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by

J. D. Cramer
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ABSTRACT

The $^{235}U(n,f)$ cross section was measured for incident neutron energies of from 20 to 1000 eV relative to the $^{6}Li(n,\alpha)T$ and $^{3}He(n,p)T$ reaction cross sections. Neutron energies were separated by time of flight from the single burst of an underground nuclear detonation in an ~300-m evacuated flight path. Results of this experiment are compared with previous measurements of the $^{235}U(n,f)$ cross section.

I. INTRODUCTION

The character of the cross-section data acquired with neutrons from an underground nuclear detonation can vary from experiment to experiment. Characteristics of this single-pulse neutron source that are peculiar to each experiment are largely responsible for these variations which occasionally can be controlled to suit the needs of the experimenters. The neutron spectrum can be appropriately tailored by moderator design and by timing the closures of the evacuated flight path. The neutron-energy resolution of these time-of-flight experiments can be varied by adjusting the length of the flight path and the burst width of the source.

Examples of three such single-pulse experiments are illustrated in Fig. 1. The neutron spectra as measured at the ground-level experimental position on the neutron flight path are shown here for Parrot, Petrel, and Persimmon. These three underground nuclear detonations exhibit vastly different neutron source characteristics. The Parrot spectrum is representative of the typical escape spectrum from the source with no external moderator in the line of sight. External moderators of polyethylene sandwiched between lead sheets were placed in the line of sight near the neutron source to produce the spectra indicated for Petrel and Persimmon. These two spectra illustrate variations in moderator characteristics. The relatively sharp peak at 60 eV in the Petrel spectrum reflects lower moderator temperature than the relatively broad peak at 600 eV in the Persimmon spectrum.

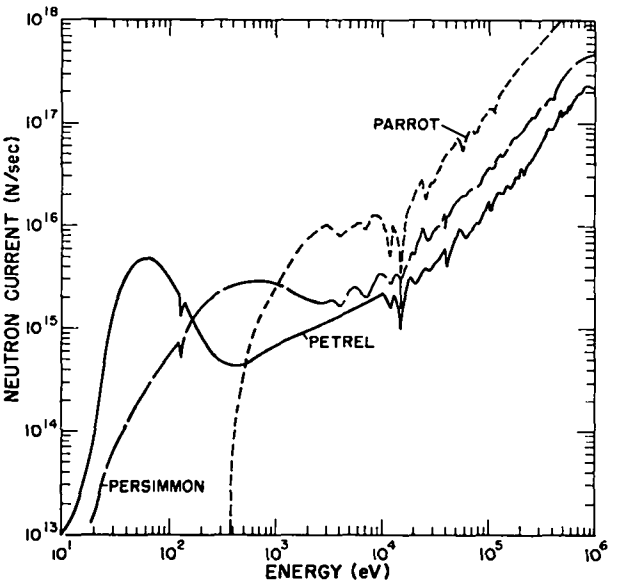

Fig. 1. Comparison of neutron spectra produced by the single bursts of underground nuclear detonations.

The $^{235}U(n,f)$ cross section has been measured on these three single-pulse experiments. The results on the Persimmon event are reported here and compared with previous results of the Petrel experiment.[1] The characteristics of each of these measurements tend to complement one another, and provide added support for the capabilities of this experimental technique.

A detailed description of the use of underground nuclear detonations for neutron time-of-flight studies has been previously published[2-4] and will only be summarized in this report.

II. EXPERIMENTAL TECHNIQUE

Neutrons from the moderators, near the underground detonation, traverse an evacuated line-of-sight pipe to the surface where a circular beam of approximately 1 cm diam is defined with iron collimators. This intense beam is allowed to impinge on the target material where the fission reaction rate is determined by measuring the current outputs from solid-state detectors at various positions relative to the incident beam direction. The relative positions of the beam, target, and detectors used in the Persimmon experiment are shown in Fig. 2. The target was fabricated by evaporating approximately 6 mg of uranium oxide onto 0.3-mil platinum backing. Signals from the solid-state detectors are terminated in 51 Ω at the input of four-decade logarithmic amplifiers. The amplified signals are transmitted on coaxial cable to oscilloscopes in the recording station located approximately 1000 ft from the position on the ground directly above the detonation. Moving film records of the oscilloscope traces provide the information storage system for these experiments. These are read manually with a projection microscope, and the analog information is digitized for computer analysis. Signal amplitude calibrations are provided on each film record through a stair-step calibrator of known signal level input parallel to the detector input at the logarithmic amplifiers.

The neutron flux was measured by the same technique.[5] Since the $^{3}He(n,p)T$ reaction has a well-known cross section,[6] this reaction was employed to determine the neutron flux below 100 eV. From 100 to 1000 eV the $^{6}Li(n,\alpha)T$ reaction, which is known to have a 1/v cross section,[7,8] was used as a flux monitor. This reaction rate was determined from a thin LiF deposit on a 0.30-mil platinum backing. The signal backgrounds are recorded in the same manner; the signal vs time outputs of solid-state detectors which look at a blank platinum foil backing reproduce the background effects.

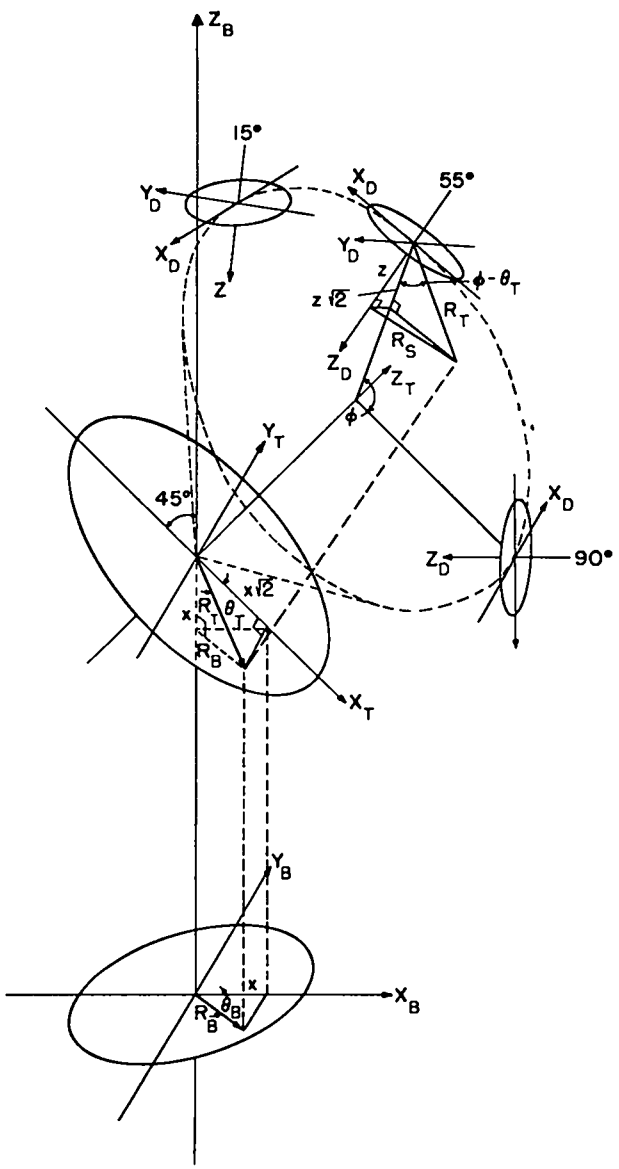

Fig. 2. Schematic illustration of detector, beam, and target geometry. Target (indicated by subscripts T) coordinates X_T and Y_T lie in a plane tilted 45° to the beam axis Z_B. Detector positions are located on a 45° cone about the normal to the target Z_T at the indicated angles relative to the beam axis Z_B. Detectors 40, 43, and 44 are located at the 15°, 90°, and 55° positions, respectively.

III. DATA REDUCTION

Digitized records of each detector signal are converted to cross-section information by first subtracting the observed background which, in the energy region from 20 to 2000 eV, consisted of small peaks corresponding to the neutron capture resonances in platinum. The remaining foreground signal, S(t), is converted from a function of neutron flight time to the neutron energy, E, by using the relation

$$E = 5226 \left(\frac{D}{t}\right)^2 \text{ eV},$$

where D is the flight path in meters and t is the flight time in μsec. The time at which neutron production occurs is determined by the position of the gamma flash on all the film records. The energy dependent fission cross section σ_f is determined independently for each detector in the array of Fig. 2 by the relation

$$\sigma_f(E) = \frac{1}{2} \cdot \frac{S(E)}{a\bar{E}} \cdot \frac{1}{N \cdot F(E)} \cdot \frac{4\pi}{\Omega}$$

where a represents the known conversion of fragment energy deposition $\bar{E}$ in the silicon detectors to observed signal S(E), F(E) is the neutron flux impinging upon the fissile material deposit of areal density N, and Ω is the measured solid angle of the fragment detector. The factor ½ shows that two particles are emitted for each reaction. The value of each conversion constant for the three detectors used in this experiment is listed in Table I. The three detectors indicated in Table I (see Fig. 2) were placed at 15° (detector 40), 55° (detector 44), and 90° (detector 43) with respect to the neutron beam. Each detector signal was recorded on a streak camera with a time resolution of 1.0 μsec. In addition, the 55° signal was recorded by using a high-speed drum camera providing a 0.2-μsec time resolution. Readings of this drum film were treated as independent measurements of σ_f and the four records were averaged together to determine the cross section in the energy region from 100 eV to 1 keV. The cross sections from 20 to 100 eV were determined from the streak camera records of the 55° and 90° detectors. In this region of relatively low neutron flux, the 15° detector with its small efficiency yielded signal levels too low for accurate results. A complete description of the methods of data reduction outlined in the preceding discussion is given by Seeger and Bergen.[9]

TABLE I

EXPERIMENTAL PARAMETERS FOR THE $^{235}U(n,f)$ CROSS-SECTION MEASUREMENT ON PERSIMMON AND PETREL

	Persimmon	Petrel
Neutron source time Δt for $E_n \leq 10^3$ eV	1 to 4 μsec	1 to 3 μsec
Neutron flight path	303.56 m	185.33 m
Fission fragment detectors, number used	3	1
Lab. angle/% of sphere (efficiency)	15°/0.097 55°/2.24 90°/0.556	125°/0.95
Target foil (Persimmon and Petrel)	6.36 ± 0.09 mg UO_2	
Backing material	0.30 mil Pt	
Areal density of ^{235}U normal to the beam	1.835×10^{18} n/cm^2	
Isotopic composition	^{235}U - 99.77% ^{234}U - 0.04 ^{236}U - 0.06 ^{238}U - 0.13	

IV. RESULTS

Although data for the $^{235}U(n,f)$ cross section in the range of incident neutron energies above 1 keV were available on the Persimmon experiment, the quality of the flux determination with the $^6Li(n,\alpha)T$ reaction became doubtful. At this point in neutron energy, the signals from the $^6Li(n,\alpha)T$ reaction became very weak, which introduced large uncertainties in the flux determination. Therefore, the role of the ^{235}U signals was reversed and the measured incident neutron flux was determined by the ^{235}U fission signal and previously measured (n,f) cross sections. For this reason, no data are presented here for neutron energies above 1 keV.

The results of the $^{235}U(n,f)$ cross-section measurement from 20 eV to 1 keV are summarized in Figs. 3 through 6, where the cross section determined from the individual detectors is indicated by the various points and the average value of these independent measurements is indicated by the line through the points. These data display the extremely deep valleys characteristic of the unusually low background

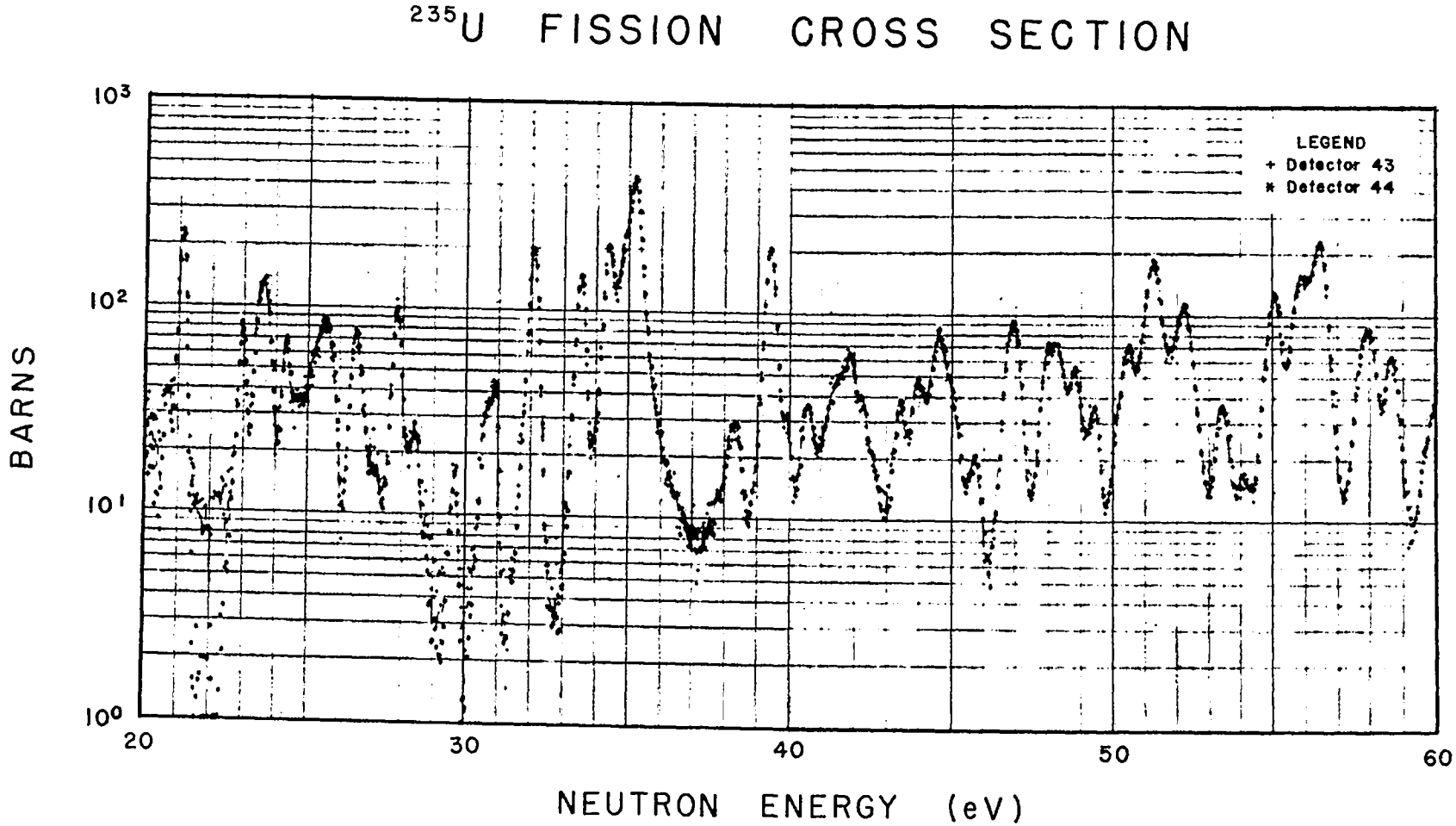

Fig. 3. Cross-section data from 20 to 60 eV. The various points indicate the results determined from individual detectors and the line connects the average of the individual points.

