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CALCULATIONAL MODELS FOR LLL PULSED SPHERES
(CSEWG Shielding Benchmark Collection No. SDT 10)

Ernest F. Plechaty

Robert J. Howerton

October 1973

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ABSTRACT

Calculational models for LLL pulsed spheres are presented, together with a discussion of the effects of simplifications. Data relevant to detector response functions, geometric configurations, and other information required in order to calculate time spectra of detected neutrons are included.

INTRODUCTION

A series of experiments^{1,2} was carried out at LLL on the measurement of neutron emission spectra from spheres surrounding a centered source of D-T neutrons (nominal energy 14 MeV). The motive for doing these experiments, which included many materials, was to provide a mechanism for testing evaluated neutron data, primarily in the 13 to 15 MeV energy region, and especially to test the representations used for secondary neutron spectra in the evaluations. It was hoped, and the hope was borne out, that additional insight could be obtained as to the systematics of secondary neutron production from reactions induced by 13 to 15 MeV neutrons.

More than fifteen years ago Rosen and Stewart³, Mac Gregor⁴, and others noted that the secondary neutrons from 14 MeV neutron interactions cannot be well-represented by the equilibrium distribution associated with the temperature model of the nucleus. In particular, it was pointed out in Ref. 3 that only 85% to 90% of the neutrons emitted can be represented by this equilibrium dis-

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tribution, with the other neutrons appearing as a pre-equilibrium high energy tail on the distribution. In a recent experiment, Kammerdiener⁵ measured neutron emission spectra from the interactions of 14 MeV neutrons with eight different materials, using a ring-geometry technique. In the experiments of Refs. 3 - 5, microscopic cross sections were obtained, whereas the LLL pulsed sphere measurements are integral experiments which can be used to test microscopic data in an overall manner but which do not yield microscopic data. However, some information can be obtained from the LLL pulsed sphere data as to the fraction of the non-elastically-emitted neutrons that are non-equilibrium neutrons.

EXPERIMENTAL METHOD

The experiment consists of recording the ratio of counts with the sphere material in to counts with the sphere material out. With this differencing technique, the effects of the low-mass target assembly, the detector collimator, and the air in the flight path between the target and the detector essentially cancel out, and hence have no significant effect on the experimental data. In particular, with the sphere out, the counting rate from neutrons which are scattered from the target assembly and collimator is three orders of magnitude less than the counting rate from the uncollided neutron beam. Therefore, only the portions of the sphere-in neutron spectrum that have three-order-of-magnitude peak-to-valley changes in the counting rate will be affected. The largest effects are for the strongly-forward-peaked heavy elements - Pb, U^{235} , U^{238} , and Pu^{239} . The (nominal) 14 MeV neutron source pulse from the ICT deuteron accelerator has a time behavior that is nearly Gaussian in shape, with the time spread in the source characterized by its full width at half maximum (FWHM). The detectors were placed at two angles, 30° and 120°, with respect to the incident deuteron beam, and the NE 213 and PILOT-B scintillators were 5.08 cm in diameter and 5.08 cm long. The pulsed sphere experimental data for all materials except U^{235} , U^{238} , and Pu^{239} are given in Ref. 1. The data for these three

isotopes will be published as an addendum to Ref. 1, and they are included here as Appendix B.

CALCULATIONAL MODELS

In the calculation of neutron spectra, the time of arrival and the neutron energy are used in conjunction with a detector response function to make a correction for detector efficiency and thus obtain the true experimental counting rate as a function of time. The efficiency of the detector is given as the product of the detector area A and the probability-of-detection ϵ . The neutron energy-dependent response functions for PILOT-B and NE 213 are given in Tables I and II, respectively. Table III contains the data on the energy-angle-correlated source spectrum; the source is distributed uniformly over a disk of radius 0.62 cm located at the center of the spherical material. Figures 1 and 2 give the two basic geometries used in the calculational models. In these figures, zero degrees for the source is along the positive Z axis.

Monte Carlo is the preferred calculational method, used either in the continuous-energy cross-section mode or else with a histogram representation of the cross sections (with a sufficient number of histogram bins to adequately represent all of the salient features of the cross sections). The Monte Carlo may be either an analog calculation or an expectation calculation. Of course, whether the cross sections are given in continuum form or as histograms, the neutron energies should be continuous. Two different Monte Carlo codes, which illustrate both the different cross section representation modes and the different calculational modes, are the Los Alamos MCN code⁶ and the LLL TART code⁷. MCN operates in the continuous cross section mode and does an expectation calculation, whereas TART uses a histogram cross section representation (with from 175 to 2000 bins) and does an analog calculation. An intercomparison of MCN and TART calculations in which the same set of evaluated cross sections was used for both codes gave results for the pulsed spheres that agreed to within Monte Carlo statistics.

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Table I. PILOTB Detector Response Function

E(MeV)	A ϵ	E(MeV)	A ϵ	E(MeV)	A ϵ
1.600	0.001	6.600	4.791	11.600	3.733
1.700	0.669	6.700	4.747	11.700	3.716
1.800	1.239	6.800	4.720	11.800	3.700
1.900	1.727	6.900	4.684	11.900	3.685
2.000	2.151	7.000	4.641	12.000	3.670
2.100	2.515	7.100	4.615	12.100	3.657
2.200	2.833	7.200	4.568	12.200	3.643
2.300	3.108	7.300	4.479	12.300	3.630
2.400	3.349	7.400	4.429	12.400	3.618
2.500	3.558	7.500	4.400	12.500	3.608
2.600	3.726	7.600	4.362	12.600	3.598
2.700	3.887	7.700	4.340	12.700	3.588
2.800	4.010	7.800	4.325	12.800	3.580
2.900	4.088	7.900	4.320	12.900	3.573
3.000	4.242	8.000	4.309	13.000	3.565
3.100	4.366	8.100	4.313	13.100	3.560
3.200	4.408	8.200	4.317	13.200	3.557
3.300	4.446	8.300	4.316	13.300	3.556
3.400	4.483	8.400	4.314	13.400	3.556
3.500	4.527	8.500	4.304	13.500	3.557
3.600	4.572	8.600	4.296	13.600	3.560
3.700	4.615	8.700	4.287	13.700	3.571
3.800	4.660	8.800	4.278	13.800	3.583
3.900	4.707	8.900	4.260	13.900	3.600
4.000	4.774	9.000	4.243	14.000	3.613
4.100	4.765	9.100	4.216	14.100	3.625
4.200	4.766	9.200	4.189	14.200	3.638
4.300	4.761	9.300	4.171	14.300	3.651
4.400	4.786	9.400	4.153	14.400	3.664
4.500	4.807	9.500	4.136	14.500	3.677
4.600	4.824	9.600	4.120	14.600	3.690
4.700	4.832	9.700	4.103	14.700	3.703
4.800	4.835	9.800	4.086	14.800	3.716
4.900	4.839	9.900	4.066	14.900	3.729
5.000	4.845	10.000	4.045	15.000	3.741
5.100	4.846	10.100	4.030	15.100	3.753
5.200	4.847	10.200	4.006	15.200	3.765
5.300	4.845	10.300	3.985	15.300	3.777
5.400	4.840	10.400	3.960	15.400	3.789
5.500	4.836	10.500	3.943	15.500	3.801
5.600	4.833	10.600	3.920	15.600	3.813
5.700	4.833	10.700	3.900	15.700	3.825
5.800	4.836	10.800	3.880	15.800	3.837
5.900	4.840	10.900	3.860	15.900	3.849
6.000	4.842	11.000	3.840	16.000	3.861
6.100	4.844	11.100	3.820		
6.200	4.840	11.200	3.800		
6.300	4.832	11.300	3.783		
6.400	4.820	11.400	3.766		
6.500	4.805	11.500	3.750		

Table II. NE213 Detector Response Function

E(MeV)	A ϵ	E(MeV)	A ϵ	E(MeV)	A ϵ
1.600	0.003	6.600	4.155	11.600	3.116
1.700	0.615	6.700	4.126	11.700	3.101
1.800	1.139	6.800	4.107	11.800	3.088
1.900	1.586	6.900	4.091	11.900	3.074
2.000	1.974	7.000	4.069	12.000	3.062
2.100	2.306	7.100	4.050	12.100	3.050
2.200	2.596	7.200	4.020	12.200	3.040
2.300	2.846	7.300	3.954	12.300	3.031
2.400	3.065	7.400	3.918	12.400	3.022
2.500	3.255	7.500	3.898	12.500	3.013
2.600	3.417	7.600	3.882	12.600	3.006
2.700	3.555	7.700	3.830	12.700	2.998
2.800	3.668	7.800	3.814	12.800	2.992
2.900	3.744	7.900	3.805	12.900	2.988
3.000	3.876	8.000	3.787	13.000	2.984
3.100	3.984	8.100	3.767	13.100	2.982
3.200	4.027	8.200	3.771	13.200	2.981
3.300	4.064	8.300	3.761	13.300	2.980
3.400	4.100	8.400	3.744	13.400	2.980
3.500	4.140	8.500	3.727	13.500	2.981
3.600	4.180	8.600	3.704	13.600	2.982
3.700	4.217	8.700	3.684	13.700	2.987
3.800	4.255	8.800	3.663	13.800	2.992
3.900	4.294	8.900	3.641	13.900	2.998
4.000	4.325	9.000	3.618	14.000	3.004
4.100	4.342	9.100	3.588	14.100	3.010
4.200	4.344	9.200	3.562	14.200	3.016
4.300	4.340	9.300	3.542	14.300	3.021
4.400	4.359	9.400	3.525	14.400	3.027
4.500	4.375	9.500	3.506	14.500	3.032
4.600	4.388	9.600	3.486	14.600	3.038
4.700	4.392	9.700	3.468	14.700	3.043
4.800	4.392	9.800	3.450	14.800	3.049
4.900	4.389	9.900	3.429	14.900	3.055
5.000	4.386	10.000	3.410	15.000	3.061
5.100	4.379	10.100	3.393	15.100	3.067
5.200	4.371	10.200	3.375	15.200	3.073
5.300	4.362	10.300	3.355	15.300	3.078
5.400	4.333	10.400	3.333	15.400	3.083
5.500	4.332	10.500	3.312	15.500	3.087
5.600	4.318	10.600	3.293	15.600	3.092
5.700	4.304	10.700	3.275	15.700	3.097
5.800	4.286	10.800	3.255	15.800	3.102
5.900	4.269	10.900	3.238	15.900	3.106
6.000	4.250	11.000	3.217	16.000	3.110
6.100	4.228	11.100	3.200		
6.200	4.199	11.200	3.180		
6.300	4.102	11.300	3.162		
6.400	4.167	11.400	3.148		
6.500	4.155	11.500	3.130		

Table III. Neutron Source from Nominal 200 keV Deuterons

Angle (deg)	Energy (MeV)	Intensity
0	15.11	1.00
5	15.10	1.00
10	15.09	1.00
15	15.07	1.00
20	15.04	1.00
25	15.01	0.99
30	14.97	0.99
35	14.92	0.99
40	14.87	0.98
45	14.81	0.98
50	14.75	0.98
55	14.68	0.97
60	14.60	0.97
65	14.53	0.96
70	14.45	0.96
75	14.37	0.95
80	14.29	0.95
85	14.20	0.94
90	14.12	0.94
95	14.04	0.93
100	13.95	0.92
105	13.87	0.92
110	13.80	0.91
115	13.72	0.91
120	13.65	0.90
125	13.58	0.90
130	13.52	0.90
135	13.46	0.89
140	13.41	0.89
145	13.36	0.88
150	13.32	0.88
155	13.28	0.88
160	13.25	0.87
165	13.23	0.88
170	13.21	0.87
175	13.20	0.87
180	13.20	0.87

SURFACE 1, is either a cone or a cylinder specified by $X^2 + Y^2 + C(Z - Z_0)^2 = K^2$.

SURFACE 2, is a sphere specified by $X^2 + Y^2 + Z^2 = R^2$.

SURFACE 3, is a plane at $Z = M_Z$.

Figure 1. GEOMETRY TYPE I.

SURFACE 1, is a cylinder specified by $X^2 + Y^2 = K^2$.

SURFACE 2 and 3, are spheres specified by $X^2 + Y^2 + Z^2 = R_{2,3}^2$.

Figure 2. GEOMETRY TYPE II.

