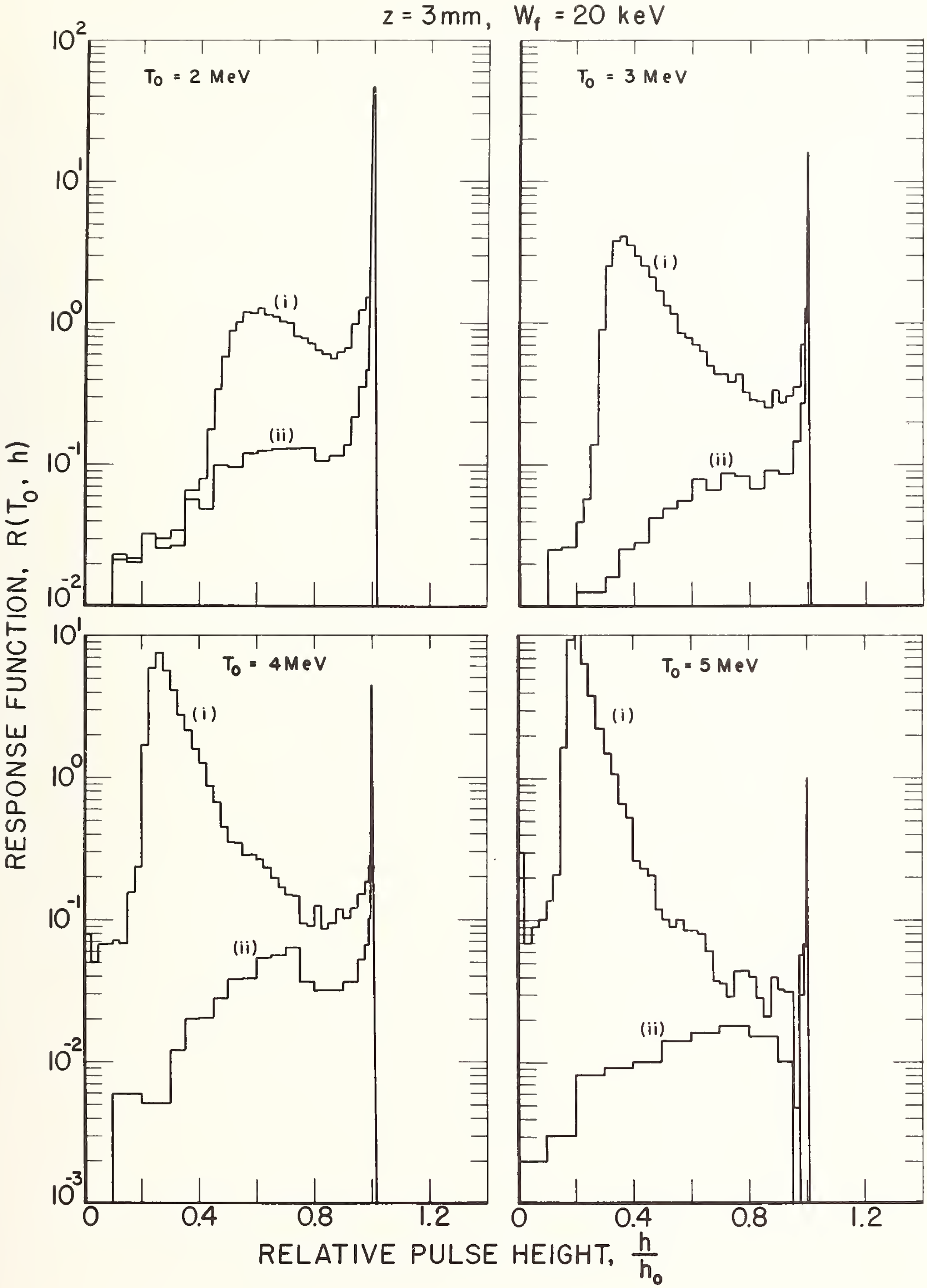

Fig. 5. Effect of an anticoincidence arrangement on calculated response functions. Case (i): Single detector; Case (ii): Single detector with an auxiliary detector operating in anticoincidence.

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