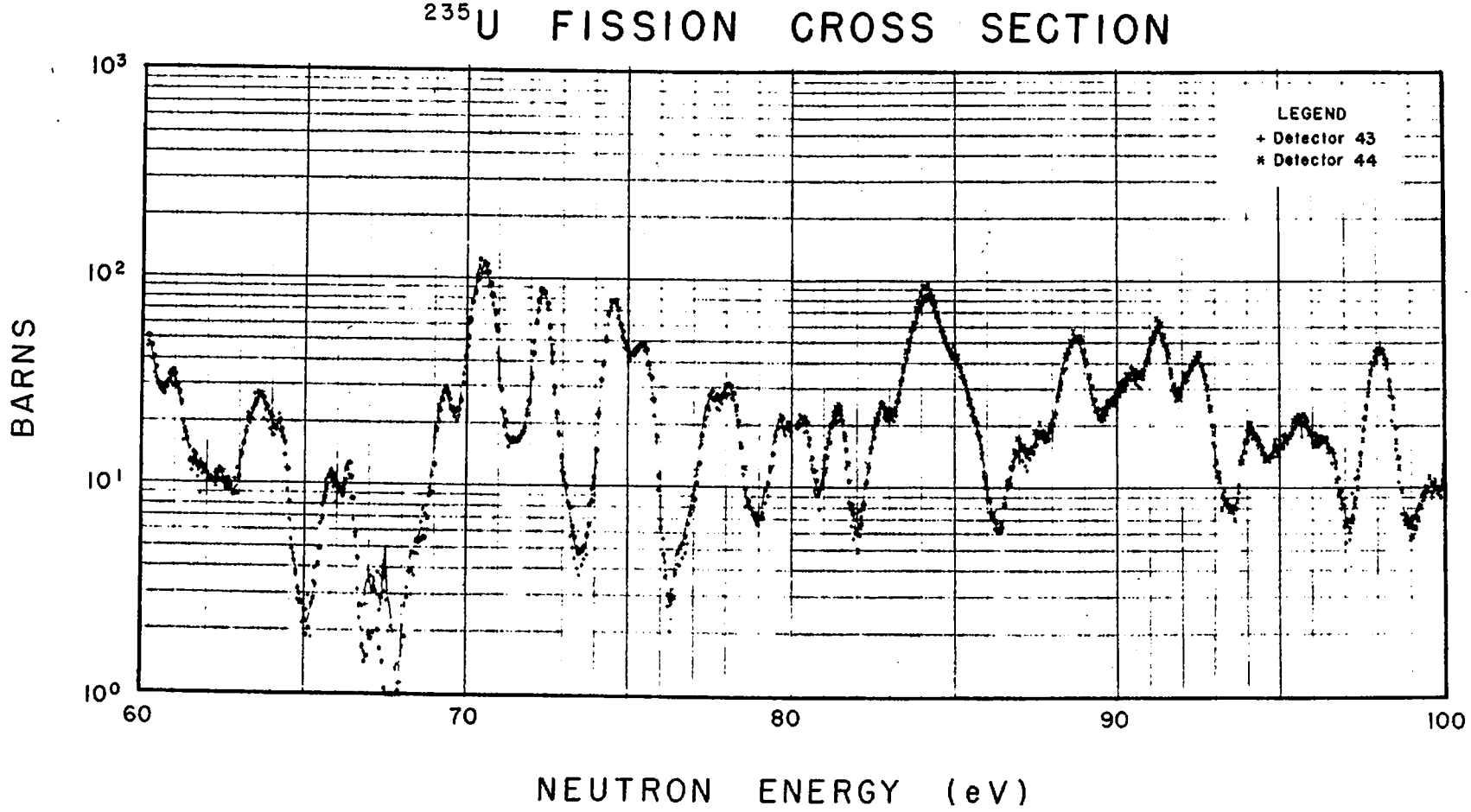

Fig. 4. Cross-section data from 60 to 100 eV. See Fig. 3 for additional explanation.

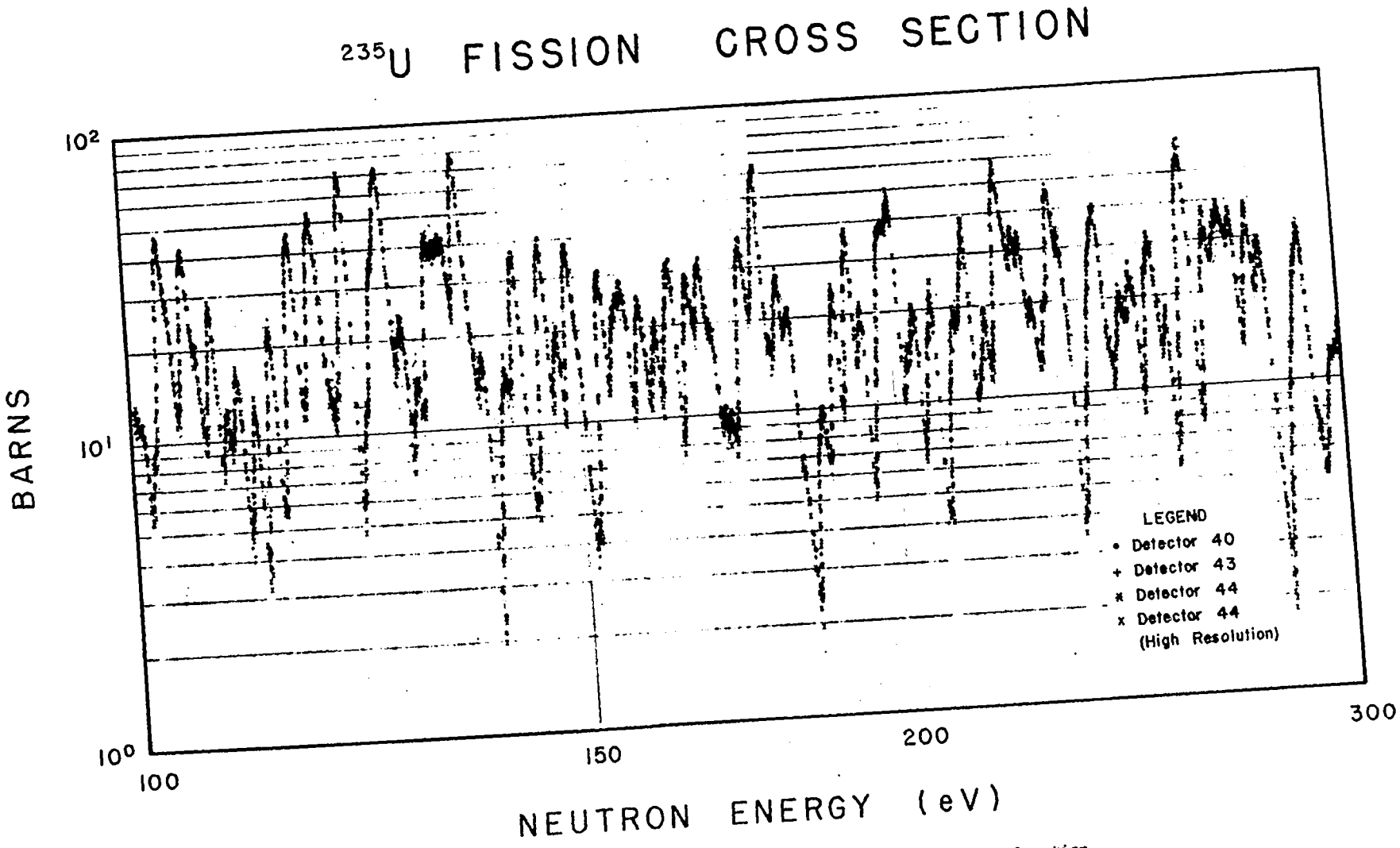

Fig. 5. Cross-section data from 100 to 300 eV. See Fig. 3 for additional explanation.

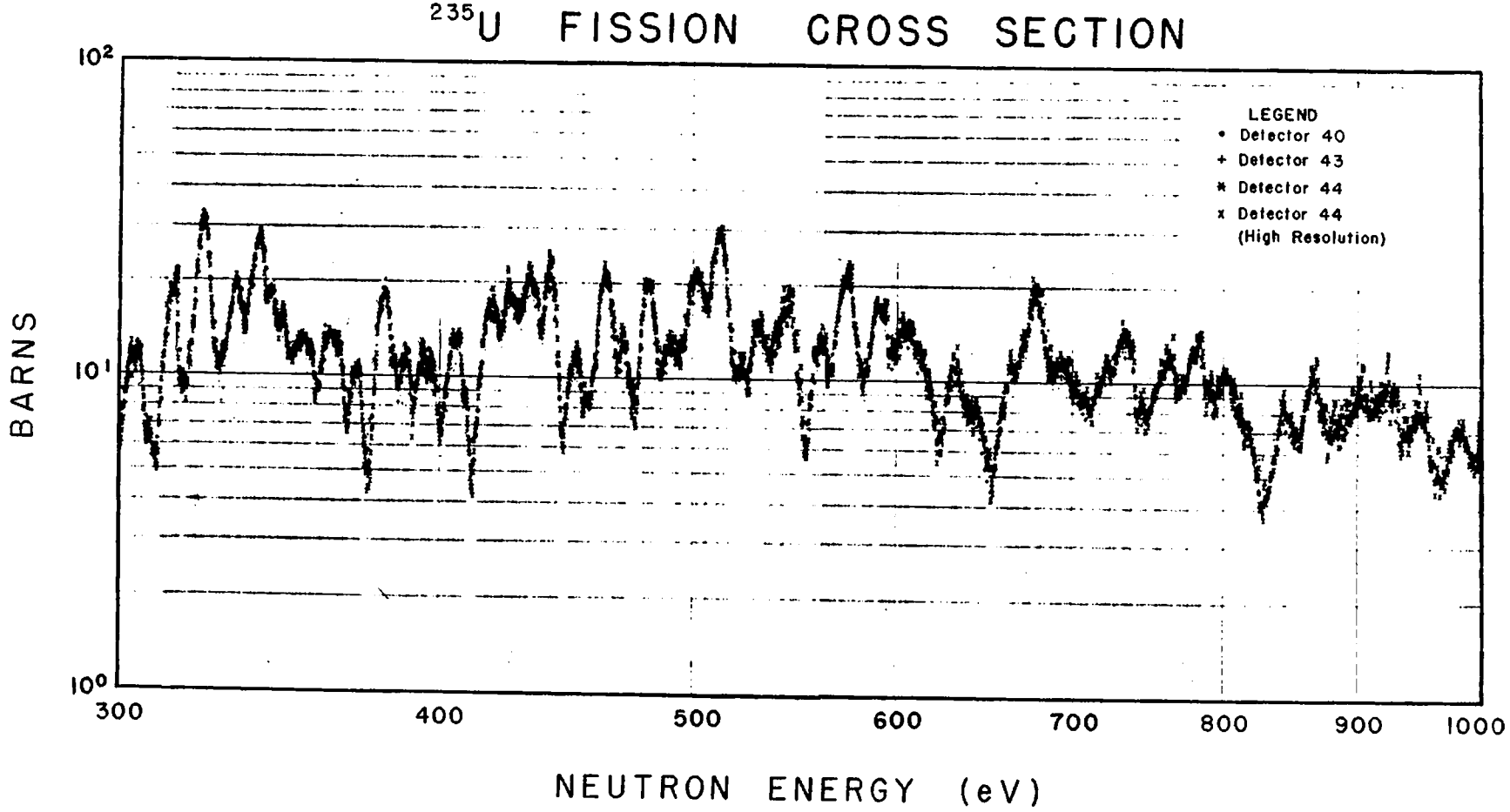

Fig. 6. Cross-section data from 300 eV to 1 keV. See Fig. 3 for additional explanation.

of these single-pulse experiments. For neutron energies below 100 eV, experimental resolution broadening is dominated by Doppler broadening due to random motion of the target nuclei. Above this energy, the ratio of the neutron generation time to the length of the flight path becomes the dominate consideration in the resolution. The energy resolution of these data in the region from 200 eV to 1 keV is superior to that of previous nuclear detonation experiments due to the longer flight path.

In addition to the improved resolution, it is evident in Fig. 1 that the neutron flux for Persimmon in this energy region is considerably higher than the flux from Petrel. Therefore, a great improvement in signal level (counting statistics) was obtained on this experiment in just the region of importance where the superior energy resolution was achieved. The Persimmon experiment complements the Petrel experiment in that the flux peak at 60 eV, shown in Fig. 1 for Petrel, provided large counting rates for cross-section measurements in the neutron energy region where Doppler broadening determines the resolution limits. In contrast to the neutron deficiency of Petrel in the energy region from 200 eV to above 1 keV, the Persimmon flux fills the gap with data that have superior energy resolution.

Integrals of the cross section determined from the four records obtained in the Persimmon experiment are shown in Table II along with the integrals of the average of these measurements. The fractional rms deviation of these integrals is some measure of the relative consistency of this technique and appears to be approximately 0.03 over the entire energy range considered here. These deviations are almost entirely the result of uncertainties in data recording and reading. To achieve more reliable comparison, the values of the integrals from detector 40 at energies below 100 eV (shown in parentheses in Table II) were included although point-to-point values were not included in the determination of the cross sections for this energy region.

Persimmon $^{235}U(n,f)$ cross-section integrals are compared to integrals of previous measurements on Petrel[1] and on the Rensselaer Polytechnic Institute electron linac by deSaussure et al.[10] in Table III. In addition, the recent measurements by the Euratom group at Geel[11] are listed in Table III. Although the Geel data display the best energy resolution, the integrals are generally 10% lower than both the ORNL data and the data from the single-burst experiments of Persimmon and Petrel.

TABLE II

COMPARISON OF THE RESULTS OF THREE DETECTORS

RESULTS OF INTEGRALS $\int\sigma(E)dE$ FOR THE ENERGY INTERVALS INDICATED

	$\int\sigma(E)dE$					
Energy (eV)	Detector 40	Detector 43	Detector 44	Detector[a] 44(H.R.)	Persimmon[b] Average	RMS Deviation
1000	7512.6	7499.5	7655.3	7769.6	7742.3	0.014
300	2025.8	2062.1	2037.0	2015.2	2069.2	0.008
200	1836.3	1874.0	1943.5	1848.6	1866.2	0.022
113	195.2	202.1	213.2	204.6	204.5	0.032
100	(634.3)	640.5	665.9	--	658.7	0.021
73	(309.2)	283.8	299.4	--	302.3	0.035
60	(953.1)	967.7	1000.9	--	989.6	0.020
41	--	528.5	546.5	--	539.8	0.049
33	--	464.4	454.7	--	459.5	0.016
20.5						

[a]Results of high resolution recording channel.

[b]Integration of the final cross section as determined by a point-to-point average of the three detectors.

TABLE III

COMPARISON OF PERSIMMON $^{235}U(n,f)$ RESULTS TO OTHER $^{235}U(n,f)$ MEASUREMENTS

RESULTS OF INTEGRALS $\int\sigma(E)dE$ FOR THE ENERGY INTERVAL INDICATED

	$\int\sigma(E)dE$						
Energy (eV)	Persimmon	Petrel[a]	Petrel / Persimmon	ORNL-RPI[b]	ORNL / Persimmon	Geel[c]	Geel / Persimmon
1000							
	7742	8159	1.054	8099.1	1.046	6974	0.901
300							
	2069	2175	1.051	2076.5	1.003	1767.9	0.854
200							
	1866	1930	1.034	1874.8	1.005	1726.1	0.925
113							
	204	226	1.105	214.7	1.050	217.1	1.06
100							
	658	682	1.035	662.1	1.005	645.7	0.98
73							
	302	318	1.052	305.1	1.009	263.8	0.87
60							
	989	924	0.934	923.5	0.933	843.1	0.852
41							
	539	465	0.861	498.4	0.923	471.7	0.873
33							
	459	416	0.906	442.9	0.964	411.12	0.895
20.5							

[a]Data from Ref. 1

[b]Data from Ref. 10

[c]Data from Ref. 11

V. EXPERIMENTAL UNCERTAINTIES

As mentioned earlier, the incident neutron energies are determined from the time interval between the gamma flash of the detonation and the neutron arrival. The hold-up time in the moderator, however, introduces an uncertainty in positioning the neutron-energy scale of the detector. The upper limit of this hold-up time was estimated by determining the slope of the apparent energy shift of the low-energy resonances as a function of the inverse flight time. This upper limit was determined to be 3.5 μsec and a constant shift of 3.0 μsec was used to establish the energy scale. An uncertainty of ±1.0 μsec must be attached to this hold-up time which introduces the following energy uncertainties for these data: 0.032 eV at 50 eV, 0.091 eV at 100 eV, 0.475 eV at 300 eV, and 2.89 eV at 1000 eV. This represents the major contribution to the energy uncertainty in these data.

The uncertainties associated with the values of these experimental cross sections can be separated into two categories: (1) the error introduced in the data recording mode through the film reading of the detector signals, and (2) the usual systematic experimental errors. Errors associated with data recording are carried through the analysis for each point of recorded data. Systematic errors include uncertainties in the flux measurement, areal density of ^{235}U foil deposit, detector solid angle, and fragment energy deposition in the detectors.