APPENDIX A

DESCRIPTION OF PULSED SPHERE MODELS

LITHIUM-6

Figure 1

SURFACE 1

$$C = -3.64618 \times 10^{-3}, Z_0 = 25.117, K = \phi.\phi$$

SURFACE 2

$$R = 8.912$$

SURFACE 3

$$M_Z = .64$$

DETECTOR DESCRIPTION

$$FWHM = 4 \text{ NS}$$

DETECTOR TYPE

$$30^\circ \text{ PILOT-B, } 120^\circ \text{ NE213}$$

DISTANCE FROM CENTER OF SPHERE TO DETECTOR IN CM.

$$30^\circ 765.2, 120^\circ 977.2$$

MATERIAL DENSITY

$$.451 \text{ g/cm}^3$$

MATERIAL COMPOSITION (ATOM FRACTIONS)

$$\text{Li}^6 .95 \quad \text{Li}^7 .05$$

LITHIUM-7

Figure 1

SURFACE 1

$$C = -3.64618 \times 10^{-3}, z_0 = 25.117, K = \phi.\phi$$

SURFACE 2

$$R = 8.912$$

SURFACE 3

$$M_z = .64$$

DETECTOR DESCRIPTION

$$FWHM = 4 \text{ NS}$$

DETECTOR TYPE

$$30^\circ \text{ PILOT-B, } 120^\circ \text{ NE213}$$

DISTANCE FROM CENTER OF SPHERE TO DETECTOR IN CM.

$$30^\circ 765.2, 120^\circ 977.2$$

MATERIAL DENSITY

$$.515 \text{ g/cm}^3$$

MATERIAL COMPOSITION (ATOM FRACTIONS)

$$\text{Li}^7 .9739 \quad \text{Li}^6 .0261$$

BERYLLIUM

Figure 2

SURFACE 1

$$K = 2.86$$

SURFACE 2

$$R = 8.0$$

SURFACE 3

$$R = 12.58$$

DETECTOR DESCRIPTION

$$\text{FWHM} = 4 \text{ NS}$$

DETECTOR TYPE

$$30^\circ \text{ PILOT-B, } 120^\circ \text{ ----}$$

DISTANCE FROM CENTER OF SPHERE TO DETECTOR IN CM.

$$30^\circ 765.2, 120^\circ \text{ ----}$$

MATERIAL DENSITY

$$1.835 \text{ g/cm}^3$$

MATERIAL COMPOSITION (ATOM FRACTIONS)

$$\text{Be}_{1.0}$$

CARBON

Figure 1

SURFACE 1

$$C = \phi.\phi, Z_0 = \phi.\phi, K = 1.13$$

SURFACE 2

$$R = 4.187$$

SURFACE 3

$$M_Z = .131$$

DETECTOR DESCRIPTION

$$FWHM = 4 \text{ NS}$$

DETECTOR TYPE

$$30^\circ \text{ NE213}, 120^\circ \text{ NE213}$$

DISTANCE FROM CENTER OF SPHERE TO DETECTOR IN CM.

$$30^\circ 766.0, 120^\circ 975.2$$

MATERIAL DENSITY

$$1.866 \text{ g/cm}^3$$

MATERIAL COMPOSITION (ATOM FRACTIONS)

$$C_{1.0}$$

NITROGEN

Figure 1

SURFACE 1

$$C = -.00476, Z_0 = 18.9, K = \phi.\phi$$

SURFACE 2

$$R = 19.05$$

SURFACE 3

$$M_Z = .782$$

DETECTOR DESCRIPTION

$$FWHM = 5 \text{ NS}$$

DETECTOR TYPE

$$30^\circ \text{ PILOT-B, } 120^\circ \text{ ----}$$

DISTANCE FROM CENTER OF SPHERE TO DETECTOR IN CM.

$$30^\circ 763.3, 120^\circ \text{ ----}$$

MATERIAL DENSITY

$$.808 \text{ g/cm}^3$$

MATERIAL COMPOSITION (ATOM FRACTIONS)

$$N_{1.0}$$

OXYGEN

Figure 1

SURFACE 1

$$C = -2.70868 \times 10^{-3}, Z_0 = 27.918, K = \phi.\phi$$

SURFACE 2

$$R = 10.48$$

SURFACE 3

$$M_Z = .25$$

DETECTOR DESCRIPTION

$$FWHM = 5 \text{ NS}$$

DETECTOR TYPE

$$30^\circ \text{ PILOT-B, } 120^\circ \text{ ----}$$

DISTANCE FROM CENTER OF SPHERE TO DETECTOR IN CM.

$$30^\circ \text{ 754.0, } 120^\circ \text{ ----}$$

MATERIAL DENSITY

$$1.14 \text{ g/cm}^3$$

MATERIAL COMPOSITION (ATOM FRACTIONS)

$$O_{1.0}$$

MAGNESIUM

Figure 1

SURFACE 1

$$C = -3.64618 \times 10^{-3}, Z_0 = 25.117, K = \phi.\phi$$

SURFACE 2

$$R = 8.94$$

SURFACE 3

$$M_Z = .64$$

DETECTOR DESCRIPTION

$$FWHM = 4 \text{ NS}$$

DETECTOR TYPE

30° PILOT-B, 120° NE213

DISTANCE FROM CENTER OF SPHERE TO DETECTOR IN CM.

30° 765.2 , 120° 977.2

MATERIAL DENSITY

$$1.74 \text{ g/cm}^3$$

MATERIAL COMPOSITION (ATOM FRACTIONS)

Mg_{1.0}

ALUMINUM

Figure 1

SURFACE 1

$$C = -3.64618 \times 10^{-3}, Z_0 = 25.117, K = \phi.\phi$$

SURFACE 2

$$R = 8.94$$

SURFACE 3

$$M_Z = .64$$

DETECTOR DESCRIPTION

$$\text{FWHM} = 4 \text{ NS}$$

DETECTOR TYPE

$$30^\circ \text{ PILOT-B, } 120^\circ \text{ NE213}$$

DISTANCE FROM CENTER OF SPHERE TO DETECTOR IN CM.

$$30^\circ 765.2, 120^\circ 977.2$$

MATERIAL DENSITY

$$2.70 \text{ g/cm}^3$$

MATERIAL COMPOSITION (ATOM FRACTIONS)

$$\text{Al}_{1.0}$$

TITANIUM

Figure 1

SURFACE 1

$$C = -3.64618 \times 10^{-3}, Z_0 = 25.117, K = \phi.\phi$$

SURFACE 2

$$R = 8.94$$

SURFACE 3

$$M_Z = .64$$

DETECTOR DESCRIPTION

$$\text{FWHM} = 4 \text{ NS}$$

DETECTOR TYPE

$$30^\circ \text{ PILOT-B, } 120^\circ \text{ ----}$$

DISTANCE FROM CENTER OF SPHERE TO DETECTOR IN CM.

$$30^\circ 765.2, 120^\circ \text{ ----}$$

MATERIAL DENSITY

$$4.54 \text{ g/cm}^3$$

MATERIAL COMPOSITION (ATOM FRACTIONS)

$$\text{Ti}_{1.0}$$

IRON

Figure 1

SURFACE 1

$$C = -4.889 \times 10^{-3}, Z_0 = 16.365, K = \phi.\phi$$

SURFACE 2

$$R = 4.46$$

SURFACE 3

$$M_Z = .475$$

DETECTOR DESCRIPTION

$$\text{FWHM} = 3 \text{ NS}$$

DETECTOR TYPE

$$30^\circ \text{ NE213}, 120^\circ \text{ NE213}$$

DISTANCE FROM CENTER OF SPHERE TO DETECTOR IN CM.

$$30^\circ 766.0, 120^\circ 975.2$$

MATERIAL DENSITY

$$7.85 \text{ g/cm}^3$$

MATERIAL COMPOSITION (ATOM FRACTIONS)

$$\text{Fe}_{1.0}$$

LEAD

Figure 1

SURFACE 1

$$C = -3.64618 \times 10^{-3}, z_0 = 25.117, K = \phi.\phi$$

SURFACE 2

$$R = 8.97$$

SURFACE 3

$$M_z = .64$$

DETECTOR DESCRIPTION

$$FWHM = 3 \text{ NS}$$

DETECTOR TYPE

$$30^\circ \text{ NE213}, 120^\circ \text{ NE213}$$

DISTANCE FROM CENTER OF SPHERE TO DETECTOR IN CM.

$$30^\circ 766.0, 120^\circ 975.2$$

MATERIAL DENSITY

$$11.35 \text{ g/cm}^3$$

MATERIAL COMPOSITION (ATOM FRACTIONS)

$$\text{Pb}_{1.0}$$

U^{235}

Figure 1

SURFACE 1

$$C = -4.889 \times 10^{-3}, Z_0 = 16.365, K = 0.0$$

SURFACE 2

$$R = 3.145$$

SURFACE 3

$$M_Z = .475$$

DETECTOR DESCRIPTION

$$FWHM = 3 \text{ NS}$$

DETECTOR TYPE

$$30^\circ \text{ NE213}, 120^\circ \text{ NE213}$$

DISTANCE FROM CENTER OF SPHERE TO DETECTOR IN CM.

$$30^\circ 766.0, 120^\circ 975.2$$

MATERIAL DENSITY

$$18.57 \text{ g/cm}^3$$

MATERIAL COMPOSITION (ATOM FRACTIONS)

$$\begin{array}{cc} U^{235} & U^{238} \\ .932 & .068 \end{array}$$

U^{238}

Figure 1

SURFACE 1

$$C = -4.889 \times 10^{-3}, Z_0 = 16.365, K = 0.0$$

SURFACE 2

$$R = 3.63$$

SURFACE 3

$$M_z = .475$$

DETECTOR DESCRIPTION

$$FWHM = 4 \text{ NS}$$

DETECTOR TYPE

$$30^\circ \text{ PILOT-B, } 120^\circ \text{ NE213}$$

DISTANCE FROM CENTER OF SPHERE TO DETECTOR IN CM.

$$30^\circ 765.2, 120^\circ 977.2$$

MATERIAL DENSITY

$$17.7 \text{ g/cm}^3$$

MATERIAL COMPOSITION (ATOM FRACTIONS)

$$U^{238} \\ 1.0$$

Pu^{239}

Figure 1

SURFACE 1

$$C = -4.889 \times 10^{-3}, Z_0 = 17.50, K = 0.0$$

SURFACE 2

$$R = 3.22$$

SURFACE 3

$$M_z = .475$$

DETECTOR DESCRIPTION

$$\text{FWHM} = 3. \text{ NS}$$

DETECTOR TYPE

$$30^\circ \text{ NE213}, 120^\circ \text{ NE213}$$

DISTANCE FROM CENTER OF SPHERE TO DETECTOR IN CM.

$$30^\circ 766.0, 120^\circ 975.2$$

MATERIAL DENSITY

$$15.80 \text{ g/cm}^3$$

MATERIAL COMPOSITION (ATOM FRACTIONS)

$$\text{Pu}^{239}_{1.0}$$

APPENDIX B

PULSED SPHERE EXPERIMENTAL DATA FOR

U^{235} , U^{238} , Pu^{239}

URANIUM 235 - 0.7 M.F.P. - 30 DEG.

FLIGHTPATH = 766.00 CM DETECTOR = NE213 FWHM = 3 NS

CALCULATED				
TIME (NS)	ENERGY (MEV)	CNT/NS/SOURCE	ERROR	INTEGRAL
1.3700E+02	1.6777E+01	3.67530E-04	2.13935E-05	7.35060E-04
1.3900E+02	1.6285E+01	9.14950E-03	1.06055E-04	1.90341E-02
1.4100E+02	1.5815E+01	5.23900E-02	2.53725E-04	1.23814E-01
1.4300E+02	1.5365E+01	1.11535E-01	3.70200E-04	3.46884E-01
1.4500E+02	1.4934E+01	9.71200E-02	3.45450E-04	5.41124E-01
1.4700E+02	1.4521E+01	3.68735E-02	2.12865E-04	6.14871E-01
1.4900E+02	1.4125E+01	8.15100E-03	1.00105E-04	6.31173E-01
1.5100E+02	1.3745E+01	2.45420E-03	5.49700E-05	6.36081E-01
1.5300E+02	1.3380E+01	1.37355E-03	4.11555E-05	6.38829E-01
1.5500E+02	1.3030E+01	9.55200E-04	3.43475E-05	6.40739E-01
1.5700E+02	1.2693E+01	8.82550E-04	3.30230E-05	6.42504E-01
1.5900E+02	1.2370E+01	7.89650E-04	3.12465E-05	6.44083E-01
1.6100E+02	1.2058E+01	7.84850E-04	3.11515E-05	6.45653E-01
1.6300E+02	1.1759E+01	8.09350E-04	3.16315E-05	6.47272E-01
1.6500E+02	1.1470E+01	7.01000E-04	2.94520E-05	6.48674E-01
1.6700E+02	1.1192E+01	7.38750E-04	3.02295E-05	6.50151E-01
1.6900E+02	1.0924E+01	7.01300E-04	2.94585E-05	6.51554E-01
1.7100E+02	1.0666E+01	6.31300E-04	2.79600E-05	6.52816E-01
1.7300E+02	1.0417E+01	6.46600E-04	2.82950E-05	6.54110E-01
1.7500E+02	1.0176E+01	6.94650E-04	2.93195E-05	6.55499E-01
1.7700E+02	9.9438E+00	6.70750E-04	2.88145E-05	6.56840E-01
1.7900E+02	9.7194E+00	6.24900E-04	2.78195E-05	6.58090E-01
1.8100E+02	9.5025E+00	6.41750E-04	2.81890E-05	6.59374E-01
1.8300E+02	9.2929E+00	6.41100E-04	2.81745E-05	6.60656E-01
1.8500E+02	9.0901E+00	7.16850E-04	2.97810E-05	6.62090E-01
1.8700E+02	8.8939E+00	7.40450E-04	3.02635E-05	6.63571E-01
1.8900E+02	8.7041E+00	7.65850E-04	3.07750E-05	6.65102E-01
1.9100E+02	8.5203E+00	7.32100E-04	3.00935E-05	6.66566E-01
1.9300E+02	8.3423E+00	7.27200E-04	2.99940E-05	6.68021E-01
1.9500E+02	8.1698E+00	8.26900E-04	3.19710E-05	6.69675E-01
1.9700E+02	8.0026E+00	8.37500E-04	3.21730E-05	6.71350E-01
1.9900E+02	7.8406E+00	8.22700E-04	3.18900E-05	6.72995E-01
2.0100E+02	7.6834E+00	9.58300E-04	3.44035E-05	6.74912E-01
2.0300E+02	7.5310E+00	9.42050E-04	3.41120E-05	6.76796E-01
2.0500E+02	7.3830E+00	9.68600E-04	3.45865E-05	6.78733E-01
2.0700E+02	7.2394E+00	9.88350E-04	3.49355E-05	6.80710E-01
2.0900E+02	7.0999E+00	1.02270E-03	3.55345E-05	6.82755E-01
2.1100E+02	6.9645E+00	1.18800E-03	3.82855E-05	6.85131E-01
2.1300E+02	6.8329E+00	1.17395E-03	3.80595E-05	6.87479E-01
2.1500E+02	6.7050E+00	1.22840E-03	3.89290E-05	6.89936E-01
2.1700E+02	6.5807E+00	1.24295E-03	3.91575E-05	6.92422E-01
2.1900E+02	6.4598E+00	1.34395E-03	4.07110E-05	6.95110E-01
2.2100E+02	6.3422E+00	1.43515E-03	4.20655E-05	6.97980E-01
2.2300E+02	6.2278E+00	1.48515E-03	4.27890E-05	7.00950E-01
2.2500E+02	6.1165E+00	1.47645E-03	4.26635E-05	7.03903E-01

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2.2700E+02	6.0082E+00	1.61380E-03	4.45980E-05	7.07131E-01
2.2900E+02	5.9327E+00	1.58800E-03	4.42410E-05	7.10307E-01
2.3100E+02	5.8000E+00	1.69205E-03	4.56630E-05	7.13691E-01
2.3300E+02	5.6999E+00	1.75510E-03	4.65040E-05	7.17201E-01
2.3500E+02	5.6025E+00	1.83235E-03	4.75130E-05	7.20866E-01
2.3700E+02	5.5075E+00	1.84615E-03	4.76915E-05	7.24558E-01
2.3900E+02	5.4149E+00	1.90000E-03	4.83805E-05	7.28358E-01
2.4100E+02	5.3246E+00	1.94190E-03	4.89095E-05	7.32242E-01
2.4300E+02	5.2366E+00	2.13890E-03	5.13250E-05	7.36520E-01
2.4500E+02	5.1508E+00	2.04025E-03	5.01300E-05	7.40600E-01
2.4700E+02	5.0670E+00	2.23905E-03	5.25100E-05	7.45078E-01
2.4900E+02	4.9853E+00	2.32190E-03	5.34700E-05	7.49722E-01
2.5100E+02	4.9056E+00	2.29185E-03	5.31250E-05	7.54306E-01
2.5300E+02	4.8277E+00	2.45635E-03	5.49950E-05	7.59218E-01
2.5500E+02	4.7517E+00	2.31045E-03	5.33400E-05	7.63839E-01
2.5700E+02	4.6775E+00	2.36555E-03	5.39700E-05	7.68570E-01
2.5900E+02	4.6050E+00	2.41750E-03	5.45550E-05	7.73405E-01
2.6100E+02	4.5342E+00	2.48890E-03	5.53550E-05	7.78383E-01
2.6300E+02	4.4650E+00	2.58995E-03	5.64650E-05	7.83563E-01
2.6500E+02	4.3974E+00	2.58265E-03	5.63850E-05	7.88728E-01
2.6700E+02	4.3313E+00	2.70780E-03	5.77350E-05	7.94144E-01
2.6900E+02	4.2667E+00	2.63840E-03	5.69900E-05	7.99421E-01
2.7100E+02	4.2035E+00	2.67540E-03	5.73900E-05	8.04772E-01
2.7300E+02	4.1417E+00	2.82370E-03	5.89550E-05	8.10419E-01
2.7500E+02	4.0813E+00	2.95340E-03	6.02900E-05	8.16326E-01
2.7700E+02	4.0222E+00	2.79735E-03	5.86800E-05	8.21920E-01
2.7900E+02	3.9644E+00	3.01725E-03	6.09400E-05	8.27955E-01
2.8100E+02	3.9078E+00	2.80840E-03	5.87950E-05	8.33572E-01
2.8300E+02	3.8524E+00	2.85025E-03	5.92300E-05	8.39272E-01
2.8500E+02	3.7982E+00	2.86540E-03	5.93850E-05	8.45003E-01
2.8700E+02	3.7452E+00	3.01075E-03	6.08700E-05	8.51025E-01
2.8900E+02	3.6932E+00	3.04290E-03	6.11950E-05	8.57110E-01
2.9100E+02	3.6423E+00	2.95785E-03	6.03350E-05	8.63026E-01
2.9300E+02	3.5925E+00	2.99685E-03	6.07300E-05	8.69020E-01
2.9500E+02	3.5437E+00	3.18015E-03	6.25600E-05	8.75380E-01
2.9700E+02	3.4958E+00	3.30075E-03	6.37300E-05	8.81982E-01
2.9900E+02	3.4490E+00	3.07520E-03	6.15200E-05	8.88132E-01
3.000E+02	3.4030E+00	2.98415E-03	6.06050E-05	8.94100E-01
3.0300E+02	3.3580E+00	3.04790E-03	6.12450E-05	9.00196E-01
3.0500E+02	3.3139E+00	2.99765E-03	6.07400E-05	9.06191E-01
3.0700E+02	3.2705E+00	3.15230E-03	6.22850E-05	9.12496E-01
3.0900E+02	3.2282E+00	3.08165E-03	6.15850E-05	9.18659E-01
3.1100E+02	3.1866E+00	3.30545E-03	6.37750E-05	9.25270E-01
3.1300E+02	3.1458E+00	3.39990E-03	6.46800E-05	9.32070E-01
3.1500E+02	3.1058E+00	3.39765E-03	6.46600E-05	9.38865E-01
3.1700E+02	3.0665E+00	3.37455E-03	6.44400E-05	9.45614E-01
3.1900E+02	3.0280E+00	3.32660E-03	6.39800E-05	9.52268E-01
3.2100E+02	2.9902E+00	3.44785E-03	6.51350E-05	9.59163E-01

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3.2300E+02	2.9531E+00	3.29440E-03	6.36700E-05	9.65752E-01
3.2500E+02	2.9167E+00	3.24640E-03	6.32050E-05	9.72245E-01
3.2700E+02	2.8810E+00	3.14365E-03	6.22000E-05	9.78532E-01
3.2900E+02	2.8459E+00	3.31265E-03	6.38450E-05	9.85157E-01
3.3100E+02	2.8115E+00	3.37125E-03	6.44100E-05	9.91900E-01
3.3300E+02	2.7777E+00	3.39985E-03	6.46800E-05	9.98700E-01
3.3500E+02	2.7444E+00	3.35965E-03	6.42950E-05	1.00542E+00
3.3700E+02	2.7118E+00	3.43455E-03	6.50100E-05	1.01229E+00
3.3900E+02	2.6798E+00	3.22050E-03	6.29550E-05	1.01873E+00
3.4100E+02	2.6483E+00	3.25290E-03	6.32700E-05	1.02523E+00
3.4300E+02	2.6174E+00	3.28795E-03	6.36100E-05	1.03181E+00
3.4500E+02	2.5870E+00	3.06845E-03	6.14500E-05	1.03795E+00
3.4700E+02	2.5571E+00	3.03580E-03	6.11250E-05	1.04402E+00
3.4900E+02	2.5278E+00	3.17790E-03	6.25350E-05	1.05038E+00
3.5100E+02	2.4990E+00	3.13895E-03	6.21550E-05	1.05665E+00
3.5300E+02	2.4706E+00	3.23295E-03	6.30750E-05	1.06312E+00
3.5500E+02	2.4427E+00	3.07140E-03	6.14300E-05	1.06926E+00
3.5700E+02	2.4153E+00	2.93455E-03	6.01000E-05	1.07513E+00
3.5900E+02	2.3884E+00	3.13430E-03	6.21050E-05	1.08140E+00
3.6100E+02	2.3619E+00	2.93585E-03	6.01100E-05	1.08727E+00
3.6300E+02	2.3359E+00	2.97275E-03	6.04850E-05	1.09322E+00
3.6500E+02	2.3102E+00	2.88770E-03	5.96150E-05	1.09899E+00
3.6700E+02	2.2850E+00	2.85700E-03	5.93000E-05	1.10471E+00
3.6900E+02	2.2602E+00	2.60170E-03	5.65950E-05	1.10991E+00
3.7100E+02	2.2359E+00	2.49955E-03	5.54750E-05	1.11491E+00
3.7300E+02	2.2119E+00	2.56565E-03	5.62000E-05	1.12004E+00
3.7500E+02	2.1882E+00	2.69595E-03	5.76050E-05	1.12543E+00
3.7700E+02	2.1650E+00	2.48695E-03	5.53350E-05	1.13041E+00
3.7900E+02	2.1421E+00	2.55155E-03	5.60450E-05	1.13551E+00
3.8100E+02	2.1196E+00	2.29655E-03	5.31800E-05	1.14010E+00
3.8300E+02	2.0975E+00	2.26395E-03	5.28000E-05	1.14463E+00
3.8500E+02	2.0757E+00	2.29880E-03	5.32050E-05	1.14923E+00
3.8700E+02	2.0542E+00	2.09885E-03	5.08450E-05	1.15342E+00
3.8900E+02	2.0331E+00	2.16165E-03	5.15950E-05	1.15775E+00
3.9100E+02	2.0123E+00	1.98820E-03	4.94875E-05	1.16172E+00
3.9300E+02	1.9918E+00	1.99385E-03	4.95575E-05	1.16571E+00
3.9500E+02	1.9716E+00	1.97330E-03	4.93020E-05	1.16966E+00
3.9700E+02	1.9517E+00	1.98625E-03	4.94630E-05	1.17363E+00
3.9900E+02	1.9321E+00	1.74615E-03	4.63850E-05	1.17712E+00
4.1000E+02	1.9128E+00	1.69095E-03	4.56485E-05	1.18051E+00
4.0300E+02	1.8938E+00	1.62715E-03	4.47820E-05	1.18376E+00
4.0500E+02	1.8751E+00	1.62795E-03	4.47925E-05	1.18702E+00
4.0700E+02	1.8567E+00	1.50440E-03	4.30640E-05	1.19002E+00
4.0900E+02	1.8385E+00	1.43125E-03	4.20085E-05	1.19289E+00
4.1100E+02	1.8206E+00	1.42420E-03	4.19050E-05	1.19574E+00
4.1300E+02	1.8030E+00	1.35160E-03	4.08270E-05	1.19844E+00
4.1500E+02	1.7856E+00	1.21900E-03	3.87800E-05	1.20088E+00

URANIUM 235 - 0.7 M.F.P. - 120 DEG.

FLIGHTPATH = 975.20 CM DETECTOR = NE213 FWHM = 3 NS

CALCULATED				
TIME (NS)	ENERGY (MEV)	CNT/NS/SOURCE	ERROR	INTEGRAL
1.9300E+02	1.5203E+01	2.28495E-04	2.33790E-05	4.56990E-04
1.8500E+02	1.4868E+01	8.75800E-04	4.51055E-05	2.20859E-03
1.8700E+02	1.4544E+01	4.91995E-03	1.06445E-04	1.20485E-02
1.8900E+02	1.4231E+01	3.45500E-02	2.81855E-04	8.11485E-02
1.9100E+02	1.3928E+01	1.19920E-01	5.25050E-04	3.20988E-01
1.9300E+02	1.3634E+01	1.28770E-01	5.44100E-04	5.78528E-01
1.9500E+02	1.3350E+01	5.40400E-02	3.52480E-04	6.86608E-01
1.9700E+02	1.3075E+01	1.24080E-02	1.68950E-04	7.11424E-01
1.9900E+02	1.2808E+01	2.70605E-03	7.90050E-05	7.16837E-01
2.0100E+02	1.2549E+01	1.25330E-03	5.38750E-05	7.19343E-01
2.0300E+02	1.2298E+01	8.68150E-04	4.49105E-05	7.21079E-01
2.0500E+02	1.2055E+01	6.76300E-04	3.96975E-05	7.22432E-01
2.0700E+02	1.1819E+01	7.35900E-04	4.13875E-05	7.23904E-01
2.0900E+02	1.1589E+01	6.44350E-04	3.87615E-05	7.25193E-01
2.1100E+02	1.1367E+01	6.37700E-04	3.85645E-05	7.26468E-01
2.1300E+02	1.1150E+01	6.89700E-04	4.00845E-05	7.27847E-01
2.1500E+02	1.0940E+01	5.88650E-04	3.70740E-05	7.29025E-01
2.1700E+02	1.0736E+01	5.73750E-04	3.66095E-05	7.30172E-01
2.1900E+02	1.0538E+01	5.97750E-04	3.73550E-05	7.31368E-01
2.2100E+02	1.0345E+01	4.71890E-04	3.32575E-05	7.32311E-01
2.2300E+02	1.0157E+01	5.21900E-04	3.49430E-05	7.33355E-01
2.2500E+02	9.9743E+00	4.52415E-04	3.25780E-05	7.34260E-01
2.2700E+02	9.7966E+00	5.20300E-04	3.48900E-05	7.35301E-01
2.2900E+02	9.6236E+00	4.50795E-04	3.25205E-05	7.36202E-01
2.3100E+02	9.4551E+00	5.32450E-04	3.52895E-05	7.37267E-01
2.3300E+02	9.2911E+00	6.12700E-04	3.78120E-05	7.38493E-01
2.3500E+02	9.1313E+00	5.49900E-04	3.58530E-05	7.39592E-01
2.3700E+02	8.9757E+00	6.41050E-04	3.86640E-05	7.40874E-01
2.3900E+02	8.8240E+00	6.31300E-04	3.83735E-05	7.42137E-01
2.4100E+02	8.6761E+00	6.58400E-04	3.91760E-05	7.43454E-01
2.4300E+02	8.5319E+00	6.48000E-04	3.88705E-05	7.44750E-01
2.4500E+02	8.3913E+00	6.81350E-04	3.98450E-05	7.46113E-01
2.4700E+02	8.2542E+00	6.59350E-04	3.92050E-05	7.47431E-01
2.4900E+02	8.1204E+00	6.19300E-04	3.80120E-05	7.48670E-01
2.5100E+02	7.9899E+00	6.79600E-04	3.97940E-05	7.50029E-01
2.5300E+02	7.8625E+00	7.64950E-04	4.21865E-05	7.51559E-01
2.5500E+02	7.7381E+00	7.35400E-04	4.13745E-05	7.53030E-01
2.5700E+02	7.6167E+00	7.54150E-04	4.18915E-05	7.54538E-01
2.5900E+02	7.4981E+00	7.20150E-04	4.09480E-05	7.55978E-01
2.6100E+02	7.3822E+00	8.20750E-04	4.36800E-05	7.57620E-01
2.6300E+02	7.2691E+00	8.79050E-04	4.51890E-05	7.59378E-01
2.6500E+02	7.1585E+00	9.44950E-04	4.68340E-05	7.61268E-01
2.6700E+02	7.0505E+00	9.55200E-04	4.70855E-05	7.63178E-01
2.6900E+02	6.9449E+00	9.64650E-04	4.73155E-05	7.65108E-01
2.7100E+02	6.8416E+00	1.03280E-03	4.89430E-05	7.67173E-01