The systematic errors were determined to be 5.63% for detector 40, 5.16% for detector 43, and 5.90% for detector 44 in the energy region of 100 to 1000 eV. Below 100 eV, the flux determination was based on the $^{3}He(n,p)T$ reaction and permitted a significant reduction in the systematic error associated with the flux measurement. Systematic uncertainties in this low-energy region were 3.94% for detector 40, 3.2% for detector 43, and 4.32% for detector 44. The decreasing neutron flux in this energy region, however, reduced the signal levels to such extent that the decrease in the systematic

errors was offset by increased uncertainties in the data recording.

A complete listing of the neutron-induced fission cross sections determined in the Persimmon experiment is given in the Appendix. The absolute errors listed represent the combined systematic errors and the data recording errors.

VI. CONCLUSION

The results of the $^{235}U(n,f)$ cross-section measurements outlined in this report, combined with the complementary results of the measurement on the Petrel event, clearly demonstrate the capabilities and limitations of these single-burst neutron time-of-flight experiments. The favorable agreement observed between the three fission-fragment detectors, which represent three independent measurements on the Persimmon event, is demonstrative of the effectiveness of this technique. The consequences of an extremely low background, coupled with the good energy resolution, are reflected in these results for neutron energies from 20 eV to 1 keV.

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REFERENCES

1. W. K. Brown, D. W. Bergen, and J. D. Cramer, Report CONF-660303 (1966), Book 2, p. 971; P-3 and W-8 Staff, LA-3586, Los Alamos Scientific Laboratory (1966).
2. A. Hemmendinger, Phys. Today 18, 17 (1965).
3. B. C. Diven, Proceedings of the International Conference on the Study of Nuclear Structure with Neutrons, M. Néve de Mévergnier, P. Van Assche, and J. Vervier, Eds. (North Holland Publishing Co., Amsterdam, Holland, 1966), p. 441.
4. A. Hemmendinger, B. C. Diven, W. K. Brown, A. Ellis, A. Furnish, and E. Shunk, LA-3478, Part I, Los Alamos Scientific Laboratory (1966).
5. W. K. Brown, P. Seeger, and M. G. Silbert, LA-4095, Los Alamos Scientific Laboratory (in preparation).
6. W. K. Brown, A. N. Ellis, and D. D. Peterson, LA-3752, Los Alamos Scientific Laboratory (1967).
7. C. A. Uttley and K. M. Dunent (Harwell), to be published.
8. A. Bergstrom, S. Schwarz, L. G. Stromberg, and A. Wallin, "Remarks on the $^{6}Li(n,\alpha)T$ Cross Section in the Region $1 < E_n < 600$ keV," ENEA Neutron Data Compilation Centre Newsletter CCDN-NW/3 (October 1966).
9. P. A. Seeger and D. W. Bergen, LA-3478, Part II, Los Alamos Scientific Laboratory (1966).
10. G. deSaussure, L. W. Weston, R. Gwin, R. W. Ingle, J. H. Todd, R. W. Hockenbury, R. R. Fullwood, and A. Lottin, Inter. Conf. Nucl. Data for Reactors, Paris, 1966, Vol. 2 (IAEA, Vienna) 233.
11. M. G. Cao, E. Migneco, J. P. Theobald, J. A. Wartena, and J. Winter, J. Nucl. Energy 22, 211 (1968).

APPENDIX

$^{235}U(n,f)$ CROSS-SECTION PERSIMMON EVENT

The following cross-section data are the average of each data point of measurements from three fission-fragment detectors. The cross sections are listed three points to a line in order of decreasing neutron energy. Energy in eV and cross section in barns are listed in a modified E-format where the power of ten multiplier is listed with the appropriate sign in the last two columns of each number. The error represents the total fractional error associated with each data point and therefore includes a constant systematic uncertainty of 0.0488. To obtain the absolute value of $\Delta\sigma$ (in barns), multiply σ by the error.

E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR
1.007+3	7.002+0	.076	1.004+3	6.497+0	.117	1.001+3	6.518+0	.077
9.985+2	6.244+0	.136	9.957+2	5.671+0	.065	9.928+2	5.862+0	.057
9.899+2	6.285+0	.071	9.871+2	6.836+0	.086	9.843+2	6.927+0	.061
9.815+2	7.187+0	.062	9.787+2	6.908+0	.060	9.759+2	6.218+0	.063
9.731+2	5.719+0	.094	9.703+2	5.070+0	.071	9.676+2	4.922+0	.074
9.648+2	5.509+0	.101	9.621+2	5.459+0	.151	9.594+2	5.662+0	.058
9.567+2	6.994+0	.102	9.540+2	7.909+0	.079	9.513+2	7.969+0	.094
9.486+2	8.811+0	.132	9.460+2	7.870+0	.078	9.433+2	7.224+0	.070
9.407+2	6.930+0	.076	9.380+2	7.177+0	.086	9.354+2	6.822+0	.124
9.328+2	7.701+0	.150	9.302+2	8.941+0	.092	9.276+2	9.232+0	.073
9.251+2	9.659+0	.170	9.225+2	1.018+1	.141	9.199+2	9.150+0	.075
9.174+2	8.989+0	.087	9.149+2	8.564+0	.062	9.123+2	8.209+0	.064
9.098+2	8.611+0	.114	9.073+2	8.500+0	.075	9.048+2	9.801+0	.137
9.024+2	9.757+0	.101	8.999+2	9.149+0	.083	8.974+2	8.452+0	.074
8.950+2	8.351+0	.105	8.925+2	7.779+0	.070	8.901+2	7.458+0	.111
8.877+2	7.512+0	.103	8.853+2	7.021+0	.071	8.829+2	7.851+0	.102
8.805+2	7.293+0	.096	8.781+2	7.052+0	.096	8.757+2	7.317+0	.128
8.734+2	7.936+0	.077	8.710+2	8.330+0	.081	8.687+2	1.035+1	.124
8.663+2	1.045+1	.059	8.640+2	1.023+1	.089	8.617+2	9.052+0	.058
8.594+2	8.337+0	.068	8.571+2	7.082+0	.082	8.548+2	6.574+0	.061
8.525+2	6.906+0	.062	8.503+2	7.352+0	.079	8.480+2	7.620+0	.060
8.457+2	7.852+0	.063	8.435+2	8.504+0	.080	8.413+2	7.551+0	.083
8.390+2	6.427+0	.072	8.368+2	5.725+0	.068	8.346+2	5.108+0	.064
8.324+2	4.515+0	.055	8.302+2	4.439+0	.080	8.281+2	4.116+0	.121
8.259+2	4.749+0	.121	8.237+2	5.259+0	.067	8.216+2	6.045+0	.054
8.194+2	6.841+0	.071	8.173+2	7.005+0	.068	8.151+2	6.944+0	.081
8.130+2	8.034+0	.090	8.109+2	7.875+0	.071	8.088+2	8.729+0	.087
8.067+2	9.379+0	.077	8.046+2	9.945+0	.060	8.025+2	1.043+1	.066
8.005+2	1.057+1	.054	7.984+2	1.012+1	.064	7.963+2	9.743+0	.058
7.943+2	8.543+0	.069	7.923+2	9.343+0	.119	7.902+2	9.686+0	.066
7.882+2	9.337+0	.083	7.862+2	1.059+1	.113	7.842+2	1.344+1	.094
7.822+2	1.345+1	.060	7.802+2	1.214+1	.054	7.782+2	1.257+1	.054
7.762+2	1.170+1	.062	7.742+2	1.026+1	.056	7.723+2	9.759+0	.054
7.703+2	9.754+0	.066	7.684+2	9.590+0	.065	7.664+2	9.960+0	.093
7.645+2	1.232+1	.102	7.626+2	1.193+1	.061	7.606+2	1.184+1	.071
7.587+2	1.079+1	.058	7.568+2	1.078+1	.073	7.549+2	1.003+1	.064
7.530+2	9.273+0	.054	7.511+2	8.924+0	.063	7.493+2	8.194+0	.055
7.474+2	7.460+0	.060	7.455+2	8.148+0	.103	7.437+2	8.408+0	.074
7.418+2	7.813+0	.061	7.400+2	8.614+0	.106	7.382+2	1.215+1	.083
7.363+2	1.293+1	.072	7.345+2	1.348+1	.060	7.327+2	1.375+1	.078
7.309+2	1.402+1	.076	7.291+2	1.320+1	.059	7.273+2	1.224+1	.059
7.255+2	1.109+1	.061	7.237+2	1.060+1	.057	7.219+2	1.152+1	.057
7.202+2	1.104+1	.082	7.184+2	1.044+1	.058	7.167+2	9.659+0	.055
7.149+2	9.798+0	.064	7.132+2	8.733+0	.055	7.114+2	7.962+0	.070
7.097+2	8.399+0	.061	7.080+2	8.819+0	.077	7.062+2	8.783+0	.061
7.045+2	8.860+0	.076	7.028+2	9.702+0	.079	7.011+2	9.300+0	.061
6.994+2	9.605+0	.069	6.978+2	1.105+1	.080	6.961+2	1.083+1	.055
6.944+2	1.125+1	.056	6.927+2	1.125+1	.069	6.911+2	1.103+1	.068
6.894+2	1.072+1	.067	6.878+2	1.096+1	.101	6.861+2	1.124+1	.087
6.845+2	1.213+1	.095	6.828+2	1.423+1	.107	6.812+2	1.746+1	.115

E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR
6.796+2	1.817+1	.086	6.780+2	1.905+1	.070	6.764+2	1.937+1	.071
6.748+2	1.729+1	.069	6.732+2	1.472+1	.065	6.716+2	1.330+1	.067
6.700+2	1.305+1	.073	6.684+2	1.177+1	.062	6.668+2	1.097+1	.062
6.653+2	1.071+1	.067	6.637+2	1.132+1	.082	6.621+2	1.069+1	.074
6.606+2	9.204+0	.086	6.590+2	8.339+0	.076	6.575+2	7.578+0	.084
6.559+2	6.490+0	.081	6.544+2	5.520+0	.080	6.529+2	4.611+0	.087
6.514+2	5.365+0	.095	6.498+2	5.499+0	.089	6.483+2	6.313+0	.092
6.468+2	6.977+0	.083	6.453+2	7.612+0	.086	6.438+2	8.233+0	.073
6.423+2	7.624+0	.076	6.409+2	8.038+0	.065	6.394+2	7.964+0	.076
6.379+2	8.403+0	.059	6.364+2	8.638+0	.068	6.350+2	9.629+0	.071
6.335+2	1.083+1	.108	6.321+2	1.057+1	.063	6.306+2	1.141+1	.092
6.292+2	1.027+1	.065	6.277+2	8.843+0	.057	6.263+2	7.878+0	.133
6.249+2	6.718+0	.097	6.234+2	6.903+0	.085	6.220+2	6.405+0	.108
6.206+2	7.550+0	.070	6.192+2	8.668+0	.080	6.178+2	9.681+0	.086
6.164+2	9.680+0	.067	6.150+2	1.132+1	.088	6.136+2	1.169+1	.061
6.122+2	1.244+1	.072	6.108+2	1.218+1	.075	6.095+2	1.288+1	.076
6.081+2	1.461+1	.069	6.067+2	1.404+1	.056	6.053+2	1.416+1	.073
6.040+2	1.429+1	.058	6.026+2	1.515+1	.083	6.013+2	1.336+1	.084
5.999+2	1.308+1	.089	5.986+2	1.245+1	.080	5.973+2	1.235+1	.079
5.959+2	1.213+1	.072	5.946+2	1.536+1	.140	5.933+2	1.626+1	.071
5.920+2	1.665+1	.060	5.907+2	1.680+1	.053	5.893+2	1.753+1	.057
5.880+2	1.629+1	.062	5.867+2	1.387+1	.068	5.854+2	1.204+1	.085
5.841+2	1.080+1	.059	5.829+2	9.924+0	.088	5.816+2	1.056+1	.068
5.803+2	1.155+1	.095	5.790+2	1.315+1	.076	5.777+2	1.490+1	.066
5.765+2	1.898+1	.122	5.752+2	2.100+1	.080	5.740+2	2.148+1	.071
5.727+2	2.060+1	.057	5.715+2	1.994+1	.063	5.702+2	1.784+1	.074
5.690+2	1.554+1	.075	5.677+2	1.267+1	.113	5.665+2	1.113+1	.077
5.654+2	1.023+1	.074	5.642+2	1.025+1	.059	5.629+2	1.095+1	.058
5.617+2	1.223+1	.095	5.605+2	1.290+1	.079	5.593+2	1.369+1	.062
5.581+2	1.277+1	.061	5.569+2	1.187+1	.065	5.557+2	1.149+1	.100
5.545+2	9.197+0	.086	5.533+2	7.584+0	.125	5.521+2	6.271+0	.110
5.509+2	6.361+0	.082	5.497+2	8.789+0	.180	5.486+2	9.021+0	.077
5.474+2	1.211+1	.142	5.462+2	1.443+1	.151	5.451+2	1.732+1	.091
5.439+2	1.743+1	.084	5.427+2	1.597+1	.061	5.416+2	1.732+1	.083
5.404+2	1.554+1	.088	5.393+2	1.383+1	.086	5.382+2	1.418+1	.072
5.370+2	1.316+1	.079	5.359+2	1.179+1	.078	5.347+2	1.201+1	.077
5.336+2	1.237+1	.059	5.325+2	1.281+1	.056	5.314+2	1.456+1	.090
5.303+2	1.425+1	.057	5.291+2	1.458+1	.061	5.280+2	1.422+1	.064
5.269+2	1.303+1	.084	5.258+2	1.090+1	.076	5.247+2	9.354+0	.064
5.236+2	1.021+1	.057	5.225+2	1.133+1	.065	5.214+2	1.110+1	.065
5.204+2	1.037+1	.057	5.193+2	1.061+1	.060	5.182+2	1.096+1	.083
5.171+2	1.318+1	.107	5.160+2	1.631+1	.075	5.150+2	2.182+1	.121
5.139+2	2.560+1	.104	5.128+2	2.826+1	.058	5.118+2	2.859+1	.061
5.107+2	2.764+1	.070	5.097+2	2.425+1	.061	5.086+2	2.144+1	.088
5.076+2	1.788+1	.074	5.065+2	1.728+1	.065	5.055+2	1.756+1	.060
5.045+2	1.885+1	.082	5.034+2	2.030+1	.071	5.024+2	2.098+1	.065
5.014+2	2.095+1	.060	5.003+2	2.019+1	.072	4.993+2	1.971+1	.056
4.983+2	1.810+1	.070	4.973+2	1.535+1	.062	4.963+2	1.338+1	.101
4.953+2	1.277+1	.080	4.943+2	1.164+1	.066	4.933+2	1.208+1	.071
4.923+2	1.237+1	.081	4.913+2	1.289+1	.069	4.903+2	1.313+1	.065
4.893+2	1.247+1	.073	4.883+2	1.181+1	.074	4.873+2	1.115+1	.072
4.863+2	1.021+1	.055	4.853+2	1.056+1	.065	4.844+2	1.317+1	.127
4.834+2	1.490+1	.086	4.824+2	1.835+1	.089	4.815+2	1.983+1	.056
4.805+2	1.975+1	.057	4.795+2	1.970+1	.058	4.786+2	1.649+1	.071
4.776+2	1.300+1	.107	4.767+2	1.006+1	.107	4.757+2	7.705+0	.085
4.748+2	8.456+0	.101	4.738+2	8.706+0	.095	4.729+2	9.766+0	.084
4.719+2	1.154+1	.108	4.710+2	1.267+1	.089	4.701+2	1.310+1	.095
4.691+2	1.164+1	.061	4.682+2	1.104+1	.067	4.673+2	1.258+1	.112
4.664+2	1.558+1	.097	4.654+2	1.789+1	.091	4.645+2	2.026+1	.058
4.636+2	2.125+1	.058	4.627+2	2.158+1	.062	4.618+2	1.930+1	.059
4.609+2	1.675+1	.090	4.600+2	1.348+1	.101	4.591+2	1.092+1	.077
4.582+2	9.814+0	.076	4.573+2	8.383+0	.064	4.564+2	8.569+0	.063
4.555+2	8.433+0	.058	4.546+2	8.316+0	.092	4.537+2	8.654+0	.101
4.529+2	1.078+1	.079	4.520+2	1.125+1	.088	4.511+2	1.161+1	.078
4.502+2	1.084+1	.073	4.494+2	1.030+1	.073	4.485+2	9.375+0	.100
4.476+2	7.934+0	.096	4.468+2	6.888+0	.086	4.459+2	6.405+0	.064
4.450+2	8.619+0	.141	4.442+2	1.190+1	.109	4.433+2	1.689+1	.090
4.425+2	1.908+1	.062	4.416+2	2.240+1	.069	4.408+2	2.212+1	.103
4.399+2	1.996+1	.094	4.391+2	1.747+1	.117	4.382+2	1.454+1	.083