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2.7307E+02	6.7407E+00	1.08920E-03	5.02500E-05	7.69352E-01
2.7500E+02	6.6419E+00	1.10950E-03	5.07100E-05	7.71571E-01
2.7700E+02	6.5454E+00	1.12690E-03	5.11050E-05	7.73824E-01
2.7907E+02	6.4509E+00	1.21745E-03	5.31000E-05	7.76259E-01
2.8100E+02	6.3585E+00	1.12070E-03	5.09650E-05	7.78501E-01
2.8300E+02	6.2680E+00	1.17695E-03	5.22200E-05	7.80855E-01
2.8500E+02	6.1795E+00	1.27545E-03	5.43450E-05	7.83405E-01
2.8700E+02	6.0928E+00	1.26815E-03	5.41900E-05	7.85942E-01
2.8900E+02	6.0080E+00	1.34665E-03	5.58300E-05	7.88635E-01
2.9100E+02	5.9249E+00	1.12915E-03	5.11550E-05	7.90893E-01
2.9300E+02	5.8435E+00	1.42380E-03	5.73950E-05	7.93741E-01
2.9500E+02	5.7638E+00	1.42405E-03	5.74000E-05	7.96589E-01
2.9700E+02	5.6858E+00	1.42795E-03	5.74800E-05	7.99445E-01
2.9900E+02	5.6093E+00	1.43890E-03	5.76950E-05	8.02323E-01
3.0100E+02	5.5343E+00	1.50255E-03	5.89500E-05	8.05328E-01
3.0300E+02	5.4609E+00	1.53800E-03	5.96400E-05	8.08404E-01
3.0500E+02	5.3889E+00	1.65315E-03	6.18200E-05	8.11710E-01
3.0700E+02	5.3183E+00	1.67730E-03	6.22650E-05	8.15065E-01
3.0900E+02	5.2491E+00	1.61980E-03	6.11950E-05	8.18304E-01
3.1100E+02	5.1812E+00	1.68895E-03	6.24800E-05	8.21682E-01
3.1300E+02	5.1147E+00	1.80455E-03	6.45700E-05	8.25291E-01
3.1500E+02	5.0494E+00	1.82005E-03	6.48450E-05	8.28931E-01
3.1700E+02	4.9854E+00	1.89785E-03	6.62100E-05	8.32727E-01
3.1900E+02	4.9226E+00	2.08950E-03	6.94600E-05	8.36906E-01
3.2100E+02	4.8610E+00	1.93225E-03	6.68050E-05	8.40771E-01
3.2300E+02	4.8005E+00	1.95005E-03	6.71100E-05	8.44671E-01
3.2500E+02	4.7412E+00	2.22420E-03	7.16550E-05	8.49119E-01
3.2700E+02	4.6829E+00	2.25570E-03	7.21550E-05	8.53631E-01
3.2900E+02	4.6257E+00	2.23700E-03	7.18550E-05	8.58105E-01
3.3100E+02	4.5696E+00	2.24640E-03	7.20100E-05	8.62597E-01
3.3300E+02	4.5145E+00	2.09410E-03	6.95350E-05	8.66786E-01
3.3500E+02	4.4603E+00	2.20350E-03	7.13200E-05	8.71193E-01
3.3700E+02	4.4072E+00	2.09735E-03	6.95900E-05	8.75387E-01
3.3900E+02	4.3550E+00	2.27025E-03	7.23850E-05	8.79928E-01
3.4100E+02	4.3037E+00	2.23490E-03	7.18250E-05	8.84398E-01
3.4300E+02	4.2533E+00	2.27325E-03	7.24350E-05	8.88944E-01
3.4500E+02	4.2038E+00	2.31730E-03	7.31300E-05	8.93579E-01
3.4700E+02	4.1552E+00	2.41570E-03	7.46600E-05	8.98410E-01
3.4900E+02	4.1074E+00	2.45675E-03	7.52900E-05	9.03324E-01
3.5100E+02	4.0604E+00	2.47440E-03	7.55600E-05	9.08272E-01
3.5300E+02	4.0142E+00	2.17730E-03	7.08950E-05	9.12627E-01
3.5500E+02	3.9688E+00	2.33040E-03	7.33350E-05	9.17288E-01
3.5700E+02	3.9242E+00	2.28990E-03	7.27000E-05	9.21868E-01
3.5900E+02	3.8803E+00	2.42220E-03	7.47600E-05	9.26712E-01
3.6100E+02	3.8372E+00	2.52740E-03	7.63600E-05	9.31767E-01
3.6300E+02	3.7948E+00	2.49435E-03	7.58650E-05	9.36755E-01
3.6500E+02	3.7531E+00	2.59380E-03	7.73550E-05	9.41943E-01
3.6700E+02	3.7120E+00	2.53290E-03	7.64450E-05	9.47009E-01

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3.6900E+02	3.5717E+00	2.44840E-03	7.51650E-05	9.51906E-01
3.7100E+02	3.6319E+00	2.50020E-03	7.59500E-05	9.56906E-01
3.7300E+02	3.5929E+00	2.79180E-03	8.02400E-05	9.62490E-01
3.7500E+02	3.5544E+00	2.66345E-03	7.83800E-05	9.67817E-01
3.7700E+02	3.5106E+00	2.54995E-03	7.67000E-05	9.72916E-01
3.7900E+02	3.4794E+00	2.64050E-03	7.80450E-05	9.78197E-01
3.8100E+02	3.4428E+00	2.72405E-03	7.92650E-05	9.83646E-01
3.8300E+02	3.4067E+00	2.69990E-03	7.89150E-05	9.89045E-01
3.8500E+02	3.3712E+00	2.83330E-03	8.08350E-05	9.94712E-01
3.8700E+02	3.3363E+00	2.66415E-03	7.83950E-05	1.00094E+00
3.8900E+02	3.3019E+00	2.77415E-03	7.99900E-05	1.00559E+00
3.9100E+02	3.2680E+00	2.79620E-03	8.03050E-05	1.01118E+00
3.9300E+02	3.2346E+00	2.85935E-03	8.12050E-05	1.01690E+00
3.9500E+02	3.2018E+00	2.76645E-03	7.98800E-05	1.02243E+00
3.9700E+02	3.1695E+00	2.62605E-03	7.78300E-05	1.02768E+00
3.9900E+02	3.1376E+00	2.70665E-03	7.90150E-05	1.03310E+00
4.0100E+02	3.1062E+00	2.71355E-03	7.91150E-05	1.03853E+00
4.0300E+02	3.0753E+00	2.88100E-03	8.15100E-05	1.04429E+00
4.0500E+02	3.0449E+00	2.86590E-03	8.12950E-05	1.05002E+00
4.0700E+02	3.0149E+00	2.70580E-03	7.90000E-05	1.05543E+00
4.0900E+02	2.9853E+00	2.67350E-03	7.85700E-05	1.06078E+00
4.1100E+02	2.9562E+00	2.95275E-03	8.25150E-05	1.06668E+00
4.1300E+02	2.9275E+00	2.66900E-03	7.84650E-05	1.07202E+00
4.1500E+02	2.8992E+00	2.79895E-03	8.03450E-05	1.07762E+00
4.1700E+02	2.8714E+00	2.65575E-03	7.82700E-05	1.08293E+00
4.1900E+02	2.8439E+00	2.68045E-03	7.86300E-05	1.08829E+00
4.2100E+02	2.8168E+00	2.67480E-03	7.85500E-05	1.09364E+00
4.2300E+02	2.7901E+00	2.70160E-03	7.89400E-05	1.09904E+00
4.2500E+02	2.7638E+00	2.85205E-03	8.11000E-05	1.10475E+00
4.2700E+02	2.7379E+00	2.88820E-03	8.16100E-05	1.11052E+00
4.2900E+02	2.7123E+00	2.71375E-03	7.91150E-05	1.11595E+00
4.3100E+02	2.6871E+00	2.64860E-03	7.81650E-05	1.12125E+00
4.3300E+02	2.6622E+00	2.86125E-03	8.12300E-05	1.12697E+00
4.3500E+02	2.6377E+00	2.88410E-03	8.15550E-05	1.13274E+00
4.3700E+02	2.6135E+00	2.76710E-03	7.98900E-05	1.13827E+00
4.3900E+02	2.5896E+00	2.68530E-03	7.87000E-05	1.14364E+00
4.4100E+02	2.5661E+00	2.57300E-03	7.70400E-05	1.14870E+00
4.4300E+02	2.5429E+00	2.65810E-03	7.84500E-05	1.15413E+00
4.4500E+02	2.5200E+00	2.59430E-03	7.73600E-05	1.15932E+00
4.4700E+02	2.4974E+00	2.68385E-03	7.86400E-05	1.16468E+00
4.4900E+02	2.4751E+00	2.48155E-03	7.56700E-05	1.16985E+00
4.5100E+02	2.4531E+00	2.67255E-03	7.85150E-05	1.17499E+00
4.5300E+02	2.4314E+00	2.44370E-03	7.50900E-05	1.17948E+00
4.5500E+02	2.4100E+00	2.35445E-03	7.37100E-05	1.18459E+00
4.5700E+02	2.3889E+00	2.54795E-03	7.66700E-05	1.18968E+00
4.5900E+02	2.3680E+00	2.54915E-03	7.66900E-05	1.19478E+00
4.6100E+02	2.3475E+00	2.37115E-03	7.39700E-05	1.19952E+00
4.6300E+02	2.3271E+00	2.42815E-03	7.48550E-05	1.20438E+00

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4.1500E+02	2.3071E+00	2.45210E-03	7.52200E-05	1.20928E+00
4.6700E+02	2.2873E+00	2.29030E-03	7.27050E-05	1.21387E+00
4.6900E+02	2.2678E+00	2.28640E-03	7.26450E-05	1.21844E+00
4.7100E+02	2.2485E+00	2.21925E-03	7.15750E-05	1.22288E+00
4.7300E+02	2.2294E+00	2.22200E-03	7.16150E-05	1.22732E+00
4.7500E+02	2.2106E+00	2.27605E-03	7.24800E-05	1.23187E+00
4.7700E+02	2.1921E+00	2.24995E-03	7.20650E-05	1.23637E+00
4.7900E+02	2.1737E+00	2.10540E-03	6.97200E-05	1.24058E+00
4.8100E+02	2.1556E+00	1.90435E-03	6.63250E-05	1.24439E+00
4.8300E+02	2.1378E+00	2.13940E-03	7.02800E-05	1.24867E+00
4.8500E+02	2.1201E+00	1.89235E-03	6.61150E-05	1.25246E+00
4.8700E+02	2.1027E+00	1.85930E-03	6.55400E-05	1.25617E+00
4.8900E+02	2.1355E+00	1.93990E-03	6.69350E-05	1.26005E+00
4.9100E+02	2.0684E+00	1.81260E-03	6.47150E-05	1.26368E+00
4.9300E+02	2.0516E+00	1.82890E-03	6.50050E-05	1.26734E+00
4.9500E+02	2.0350E+00	1.72990E-03	6.32300E-05	1.27080E+00
4.9700E+02	2.0186E+00	1.73555E-03	6.33300E-05	1.27427E+00
4.9900E+02	2.0024E+00	1.69725E-03	6.26300E-05	1.27766E+00
5.0100E+02	1.9864E+00	1.63580E-03	6.14950E-05	1.28093E+00
5.0300E+02	1.9706E+00	1.56880E-03	6.02300E-05	1.28407E+00
5.0500E+02	1.9550E+00	1.53405E-03	5.95600E-05	1.28714E+00
5.0700E+02	1.9396E+00	1.50615E-03	5.90200E-05	1.29015E+00
5.0900E+02	1.9243E+00	1.47620E-03	5.84350E-05	1.29310E+00
5.1100E+02	1.9092E+00	1.51720E-03	5.92350E-05	1.29614E+00
5.1300E+02	1.8943E+00	1.32120E-03	5.53050E-05	1.29878E+00
5.1500E+02	1.8796E+00	1.33330E-03	5.55550E-05	1.30145E+00

URANIUM 238 - 0.8 M.F.P. - 30 DEG.

FLIGHTPATH = 765.20 CM DETECTOR = PILOT B FWHM = 4 NS

CALCULATED				
TIME(NS)	ENERGY(MEV)	CNT/NS/SOURCE	ERROR	INTEGRAL
1.3500E+02	1.7255E+01	3.41485E-04	3.48120E-05	6.82970E-04
1.3700E+02	1.6741E+01	4.84295E-03	7.66450E-05	1.03699E-02
1.3900E+02	1.6250E+01	2.50130E-02	1.63600E-04	6.03949E-02
1.4100E+02	1.5781E+01	6.54450E-02	2.61995E-04	1.91285E-01
1.4300E+02	1.5332E+01	1.00395E-01	3.23790E-04	3.92075E-01
1.4500E+02	1.4902E+01	7.93850E-02	2.88230E-04	5.50845E-01
1.4700E+02	1.4490E+01	2.90290E-02	1.75855E-04	6.08903E-01
1.4900E+02	1.4095E+01	7.22050E-03	9.13050E-05	6.23344E-01
1.5100E+02	1.3716E+01	3.22030E-03	6.47600E-05	6.29784E-01
1.5300E+02	1.3352E+01	2.16260E-03	5.56600E-05	6.34110E-01
1.5500E+02	1.3002E+01	1.41015E-03	4.81535E-05	6.36930E-01
1.5700E+02	1.2666E+01	1.15650E-03	4.53435E-05	6.39243E-01
1.5900E+02	1.2343E+01	9.24600E-04	4.26130E-05	6.41092E-01
1.6100E+02	1.2033E+01	7.93350E-04	4.09865E-05	6.42679E-01
1.6300E+02	1.1734E+01	6.59250E-04	3.92560E-05	6.43997E-01
1.6500E+02	1.1446E+01	6.60100E-04	3.92670E-05	6.45318E-01
1.6700E+02	1.1169E+01	6.06200E-04	3.85495E-05	6.46530E-01
1.6900E+02	1.0901E+01	6.11450E-04	3.86200E-05	6.47753E-01
1.7100E+02	1.0643E+01	5.48850E-04	3.77715E-05	6.48851E-01
1.7300E+02	1.0395E+01	6.01200E-04	3.84820E-05	6.50053E-01
1.7500E+02	1.0154E+01	5.26600E-04	3.74650E-05	6.51106E-01
1.7700E+02	9.9227E+00	5.26600E-04	3.74650E-05	6.52159E-01
1.7900E+02	9.6987E+00	5.63600E-04	3.79730E-05	6.53287E-01
1.8100E+02	9.4824E+00	5.44000E-04	3.77045E-05	6.54375E-01
1.8300E+02	9.2732E+00	4.80340E-04	3.68200E-05	6.55335E-01
1.8500E+02	9.0708E+00	5.10250E-04	3.72385E-05	6.56356E-01
1.8700E+02	8.8751E+00	4.95605E-04	3.70340E-05	6.57347E-01
1.8900E+02	8.6857E+00	4.91135E-04	3.69715E-05	6.58329E-01
1.9100E+02	8.5023E+00	5.11200E-04	3.72515E-05	6.59352E-01
1.9300E+02	8.3246E+00	5.35950E-04	3.75940E-05	6.60424E-01
1.9500E+02	8.1525E+00	5.63850E-04	3.79760E-05	6.61551E-01
1.9700E+02	7.9857E+00	5.99550E-04	3.84600E-05	6.62750E-01
1.9900E+02	7.8240E+00	5.95100E-04	3.84000E-05	6.63941E-01
2. 100E+02	7.6672E+00	6.37050E-04	3.89620E-05	6.65215E-01
2. 300E+02	7.5150E+00	6.40600E-04	3.90085E-05	6.66496E-01
2. 500E+02	7.3674E+00	6.38800E-04	3.89845E-05	6.67773E-01
2.0700E+02	7.2241E+00	6.28500E-04	3.88480E-05	6.69030E-01
2.0900E+02	7.0849E+00	6.48550E-04	3.91145E-05	6.70328E-01
2.1100E+02	6.9498E+00	6.44750E-04	3.90640E-05	6.71617E-01
2.1300E+02	6.8184E+00	6.82650E-04	3.95630E-05	6.72982E-01
2.1500E+02	6.6908E+00	7.77750E-04	4.07890E-05	6.74538E-01
2.1700E+02	6.5668E+00	7.13350E-04	3.99630E-05	6.75965E-01
2.1900E+02	6.4461E+00	7.61850E-04	4.05870E-05	6.77488E-01
2.2100E+02	6.3288E+00	8.12450E-04	4.12275E-05	6.79113E-01
2.2300E+02	6.2147E+00	8.14550E-04	4.12540E-05	6.80742E-01

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2.2500E+02	5.1036E+00	7.65200E-04	4.05295E-05	6.82273E-01
2.2700E+02	5.9955E+00	8.40250E-04	4.15750E-05	6.83953E-01
2.2900E+02	5.8903E+00	8.69500E-04	4.19380E-05	6.85692E-01
2.3100E+02	5.7878E+00	8.78600E-04	4.20500E-05	6.87449E-01
2.3300E+02	5.6879E+00	9.27000E-04	4.26415E-05	6.89303E-01
2.3500E+02	5.5907E+00	9.03900E-04	4.23605E-05	6.91111E-01
2.3700E+02	5.4959E+00	8.39350E-04	4.15635E-05	6.92790E-01
2.3900E+02	5.4035E+00	8.91900E-04	4.22135E-05	6.94574E-01
2.4100E+02	5.3134E+00	1.05740E-03	4.41975E-05	6.96688E-01
2.4300E+02	5.2256E+00	9.72500E-04	4.31910E-05	6.98633E-01
2.4500E+02	5.1399E+00	1.01795E-03	4.37325E-05	7.00669E-01
2.4700E+02	5.0564E+00	1.07760E-03	4.44335E-05	7.02825E-01
2.4900E+02	4.9748E+00	1.11415E-03	4.48570E-05	7.05053E-01
2.5100E+02	4.8952E+00	1.17180E-03	4.55175E-05	7.07396E-01
2.5300E+02	4.8175E+00	1.14495E-03	4.52115E-05	7.09686E-01
2.5500E+02	4.7417E+00	1.27815E-03	4.67125E-05	7.12243E-01
2.5700E+02	4.6676E+00	1.25990E-03	4.65095E-05	7.14762E-01
2.5900E+02	4.5953E+00	1.26905E-03	4.66115E-05	7.17301E-01
2.6100E+02	4.5246E+00	1.24430E-03	4.63355E-05	7.19789E-01
2.6300E+02	4.4556E+00	1.25535E-03	4.64585E-05	7.22300E-01
2.6500E+02	4.3881E+00	1.23915E-03	4.62780E-05	7.24778E-01
2.6700E+02	4.3222E+00	1.19420E-03	4.57720E-05	7.27167E-01
2.6900E+02	4.2577E+00	1.20075E-03	4.58460E-05	7.29568E-01
2.7100E+02	4.1947E+00	1.35985E-03	4.76095E-05	7.32288E-01
2.7300E+02	4.1330E+00	1.21015E-03	4.59520E-05	7.34708E-01
2.7500E+02	4.0729E+00	1.22815E-03	4.61545E-05	7.37164E-01
2.7700E+02	4.0139E+00	1.32850E-03	4.72670E-05	7.39821E-01
2.7900E+02	3.9561E+00	1.33810E-03	4.73720E-05	7.42498E-01
2.8100E+02	3.8996E+00	1.32350E-03	4.72125E-05	7.45145E-01
2.8300E+02	3.8443E+00	1.35055E-03	4.75080E-05	7.47846E-01
2.8500E+02	3.7903E+00	1.32490E-03	4.72280E-05	7.50495E-01
2.8700E+02	3.7373E+00	1.39570E-03	4.79980E-05	7.53287E-01
2.8900E+02	3.6854E+00	1.39135E-03	4.79505E-05	7.56070E-01
2.9100E+02	3.6347E+00	1.44135E-03	4.84875E-05	7.58952E-01
2.9300E+02	3.5849E+00	1.43685E-03	4.84395E-05	7.61826E-01
2.9500E+02	3.5362E+00	1.44470E-03	4.85235E-05	7.64715E-01
2.9700E+02	3.4885E+00	1.45265E-03	4.86080E-05	7.67621E-01
2.9900E+02	3.4417E+00	1.46265E-03	4.87150E-05	7.70546E-01
3.0100E+02	3.3959E+00	1.39995E-03	4.80435E-05	7.73346E-01
3.0300E+02	3.3510E+00	1.42685E-03	4.83325E-05	7.76200E-01
3.0500E+02	3.3069E+00	1.53130E-03	4.94390E-05	7.79262E-01
3.0700E+02	3.2638E+00	1.54080E-03	4.95385E-05	7.82344E-01
3.0900E+02	3.2214E+00	1.59970E-03	5.01500E-05	7.85543E-01
3.1100E+02	3.1799E+00	1.52525E-03	4.93755E-05	7.88594E-01
3.1300E+02	3.1392E+00	1.50725E-03	4.91865E-05	7.91608E-01
3.1500E+02	3.0993E+00	1.50340E-03	4.91460E-05	7.94615E-01
3.1700E+02	3.0601E+00	1.66305E-03	5.08000E-05	7.97941E-01
3.1900E+02	3.0217E+00	1.50100E-03	4.91210E-05	8.00943E-01

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3.2100E+02	2.9840E+00	1.65035E-03	5.06700E-05	8.04244E-01
3.2300E+02	2.9469E+00	1.46945E-03	4.87865E-05	8.07183E-01
3.2500E+02	2.9106E+00	1.47110E-03	4.88040E-05	8.10125E-01
3.2700E+02	2.8750E+00	1.50310E-03	4.91430E-05	8.13131E-01
3.2900E+02	2.8399E+00	1.45335E-03	4.86155E-05	8.16038E-01
3.3100E+02	2.8056E+00	1.51210E-03	4.92375E-05	8.19062E-01
3.3300E+02	2.7718E+00	1.53830E-03	4.95125E-05	8.22139E-01
3.3500E+02	2.7387E+00	1.54430E-03	4.95750E-05	8.25227E-01
3.3700E+02	2.7061E+00	1.59940E-03	5.01450E-05	8.28426E-01
3.3900E+02	2.6742E+00	1.50400E-03	4.91520E-05	8.31434E-01
3.4100E+02	2.6428E+00	1.46035E-03	4.86900E-05	8.34355E-01
3.4300E+02	2.6119E+00	1.49325E-03	4.90385E-05	8.37341E-01
3.4500E+02	2.5816E+00	1.59030E-03	5.00550E-05	8.40522E-01
3.4700E+02	2.5518E+00	1.45845E-03	4.86700E-05	8.47439E-01
3.4900E+02	2.5225E+00	1.50465E-03	4.91590E-05	8.46448E-01
3.5100E+02	2.4937E+00	1.46760E-03	4.87670E-05	8.49383E-01
3.5300E+02	2.4654E+00	1.33805E-03	4.73715E-05	8.52059E-01
3.5500E+02	2.4376E+00	1.47735E-03	4.88705E-05	8.55014E-01
3.5700E+02	2.4103E+00	1.41860E-03	4.82440E-05	8.57851E-01
3.5900E+02	2.3834E+00	1.43955E-03	4.84685E-05	8.60730E-01
3.6100E+02	2.3570E+00	1.36000E-03	4.76110E-05	8.63450E-01
3.6300E+02	2.3310E+00	1.39645E-03	4.78975E-05	8.66223E-01
3.6500E+02	2.3054E+00	1.31095E-03	4.70745E-05	8.68845E-01
3.6700E+02	2.2803E+00	1.35195E-03	4.75230E-05	8.71549E-01
3.6900E+02	2.2555E+00	1.37630E-03	4.77875E-05	8.74302E-01
3.7100E+02	2.2312E+00	1.29260E-03	4.69720E-05	8.76887E-01
3.7300E+02	2.2072E+00	1.22490E-03	4.61190E-05	8.79337E-01
3.7500E+02	2.1837E+00	1.23505E-03	4.62315E-05	8.81807E-01
3.7700E+02	2.1605E+00	1.21155E-03	4.59675E-05	8.84230E-01
3.7900E+02	2.1377E+00	1.12425E-03	4.49735E-05	8.86478E-01
3.8100E+02	2.1152E+00	1.06480E-03	4.42835E-05	8.88608E-01
3.8300E+02	2.0931E+00	1.02015E-03	4.37585E-05	8.90648E-01
3.8500E+02	2.0713E+00	9.46050E-04	4.28725E-05	8.92540E-01
3.8700E+02	2.0499E+00	8.43600E-04	4.16165E-05	8.94227E-01
3.8900E+02	2.0288E+00	9.66550E-04	4.31195E-05	8.96161E-01
3.9100E+02	2.0080E+00	1.05385E-03	4.41555E-05	8.98268E-01
3.9300E+02	1.9876E+00	9.21650E-04	4.25770E-05	9.00112E-01
3.9500E+02	1.9675E+00	8.83200E-04	4.21065E-05	9.01878E-01
3.9700E+02	1.9476E+00	8.30850E-04	4.14575E-05	9.03540E-01
3.9900E+02	1.9281E+00	7.52700E-04	4.04700E-05	9.05045E-01
4.0100E+02	1.9088E+00	7.92900E-04	4.09810E-05	9.06631E-01
4.0300E+02	1.8899E+00	7.40800E-04	4.03170E-05	9.08112E-01
4.0500E+02	1.8712E+00	6.37700E-04	3.89705E-05	9.09388E-01
4.0700E+02	1.8528E+00	6.37500E-04	3.89680E-05	9.10663E-01
4.0900E+02	1.8347E+00	6.05200E-04	3.85360E-05	9.11873E-01
4.1100E+02	1.8168E+00	6.32200E-04	3.88970E-05	9.13138E-01
4.1300E+02	1.7992E+00	5.10000E-04	3.72345E-05	9.14158E-01
4.1500E+02	1.7819E+00	5.34600E-04	3.75755E-05	9.15227E-01

URANIUM 233 - 0.9 M.F.P. - 120 DEG.

FLIGHTPATH = 977.20 CM

DETECTOR = NE213

FWHM = 4 NS

TIME (NS)	CALCULATED ENERGY (MEV)	CNT/NS/SOURCE	ERROR	INTEGRAL
1.8100E+02	1.5614E+01	6.37500E-05	1.16555E-05	1.27500E-04
1.8300E+02	1.5266E+01	2.66165E-04	2.10810E-05	6.59830E-04
1.8500E+02	1.4930E+01	1.45985E-03	4.75820E-05	3.57953E-03
1.8700E+02	1.4605E+01	6.63950E-03	1.00795E-04	1.68585E-02
1.8900E+02	1.4291E+01	2.33600E-02	1.88805E-04	6.35785E-02
1.9100E+02	1.3986E+01	6.67050E-02	3.18940E-04	1.96989E-01
1.9300E+02	1.3692E+01	1.14265E-01	4.17400E-04	4.25519E-01
1.9500E+02	1.3406E+01	9.56650E-02	3.81925E-04	6.16849E-01
1.9700E+02	1.3130E+01	3.07030E-02	2.16430E-04	6.78255E-01
1.9900E+02	1.2862E+01	5.21400E-03	8.93700E-05	6.88683E-01
2.0100E+02	1.2602E+01	1.86495E-03	5.36900E-05	6.92412E-01
2.0300E+02	1.2350E+01	1.28745E-03	4.47345E-05	6.94987E-01
2.0500E+02	1.2105E+01	9.45200E-04	3.84645E-05	6.96878E-01
2.0700E+02	1.1868E+01	8.54200E-04	3.66170E-05	6.98586E-01
2.0900E+02	1.1638E+01	8.23000E-04	3.59615E-05	7.00232E-01
2.1100E+02	1.1414E+01	7.07900E-04	3.34330E-05	7.01648E-01
2.1300E+02	1.1197E+01	6.25350E-04	3.14950E-05	7.02899E-01
2.1500E+02	1.0986E+01	6.42250E-04	3.19015E-05	7.04183E-01
2.1700E+02	1.0781E+01	5.88850E-04	3.05985E-05	7.05361E-01
2.1900E+02	1.0582E+01	5.91750E-04	3.06715E-05	7.06544E-01
2.2100E+02	1.0388E+01	5.48050E-04	2.95655E-05	7.07640E-01
2.2300E+02	1.0199E+01	4.44695E-04	2.67685E-05	7.08530E-01
2.2500E+02	1.0016E+01	5.00150E-04	2.83025E-05	7.09530E-01
2.2700E+02	9.8374E+00	4.84895E-04	2.78895E-05	7.10500E-01
2.2900E+02	9.6637E+00	4.53850E-04	2.70275E-05	7.11408E-01
2.3100E+02	9.4946E+00	4.73345E-04	2.75720E-05	7.12354E-01
2.3300E+02	9.3298E+00	4.84920E-04	2.78900E-05	7.13324E-01
2.3500E+02	9.1694E+00	4.99690E-04	2.82910E-05	7.14324E-01
2.3700E+02	9.0131E+00	4.94325E-04	2.81460E-05	7.15312E-01
2.3900E+02	8.8607E+00	5.48350E-04	2.95735E-05	7.16409E-01
2.4100E+02	8.7122E+00	5.23100E-04	2.89155E-05	7.17455E-01
2.4300E+02	8.5674E+00	5.23500E-04	2.89255E-05	7.18502E-01
2.4500E+02	8.4262E+00	5.19850E-04	2.88285E-05	7.19542E-01
2.4700E+02	8.2865E+00	5.54400E-04	2.97285E-05	7.20651E-01
2.4900E+02	8.1542E+00	5.19750E-04	2.88270E-05	7.21690E-01
2.5100E+02	8.0231E+00	5.07200E-04	2.84930E-05	7.22704E-01
2.5300E+02	7.8952E+00	4.84295E-04	2.78730E-05	7.23673E-01
2.5500E+02	7.7703E+00	5.36200E-04	2.92580E-05	7.24745E-01
2.5700E+02	7.6483E+00	5.82850E-04	3.04490E-05	7.25911E-01
2.5900E+02	7.5292E+00	6.13300E-04	3.12015E-05	7.27138E-01
2.6100E+02	7.4129E+00	5.44150E-04	2.94640E-05	7.28226E-01
2.6300E+02	7.2993E+00	5.91250E-04	3.06590E-05	7.29409E-01
2.6500E+02	7.1883E+00	6.01600E-04	3.09145E-05	7.30612E-01
2.6700E+02	7.0798E+00	5.55700E-04	2.97620E-05	7.31723E-01
2.6900E+02	6.9737E+00	6.55050E-04	3.22060E-05	7.33033E-01