E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR
4.374+2	1.434+1	.062	4.366+2	1.625+1	.108	4.357+2	1.814+1	.065
4.349+2	1.897+1	.063	4.341+2	1.977+1	.059	4.333+2	2.095+1	.079
4.324+2	2.038+1	.071	4.316+2	1.861+1	.058	4.308+2	1.690+1	.063
4.300+2	1.625+1	.073	4.292+2	1.594+1	.065	4.283+2	1.622+1	.070
4.275+2	1.640+1	.063	4.267+2	1.765+1	.058	4.259+2	1.800+1	.061
4.251+2	1.927+1	.095	4.243+2	1.851+1	.097	4.235+2	1.548+1	.074
4.227+2	1.425+1	.075	4.219+2	1.344+1	.063	4.211+2	1.495+1	.074
4.204+2	1.611+1	.065	4.196+2	1.739+1	.073	4.188+2	1.680+1	.086
4.180+2	1.645+1	.061	4.172+2	1.584+1	.064	4.164+2	1.432+1	.072
4.157+2	1.245+1	.079	4.149+2	1.027+1	.106	4.141+2	8.400+0	.123
4.134+2	6.762+0	.075	4.126+2	5.564+0	.100	4.118+2	4.701+0	.095
4.111+2	5.643+0	.105	4.103+2	7.035+0	.118	4.095+2	8.426+0	.085
4.088+2	8.724+0	.078	4.080+2	1.051+1	.085	4.073+2	1.314+1	.058
4.065+2	1.325+1	.060	4.058+2	1.264+1	.061	4.050+2	1.247+1	.073
4.043+2	1.270+1	.082	4.035+2	1.151+1	.105	4.028+2	9.628+0	.085
4.021+2	8.704+0	.076	4.013+2	7.757+0	.081	4.006+2	6.676+0	.083
3.999+2	7.098+0	.097	3.991+2	7.990+0	.081	3.984+2	9.458+0	.077
3.977+2	1.052+1	.077	3.970+2	1.078+1	.083	3.962+2	1.080+1	.086
3.955+2	1.051+1	.081	3.948+2	1.095+1	.084	3.941+2	1.179+1	.078
3.934+2	1.146+1	.088	3.926+2	1.045+1	.062	3.919+2	9.471+0	.065
3.912+2	8.437+0	.068	3.905+2	7.606+0	.096	3.898+2	9.516+0	.064
3.891+2	1.110+1	.070	3.884+2	1.173+1	.078	3.877+2	1.119+1	.096
3.870+2	1.069+1	.096	3.863+2	9.873+0	.086	3.856+2	9.397+0	.109
3.849+2	9.813+0	.083	3.842+2	1.102+1	.056	3.836+2	1.153+1	.076
3.829+2	1.238+1	.112	3.822+2	1.551+1	.061	3.815+2	1.752+1	.057
3.808+2	1.855+1	.063	3.801+2	1.799+1	.055	3.795+2	1.683+1	.059
3.788+2	1.606+1	.065	3.781+2	1.308+1	.127	3.775+2	9.208+0	.110
3.768+2	6.673+0	.113	3.761+2	5.490+0	.190	3.754+2	5.163+0	.132
3.748+2	5.334+0	.095	3.741+2	6.002+0	.097	3.735+2	7.362+0	.085
3.728+2	9.145+0	.097	3.721+2	1.033+1	.074	3.715+2	1.028+1	.063
3.708+2	1.009+1	.062	3.702+2	9.548+0	.085	3.695+2	8.699+0	.071
3.689+2	7.749+0	.093	3.682+2	7.242+0	.079	3.676+2	8.234+0	.093
3.669+2	9.886+0	.086	3.663+2	1.187+1	.095	3.657+2	1.245+1	.081
3.650+2	1.228+1	.063	3.644+2	1.283+1	.061	3.638+2	1.316+1	.061
3.631+2	1.346+1	.064	3.625+2	1.356+1	.064	3.619+2	1.300+1	.068
3.612+2	1.301+1	.075	3.606+2	1.205+1	.074	3.600+2	1.053+1	.065
3.594+2	9.371+0	.064	3.587+2	9.072+0	.071	3.581+2	8.960+0	.091
3.575+2	1.103+1	.079	3.569+2	1.190+1	.065	3.563+2	1.218+1	.062
3.556+2	1.207+1	.072	3.550+2	1.280+1	.064	3.544+2	1.317+1	.059
3.538+2	1.281+1	.058	3.532+2	1.220+1	.062	3.526+2	1.274+1	.058
3.520+2	1.220+1	.059	3.514+2	1.183+1	.060	3.508+2	1.158+1	.067
3.502+2	1.159+1	.062	3.496+2	1.188+1	.060	3.490+2	1.348+1	.066
3.484+2	1.528+1	.066	3.478+2	1.556+1	.077	3.472+2	1.468+1	.062
3.466+2	1.405+1	.063	3.460+2	1.502+1	.067	3.454+2	1.586+1	.078
3.449+2	1.831+1	.065	3.443+2	1.845+1	.061	3.437+2	1.784+1	.064
3.431+2	1.785+1	.059	3.425+2	1.912+1	.095	3.419+2	2.357+1	.078
3.414+2	2.618+1	.068	3.408+2	2.811+1	.058	3.402+2	2.671+1	.059
3.396+2	2.544+1	.060	3.391+2	2.261+1	.063	3.385+2	1.983+1	.059
3.379+2	1.876+1	.075	3.374+2	1.668+1	.072	3.368+2	1.416+1	.063
3.362+2	1.454+1	.093	3.357+2	1.623+1	.063	3.351+2	1.739+1	.063
3.345+2	1.846+1	.076	3.340+2	1.982+1	.062	3.334+2	1.917+1	.065
3.329+2	1.768+1	.073	3.323+2	1.599+1	.062	3.318+2	1.428+1	.061
3.312+2	1.266+1	.065	3.307+2	1.197+1	.067	3.301+2	1.167+1	.082
3.296+2	1.082+1	.080	3.290+2	1.048+1	.070	3.285+2	1.102+1	.063
3.279+2	1.186+1	.074	3.274+2	1.326+1	.086	3.268+2	1.617+1	.069
3.263+2	1.958+1	.087	3.258+2	2.358+1	.062	3.252+2	2.795+1	.060
3.247+2	3.110+1	.062	3.242+2	3.158+1	.059	3.236+2	2.973+1	.065
3.231+2	2.709+1	.083	3.226+2	2.207+1	.063	3.220+2	1.722+1	.102
3.215+2	1.433+1	.062	3.210+2	1.195+1	.077	3.205+2	1.130+1	.073
3.199+2	9.039+0	.064	3.194+2	9.337+0	.065	3.189+2	9.358+0	.067
3.184+2	9.608+0	.064	3.179+2	1.028+1	.101	3.175+2	1.298+1	.102
3.170+2	1.654+1	.102	3.165+2	2.052+1	.058	3.160+2	2.087+1	.062
3.155+2	1.900+1	.073	3.149+2	1.827+1	.060	3.144+2	1.815+1	.069
3.139+2	1.648+1	.073	3.134+2	1.473+1	.084	3.129+2	1.252+1	.075
3.124+2	1.077+1	.071	3.119+2	9.124+0	.097	3.114+2	7.232+0	.136
3.109+2	5.473+0	.094	3.104+2	5.219+0	.065	3.099+2	5.492+0	.062
3.094+2	6.084+0	.101	3.089+2	6.416+0	.060	3.084+2	6.661+0	.060
3.079+2	6.578+0	.084	3.074+2	7.457+0	.115	3.069+2	8.806+0	.106
3.064+2	1.103+1	.086	3.059+2	1.156+1	.091	3.054+2	1.175+1	.066
3.050+2	1.116+1	.087	3.045+2	1.140+1	.062	3.040+2	1.113+1	.100

E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR
3.035+2	1.140+1	.063	3.030+2	1.028+1	.066	3.025+2	9.402+0	.078
3.021+2	8.294+0	.069	3.016+2	7.544+0	.122	3.011+2	6.779+0	.099
3.006+2	6.897+0	.123	3.001+2	9.557+0	.103	2.997+2	1.286+1	.077
2.992+2	1.433+1	.089	2.987+2	1.266+1	.097	2.982+2	1.255+1	.064
2.978+2	1.203+1	.067	2.973+2	1.209+1	.066	2.968+2	1.195+1	.066
2.964+2	1.109+1	.070	2.959+2	9.814+0	.065	2.954+2	8.117+0	.084
2.950+2	6.679+0	.075	2.945+2	5.514+0	.080	2.941+2	5.341+0	.097
2.936+2	5.287+0	.094	2.931+2	6.654+0	.067	2.927+2	7.139+0	.082
2.922+2	8.167+0	.109	2.918+2	1.184+1	.137	2.913+2	1.776+1	.184
2.909+2	2.608+1	.080	2.904+2	3.055+1	.065	2.899+2	3.021+1	.077
2.895+2	2.700+1	.065	2.890+2	2.515+1	.065	2.886+2	2.312+1	.076
2.881+2	2.037+1	.072	2.877+2	1.700+1	.075	2.873+2	1.426+1	.074
2.868+2	1.284+1	.077	2.864+2	1.134+1	.132	2.859+2	9.708+0	.063
2.855+2	7.566+0	.119	2.850+2	5.503+0	.143	2.846+2	4.290+0	.111
2.842+2	2.995+0	.169	2.837+2	2.202+0	.175	2.833+2	2.563+0	.145
2.829+2	3.594+0	.112	2.824+2	4.960+0	.133	2.820+2	7.572+0	.133
2.815+2	1.412+1	.116	2.811+2	1.988+1	.099	2.807+2	2.476+1	.077
2.803+2	2.754+1	.068	2.798+2	2.698+1	.094	2.794+2	2.555+1	.096
2.790+2	2.115+1	.080	2.785+2	2.156+1	.097	2.781+2	2.650+1	.083
2.777+2	3.350+1	.090	2.773+2	3.678+1	.079	2.769+2	3.120+1	.085
2.764+2	2.702+1	.062	2.760+2	2.370+1	.115	2.756+2	1.880+1	.107
2.752+2	1.437+1	.079	2.748+2	1.458+1	.092	2.743+2	1.892+1	.123
2.739+2	2.840+1	.102	2.735+2	3.488+1	.065	2.731+2	3.467+1	.062
2.727+2	3.117+1	.059	2.723+2	2.960+1	.062	2.719+2	3.150+1	.060
2.715+2	3.323+1	.063	2.710+2	3.459+1	.069	2.706+2	3.869+1	.071
2.702+2	3.483+1	.068	2.698+2	3.374+1	.087	2.694+2	3.188+1	.084
2.690+2	3.005+1	.085	2.686+2	2.731+1	.073	2.682+2	2.576+1	.061
2.678+2	2.684+1	.067	2.674+2	3.008+1	.068	2.670+2	3.438+1	.086
2.666+2	3.304+1	.079	2.662+2	2.961+1	.061	2.658+2	2.500+1	.060
2.654+2	2.081+1	.076	2.650+2	1.439+1	.116	2.646+2	1.082+1	.124
2.642+2	8.884+0	.115	2.638+2	9.154+0	.141	2.635+2	1.294+1	.179
2.631+2	2.782+1	.106	2.627+2	4.302+1	.129	2.623+2	5.481+1	.085
2.619+2	5.772+1	.079	2.615+2	5.496+1	.082	2.611+2	5.164+1	.058
2.607+2	4.409+1	.066	2.603+2	3.385+1	.136	2.600+2	2.311+1	.146
2.596+2	1.704+1	.122	2.592+2	1.354+1	.069	2.588+2	9.835+0	.110
2.584+2	7.271+0	.097	2.581+2	6.437+0	.141	2.577+2	7.024+0	.158
2.573+2	9.745+0	.150	2.569+2	1.420+1	.147	2.565+2	1.728+1	.063
2.562+2	1.507+1	.081	2.558+2	1.440+1	.093	2.554+2	1.382+1	.071
2.550+2	1.652+1	.116	2.547+2	1.967+1	.078	2.543+2	2.355+1	.067
2.539+2	2.809+1	.061	2.536+2	3.047+1	.064	2.532+2	2.919+1	.081
2.528+2	2.745+1	.067	2.525+2	2.438+1	.066	2.521+2	2.253+1	.093
2.517+2	1.638+1	.138	2.514+2	1.182+1	.070	2.510+2	1.010+1	.065
2.506+2	1.041+1	.213	2.503+2	1.306+1	.189	2.499+2	1.747+1	.151
2.495+2	2.060+1	.080	2.492+2	2.112+1	.066	2.488+2	2.367+1	.074
2.485+2	2.279+1	.065	2.481+2	2.025+1	.079	2.478+2	1.818+1	.076
2.474+2	1.800+1	.095	2.470+2	1.776+1	.072	2.467+2	1.898+1	.085
2.463+2	2.014+1	.083	2.460+2	1.929+1	.064	2.456+2	1.694+1	.069
2.453+2	1.507+1	.090	2.449+2	1.368+1	.077	2.446+2	1.171+1	.085
2.442+2	1.186+1	.102	2.439+2	1.253+1	.133	2.435+2	1.343+1	.072
2.432+2	1.477+1	.105	2.428+2	1.899+1	.161	2.425+2	2.837+1	.145
2.421+2	3.363+1	.142	2.418+2	3.927+1	.064	2.415+2	3.757+1	.063
2.411+2	3.506+1	.070	2.408+2	3.338+1	.065	2.404+2	3.178+1	.070
2.401+2	2.767+1	.068	2.397+2	2.481+1	.099	2.394+2	2.285+1	.077
2.391+2	1.933+1	.066	2.387+2	1.608+1	.109	2.384+2	1.401+1	.093
2.381+2	1.130+1	.070	2.377+2	9.485+0	.071	2.374+2	8.790+0	.117
2.371+2	6.844+0	.115	2.367+2	5.127+0	.112	2.364+2	4.447+0	.098
2.361+2	4.183+0	.078	2.357+2	3.706+0	.088	2.354+2	5.066+0	.172
2.351+2	9.353+0	.148	2.347+2	1.562+1	.135	2.344+2	2.112+1	.108
2.341+2	2.582+1	.121	2.337+2	3.020+1	.082	2.334+2	3.143+1	.073
2.331+2	2.990+1	.058	2.328+2	3.381+1	.097	2.324+2	3.848+1	.072
2.321+2	4.469+1	.060	2.318+2	4.590+1	.060	2.315+2	4.109+1	.062
2.312+2	3.498+1	.137	2.308+2	2.665+1	.143	2.305+2	2.290+1	.087
2.302+2	2.041+1	.061	2.299+2	1.922+1	.065	2.296+2	1.834+1	.084
2.292+2	1.539+1	.083	2.289+2	1.362+1	.065	2.286+2	1.281+1	.064
2.283+2	1.369+1	.096	2.280+2	1.454+1	.079	2.277+2	1.737+1	.063
2.273+2	1.918+1	.063	2.270+2	1.991+1	.063	2.267+2	1.825+1	.062
2.264+2	1.836+1	.092	2.261+2	2.055+1	.096	2.258+2	2.634+1	.123
2.255+2	3.234+1	.059	2.252+2	3.213+1	.067	2.248+2	2.973+1	.060
2.245+2	2.733+1	.068	2.242+2	3.171+1	.063	2.239+2	3.383+1	.061
2.236+2	3.158+1	.074	2.233+2	2.854+1	.078	2.230+2	2.822+1	.082