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2.7100E+02	6.8700E+00	6.81000E-04	3.28135E-05	7.34395E-01
2.7300E+02	6.7687E+00	7.09450E-04	3.34695E-05	7.35814E-01
2.7500E+02	6.6695E+00	6.68700E-04	3.25265E-05	7.37152E-01
2.7700E+02	6.5725E+00	7.59500E-04	3.45890E-05	7.38671E-01
2.7900E+02	6.4777E+00	7.63350E-04	3.46740E-05	7.40197E-01
2.8100E+02	6.3849E+00	6.88750E-04	3.29935E-05	7.41575E-01
2.8300E+02	6.2940E+00	7.34300E-04	3.40300E-05	7.43043E-01
2.8500E+02	6.2051E+00	6.95150E-04	3.31410E-05	7.44434E-01
2.8700E+02	6.1181E+00	7.52800E-04	3.44415E-05	7.45939E-01
2.8900E+02	6.0329E+00	8.12200E-04	3.57320E-05	7.47564E-01
2.9100E+02	5.9495E+00	8.73150E-04	3.70095E-05	7.49310E-01
2.9300E+02	5.8678E+00	8.69150E-04	3.69270E-05	7.51048E-01
2.9500E+02	5.7877E+00	8.02400E-04	3.55215E-05	7.52653E-01
2.9700E+02	5.7093E+00	8.60200E-04	3.67415E-05	7.54373E-01
2.9900E+02	5.6325E+00	8.76650E-04	3.70815E-05	7.56127E-01
3.0100E+02	5.5573E+00	9.10350E-04	3.77675E-05	7.57947E-01
3.0300E+02	5.4835E+00	8.79400E-04	3.71375E-05	7.59706E-01
3.0500E+02	5.4112E+00	8.86600E-04	3.72850E-05	7.61479E-01
3.0700E+02	5.3403E+00	9.59550E-04	3.87470E-05	7.63399E-01
3.0900E+02	5.2708E+00	9.48250E-04	3.85250E-05	7.65295E-01
3.1100E+02	5.2027E+00	9.80850E-04	3.91640E-05	7.67257E-01
3.1300E+02	5.1359E+00	1.03475E-03	4.01995E-05	7.69326E-01
3.1500E+02	5.0703E+00	9.50250E-04	3.85635E-05	7.71227E-01
3.1700E+02	5.0061E+00	1.06045E-03	4.06840E-05	7.73348E-01
3.1900E+02	4.9430E+00	9.91100E-04	3.93630E-05	7.75330E-01
3.2100E+02	4.8811E+00	1.13830E-03	4.21175E-05	7.77606E-01
3.2300E+02	4.8204E+00	1.04245E-03	4.03450E-05	7.79691E-01
3.2500E+02	4.7608E+00	1.22410E-03	4.36420E-05	7.82140E-01
3.2700E+02	4.7023E+00	1.14160E-03	4.21770E-05	7.84423E-01
3.2900E+02	4.6449E+00	1.26240E-03	4.43065E-05	7.86948E-01
3.3100E+02	4.5885E+00	1.20100E-03	4.32365E-05	7.89350E-01
3.3300E+02	4.5331E+00	1.28200E-03	4.46415E-05	7.91914E-01
3.3500E+02	4.4788E+00	1.22620E-03	4.36785E-05	7.94366E-01
3.3700E+02	4.4254E+00	1.18045E-03	4.28735E-05	7.96727E-01
3.3900E+02	4.3730E+00	1.09925E-03	4.14045E-05	7.98925E-01
3.4100E+02	4.3215E+00	1.22695E-03	4.36925E-05	8.01379E-01
3.4300E+02	4.2709E+00	1.24800E-03	4.40580E-05	8.03875E-01
3.4500E+02	4.2212E+00	1.26505E-03	4.43520E-05	8.06405E-01
3.4700E+02	4.1723E+00	1.37310E-03	4.61715E-05	8.09152E-01
3.4900E+02	4.1243E+00	1.34830E-03	4.57595E-05	8.11848E-01
3.5100E+02	4.0772E+00	1.28705E-03	4.47280E-05	8.14422E-01
3.5300E+02	4.0308E+00	1.30130E-03	4.49705E-05	8.17025E-01
3.5500E+02	3.9852E+00	1.23855E-03	4.38940E-05	8.19502E-01
3.5700E+02	3.9404E+00	1.34815E-03	4.57570E-05	8.22198E-01
3.5900E+02	3.8964E+00	1.29275E-03	4.48250E-05	8.24784E-01
3.6100E+02	3.8530E+00	1.20845E-03	4.33680E-05	8.27201E-01
3.6300E+02	3.8104E+00	1.47500E-03	4.78240E-05	8.30151E-01
3.6500E+02	3.7686E+00	1.47415E-03	4.78100E-05	8.33099E-01

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3.6700E+02	3.7273E+00	1.46605E-03	4.76810E-05	8.36031E-01
3.6900E+02	3.6868E+00	1.40480E-03	4.66915E-05	8.38841E-01
3.7100E+02	3.6469E+00	1.33105E-03	4.54720E-05	8.41503E-01
3.7300E+02	3.6077E+00	1.41835E-03	4.69120E-05	8.44339E-01
3.7500E+02	3.5691E+00	1.33855E-03	4.55970E-05	8.47017E-01
3.7700E+02	3.5311E+00	1.34470E-03	4.56995E-05	8.49706E-01
3.7900E+02	3.4938E+00	1.52220E-03	4.85705E-05	8.52750E-01
3.8100E+02	3.4570E+00	1.52935E-03	4.86825E-05	8.55809E-01
3.8300E+02	3.4208E+00	1.41170E-03	4.68040E-05	8.58632E-01
3.8500E+02	3.3851E+00	1.42990E-03	4.79990E-05	8.61492E-01
3.8700E+02	3.3500E+00	1.46670E-03	4.76910E-05	8.64426E-01
3.8900E+02	3.3155E+00	1.44750E-03	4.73835E-05	8.67321E-01
3.9100E+02	3.2815E+00	1.42655E-03	4.70455E-05	8.70174E-01
3.9300E+02	3.2480E+00	1.38705E-03	4.64005E-05	8.72948E-01
3.9500E+02	3.2150E+00	1.41715E-03	4.68925E-05	8.75782E-01
3.9700E+02	3.1825E+00	1.40365E-03	4.66730E-05	8.78589E-01
3.9900E+02	3.1506E+00	1.55030E-03	4.90085E-05	8.81690E-01
4.0100E+02	3.1191E+00	1.56500E-03	4.92375E-05	8.84820E-01
4.0300E+02	3.0880E+00	1.38090E-03	4.63000E-05	8.87582E-01
4.0500E+02	3.0575E+00	1.48720E-03	4.80175E-05	8.90556E-01
4.0700E+02	3.0273E+00	1.53135E-03	4.87135E-05	8.93619E-01
4.0900E+02	2.9977E+00	1.40535E-03	4.67000E-05	8.96430E-01
4.1100E+02	2.9684E+00	1.55235E-03	4.90410E-05	8.99534E-01
4.1300E+02	2.9396E+00	1.55415E-03	4.90685E-05	9.02643E-01
4.1500E+02	2.9112E+00	1.55045E-03	4.90110E-05	9.05744E-01
4.1700E+02	2.8832E+00	1.59830E-03	4.97500E-05	9.08940E-01
4.1900E+02	2.8556E+00	1.58685E-03	4.95745E-05	9.12114E-01
4.2100E+02	2.8284E+00	1.52275E-03	4.85785E-05	9.15159E-01
4.2300E+02	2.8016E+00	1.44800E-03	4.73915E-05	9.18055E-01
4.2500E+02	2.7752E+00	1.42865E-03	4.70790E-05	9.20913E-01
4.2700E+02	2.7492E+00	1.51945E-03	4.85265E-05	9.23952E-01
4.2900E+02	2.7235E+00	1.43685E-03	4.72120E-05	9.26825E-01
4.3100E+02	2.6982E+00	1.46255E-03	4.76250E-05	9.29750E-01
4.3300E+02	2.6732E+00	1.51140E-03	4.84005E-05	9.32773E-01
4.3500E+02	2.6486E+00	1.50490E-03	4.82975E-05	9.35783E-01
4.3700E+02	2.6243E+00	1.66875E-03	5.08200E-05	9.39120E-01
4.3900E+02	2.6003E+00	1.49095E-03	4.80775E-05	9.42102E-01
4.4100E+02	2.5767E+00	1.57055E-03	4.93235E-05	9.45243E-01
4.4300E+02	2.5534E+00	1.47275E-03	4.77880E-05	9.48189E-01
4.4500E+02	2.5304E+00	1.44900E-03	4.74075E-05	9.51087E-01
4.4700E+02	2.5077E+00	1.47895E-03	4.78870E-05	9.54045E-01
4.4900E+02	2.4853E+00	1.46260E-03	4.76260E-05	9.56970E-01
4.5100E+02	2.4632E+00	1.37030E-03	4.61250E-05	9.59711E-01
4.5300E+02	2.4414E+00	1.27730E-03	4.45620E-05	9.62265E-01
4.5500E+02	2.4199E+00	1.37845E-03	4.62590E-05	9.65022E-01
4.5700E+02	2.3987E+00	1.39605E-03	4.65485E-05	9.67814E-01
4.5900E+02	2.3778E+00	1.35170E-03	4.58165E-05	9.70518E-01
4.6100E+02	2.3571E+00	1.48590E-03	4.79975E-05	9.73489E-01

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4.6300E+02	2.3367E+00	1.39535E-03	4.65370E-05	9.76280E-01
4.6500E+02	2.3166E+00	1.42500E-03	4.70200E-05	9.79130E-01
4.6700E+02	2.2967E+00	1.42720E-03	4.70560E-05	9.81985E-01
4.6900E+02	2.2771E+00	1.34255E-03	4.56640E-05	9.84670E-01
4.7100E+02	2.2577E+00	1.32660E-03	4.53970E-05	9.87323E-01
4.7300E+02	2.2386E+00	1.29395E-03	4.48455E-05	9.89911E-01
4.7500E+02	2.2197E+00	1.28190E-03	4.46400E-05	9.92475E-01
4.7700E+02	2.2011E+00	1.29940E-03	4.49385E-05	9.95073E-01
4.7900E+02	2.1827E+00	1.22465E-03	4.36520E-05	9.97523E-01
4.8100E+02	2.1645E+00	1.20845E-03	4.33680E-05	9.99940E-01
4.8300E+02	2.1466E+00	1.09860E-03	4.13925E-05	1.00214E+00
4.8500E+02	2.1288E+00	1.13350E-03	4.20305E-05	1.00440E+00
4.8700E+02	2.1113E+00	1.02535E-03	4.00210E-05	1.00645E+00
4.8900E+02	2.0940E+00	1.03400E-03	4.01855E-05	1.00852E+00
4.9100E+02	2.0770E+00	1.06960E-03	4.08545E-05	1.01066E+00
4.9300E+02	2.0601E+00	9.64000E-04	3.88355E-05	1.01259E+00
4.9500E+02	2.0434E+00	1.01360E-03	3.97965E-05	1.01462E+00
4.9700E+02	2.0270E+00	9.59300E-04	3.97430E-05	1.01654E+00
4.9900E+02	2.0107E+00	9.79350E-04	3.91355E-05	1.01849E+00
5.0000E+02	1.9946E+00	9.56850E-04	3.86940E-05	1.02041E+00
5.0300E+02	1.9787E+00	9.04200E-04	3.76425E-05	1.02222E+00
5.0500E+02	1.9630E+00	8.96250E-04	3.74820E-05	1.02401E+00
5.0700E+02	1.9475E+00	9.96500E-04	3.94675E-05	1.02600E+00
5.0900E+02	1.9322E+00	8.14250E-04	3.57755E-05	1.02763E+00
5.1100E+02	1.9171E+00	7.55100E-04	3.44925E-05	1.02914E+00
5.1300E+02	1.9021E+00	7.54550E-04	3.44805E-05	1.03065E+00

PLUTONIUM - 0.7 M.F.P. - 30 DEG.

FLIGHTPATH = 766.00 CM

DETECTOR = NE213

FWHM = 3 NS

TIME (NS)	CALCULATED ENERGY (MEV)	CNT/NS/SOURCE	ERROR	INTEGRAL
1.3500E+02	1.7292E+01	5.90650E-05	8.80850E-06	1.18130E-04
1.3700E+02	1.6777E+01	4.36320E-04	2.31345E-05	9.90770E-04
1.3900E+02	1.6285E+01	1.06530E-02	1.13700E-04	2.22968E-02
1.4100E+02	1.5815E+01	5.77800E-02	2.64760E-04	1.37857E-01
1.4300E+02	1.5365E+01	1.10090E-01	3.65440E-04	3.58037E-01
1.4500E+02	1.4934E+01	8.95200E-02	3.29540E-04	5.37077E-01
1.4700E+02	1.4521E+01	3.48465E-02	2.05610E-04	6.06770E-01
1.4900E+02	1.4125E+01	8.07000E-03	9.89700E-05	6.22910E-01
1.5100E+02	1.3745E+01	2.58975E-03	5.61000E-05	6.28089E-01
1.5300E+02	1.3380E+01	1.47555E-03	4.23775E-05	6.31040E-01
1.5500E+02	1.3030E+01	1.04155E-03	3.56285E-05	6.33123E-01
1.5700E+02	1.2693E+01	9.90250E-04	3.47440E-05	6.35104E-01
1.5900E+02	1.2370E+01	7.72150E-04	3.07015E-05	6.36648E-01
1.6100E+02	1.2058E+01	7.63200E-04	3.05245E-05	6.38175E-01
1.6300E+02	1.1759E+01	7.48500E-04	3.02310E-05	6.39672E-01
1.6500E+02	1.1470E+01	7.16450E-04	2.95810E-05	6.41105E-01
1.6700E+02	1.1192E+01	7.30300E-04	2.98640E-05	6.42565E-01
1.6900E+02	1.0924E+01	7.84050E-04	3.09355E-05	6.44133E-01
1.7100E+02	1.0666E+01	6.91800E-04	2.90710E-05	6.45517E-01
1.7300E+02	1.0417E+01	7.02700E-04	2.92970E-05	6.46922E-01
1.7500E+02	1.0176E+01	7.41500E-04	3.00900E-05	6.48405E-01
1.7700E+02	9.9438E+00	7.68550E-04	3.06305E-05	6.49942E-01
1.7900E+02	9.7194E+00	7.71300E-04	3.06845E-05	6.51485E-01
1.8100E+02	9.5025E+00	7.52350E-04	3.03085E-05	6.52990E-01
1.8300E+02	9.2929E+00	8.09750E-04	3.14355E-05	6.54609E-01
1.8500E+02	9.0901E+00	8.56150E-04	3.23185E-05	6.56321E-01
1.8700E+02	8.8939E+00	9.01050E-04	3.31505E-05	6.58124E-01
1.8900E+02	8.7041E+00	9.45550E-04	3.39545E-05	6.60015E-01
1.9100E+02	8.5203E+00	9.63300E-04	3.42700E-05	6.61941E-01
1.9300E+02	8.3423E+00	9.80650E-04	3.45760E-05	6.63903E-01
1.9500E+02	8.1698E+00	1.10640E-03	3.67155E-05	6.66115E-01
1.9700E+02	8.0026E+00	1.18385E-03	3.79740E-05	6.68483E-01
1.9900E+02	7.8406E+00	1.24235E-03	3.88965E-05	6.70968E-01
2.0100E+02	7.6834E+00	1.34705E-03	4.04965E-05	6.73662E-01
2.0300E+02	7.5310E+00	1.40215E-03	4.13135E-05	6.76466E-01
2.0500E+02	7.3830E+00	1.45900E-03	4.21395E-05	6.79334E-01
2.0700E+02	7.2394E+00	1.56805E-03	4.36810E-05	6.82520E-01
2.0900E+02	7.0999E+00	1.59445E-03	4.40460E-05	6.85709E-01
2.1100E+02	6.9645E+00	1.60010E-03	4.41235E-05	6.88909E-01
2.1300E+02	6.8329E+00	1.83525E-03	4.72460E-05	6.92580E-01
2.1500E+02	6.7050E+00	1.93975E-03	4.85690E-05	6.96459E-01
2.1700E+02	6.5807E+00	1.95715E-03	4.87855E-05	7.00374E-01
2.1900E+02	6.4598E+00	2.04090E-03	4.98160E-05	7.04455E-01
2.2100E+02	6.3422E+00	2.12230E-03	5.07950E-05	7.08700E-01
2.2300E+02	6.2278E+00	2.34885E-03	5.34350E-05	7.13398E-01

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2.2500E+02	6.1165E+00	2.45555E-03	5.46300E-05	7.18309E-01
2.2700E+02	6.0082E+00	2.54825E-03	5.56500E-05	7.23405E-01
2.2900E+02	5.9027E+00	2.73570E-03	5.76600E-05	7.28877E-01
2.3100E+02	5.8000E+00	2.52440E-03	5.53900E-05	7.33926E-01
2.3300E+02	5.6999E+00	2.66250E-03	5.68800E-05	7.39251E-01
2.3500E+02	5.6025E+00	2.98045E-03	6.01750E-05	7.45211E-01
2.3700E+02	5.5075E+00	2.98485E-03	6.02200E-05	7.51181E-01
2.3900E+02	5.4149E+00	2.98255E-03	6.02000E-05	7.57146E-01
2.4100E+02	5.3246E+00	2.98430E-03	6.02150E-05	7.63115E-01
2.4300E+02	5.2366E+00	3.32970E-03	6.36000E-05	7.69774E-01
2.4500E+02	5.1508E+00	3.38970E-03	6.41700E-05	7.76554E-01
2.4700E+02	5.0670E+00	3.50280E-03	6.52300E-05	7.83559E-01
2.4900E+02	4.9853E+00	3.69460E-03	6.69900E-05	7.90948E-01
2.5100E+02	4.9056E+00	3.83990E-03	6.82900E-05	7.98628E-01
2.5300E+02	4.8277E+00	4.00575E-03	6.97500E-05	8.06640E-01
2.5500E+02	4.7517E+00	3.93505E-03	6.91300E-05	8.14510E-01
2.5700E+02	4.6775E+00	3.93030E-03	6.90900E-05	8.22370E-01
2.5900E+02	4.6050E+00	3.77590E-03	6.77200E-05	8.29922E-01
2.6100E+02	4.5342E+00	3.94465E-03	6.92150E-05	8.37812E-01
2.6300E+02	4.4650E+00	4.20930E-03	7.15000E-05	8.46230E-01
2.6500E+02	4.3974E+00	4.09270E-03	7.05000E-05	8.54416E-01
2.6700E+02	4.3313E+00	4.31150E-03	7.23600E-05	8.63039E-01
2.6900E+02	4.2667E+00	4.60985E-03	7.48200E-05	8.72258E-01
2.7100E+02	4.2035E+00	4.21765E-03	7.15700E-05	8.80694E-01
2.7300E+02	4.1417E+00	4.33690E-03	7.25700E-05	8.89367E-01
2.7500E+02	4.0813E+00	4.74070E-03	7.58700E-05	8.98849E-01
2.7700E+02	4.0222E+00	4.60990E-03	7.48200E-05	9.08069E-01
2.7900E+02	3.9644E+00	4.93260E-03	7.73900E-05	9.17934E-01
2.8100E+02	3.9078E+00	4.60910E-03	7.48150E-05	9.27152E-01
2.8300E+02	3.8524E+00	4.44065E-03	7.34350E-05	9.36033E-01
2.8500E+02	3.7982E+00	4.71230E-03	7.56450E-05	9.45458E-01
2.8700E+02	3.7452E+00	4.74645E-03	7.59200E-05	9.54951E-01
2.8900E+02	3.6932E+00	4.94465E-03	7.74850E-05	9.64840E-01
2.9100E+02	3.6423E+00	4.76475E-03	7.60650E-05	9.74370E-01
2.9300E+02	3.5925E+00	4.93855E-03	7.74400E-05	9.84247E-01
2.9500E+02	3.5437E+00	5.08850E-03	7.86000E-05	9.94424E-01
2.9700E+02	3.4958E+00	4.86725E-03	7.68750E-05	1.00416E+00
2.9900E+02	3.4490E+00	5.19850E-03	7.94500E-05	1.01456E+00
3.0100E+02	3.4030E+00	5.04800E-03	7.82900E-05	1.02465E+00
3.0300E+02	3.3580E+00	4.63240E-03	7.50000E-05	1.03392E+00
3.0500E+02	3.3139E+00	4.92415E-03	7.73250E-05	1.04376E+00
3.0700E+02	3.2706E+00	4.85585E-03	7.67850E-05	1.05348E+00
3.0900E+02	3.2282E+00	5.09850E-03	7.79850E-05	1.06349E+00
3.1100E+02	3.1866E+00	4.94465E-03	7.74850E-05	1.07338E+00
3.1300E+02	3.1458E+00	5.23850E-03	7.97500E-05	1.08346E+00
3.1500E+02	3.1058E+00	5.49750E-03	8.17000E-05	1.09485E+00
3.1700E+02	3.0665E+00	5.33800E-03	8.05050E-05	1.10553E+00
3.1900E+02	3.0280E+00	5.07800E-03	7.95200E-05	1.11569E+00

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3.2100E+02	2.9902E+00	5.05100E-03	7.83150E-05	1.12579E+00
3.2300E+02	2.9531E+00	5.40550E-03	8.10150E-05	1.13660E+00
3.2500E+02	2.9167E+00	5.25950E-03	7.99100E-05	1.14712E+00
3.2700E+02	2.8810E+00	5.03100E-03	7.81600E-05	1.15718E+00
3.2900E+02	2.8459E+00	4.99260E-03	7.78600E-05	1.16717E+00
3.3100E+02	2.8115E+00	5.19050E-03	7.93850E-05	1.17755E+00
3.3300E+02	2.7777E+00	5.27500E-03	8.00300E-05	1.18810E+00
3.3500E+02	2.7444E+00	5.20250E-03	7.94750E-05	1.19850E+00
3.3700E+02	2.7118E+00	5.08400E-03	7.85700E-05	1.20967E+00
3.3900E+02	2.6798E+00	5.15950E-03	7.91500E-05	1.21899E+00
3.4100E+02	2.6483E+00	4.82590E-03	7.65500E-05	1.22864E+00
3.4300E+02	2.6174E+00	5.15900E-03	7.91450E-05	1.23896E+00
3.4500E+02	2.5870E+00	4.78805E-03	7.62500E-05	1.24853E+00
3.4700E+02	2.5571E+00	4.60205E-03	7.47550E-05	1.25774E+00
3.4900E+02	2.5278E+00	4.94445E-03	7.74850E-05	1.26763E+00
3.5100E+02	2.4990E+00	4.80815E-03	7.64100E-05	1.27724E+00
3.5300E+02	2.4706E+00	4.87385E-03	7.69300E-05	1.28699E+00
3.5500E+02	2.4427E+00	4.94525E-03	7.74900E-05	1.29688E+00
3.5700E+02	2.4153E+00	4.45455E-03	7.35500E-05	1.30579E+00
3.5900E+02	2.3884E+00	4.50335E-03	7.39500E-05	1.31480E+00
3.6100E+02	2.3619E+00	4.73380E-03	7.58150E-05	1.32427E+00
3.6300E+02	2.3359E+00	4.38035E-03	7.29350E-05	1.33303E+00
3.6500E+02	2.3102E+00	4.52785E-03	7.41500E-05	1.34208E+00
3.6700E+02	2.2950E+00	4.29105E-03	7.21900E-05	1.35066E+00
3.6900E+02	2.2602E+00	4.19660E-03	7.13900E-05	1.35906E+00
3.7100E+02	2.2359E+00	3.98335E-03	6.95550E-05	1.36702E+00
3.7300E+02	2.2119E+00	3.90590E-03	6.88750E-05	1.37494E+00
3.7500E+02	2.1982E+00	4.12085E-03	7.07450E-05	1.38308E+00
3.7700E+02	2.1050E+00	4.09705E-03	7.05400E-05	1.39127E+00
3.7900E+02	2.1421E+00	3.74755E-03	6.74650E-05	1.39877E+00
3.8100E+02	2.1196E+00	3.69400E-03	6.69850E-05	1.40615E+00
3.8300E+02	2.0975E+00	3.46160E-03	6.48450E-05	1.41308E+00
3.8500E+02	2.0757E+00	3.61035E-03	6.62250E-05	1.42030E+00
3.8700E+02	2.0542E+00	3.42585E-03	6.45100E-05	1.42715E+00
3.8900E+02	2.0331E+00	3.35415E-03	6.38350E-05	1.43386E+00
3.9100E+02	2.0123E+00	3.12595E-03	6.16250E-05	1.44011E+00
3.9300E+02	1.9918E+00	3.20085E-03	6.23600E-05	1.44651E+00
3.9500E+02	1.9716E+00	3.03275E-03	6.07000E-05	1.45258E+00
3.9700E+02	1.9517E+00	2.87345E-03	5.90900E-05	1.45832E+00
3.9900E+02	1.9321E+00	2.79470E-03	5.82750E-05	1.46391E+00
4.0100E+02	1.9128E+00	2.88600E-03	5.92200E-05	1.46969E+00
4.0300E+02	1.8938E+00	2.56130E-03	5.57950E-05	1.47481E+00
4.0500E+02	1.8751E+00	2.49170E-03	5.50300E-05	1.47979E+00
4.0700E+02	1.8567E+00	2.39540E-03	5.39600E-05	1.48458E+00
4.0900E+02	1.8385E+00	2.34345E-03	5.33700E-05	1.48927E+00
4.1100E+02	1.8206E+00	2.20430E-03	5.17650E-05	1.49368E+00
4.1300E+02	1.8030E+00	2.14025E-03	5.10100E-05	1.49796E+00
4.1500E+02	1.7856E+00	2.10290E-03	5.05650E-05	1.50216E+00

PLUTONIUM - 0.7 M.F.P. - 120 DEG.