E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR
2.227+2	3.083+1	.070	2.224+2	3.517+1	.075	2.221+2	3.765+1	.071
2.218+2	4.333+1	.069	2.215+2	4.960+1	.076	2.212+2	5.588+1	.057
2.209+2	5.306+1	.092	2.206+2	4.730+1	.075	2.203+2	4.034+1	.060
2.200+2	3.219+1	.099	2.197+2	2.459+1	.075	2.194+2	1.925+1	.105
2.191+2	1.532+1	.097	2.188+2	1.333+1	.088	2.185+2	1.225+1	.081
2.182+2	1.359+1	.067	2.179+2	1.633+1	.081	2.176+2	1.826+1	.073
2.173+2	1.744+1	.073	2.170+2	1.506+1	.098	2.167+2	1.393+1	.070
2.164+2	1.238+1	.066	2.162+2	1.154+1	.068	2.159+2	1.061+1	.074
2.156+2	1.013+1	.066	2.153+2	1.045+1	.105	2.150+2	1.384+1	.109
2.147+2	2.085+1	.128	2.144+2	3.196+1	.118	2.141+2	3.749+1	.062
2.138+2	3.407+1	.061	2.136+2	2.955+1	.083	2.133+2	2.699+1	.065
2.130+2	2.342+1	.061	2.127+2	1.982+1	.062	2.124+2	1.816+1	.066
2.121+2	1.796+1	.081	2.119+2	1.804+1	.065	2.116+2	1.869+1	.064
2.113+2	1.767+1	.066	2.110+2	1.646+1	.093	2.107+2	1.403+1	.125
2.105+2	1.236+1	.072	2.102+2	1.066+1	.063	2.099+2	8.687+0	.086
2.096+2	6.721+0	.108	2.093+2	5.241+0	.099	2.091+2	4.221+0	.086
2.088+2	4.307+0	.072	2.085+2	4.500+0	.075	2.082+2	5.617+0	.188
2.080+2	1.263+1	.157	2.077+2	1.990+1	.138	2.074+2	2.273+1	.061
2.071+2	1.979+1	.083	2.069+2	1.759+1	.109	2.066+2	1.658+1	.074
2.063+2	1.467+1	.072	2.061+2	1.223+1	.103	2.058+2	9.971+0	.109
2.055+2	8.344+0	.079	2.052+2	7.020+0	.081	2.050+2	7.361+0	.102
2.047+2	1.102+1	.185	2.044+2	1.709+1	.095	2.042+2	1.911+1	.058
2.039+2	1.885+1	.088	2.036+2	1.812+1	.105	2.034+2	1.687+1	.087
2.031+2	1.445+1	.070	2.028+2	1.450+1	.074	2.026+2	1.437+1	.083
2.023+2	1.340+1	.064	2.021+2	1.135+1	.094	2.018+2	1.078+1	.068
2.015+2	1.486+1	.115	2.013+2	2.524+1	.155	2.010+2	4.130+1	.063
2.007+2	4.696+1	.059	2.005+2	4.614+1	.070	2.002+2	4.145+1	.057
2.000+2	3.794+1	.058	1.997+2	3.822+1	.059	1.994+2	3.749+1	.057
1.992+2	3.799+1	.057	1.989+2	3.763+1	.057	1.987+2	3.664+1	.055
1.984+2	3.565+1	.058	1.982+2	3.211+1	.058	1.979+2	2.757+1	.062
1.977+2	2.287+1	.062	1.974+2	1.892+1	.070	1.971+2	1.524+1	.073
1.969+2	1.295+1	.079	1.966+2	1.076+1	.100	1.964+2	8.733+0	.071
1.961+2	6.983+0	.075	1.959+2	6.076+0	.081	1.956+2	5.377+0	.085
1.954+2	6.514+0	.162	1.951+2	1.116+1	.208	1.949+2	1.705+1	.121
1.946+2	2.037+1	.080	1.944+2	1.974+1	.062	1.941+2	1.733+1	.063
1.939+2	1.547+1	.084	1.936+2	1.385+1	.061	1.934+2	1.581+1	.100
1.932+2	2.266+1	.104	1.929+2	3.279+1	.103	1.927+2	3.596+1	.058
1.924+2	3.279+1	.090	1.922+2	2.885+1	.063	1.919+2	2.421+1	.061
1.917+2	1.920+1	.079	1.914+2	1.463+1	.095	1.912+2	1.147+1	.065
1.910+2	9.897+0	.071	1.907+2	1.022+1	.068	1.905+2	1.274+1	.121
1.902+2	1.834+1	.081	1.900+2	2.284+1	.076	1.898+2	2.313+1	.063
1.895+2	2.033+1	.066	1.893+2	1.794+1	.058	1.890+2	1.446+1	.062
1.888+2	1.091+1	.104	1.886+2	8.328+0	.112	1.883+2	6.916+0	.061
1.881+2	6.568+0	.068	1.879+2	7.000+0	.065	1.876+2	7.882+0	.063
1.874+2	9.067+0	.075	1.871+2	9.677+0	.073	1.869+2	9.418+0	.065
1.867+2	8.346+0	.071	1.864+2	7.673+0	.071	1.862+2	6.685+0	.124
1.860+2	5.773+0	.158	1.858+2	4.569+0	.173	1.855+2	3.409+0	.126
1.853+2	2.651+0	.100	1.851+2	2.320+0	.129	1.848+2	2.626+0	.123
1.846+2	3.098+0	.128	1.844+2	3.549+0	.160	1.841+2	4.677+0	.179
1.839+2	5.833+0	.118	1.837+2	6.357+0	.088	1.835+2	6.894+0	.130
1.832+2	8.853+0	.184	1.830+2	1.229+1	.179	1.828+2	1.699+1	.129
1.825+2	1.917+1	.097	1.823+2	2.030+1	.060	1.821+2	2.019+1	.063
1.819+2	1.924+1	.060	1.816+2	1.845+1	.059	1.814+2	1.879+1	.078
1.812+2	2.136+1	.101	1.810+2	2.550+1	.070	1.808+2	2.741+1	.064
1.805+2	2.540+1	.059	1.803+2	2.290+1	.077	1.801+2	2.023+1	.076
1.799+2	1.715+1	.069	1.796+2	1.550+1	.071	1.794+2	1.538+1	.089
1.792+2	1.645+1	.074	1.790+2	1.682+1	.062	1.788+2	1.837+1	.122
1.785+2	2.719+1	.137	1.784+2	4.382+1	.134	1.781+2	5.601+1	.124
1.779+2	6.169+1	.055	1.777+2	6.005+1	.058	1.775+2	5.769+1	.058
1.773+2	5.592+1	.057	1.771+2	5.051+1	.058	1.769+2	4.253+1	.063
1.766+2	3.648+1	.059	1.764+2	3.037+1	.079	1.762+2	2.499+1	.063
1.760+2	2.321+1	.058	1.758+2	2.124+1	.060	1.756+2	2.244+1	.111
1.754+2	2.527+1	.120	1.751+2	3.000+1	.100	1.749+2	3.407+1	.094
1.747+2	3.550+1	.062	1.745+2	3.378+1	.057	1.743+2	3.100+1	.058
1.741+2	2.689+1	.059	1.739+2	2.345+1	.080	1.737+2	1.805+1	.069
1.735+2	1.449+1	.088	1.732+2	1.162+1	.097	1.730+2	9.515+0	.073
1.728+2	8.452+0	.066	1.726+2	8.112+0	.112	1.724+2	9.049+0	.090
1.722+2	8.909+0	.076	1.720+2	9.871+0	.059	1.718+2	9.268+0	.067
1.716+2	8.794+0	.100	1.714+2	9.310+0	.106	1.712+2	9.845+0	.077
1.710+2	9.462+0	.076	1.708+2	9.729+0	.067	1.706+2	9.597+0	.098

E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR
1.704+2	1.070+1	.124	1.702+2	1.287+1	.169	1.700+2	1.679+1	.099
1.697+2	1.792+1	.062	1.695+2	1.857+1	.071	1.693+2	1.966+1	.063
1.691+2	1.965+1	.109	1.689+2	2.189+1	.082	1.687+2	2.608+1	.091
1.685+2	3.046+1	.075	1.683+2	3.034+1	.062	1.681+2	3.030+1	.060
1.679+2	2.848+1	.056	1.677+2	2.542+1	.057	1.675+2	2.100+1	.059
1.673+2	1.931+1	.079	1.671+2	1.957+1	.077	1.669+2	2.110+1	.070
1.667+2	2.290+1	.073	1.666+2	2.493+1	.085	1.664+2	2.696+1	.079
1.662+2	2.826+1	.058	1.660+2	2.594+1	.060	1.658+2	2.269+1	.060
1.656+2	1.901+1	.059	1.654+2	1.561+1	.101	1.652+2	1.115+1	.071
1.650+2	9.527+0	.063	1.648+2	8.753+0	.077	1.646+2	8.939+0	.154
1.644+2	1.415+1	.148	1.642+2	2.443+1	.100	1.640+2	3.047+1	.090
1.638+2	2.947+1	.061	1.636+2	3.003+1	.062	1.634+2	2.890+1	.087
1.633+2	2.848+1	.074	1.631+2	2.358+1	.059	1.629+2	2.071+1	.071
1.627+2	1.903+1	.063	1.625+2	1.720+1	.065	1.623+2	1.450+1	.093
1.621+2	1.275+1	.083	1.619+2	1.169+1	.125	1.617+2	1.343+1	.111
1.615+2	1.779+1	.095	1.614+2	1.907+1	.098	1.612+2	1.863+1	.087
1.610+2	1.735+1	.115	1.608+2	1.608+1	.087	1.606+2	1.444+1	.086
1.604+2	1.216+1	.118	1.602+2	1.195+1	.097	1.601+2	1.301+1	.084
1.599+2	1.386+1	.140	1.597+2	1.657+1	.092	1.595+2	1.928+1	.100
1.593+2	2.124+1	.091	1.591+2	2.286+1	.074	1.589+2	2.367+1	.063
1.588+2	2.169+1	.074	1.586+2	2.007+1	.061	1.584+2	1.655+1	.065
1.582+2	1.413+1	.070	1.580+2	1.213+1	.070	1.579+2	1.094+1	.100
1.577+2	1.121+1	.106	1.575+2	1.486+1	.096	1.573+2	1.997+1	.092
1.571+2	2.359+1	.080	1.569+2	2.522+1	.063	1.568+2	2.585+1	.076
1.566+2	2.589+1	.081	1.564+2	2.535+1	.066	1.562+2	2.466+1	.071
1.560+2	2.454+1	.074	1.559+2	2.468+1	.069	1.557+2	2.313+1	.074
1.555+2	2.243+1	.064	1.553+2	2.152+1	.068	1.552+2	2.004+1	.073
1.550+2	1.881+1	.067	1.548+2	1.629+1	.073	1.546+2	1.397+1	.074
1.545+2	1.297+1	.079	1.543+2	1.392+1	.127	1.541+2	1.880+1	.116
1.539+2	2.511+1	.060	1.538+2	2.936+1	.067	1.536+2	2.924+1	.067
1.534+2	2.833+1	.061	1.532+2	2.595+1	.061	1.531+2	2.056+1	.077
1.529+2	1.707+1	.146	1.527+2	1.221+1	.212	1.525+2	8.802+0	.133
1.524+2	6.942+0	.086	1.522+2	5.420+0	.142	1.520+2	4.745+0	.135
1.519+2	4.791+0	.107	1.517+2	4.320+0	.113	1.515+2	4.007+0	.110
1.513+2	4.159+0	.148	1.512+2	4.345+0	.120	1.510+2	5.676+0	.120
1.508+2	7.313+0	.144	1.507+2	1.011+1	.081	1.505+2	1.334+1	.091
1.503+2	1.642+1	.078	1.501+2	1.900+1	.070	1.500+2	2.163+1	.071
1.498+2	2.456+1	.070	1.496+2	3.047+1	.077	1.495+2	3.415+1	.074
1.493+2	3.636+1	.061	1.491+2	3.633+1	.065	1.490+2	3.369+1	.066
1.488+2	2.818+1	.085	1.486+2	2.320+1	.070	1.485+2	1.803+1	.094
1.483+2	1.289+1	.134	1.481+2	1.084+1	.112	1.480+2	1.127+1	.103
1.478+2	1.509+1	.070	1.477+2	1.659+1	.081	1.475+2	1.904+1	.061
1.473+2	1.946+1	.076	1.472+2	1.857+1	.078	1.470+2	1.769+1	.075
1.468+2	1.528+1	.122	1.467+2	1.289+1	.108	1.465+2	1.206+1	.103
1.463+2	1.412+1	.100	1.462+2	1.967+1	.092	1.460+2	2.828+1	.088
1.459+2	3.501+1	.067	1.457+2	3.807+1	.067	1.455+2	3.654+1	.061
1.454+2	3.406+1	.065	1.452+2	3.023+1	.094	1.451+2	2.565+1	.136
1.449+2	2.126+1	.092	1.447+2	1.460+1	.128	1.446+2	1.134+1	.118
1.444+2	8.223+0	.082	1.443+2	7.504+0	.076	1.441+2	6.427+0	.139
1.439+2	5.777+0	.111	1.438+2	5.378+0	.075	1.436+2	5.560+0	.080
1.435+2	5.761+0	.079	1.433+2	6.839+0	.128	1.432+2	7.751+0	.102
1.430+2	9.748+0	.099	1.428+2	1.556+1	.147	1.427+2	2.040+1	.098
1.425+2	2.798+1	.091	1.424+2	3.331+1	.101	1.422+2	3.439+1	.079
1.421+2	3.495+1	.084	1.419+2	3.289+1	.063	1.418+2	2.806+1	.066
1.416+2	2.343+1	.092	1.414+2	1.696+1	.107	1.413+2	1.473+1	.097
1.411+2	1.346+1	.076	1.410+2	1.313+1	.074	1.408+2	1.296+1	.080
1.407+2	1.377+1	.075	1.405+2	1.393+1	.081	1.404+2	1.508+1	.090
1.402+2	1.368+1	.077	1.401+2	1.300+1	.082	1.399+2	1.222+1	.085
1.398+2	1.104+1	.084	1.396+2	9.328+0	.079	1.395+2	8.336+0	.129
1.393+2	6.879+0	.162	1.392+2	5.726+0	.111	1.390+2	4.750+0	.093
1.389+2	3.901+0	.094	1.387+2	2.908+0	.211	1.386+2	2.522+0	.240
1.384+2	2.793+0	.175	1.383+2	4.312+0	.113	1.381+2	8.152+0	.108
1.380+2	1.245+1	.097	1.378+2	1.461+1	.094	1.377+2	1.588+1	.068
1.375+2	1.610+1	.095	1.374+2	1.576+1	.094	1.372+2	1.438+1	.072
1.371+2	1.264+1	.107	1.369+2	1.369+1	.069	1.368+2	1.466+1	.079
1.366+2	1.690+1	.066	1.365+2	1.962+1	.073	1.363+2	2.213+1	.092
1.362+2	2.676+1	.088	1.361+2	3.349+1	.091	1.359+2	4.264+1	.068
1.358+2	5.348+1	.090	1.356+2	6.187+1	.068	1.355+2	7.311+1	.065
1.353+2	7.605+1	.069	1.352+2	7.137+1	.068	1.350+2	6.567+1	.092
1.349+2	5.490+1	.073	1.348+2	4.610+1	.102	1.346+2	3.534+1	.094
1.345+2	2.876+1	.071	1.343+2	2.456+1	.074	1.342+2	2.553+1	.091