FLIGHTPATH = 975.20 CM DETECTOR = NE213 FWHM = 3 NS

TIME (NS)	CALCULATED ENERGY (MEV)	CNT/NS/SOURCE	ERROR	INTEGRAL
1.2500E+02	1.4868E+01	8.64400E-04	4.45240E-05	1.72380E-03
1.3700E+02	1.4544E+01	4.42015E-03	1.00260E-04	1.05691E-02
1.8900E+02	1.4231E+01	3.41770E-02	2.78535E-04	7.99231E-02
1.9100E+02	1.3928E+01	1.20740E-01	5.23450E-04	3.20403E-01
1.9300E+02	1.3634E+01	1.24985E-01	5.32600E-04	5.70373E-01
1.1500E+02	1.3350E+01	5.35300E-02	3.48565E-04	6.77433E-01
1.9700E+02	1.3075E+01	1.17310E-02	1.63225E-04	7.00895E-01
1.9900E+02	1.2808E+01	2.81400E-03	8.00400E-05	7.06523E-01
2.0100E+02	1.2549E+01	1.39290E-03	5.64100E-05	7.09309E-01
2.0300E+02	1.2298E+01	1.01795E-03	4.82800E-05	7.11345E-01
2.0500E+02	1.2055E+01	7.99850E-04	4.28215E-05	7.12942E-01
2.0700E+02	1.1819E+01	6.61750E-04	3.90200E-05	7.14266E-01
2.0900E+02	1.1589E+01	5.95900E-04	3.70550E-05	7.15458E-01
2.1100E+02	1.1367E+01	5.61200E-04	3.59775E-05	7.16580E-01
2.1300E+02	1.1150E+01	6.00800E-04	3.72055E-05	7.17782E-01
2.1500E+02	1.0940E+01	6.37950E-04	3.83180E-05	7.19057E-01
2.1700E+02	1.0736E+01	5.95000E-04	3.70285E-05	7.20247E-01
2.1900E+02	1.0538E+01	6.05050E-04	3.73345E-05	7.21458E-01
2.2100E+02	1.0345E+01	6.24500E-04	3.79205E-05	7.22707E-01
2.2300E+02	1.0157E+01	5.63050E-04	3.60355E-05	7.23833E-01
2.2500E+02	9.9743E+00	5.59450E-04	3.59215E-05	7.24952E-01
2.2700E+02	9.7966E+00	5.57450E-04	3.58595E-05	7.26066E-01
2.2900E+02	9.6236E+00	5.94850E-04	3.70230E-05	7.27256E-01
2.3100E+02	9.4551E+00	6.65150E-04	3.91185E-05	7.28586E-01
2.3300E+02	9.2911E+00	6.41100E-04	3.84155E-05	7.29869E-01
2.3500E+02	9.1313E+00	6.12350E-04	3.75555E-05	7.31093E-01
2.3700E+02	8.9757E+00	7.81350E-04	4.23555E-05	7.32656E-01
2.3900E+02	8.8240E+00	8.02750E-04	4.29255E-05	7.34262E-01
2.4100E+02	8.6761E+00	8.15600E-04	4.32630E-05	7.35893E-01
2.4300E+02	8.5319E+00	7.86200E-04	4.24855E-05	7.37465E-01
2.4500E+02	8.3913E+00	7.52000E-04	4.15620E-05	7.38969E-01
2.4700E+02	8.2542E+00	8.87850E-04	4.51185E-05	7.40745E-01
2.4900E+02	8.1204E+00	8.84550E-04	4.50355E-05	7.42514E-01
2.5100E+02	7.9899E+00	9.58650E-04	4.68650E-05	7.44431E-01
2.5300E+02	7.8625E+00	9.81150E-04	4.74070E-05	7.46394E-01
2.5500E+02	7.7381E+00	9.82650E-04	4.74425E-05	7.48359E-01
2.5700E+02	7.6167E+00	1.07215E-03	4.95365E-05	7.50503E-01
2.5900E+02	7.4981E+00	1.02220E-03	4.83790E-05	7.52548E-01
2.6100E+02	7.3822E+00	1.10300E-03	5.02400E-05	7.54754E-01
2.6300E+02	7.2691E+00	1.22810E-03	5.29900E-05	7.57210E-01
2.6500E+02	7.1585E+00	1.36980E-03	5.59400E-05	7.59949E-01
2.6700E+02	7.0505E+00	1.36465E-03	5.58350E-05	7.62679E-01
2.6900E+02	6.9449E+00	1.28790E-03	5.42550E-05	7.65254E-01
2.7100E+02	6.8416E+00	1.40295E-03	5.66100E-05	7.68060E-01
2.7300E+02	6.7407E+00	1.49625E-03	5.84500E-05	7.71053E-01

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2.7500E+02	6.6419E+00	1.61115E-03	6.06400E-05	7.74275E-01
2.7700E+02	6.5454E+00	1.72765E-03	6.27800E-05	7.77730E-01
2.7900E+02	6.4509E+00	1.72215E-03	6.26800E-05	7.81175E-01
2.8100E+02	6.3585E+00	1.70325E-03	6.23400E-05	7.84581E-01
2.8300E+02	6.2680E+00	1.73455E-03	6.29050E-05	7.88050E-01
2.8500E+02	6.1795E+00	1.86920E-03	6.52900E-05	7.91789E-01
2.8700E+02	6.0928E+00	2.06075E-03	6.85350E-05	7.95910E-01
2.8900E+02	6.0080E+00	2.13365E-03	6.97350E-05	8.00178E-01
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2.9500E+02	5.7638E+00	2.31815E-03	7.26750E-05	8.12748E-01
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3.0300E+02	5.4609E+00	2.45400E-03	7.47650E-05	8.31678E-01
3.0500E+02	5.3889E+00	2.63910E-03	7.75250E-05	8.36956E-01
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3.0900E+02	5.2491E+00	2.57720E-03	7.66100E-05	8.47191E-01
3.1100E+02	5.1812E+00	2.80020E-03	7.98450E-05	8.52791E-01
3.1300E+02	5.1147E+00	2.77235E-03	7.94500E-05	8.58336E-01
3.1500E+02	5.0494E+00	2.90700E-03	8.13500E-05	8.64150E-01
3.1700E+02	4.9854E+00	2.93905E-03	8.17950E-05	8.70028E-01
3.1900E+02	4.9226E+00	3.22530E-03	8.56750E-05	8.76478E-01
3.2100E+02	4.8610E+00	3.13455E-03	8.44650E-05	8.82747E-01
3.2300E+02	4.8005E+00	3.03010E-03	8.30500E-05	8.88808E-01
3.2500E+02	4.7412E+00	3.23630E-03	8.58200E-05	8.95280E-01
3.2700E+02	4.6829E+00	3.46670E-03	8.38150E-05	9.02214E-01
3.2900E+02	4.6257E+00	3.21135E-03	8.54900E-05	9.08636E-01
3.3100E+02	4.5696E+00	3.37140E-03	8.75900E-05	9.15379E-01
3.3300E+02	4.5145E+00	3.18915E-03	8.51950E-05	9.21757E-01
3.3500E+02	4.4603E+00	3.28155E-03	8.64150E-05	9.28321E-01
3.3700E+02	4.4072E+00	3.43055E-03	8.83500E-05	9.35182E-01
3.3900E+02	4.3550E+00	3.43400E-03	8.83950E-05	9.42050E-01
3.4100E+02	4.3037E+00	3.66720E-03	9.13400E-05	9.49384E-01
3.4300E+02	4.2533E+00	3.40955E-03	8.80800E-05	9.56203E-01
3.4500E+02	4.2038E+00	3.48785E-03	8.90350E-05	9.63179E-01
3.4700E+02	4.1552E+00	3.59455E-03	9.04350E-05	9.70368E-01
3.4900E+02	4.1074E+00	3.89050E-03	9.40750E-05	9.78149E-01
3.5100E+02	4.0604E+00	3.63370E-03	9.09250E-05	9.85416E-01
3.5300E+02	4.0142E+00	3.56630E-03	9.00800E-05	9.92549E-01
3.5500E+02	3.9688E+00	3.56155E-03	9.00200E-05	9.99672E-01
3.5700E+02	3.9242E+00	3.70800E-03	9.18450E-05	1.00709E+00
3.5900E+02	3.8803E+00	3.71945E-03	9.19850E-05	1.01453E+00
3.6100E+02	3.8372E+00	3.71135E-03	9.18850E-05	1.02195E+00
3.6300E+02	3.7948E+00	3.78630E-03	9.28100E-05	1.02952E+00
3.6500E+02	3.7531E+00	3.82935E-03	9.33350E-05	1.03718E+00
3.6700E+02	3.7120E+00	3.95760E-03	9.48800E-05	1.04510E+00
3.6900E+02	3.6717E+00	3.79085E-03	9.28650E-05	1.05268E+00

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3.7100E+02	3.6319E+00	3.73960E-03	9.22350E-05	1.06016E+00
3.7300E+02	3.5929E+00	4.01375E-03	9.55500E-05	1.06818E+00
3.7500E+02	3.5544E+00	3.95925E-03	9.49000E-05	1.07610E+00
3.7700E+02	3.5166E+00	3.83040E-03	9.33450E-05	1.08376E+00
3.7900E+02	3.4794E+00	3.91715E-03	9.43950E-05	1.09160E+00
3.8100E+02	3.4428E+00	4.16165E-03	9.72900E-05	1.09992E+00
3.8300E+02	3.4067E+00	4.14340E-03	9.70750E-05	1.10821E+00
3.8500E+02	3.3712E+00	4.17230E-03	9.74150E-05	1.11655E+00
3.8700E+02	3.3363E+00	4.10945E-03	9.66800E-05	1.12477E+00
3.8900E+02	3.3019E+00	4.23090E-03	9.80950E-05	1.13323E+00
3.9100E+02	3.2680E+00	3.95640E-03	9.48650E-05	1.14115E+00
3.9300E+02	3.2346E+00	4.14655E-03	9.71150E-05	1.14944E+00
3.9500E+02	3.2018E+00	4.43195E-03	1.00390E-04	1.15830E+00
3.9700E+02	3.1695E+00	4.00160E-03	9.54050E-05	1.16631E+00
3.9900E+02	3.1376E+00	3.93120E-03	9.45650E-05	1.17417E+00
4.0100E+02	3.1062E+00	4.26785E-03	9.85200E-05	1.18270E+00
4.0300E+02	3.0753E+00	4.34920E-03	9.94500E-05	1.19140E+00
4.0500E+02	3.0449E+00	4.38030E-03	9.98050E-05	1.20016E+00
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4.0900E+02	2.9853E+00	4.15510E-03	9.72100E-05	1.21696E+00
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4.1300E+02	2.9275E+00	4.12920E-03	9.69100E-05	1.23352E+00
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4.1900E+02	2.8439E+00	4.05490E-03	9.60350E-05	1.25821E+00
4.2100E+02	2.8168E+00	3.98675E-03	9.52250E-05	1.26618E+00
4.2300E+02	2.7901E+00	3.98505E-03	9.52050E-05	1.27415E+00
4.2500E+02	2.7638E+00	4.05520E-03	9.60400E-05	1.28226E+00
4.2700E+02	2.7379E+00	4.39775E-03	1.00005E-04	1.29106E+00
4.2900E+02	2.7123E+00	4.08065E-03	9.63400E-05	1.29922E+00
4.3100E+02	2.6871E+00	4.18155E-03	9.75200E-05	1.30758E+00
4.3300E+02	2.6622E+00	4.20075E-03	9.77450E-05	1.31599E+00
4.3500E+02	2.6377E+00	4.00795E-03	9.54800E-05	1.32400E+00
4.3700E+02	2.6135E+00	4.19530E-03	9.76800E-05	1.33239E+00
4.3900E+02	2.5896E+00	3.98220E-03	9.51750E-05	1.34036E+00
4.4100E+02	2.5661E+00	3.87485E-03	9.38850E-05	1.34811E+00
4.4300E+02	2.5429E+00	3.71745E-03	9.19600E-05	1.35554E+00
4.4500E+02	2.5200E+00	3.83045E-03	9.33450E-05	1.36320E+00
4.4700E+02	2.4974E+00	3.72095E-03	9.20050E-05	1.37064E+00
4.4900E+02	2.4751E+00	3.81830E-03	9.32000E-05	1.37328E+00
4.5100E+02	2.4531E+00	3.68645E-03	9.15800E-05	1.38565E+00
4.5300E+02	2.4314E+00	3.53550E-03	8.96900E-05	1.39272E+00
4.5500E+02	2.4100E+00	3.52565E-03	8.95650E-05	1.39978E+00
4.5700E+02	2.3889E+00	3.49760E-03	8.92100E-05	1.40677E+00
4.5900E+02	2.3680E+00	3.56975E-03	9.01200E-05	1.41391E+00
4.6100E+02	2.3475E+00	3.56505E-03	9.00600E-05	1.42104E+00
4.6300E+02	2.3271E+00	3.53445E-03	8.96750E-05	1.42811E+00
4.6500E+02	2.3071E+00	3.57710E-03	9.02150E-05	1.43526E+00

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4.6700E+02	2.2873E+00	3.35205E-03	8.73350E-05	1.44197E+00
4.6900E+02	2.2678E+00	3.16850E-03	8.49200E-05	1.44830E+00
4.7100E+02	2.2485E+00	3.06920E-03	8.35800E-05	1.45444E+00
4.7300E+02	2.2294E+00	3.20470E-03	8.53950E-05	1.46085E+00
4.7500E+02	2.2106E+00	3.22580E-03	8.56800E-05	1.46730E+00
4.7700E+02	2.1921E+00	3.05415E-03	8.33800E-05	1.47341E+00
4.7900E+02	2.1737E+00	3.05985E-03	8.34550E-05	1.47953E+00
4.8100E+02	2.1556E+00	3.04080E-03	8.31950E-05	1.48561E+00
4.8300E+02	2.1378E+00	2.93500E-03	8.17400E-05	1.49148E+00
4.8500E+02	2.1201E+00	2.89335E-03	8.11600E-05	1.49727E+00
4.8700E+02	2.1027E+00	2.67890E-03	7.81050E-05	1.50263E+00
4.8900E+02	2.0855E+00	2.81890E-03	8.01100E-05	1.50826E+00
4.9100E+02	2.0684E+00	2.61610E-03	7.71850E-05	1.51350E+00
4.9300E+02	2.0516E+00	2.50910E-03	7.55950E-05	1.51852E+00
4.9500E+02	2.0350E+00	2.37890E-03	7.36150E-05	1.52327E+00
4.9700E+02	2.0186E+00	2.24370E-03	7.15050E-05	1.52776E+00
4.9900E+02	2.0024E+00	2.35070E-03	7.31900E-05	1.53246E+00
5.0100E+02	1.9864E+00	2.16925E-03	7.03100E-05	1.53680E+00
5.0300E+02	1.9706E+00	2.15430E-03	7.00700E-05	1.54111E+00
5.0500E+02	1.9550E+00	2.17965E-03	7.04800E-05	1.54547E+00
5.0700E+02	1.9396E+00	2.06780E-03	6.86550E-05	1.54960E+00
5.0900E+02	1.9243E+00	2.14150E-03	6.98600E-05	1.55389E+00
5.1100E+02	1.9092E+00	2.01385E-03	6.77550E-05	1.55791E+00
5.1300E+02	1.8943E+00	1.80075E-03	6.40900E-05	1.56152E+00
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