E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR
1.340+2	2.904+1	.074	1.339+2	3.256+1	.074	1.338+2	3.715+1	.070
1.336+2	4.001+1	.064	1.335+2	4.007+1	.069	1.333+2	4.081+1	.072
1.332+2	4.052+1	.068	1.330+2	3.987+1	.072	1.329+2	3.933+1	.070
1.328+2	3.890+1	.073	1.326+2	3.902+1	.067	1.325+2	3.907+1	.080
1.323+2	3.963+1	.077	1.322+2	3.855+1	.070	1.321+2	3.898+1	.069
1.319+2	3.834+1	.070	1.318+2	4.029+1	.067	1.317+2	4.123+1	.069
1.315+2	4.089+1	.067	1.314+2	3.952+1	.073	1.312+2	3.682+1	.071
1.311+2	3.148+1	.069	1.310+2	2.642+1	.069	1.308+2	2.035+1	.086
1.307+2	1.567+1	.076	1.306+2	1.226+1	.085	1.304+2	1.170+1	.076
1.303+2	1.174+1	.080	1.301+2	1.158+1	.088	1.300+2	1.282+1	.132
1.299+2	1.373+1	.102	1.297+2	1.435+1	.080	1.296+2	1.378+1	.087
1.295+2	1.349+1	.092	1.293+2	1.180+1	.125	1.292+2	1.069+1	.084
1.291+2	9.175+0	.101	1.289+2	8.044+0	.090	1.288+2	9.290+0	.184
1.287+2	1.296+1	.174	1.285+2	1.530+1	.133	1.284+2	1.906+1	.103
1.283+2	2.024+1	.079	1.281+2	2.243+1	.078	1.280+2	2.222+1	.082
1.279+2	2.060+1	.093	1.277+2	1.931+1	.075	1.276+2	1.888+1	.099
1.275+2	1.617+1	.093	1.273+2	1.663+1	.092	1.272+2	1.851+1	.135
1.271+2	2.267+1	.129	1.269+2	3.090+1	.090	1.268+2	3.792+1	.084
1.267+2	4.629+1	.077	1.265+2	5.760+1	.080	1.264+2	6.456+1	.080
1.263+2	6.768+1	.076	1.262+2	7.009+1	.075	1.260+2	6.935+1	.069
1.259+2	6.604+1	.072	1.258+2	6.278+1	.071	1.256+2	5.215+1	.066
1.255+2	4.490+1	.069	1.254+2	4.074+1	.066	1.253+2	3.771+1	.070
1.251+2	3.639+1	.079	1.250+2	3.532+1	.070	1.249+2	3.332+1	.069
1.247+2	3.082+1	.068	1.246+2	2.746+1	.074	1.245+2	2.280+1	.072
1.244+2	2.032+1	.069	1.242+2	1.613+1	.067	1.241+2	1.397+1	.071
1.240+2	1.242+1	.071	1.238+2	1.176+1	.070	1.237+2	1.181+1	.078
1.236+2	1.098+1	.081	1.235+2	9.536+0	.077	1.233+2	8.864+0	.083
1.232+2	7.289+0	.089	1.231+2	6.476+0	.134	1.230+2	5.823+0	.140
1.228+2	5.624+0	.107	1.227+2	7.296+0	.149	1.226+2	1.197+1	.087
1.225+2	2.569+1	.243	1.223+2	3.616+1	.114	1.222+2	4.958+1	.084
1.221+2	6.421+1	.062	1.220+2	6.958+1	.064	1.219+2	6.682+1	.065
1.217+2	6.159+1	.093	1.216+2	5.456+1	.066	1.215+2	5.002+1	.069
1.214+2	3.825+1	.075	1.212+2	2.897+1	.084	1.211+2	2.295+1	.079
1.210+2	2.070+1	.097	1.209+2	1.722+1	.104	1.207+2	1.423+1	.096
1.206+2	1.386+1	.090	1.205+2	1.322+1	.079	1.204+2	1.212+1	.127
1.203+2	1.200+1	.155	1.201+2	1.192+1	.132	1.200+2	1.215+1	.098
1.199+2	1.309+1	.083	1.198+2	1.349+1	.072	1.197+2	1.489+1	.072
1.195+2	1.684+1	.086	1.194+2	1.923+1	.095	1.193+2	2.125+1	.159
1.192+2	2.746+1	.152	1.191+2	3.002+1	.105	1.189+2	3.540+1	.075
1.188+2	4.044+1	.068	1.187+2	4.659+1	.065	1.186+2	4.818+1	.078
1.185+2	5.099+1	.068	1.184+2	5.074+1	.069	1.182+2	4.770+1	.069
1.181+2	4.489+1	.066	1.180+2	4.144+1	.071	1.179+2	3.503+1	.073
1.178+2	3.014+1	.075	1.176+2	2.493+1	.077	1.175+2	2.101+1	.077
1.174+2	1.752+1	.139	1.173+2	1.465+1	.097	1.172+2	1.286+1	.091
1.171+2	1.238+1	.087	1.169+2	1.238+1	.103	1.168+2	1.267+1	.082
1.167+2	1.510+1	.088	1.166+2	1.888+1	.129	1.165+2	2.486+1	.123
1.164+2	3.380+1	.093	1.163+2	4.016+1	.088	1.161+2	4.403+1	.084
1.160+2	4.414+1	.081	1.159+2	4.302+1	.089	1.158+2	3.986+1	.078
1.157+2	3.593+1	.095	1.156+2	3.087+1	.102	1.155+2	2.648+1	.081
1.153+2	2.294+1	.084	1.152+2	1.827+1	.088	1.151+2	1.407+1	.088
1.150+2	1.266+1	.090	1.149+2	1.098+1	.088	1.148+2	8.653+0	.116
1.147+2	6.842+0	.104	1.146+2	6.372+0	.209	1.144+2	5.956+0	.097
1.143+2	5.968+0	.101	1.142+2	6.398+0	.109	1.141+2	8.697+0	.101
1.140+2	1.174+1	.105	1.139+2	1.517+1	.122	1.138+2	1.873+1	.074
1.137+2	2.145+1	.080	1.135+2	2.169+1	.082	1.134+2	2.217+1	.097
1.133+2	2.039+1	.079	1.132+2	1.603+1	.099	1.131+2	1.329+1	.094
1.130+2	1.117+1	.087	1.129+2	8.884+0	.084	1.128+2	6.866+0	.099
1.127+2	5.378+0	.106	1.126+2	4.304+0	.167	1.124+2	4.031+0	.142
1.123+2	3.659+0	.153	1.122+2	4.585+0	.149	1.121+2	6.140+0	.093
1.120+2	8.088+0	.100	1.119+2	1.047+1	.080	1.118+2	1.153+1	.082
1.117+2	1.283+1	.086	1.116+2	1.190+1	.078	1.115+2	1.058+1	.079
1.114+2	8.907+0	.079	1.113+2	7.559+0	.098	1.111+2	6.196+0	.084
1.110+2	5.592+0	.125	1.109+2	5.201+0	.131	1.108+2	4.877+0	.104
1.107+2	5.553+0	.107	1.106+2	6.822+0	.104	1.105+2	8.536+0	.091
1.104+2	1.108+1	.079	1.103+2	1.351+1	.104	1.102+2	1.526+1	.076
1.101+2	1.520+1	.090	1.100+2	1.606+1	.096	1.099+2	1.521+1	.078
1.098+2	1.324+1	.094	1.097+2	1.087+1	.083	1.095+2	1.029+1	.084
1.094+2	9.861+0	.087	1.093+2	8.990+0	.100	1.092+2	9.658+0	.077
1.091+2	1.052+1	.084	1.090+2	1.214+1	.079	1.089+2	1.199+1	.094
1.088+2	1.165+1	.078	1.087+2	1.090+1	.085	1.086+2	1.003+1	.085

E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR
1.085+2	8.454+0	.084	1.084+2	8.201+0	.094	1.083+2	9.111+0	.135
1.082+2	1.056+1	.120	1.081+2	1.342+1	.108	1.080+2	1.794+1	.093
1.079+2	2.132+1	.085	1.078+2	2.507+1	.077	1.077+2	2.690+1	.077
1.076+2	2.676+1	.071	1.075+2	2.412+1	.075	1.074+2	1.986+1	.074
1.073+2	1.708+1	.077	1.072+2	1.468+1	.077	1.071+2	1.306+1	.108
1.070+2	1.102+1	.133	1.069+2	1.019+1	.082	1.068+2	1.056+1	.083
1.067+2	1.066+1	.092	1.066+2	1.142+1	.082	1.065+2	1.248+1	.075
1.064+2	1.465+1	.073	1.063+2	1.717+1	.112	1.062+2	1.905+1	.104
1.061+2	1.971+1	.081	1.060+2	1.912+1	.072	1.059+2	2.070+1	.072
1.058+2	2.219+1	.075	1.057+2	2.586+1	.118	1.056+2	2.922+1	.080
1.055+2	3.519+1	.080	1.054+2	3.926+1	.071	1.053+2	4.045+1	.073
1.052+2	4.069+1	.071	1.051+2	3.830+1	.101	1.050+2	3.489+1	.102
1.049+2	2.931+1	.113	1.048+2	2.335+1	.080	1.047+2	1.997+1	.092
1.046+2	1.578+1	.095	1.045+2	1.463+1	.085	1.044+2	1.249+1	.084
1.043+2	1.215+1	.076	1.042+2	1.202+1	.079	1.041+2	1.393+1	.075
1.040+2	1.599+1	.076	1.039+2	1.817+1	.099	1.038+2	2.083+1	.107
1.037+2	2.490+1	.073	1.036+2	2.726+1	.098	1.035+2	2.833+1	.069
1.034+2	3.136+1	.078	1.033+2	3.406+1	.094	1.032+2	3.712+1	.075
1.031+2	4.298+1	.070	1.030+2	4.491+1	.069	1.029+2	4.514+1	.068
1.028+2	4.060+1	.077	1.027+2	3.829+1	.078	1.026+2	2.916+1	.166
1.025+2	2.064+1	.088	1.024+2	1.624+1	.074	1.024+2	1.349+1	.076
1.023+2	1.093+1	.095	1.022+2	1.040+1	.135	1.021+2	9.542+0	.080
1.020+2	8.603+0	.078	1.019+2	8.509+0	.088	1.018+2	7.743+0	.091
1.017+2	6.712+0	.108	1.016+2	6.242+0	.087	1.015+2	6.179+0	.103
1.014+2	5.964+0	.122	1.013+2	6.880+0	.122	1.012+2	8.485+0	.091
1.011+2	9.573+0	.087	1.010+2	1.073+1	.080	1.009+2	1.097+1	.093
1.008+2	1.111+1	.081	1.008+2	1.095+1	.076	1.007+2	1.127+1	.094
1.006+2	1.192+1	.081	1.005+2	1.201+1	.092	1.004+2	1.225+1	.113
1.002+2	1.245+1	.081	1.001+2	1.181+1	.093	1.000+2	1.072+1	.084
9.995+1	1.020+1	.086	9.986+1	9.876+0	.140	9.977+1	9.810+0	.088
9.968+1	1.016+1	.085	9.959+1	1.018+1	.086	9.950+1	9.349+0	.146
9.940+1	9.762+0	.087	9.931+1	9.050+0	.089	9.922+1	8.025+0	.090
9.913+1	7.281+0	.094	9.904+1	6.542+0	.099	9.895+1	6.679+0	.097
9.886+1	6.942+0	.096	9.877+1	8.188+0	.152	9.868+1	1.298+1	.135
9.859+1	1.656+1	.138	9.850+1	2.522+1	.125	9.841+1	3.105+1	.091
9.832+1	4.049+1	.069	9.823+1	4.509+1	.085	9.814+1	4.774+1	.064
9.805+1	4.624+1	.085	9.797+1	4.328+1	.075	9.788+1	3.854+1	.066
9.779+1	3.117+1	.072	9.770+1	2.445+1	.075	9.761+1	2.021+1	.081
9.752+1	1.457+1	.073	9.743+1	1.139+1	.079	9.735+1	9.510+0	.129
9.726+1	8.118+0	.143	9.717+1	6.506+0	.107	9.708+1	6.469+0	.118
9.699+1	7.732+0	.109	9.691+1	9.231+0	.093	9.682+1	1.073+1	.105
9.673+1	1.319+1	.082	9.664+1	1.471+1	.080	9.656+1	1.527+1	.075
9.647+1	1.702+1	.074	9.638+1	1.141+1	.248	9.630+1	1.733+1	.075
9.621+1	1.561+1	.115	9.612+1	1.770+1	.074	9.604+1	1.656+1	.119
9.595+1	1.882+1	.074	9.586+1	2.038+1	.076	9.578+1	2.123+1	.082
9.569+1	1.994+1	.112	9.561+1	2.149+1	.076	9.552+1	2.049+1	.076
9.544+1	1.902+1	.077	9.535+1	1.798+1	.077	9.526+1	1.731+1	.079
9.518+1	1.731+1	.078	9.509+1	1.641+1	.079	9.501+1	1.526+1	.101
9.492+1	1.525+1	.088	9.484+1	1.563+1	.077	9.475+1	1.450+1	.099
9.467+1	1.397+1	.082	9.459+1	1.405+1	.081	9.450+1	1.492+1	.081
9.442+1	1.585+1	.079	9.433+1	1.684+1	.077	9.425+1	1.833+1	.086
9.417+1	1.835+1	.073	9.408+1	1.921+1	.075	9.400+1	1.769+1	.077
9.391+1	1.552+1	.078	9.383+1	1.375+1	.078	9.375+1	1.036+1	.117
9.366+1	8.464+0	.183	9.358+1	8.006+0	.104	9.350+1	7.863+0	.094
9.342+1	8.301+0	.093	9.333+1	8.809+0	.121	9.325+1	9.202+0	.080
9.317+1	1.184+1	.135	9.308+1	1.162+1	.081	9.300+1	1.541+1	.126
9.292+1	1.888+1	.104	9.284+1	2.439+1	.073	9.276+1	3.029+1	.071
9.267+1	3.442+1	.066	9.259+1	3.893+1	.068	9.251+1	4.279+1	.074
9.243+1	4.041+1	.089	9.235+1	3.980+1	.068	9.227+1	3.750+1	.068
9.218+1	3.583+1	.069	9.210+1	3.285+1	.068	9.202+1	3.256+1	.095
9.194+1	2.959+1	.079	9.186+1	2.838+1	.099	9.178+1	2.762+1	.073
9.170+1	3.027+1	.071	9.162+1	3.593+1	.071	9.153+1	4.355+1	.081
9.145+1	4.852+1	.068	9.137+1	5.235+1	.066	9.129+1	5.846+1	.065
9.121+1	5.864+1	.064	9.113+1	5.387+1	.062	9.105+1	5.071+1	.066
9.097+1	4.605+1	.072	9.089+1	4.125+1	.067	9.081+1	3.699+1	.091
9.073+1	3.468+1	.096	9.065+1	3.416+1	.075	9.056+1	3.517+1	.081
9.048+1	3.497+1	.089	9.040+1	3.605+1	.092	9.032+1	3.455+1	.076
9.024+1	3.410+1	.070	9.016+1	3.138+1	.066	9.008+1	3.092+1	.073
9.000+1	2.895+1	.074	8.992+1	2.798+1	.073	8.984+1	2.670+1	.069
8.976+1	2.565+1	.074	8.968+1	2.564+1	.088	8.960+1	2.381+1	.070

E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR
8.952+1	2.301+1	.070	8.944+1	2.117+1	.105	8.936+1	2.376+1	.071
8.928+1	2.537+1	.093	8.920+1	2.938+1	.094	8.912+1	3.386+1	.094
8.904+1	3.921+1	.117	8.896+1	4.355+1	.084	8.888+1	4.899+1	.068
8.880+1	5.347+1	.075	8.872+1	5.149+1	.063	8.864+1	5.122+1	.066
8.856+1	4.945+1	.064	8.848+1	4.547+1	.065	8.840+1	4.144+1	.104
8.832+1	3.715+1	.073	8.824+1	3.255+1	.067	8.816+1	2.806+1	.070
8.808+1	2.291+1	.068	8.800+1	2.060+1	.076	8.792+1	1.980+1	.096
8.784+1	1.796+1	.100	8.776+1	1.756+1	.076	8.769+1	1.783+1	.078
8.761+1	1.819+1	.078	8.753+1	1.768+1	.078	8.745+1	1.617+1	.072
8.737+1	1.482+1	.083	8.729+1	1.484+1	.138	8.721+1	1.406+1	.094
8.713+1	1.519+1	.125	8.705+1	1.519+1	.079	8.697+1	1.512+1	.086
8.689+1	1.526+1	.100	8.681+1	1.293+1	.074	8.674+1	1.091+1	.095
8.666+1	1.030+1	.088	8.658+1	8.530+0	.094	8.650+1	6.603+0	.095
8.642+1	6.383+0	.096	8.634+1	6.300+0	.103	8.626+1	6.731+0	.095
8.618+1	7.364+0	.087	8.611+1	8.419+0	.095	8.603+1	9.699+0	.082
8.595+1	1.088+1	.083	8.587+1	1.439+1	.083	8.579+1	1.735+1	.078
8.571+1	1.949+1	.082	8.563+1	2.116+1	.072	8.556+1	2.404+1	.073
8.548+1	2.642+1	.067	8.540+1	2.985+1	.067	8.532+1	3.290+1	.070
8.524+1	3.501+1	.069	8.517+1	3.835+1	.065	8.509+1	4.123+1	.071
8.501+1	4.166+1	.067	8.493+1	4.356+1	.068	8.485+1	4.536+1	.073
8.477+1	4.830+1	.074	8.470+1	5.095+1	.086	8.462+1	5.592+1	.084
8.454+1	6.214+1	.089	8.446+1	6.662+1	.064	8.439+1	7.409+1	.063
8.431+1	7.630+1	.076	8.423+1	8.326+1	.064	8.415+1	8.221+1	.062
8.407+1	8.144+1	.062	8.400+1	7.860+1	.070	8.392+1	7.290+1	.061
8.384+1	6.575+1	.064	8.376+1	5.883+1	.065	8.369+1	5.560+1	.066
8.361+1	4.869+1	.068	8.353+1	4.205+1	.069	8.345+1	3.822+1	.066
8.338+1	3.375+1	.068	8.330+1	2.777+1	.069	8.322+1	2.445+1	.093
8.314+1	2.212+1	.097	8.307+1	2.237+1	.073	8.299+1	2.033+1	.111
8.291+1	2.309+1	.071	8.284+1	2.380+1	.076	8.276+1	2.524+1	.071
8.268+1	2.227+1	.072	8.261+1	2.046+1	.078	8.253+1	1.787+1	.080
8.245+1	1.563+1	.077	8.237+1	1.269+1	.104	8.230+1	1.095+1	.153
8.222+1	8.711+0	.144	8.214+1	6.878+0	.103	8.207+1	6.321+0	.125
8.199+1	6.282+0	.100	8.191+1	6.980+0	.134	8.184+1	7.912+0	.101
8.176+1	9.517+0	.127	8.168+1	1.419+1	.100	8.161+1	1.774+1	.075
8.153+1	2.181+1	.072	8.145+1	2.372+1	.085	8.138+1	2.311+1	.122
8.130+1	2.176+1	.124	8.123+1	2.057+1	.116	8.115+1	1.715+1	.080
8.107+1	1.462+1	.074	8.100+1	1.231+1	.095	8.092+1	1.043+1	.079
8.084+1	9.108+0	.104	8.077+1	1.034+1	.094	8.069+1	1.136+1	.105
8.062+1	1.329+1	.080	8.054+1	1.668+1	.076	8.046+1	1.986+1	.082
8.039+1	2.070+1	.093	8.031+1	2.144+1	.072	8.024+1	2.128+1	.099
8.016+1	2.004+1	.079	8.008+1	1.897+1	.078	8.001+1	1.901+1	.080
7.993+1	1.926+1	.080	7.985+1	1.991+1	.071	7.978+1	1.829+1	.118
7.970+1	2.076+1	.074	7.963+1	2.143+1	.073	7.955+1	1.951+1	.079
7.948+1	1.747+1	.076	7.940+1	1.431+1	.089	7.933+1	1.225+1	.084
7.925+1	1.013+1	.084	7.918+1	9.459+0	.088	7.910+1	7.155+0	.087
7.902+1	7.008+0	.116	7.895+1	6.960+0	.099	7.887+1	7.252+0	.103
7.880+1	7.604+0	.103	7.872+1	7.992+0	.100	7.865+1	8.630+0	.098
7.857+1	9.371+0	.090	7.850+1	1.199+1	.083	7.842+1	1.598+1	.084
7.835+1	2.040+1	.079	7.827+1	2.395+1	.072	7.820+1	2.803+1	.074
7.812+1	3.062+1	.116	7.805+1	3.101+1	.102	7.797+1	3.002+1	.079
7.790+1	2.825+1	.073	7.782+1	2.773+1	.128	7.775+1	2.657+1	.134
7.768+1	2.581+1	.088	7.760+1	2.606+1	.114	7.753+1	2.777+1	.084
7.745+1	2.590+1	.091	7.738+1	2.388+1	.098	7.730+1	2.063+1	.077
7.723+1	1.723+1	.077	7.715+1	1.371+1	.099	7.708+1	1.100+1	.084
7.701+1	9.083+0	.098	7.693+1	8.438+0	.093	7.686+1	7.365+0	.087
7.678+1	6.342+0	.113	7.671+1	5.598+0	.116	7.663+1	5.192+0	.120
7.656+1	4.886+0	.115	7.649+1	4.678+0	.117	7.641+1	3.542+0	.131
7.634+1	2.739+0	.169	7.626+1	2.973+0	.152	7.619+1	3.873+0	.108
7.612+1	4.915+0	.123	7.604+1	6.459+0	.130	7.597+1	1.020+1	.110
7.589+1	1.728+1	.100	7.582+1	2.429+1	.096	7.575+1	3.058+1	.121
7.567+1	3.710+1	.070	7.560+1	4.349+1	.090	7.553+1	4.639+1	.069
7.545+1	4.933+1	.069	7.538+1	4.879+1	.081	7.531+1	4.686+1	.069
7.523+1	4.531+1	.071	7.516+1	4.395+1	.070	7.509+1	4.199+1	.066
7.501+1	4.358+1	.088	7.494+1	4.666+1	.095	7.487+1	5.306+1	.081
7.479+1	5.861+1	.065	7.472+1	6.815+1	.069	7.465+1	7.884+1	.068
7.457+1	7.900+1	.077	7.450+1	7.535+1	.066	7.443+1	6.725+1	.070
7.435+1	5.094+1	.073	7.428+1	3.879+1	.069	7.421+1	3.235+1	.074
7.414+1	2.240+1	.106	7.406+1	1.421+1	.080	7.399+1	1.075+1	.094
7.392+1	8.687+0	.099	7.384+1	7.109+0	.140	7.377+1	5.369+0	.114
7.370+1	4.846+0	.119	7.363+1	4.769+0	.129	7.355+1	4.676+0	.109
7.348+1	4.684+0	.121	7.341+1	5.413+0	.123	7.334+1	6.055+0	.098

E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR
7.326+1	7.416+0	.119	7.319+1	8.285+0	.095	7.312+1	9.906+0	.087
7.305+1	1.135+1	.091	7.297+1	1.299+1	.095	7.290+1	1.765+1	.080
7.283+1	2.188+1	.081	7.276+1	2.860+1	.081	7.268+1	4.354+1	.107
7.261+1	5.628+1	.075	7.254+1	7.257+1	.065	7.247+1	8.363+1	.064
7.240+1	8.449+1	.064	7.232+1	8.226+1	.069	7.225+1	7.394+1	.071
7.218+1	6.146+1	.076	7.211+1	4.579+1	.081	7.204+1	3.537+1	.126
7.196+1	2.577+1	.073	7.189+1	2.281+1	.074	7.182+1	1.875+1	.077
7.175+1	1.789+1	.084	7.168+1	1.716+1	.078	7.161+1	1.624+1	.086
7.153+1	1.643+1	.081	7.146+1	1.628+1	.090	7.139+1	1.596+1	.086
7.132+1	1.664+1	.082	7.125+1	1.952+1	.083	7.118+1	2.143+1	.089
7.111+1	2.557+1	.121	7.103+1	3.484+1	.121	7.096+1	5.051+1	.134
7.089+1	6.529+1	.078	7.082+1	7.908+1	.072	7.075+1	9.126+1	.086
7.068+1	1.007+2	.100	7.061+1	1.154+2	.101	7.054+1	1.159+2	.089
7.047+1	1.050+2	.078	7.039+1	1.170+2	.125	7.032+1	1.013+2	.066
7.025+1	8.605+1	.062	7.018+1	7.647+1	.067	7.011+1	6.378+1	.071
7.004+1	5.160+1	.092	6.997+1	4.152+1	.113	6.990+1	3.375+1	.142
6.983+1	2.574+1	.073	6.976+1	2.263+1	.081	6.969+1	2.217+1	.080
6.962+1	2.236+1	.073	6.954+1	2.302+1	.079	6.947+1	2.442+1	.075
6.940+1	2.735+1	.075	6.933+1	2.900+1	.077	6.926+1	2.764+1	.077
6.919+1	2.459+1	.076	6.912+1	2.255+1	.080	6.905+1	1.856+1	.076
6.898+1	1.525+1	.136	6.891+1	1.006+1	.109	6.884+1	9.160+0	.098
6.877+1	6.756+0	.098	6.870+1	5.993+0	.143	6.863+1	6.269+0	.195
6.856+1	5.884+0	.116	6.849+1	5.339+0	.130	6.842+1	5.264+0	.113
6.835+1	3.636+0	.235	6.828+1	4.632+0	.146	6.821+1	3.823+0	.152
6.814+1	2.997+0	.174	6.807+1	2.174+0	.264	6.800+1	1.762+0	.646
6.793+1	9.758-1	.796	6.786+1	1.240+0	.660	6.779+1	1.654+0	.777
6.772+1	2.211+0	.674	6.765+1	2.597+0	.680	6.758+1	2.904+0	.647
6.751+1	4.915+0	.572	6.744+1	3.987+0	.487	6.737+1	2.595+0	.501
6.730+1	2.952+0	.500	6.724+1	2.948+0	.375	6.717+1	3.604+0	.484
6.710+1	3.008+0	.410	6.703+1	3.566+0	.365	6.696+1	3.447+0	.321
6.689+1	3.083+0	.550	6.682+1	1.953+0	.529	6.675+1	2.074+0	.466
6.668+1	2.582+0	.292	6.661+1	4.200+0	.181	6.654+1	5.842+0	.140
6.647+1	8.236+0	.113	6.641+1	1.034+1	.106	6.634+1	1.279+1	.188
6.627+1	1.194+1	.144	6.620+1	1.009+1	.113	6.613+1	9.151+0	.102
6.606+1	9.324+0	.095	6.599+1	9.496+0	.107	6.592+1	1.008+1	.160
6.585+1	1.056+1	.087	6.579+1	1.144+1	.089	6.572+1	1.077+1	.092
6.565+1	9.575+0	.090	6.558+1	7.842+0	.105	6.551+1	5.538+0	.190
6.544+1	4.609+0	.212	6.537+1	3.449+0	.131	6.531+1	3.004+0	.179
6.524+1	2.563+0	.155	6.517+1	2.320+0	.208	6.510+1	2.148+0	.246
6.503+1	2.233+0	.162	6.497+1	2.658+0	.138	6.490+1	2.817+0	.152
6.483+1	3.279+0	.241	6.476+1	3.925+0	.163	6.469+1	4.462+0	.139
6.462+1	4.982+0	.107	6.456+1	8.114+0	.176	6.449+1	1.117+1	.104
6.442+1	1.497+1	.090	6.435+1	1.725+1	.077	6.429+1	1.872+1	.077
6.422+1	2.022+1	.085	6.415+1	1.898+1	.118	6.408+1	1.885+1	.157
6.401+1	2.015+1	.129	6.395+1	2.054+1	.086	6.388+1	2.217+1	.090
6.381+1	2.367+1	.078	6.374+1	2.425+1	.104	6.368+1	2.638+1	.078
6.361+1	2.696+1	.072	6.354+1	2.515+1	.075	6.347+1	2.526+1	.085
6.341+1	2.196+1	.094	6.334+1	2.070+1	.080	6.327+1	2.073+1	.076
6.320+1	1.766+1	.080	6.314+1	1.584+1	.087	6.307+1	1.407+1	.114
6.300+1	1.155+1	.110	6.294+1	9.617+0	.145	6.287+1	9.409+0	.103
6.280+1	8.914+0	.093	6.273+1	9.657+0	.102	6.267+1	1.019+1	.090
6.260+1	1.001+1	.120	6.253+1	1.043+1	.167	6.247+1	1.111+1	.089
6.240+1	1.127+1	.097	6.233+1	1.106+1	.088	6.227+1	1.050+1	.089
6.220+1	1.028+1	.100	6.213+1	1.045+1	.108	6.207+1	1.102+1	.123
6.200+1	1.094+1	.095	6.193+1	1.169+1	.092	6.187+1	1.174+1	.096
6.180+1	1.161+1	.129	6.173+1	1.131+1	.094	6.167+1	1.334+1	.089
6.160+1	1.329+1	.094	6.153+1	1.234+1	.087	6.147+1	1.426+1	.115
6.140+1	1.622+1	.084	6.134+1	1.771+1	.086	6.127+1	1.809+1	.109
6.120+1	2.404+1	.074	6.114+1	2.691+1	.083	6.107+1	2.876+1	.073
6.100+1	3.208+1	.079	6.094+1	3.248+1	.093	6.087+1	3.200+1	.079
6.081+1	3.110+1	.075	6.074+1	2.894+1	.077	6.067+1	2.760+1	.077
6.061+1	2.781+1	.085	6.054+1	2.844+1	.076	6.048+1	2.997+1	.074
6.041+1	3.439+1	.078	6.035+1	3.847+1	.104	6.028+1	4.325+1	.085
6.021+1	4.803+1	.083	6.015+1	4.790+1	.091	0.000+1	0.000+1	0.000
6.009+1	4.635+1	.081	6.003+1	4.458+1	.073	5.996+1	3.735+1	.075
5.990+1	3.351+1	.081	5.983+1	3.030+1	.074	5.977+1	2.547+1	.076
5.970+1	2.257+1	.083	5.964+1	2.172+1	.081	5.957+1	1.760+1	.086
5.951+1	1.402+1	.085	5.944+1	1.155+1	.089	5.938+1	1.009+1	.105
5.931+1	9.630+0	.099	5.924+1	9.826+0	.122	5.918+1	1.137+1	.127
5.911+1	1.290+1	.158	5.905+1	1.531+1	.086	5.898+1	2.146+1	.097

E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR
5.892+1	3.038+1	.090	5.886+1	3.821+1	.135	5.879+1	5.505+1	.075
5.873+1	5.874+1	.081	5.866+1	6.367+1	.068	5.860+1	6.165+1	.074
5.853+1	5.436+1	.075	5.847+1	4.298+1	.082	5.840+1	3.697+1	.076
5.834+1	3.558+1	.076	5.827+1	4.093+1	.073	5.821+1	5.205+1	.080
5.814+1	6.557+1	.069	5.808+1	7.944+1	.070	5.801+1	8.475+1	.071
5.795+1	8.170+1	.071	5.789+1	8.490+1	.067	5.782+1	7.920+1	.071
5.776+1	7.484+1	.072	5.769+1	6.314+1	.081	5.763+1	5.121+1	.085
5.756+1	4.114+1	.082	5.750+1	3.149+1	.082	5.744+1	2.432+1	.079
5.737+1	1.868+1	.081	5.731+1	1.570+1	.092	5.724+1	1.407+1	.086
5.718+1	1.297+1	.098	5.712+1	1.420+1	.102	5.705+1	1.662+1	.087
5.699+1	2.153+1	.085	5.692+1	2.834+1	.082	5.686+1	4.052+1	.112
5.680+1	6.046+1	.086	5.673+1	8.840+1	.106	5.667+1	1.338+2	.087
5.661+1	1.768+2	.093	5.654+1	2.157+2	.066	5.648+1	2.278+2	.063
5.642+1	2.190+2	.063	5.635+1	1.990+2	.064	5.629+1	1.813+2	.064
5.623+1	1.616+2	.068	5.616+1	1.519+2	.065	5.610+1	1.507+2	.067
5.604+1	1.485+2	.067	5.597+1	1.507+2	.064	5.591+1	1.549+2	.067
5.585+1	1.501+2	.065	5.578+1	1.405+2	.068	5.572+1	1.281+2	.074
5.566+1	1.088+2	.066	5.559+1	9.033+1	.082	5.553+1	7.021+1	.082
5.547+1	5.982+1	.071	5.540+1	5.733+1	.075	5.534+1	5.906+1	.069
5.528+1	7.139+1	.083	5.522+1	9.337+1	.125	5.515+1	1.108+2	.067
5.509+1	1.246+2	.065	5.503+1	1.255+2	.065	5.496+1	1.165+2	.069
5.490+1	9.743+1	.079	5.484+1	7.705+1	.079	5.478+1	5.920+1	.073
5.471+1	4.998+1	.073	5.465+1	3.613+1	.079	5.459+1	2.693+1	.093
5.453+1	2.048+1	.090	5.446+1	1.601+1	.094	5.440+1	1.396+1	.085
5.434+1	1.500+1	.086	5.428+1	1.461+1	.096	5.421+1	1.500+1	.095
5.415+1	1.584+1	.090	5.409+1	1.671+1	.089	5.403+1	1.673+1	.093
5.397+1	1.511+1	.091	5.390+1	1.491+1	.087	5.384+1	1.322+1	.094
5.378+1	1.509+1	.096	5.372+1	1.651+1	.104	5.366+1	2.313+1	.150
5.359+1	2.726+1	.101	5.353+1	3.224+1	.079	5.347+1	3.428+1	.078
5.341+1	3.615+1	.083	5.335+1	3.500+1	.074	5.329+1	3.076+1	.086
5.322+1	2.513+1	.089	5.316+1	2.016+1	.081	5.310+1	1.532+1	.080
5.304+1	1.449+1	.093	5.298+1	1.444+1	.098	5.292+1	1.559+1	.096
5.285+1	1.844+1	.088	5.279+1	2.191+1	.087	5.273+1	2.847+1	.083
5.267+1	3.469+1	.078	5.261+1	4.565+1	.087	5.255+1	5.897+1	.072
5.249+1	7.214+1	.073	5.242+1	8.668+1	.076	5.236+1	9.518+1	.084
5.230+1	1.087+2	.069	5.224+1	1.129+2	.066	5.218+1	1.077+2	.070
5.212+1	9.681+1	.068	5.206+1	9.157+1	.081	5.200+1	8.155+1	.069
5.194+1	7.560+1	.070	5.188+1	6.760+1	.071	5.181+1	6.926+1	.075
5.175+1	6.801+1	.069	5.169+1	6.761+1	.099	5.163+1	8.118+1	.080
5.157+1	9.388+1	.068	5.151+1	1.068+2	.106	5.145+1	1.370+2	.111
5.139+1	1.592+2	.088	5.133+1	1.735+2	.065	5.127+1	1.789+2	.065
5.121+1	1.697+2	.067	5.115+1	1.583+2	.065	5.109+1	1.284+2	.079
5.103+1	1.050+2	.078	5.097+1	8.763+1	.081	5.091+1	7.208+1	.077
5.085+1	6.211+1	.078	5.079+1	5.545+1	.071	5.073+1	5.510+1	.071
5.067+1	5.671+1	.078	5.060+1	6.382+1	.074	5.054+1	6.977+1	.071
5.048+1	6.760+1	.077	5.042+1	6.441+1	.076	5.036+1	6.110+1	.072
5.030+1	5.168+1	.073	5.024+1	4.129+1	.080	5.018+1	3.651+1	.079
5.013+1	3.184+1	.073	5.007+1	2.497+1	.100	5.001+1	1.981+1	.089
4.995+1	1.555+1	.095	4.989+1	1.353+1	.093	4.983+1	1.242+1	.109
4.977+1	1.182+1	.098	4.971+1	1.383+1	.092	4.965+1	1.854+1	.100
4.959+1	2.501+1	.081	4.953+1	3.119+1	.077	4.947+1	3.532+1	.076
4.941+1	3.408+1	.077	4.935+1	3.221+1	.077	4.929+1	3.193+1	.125
4.923+1	2.718+1	.075	4.917+1	2.680+1	.084	4.911+1	2.748+1	.077
4.905+1	3.058+1	.078	4.899+1	3.687+1	.078	4.894+1	4.493+1	.079
4.888+1	5.175+1	.079	4.882+1	5.441+1	.071	4.876+1	5.256+1	.070
4.870+1	4.620+1	.072	4.864+1	4.466+1	.075	4.858+1	4.278+1	.073
4.852+1	4.588+1	.071	4.846+1	5.300+1	.075	4.840+1	6.030+1	.069
4.835+1	6.511+1	.070	4.829+1	7.180+1	.070	4.823+1	7.196+1	.070
4.817+1	7.051+1	.070	4.811+1	6.909+1	.070	4.805+1	6.991+1	.070
4.799+1	6.981+1	.070	4.794+1	6.425+1	.080	4.788+1	5.732+1	.072
4.782+1	4.619+1	.078	4.776+1	3.681+1	.078	4.770+1	2.880+1	.086
4.764+1	2.048+1	.085	4.759+1	1.678+1	.090	4.753+1	1.473+1	.096
4.747+1	1.295+1	.096	4.741+1	1.383+1	.091	4.735+1	1.689+1	.097
4.729+1	2.243+1	.084	4.724+1	2.806+1	.097	4.718+1	4.407+1	.103
4.712+1	5.754+1	.075	4.706+1	7.439+1	.079	4.700+1	8.242+1	.069
4.695+1	8.851+1	.069	4.689+1	8.989+1	.067	4.683+1	8.634+1	.069
4.677+1	7.936+1	.070	4.671+1	6.942+1	.076	4.666+1	5.581+1	.073
4.660+1	4.157+1	.099	4.654+1	2.915+1	.096	4.648+1	1.960+1	.100
4.643+1	1.473+1	.117	4.637+1	1.093+1	.106	4.631+1	9.628+0	.108
4.625+1	7.947+0	.119	4.620+1	5.228+0	.137	4.614+1	5.742+0	.143
4.608+1	6.757+0	.113	4.602+1	8.438+0	.118	4.597+1	9.741+0	.111

E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR
4.591+1	1.252+1	.131	4.585+1	1.600+1	.086	4.580+1	1.874+1	.094
4.574+1	2.030+1	.084	4.568+1	1.933+1	.099	4.562+1	1.880+1	.090
4.557+1	1.695+1	.092	4.551+1	1.624+1	.093	4.545+1	1.454+1	.096
4.540+1	1.491+1	.096	4.534+1	1.612+1	.088	4.528+1	2.038+1	.093
4.523+1	2.477+1	.119	4.517+1	2.906+1	.083	4.511+1	3.431+1	.109
4.506+1	3.816+1	.095	4.500+1	4.246+1	.072	4.494+1	4.859+1	.075
4.489+1	5.050+1	.072	4.483+1	5.772+1	.085	4.477+1	6.418+1	.081
4.472+1	6.961+1	.072	4.466+1	7.383+1	.071	4.460+1	8.245+1	.070
4.455+1	8.090+1	.070	4.449+1	7.013+1	.070	4.443+1	6.208+1	.073
4.438+1	5.496+1	.074	4.432+1	4.674+1	.081	4.426+1	4.093+1	.077
4.421+1	3.910+1	.076	4.415+1	3.910+1	.078	4.410+1	4.260+1	.075
4.404+1	4.315+1	.077	4.398+1	4.676+1	.073	4.393+1	4.840+1	.074
4.387+1	4.477+1	.076	4.382+1	4.037+1	.078	4.376+1	3.463+1	.087
4.370+1	2.641+1	.082	4.365+1	2.604+1	.082	4.359+1	2.646+1	.081
4.354+1	2.879+1	.084	4.348+1	3.376+1	.083	4.343+1	3.647+1	.077
4.337+1	3.738+1	.083	4.331+1	3.221+1	.096	4.326+1	2.611+1	.090
4.320+1	2.180+1	.112	4.315+1	1.820+1	.098	4.309+1	1.528+1	.195
4.304+1	1.265+1	.119	4.298+1	1.125+1	.109	4.293+1	1.120+1	.149
4.287+1	1.140+1	.155	4.282+1	1.140+1	.101	4.276+1	1.374+1	.096
4.271+1	1.509+1	.099	4.265+1	1.737+1	.085	4.259+1	2.020+1	.092
4.254+1	2.136+1	.090	4.248+1	2.244+1	.089	4.243+1	2.423+1	.092
4.237+1	3.142+1	.080	4.232+1	3.544+1	.080	4.226+1	3.907+1	.077
4.221+1	3.772+1	.086	4.216+1	3.949+1	.077	4.210+1	4.053+1	.079
4.205+1	4.951+1	.078	4.199+1	5.614+1	.074	4.194+1	6.257+1	.072
4.188+1	6.432+1	.073	4.183+1	6.455+1	.076	4.177+1	5.707+1	.075
4.172+1	5.390+1	.076	4.166+1	5.219+1	.075	4.161+1	5.095+1	.074
4.155+1	5.012+1	.074	4.150+1	4.873+1	.074	4.145+1	4.546+1	.078
4.139+1	4.445+1	.076	4.134+1	4.190+1	.147	4.128+1	4.076+1	.117
4.123+1	3.532+1	.086	4.117+1	3.135+1	.088	4.112+1	2.869+1	.083
4.107+1	2.687+1	.088	4.101+1	2.357+1	.090	4.096+1	2.363+1	.090
4.090+1	2.136+1	.090	4.085+1	2.236+1	.092	4.080+1	2.445+1	.087
4.074+1	2.718+1	.086	4.069+1	3.256+1	.081	4.063+1	3.533+1	.083
4.058+1	3.603+1	.087	4.053+1	3.464+1	.083	4.047+1	3.269+1	.081
4.042+1	2.546+1	.098	4.036+1	2.221+1	.208	4.031+1	1.760+1	.095
4.026+1	1.455+1	.108	4.020+1	1.367+1	.105	4.015+1	1.517+1	.113
4.010+1	1.925+1	.101	4.004+1	2.339+1	.095	3.999+1	2.731+1	.084
3.994+1	3.057+1	.095	3.988+1	3.109+1	.082	3.983+1	3.009+1	.091
3.978+1	3.260+1	.082	3.972+1	3.987+1	.083	3.967+1	5.446+1	.096
3.962+1	8.655+1	.110	3.956+1	1.279+2	.088	3.951+1	1.675+2	.071
3.946+1	2.041+2	.069	3.940+1	2.006+2	.067	3.935+1	1.869+2	.067
3.930+1	1.422+2	.093	3.924+1	1.066+2	.081	3.919+1	6.807+1	.103
3.914+1	4.865+1	.085	3.909+1	3.758+1	.102	3.903+1	2.367+1	.093
3.898+1	1.802+1	.106	3.893+1	1.656+1	.151	3.888+1	1.370+1	.091
3.882+1	1.165+1	.138	3.877+1	1.015+1	.106	3.872+1	9.967+0	.122
3.867+1	1.244+1	.105	3.861+1	1.281+1	.121	3.856+1	1.610+1	.124
3.851+1	2.157+1	.094	3.846+1	2.393+1	.085	3.840+1	2.821+1	.084
3.835+1	2.764+1	.093	3.830+1	2.818+1	.086	3.825+1	2.703+1	.091
3.819+1	2.782+1	.087	3.814+1	2.318+1	.102	3.809+1	2.156+1	.106
3.804+1	1.773+1	.091	3.799+1	1.676+1	.121	3.793+1	1.412+1	.100
3.788+1	1.227+1	.113	3.783+1	1.323+1	.105	3.778+1	1.337+1	.114
3.773+1	1.170+1	.108	3.767+1	8.647+0	.133	3.762+1	8.674+0	.122
3.757+1	1.029+1	.127	3.752+1	9.275+0	.145	3.747+1	8.841+0	.135
3.742+1	7.460+0	.134	3.736+1	8.388+0	.132	3.731+1	7.118+0	.152
3.726+1	6.988+0	.135	3.721+1	8.391+0	.129	3.716+1	6.678+0	.161
3.711+1	7.299+0	.152	3.705+1	9.245+0	.138	3.700+1	9.404+0	.132
3.695+1	7.509+0	.150	3.690+1	8.132+0	.144	3.685+1	8.861+0	.138
3.680+1	9.158+0	.122	3.675+1	9.983+0	.137	3.670+1	1.075+1	.126
3.664+1	8.631+0	.127	3.659+1	1.125+1	.113	3.654+1	1.259+1	.114
3.649+1	1.306+1	.114	3.644+1	1.370+1	.139	3.639+1	1.292+1	.118
3.634+1	1.410+1	.103	3.629+1	1.613+1	.105	3.624+1	1.527+1	.101
3.619+1	1.784+1	.106	3.614+1	1.825+1	.108	3.608+1	1.896+1	.109
3.603+1	2.305+1	.098	3.598+1	2.537+1	.089	3.593+1	2.760+1	.110
3.588+1	3.022+1	.103	3.583+1	3.642+1	.114	3.578+1	3.990+1	.079
3.573+1	4.594+1	.082	3.568+1	5.410+1	.083	3.563+1	6.145+1	.090
3.558+1	8.141+1	.083	3.553+1	9.808+1	.074	3.548+1	1.210+2	.078
3.543+1	1.557+2	.083	3.538+1	2.145+2	.095	3.533+1	2.703+2	.093
3.528+1	3.614+2	.073	3.523+1	4.261+2	.068	3.518+1	4.382+2	.066
3.513+1	4.017+2	.070	3.508+1	3.576+2	.069	3.503+1	3.074+2	.068
3.498+1	2.560+2	.081	3.493+1	2.361+2	.070	3.488+1	2.309+2	.070
3.483+1	1.965+2	.072	3.478+1	1.711+2	.074	3.473+1	1.527+2	.075

E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR
3.468+1	1.362+2	.071	3.463+1	1.273+2	.112	3.458+1	1.291+2	.073
3.453+1	1.400+2	.079	3.448+1	1.719+2	.073	3.443+1	1.960+2	.071
3.438+1	2.050+2	.070	3.433+1	2.023+2	.075	3.428+1	1.581+2	.080
3.423+1	1.177+2	.101	3.418+1	8.324+1	.090	3.413+1	6.270+1	.106
3.409+1	4.008+1	.087	3.404+1	3.072+1	.094	3.399+1	2.705+1	.095
3.394+1	2.301+1	.102	3.389+1	2.313+1	.103	3.384+1	2.125+1	.101
3.379+1	2.621+1	.098	3.374+1	3.851+1	.117	3.369+1	6.089+1	.131
3.364+1	9.163+1	.090	3.359+1	1.303+2	.083	3.355+1	1.436+2	.073
3.350+1	1.480+2	.071	3.345+1	1.280+2	.072	3.340+1	1.040+2	.090
3.335+1	6.826+1	.101	3.330+1	4.646+1	.103	3.325+1	3.044+1	.116
3.320+1	1.765+1	.152	3.316+1	1.196+1	.192	3.311+1	9.339+0	.151
3.306+1	7.298+0	.188	3.301+1	5.906+0	.175	3.296+1	4.457+0	.215
3.291+1	3.056+0	.304	3.286+1	3.065+0	.321	3.282+1	3.940+0	.300
3.277+1	3.207+0	.198	3.272+1	3.367+0	.291	3.267+1	3.792+0	.214
3.262+1	4.077+0	.234	3.257+1	5.187+0	.245	3.253+1	7.375+0	.177
3.248+1	8.898+0	.181	3.243+1	1.628+1	.164	3.238+1	2.655+1	.129
3.233+1	4.059+1	.121	3.229+1	6.921+1	.126	3.224+1	1.055+2	.093
3.219+1	1.495+2	.087	3.214+1	1.853+2	.072	3.209+1	1.928+2	.071
3.205+1	1.758+2	.078	3.200+1	1.398+2	.082	3.195+1	1.051+2	.082
3.190+1	7.174+1	.133	3.186+1	4.164+1	.119	3.181+1	3.242+1	.096
3.176+1	2.460+1	.100	3.171+1	1.970+1	.188	3.167+1	1.288+1	.133
3.162+1	9.365+0	.179	3.157+1	6.549+0	.198	3.152+1	5.335+0	.219
3.148+1	4.965+0	.192	3.143+1	5.059+0	.176	3.138+1	3.335+0	.240
3.133+1	2.569+0	.303	3.129+1	2.578+0	.326	3.124+1	3.417+0	.417
3.119+1	2.884+0	.275	3.115+1	5.765+0	.219	3.110+1	9.429+0	.153
3.105+1	1.568+1	.191	3.100+1	2.668+1	.126	3.096+1	3.956+1	.081
3.091+1	4.229+1	.089	3.086+1	4.235+1	.089	3.082+1	3.849+1	.094
3.077+1	3.523+1	.083	3.072+1	3.621+1	.091	3.068+1	3.325+1	.090
3.063+1	3.183+1	.088	3.058+1	3.036+1	.091	3.054+1	2.419+1	.116
3.049+1	2.316+1	.219	3.044+1	1.232+1	.193	3.040+1	9.536+0	.132
3.035+1	7.029+0	.248	3.030+1	5.665+0	.179	3.026+1	4.543+0	.310
3.021+1	3.738+0	.249	3.016+1	3.802+0	.384	3.012+1	3.549+0	.427
3.007+1	1.505+0	.613	3.003+1	1.999+0	.579	2.998+1	3.102+0	.527
2.993+1	2.761+0	.589	2.989+1	4.351+0	.379	2.984+1	5.195+0	.247
2.980+1	8.588+0	.172	2.975+1	1.154+1	.149	2.970+1	1.690+1	.105
2.966+1	1.574+1	.115	2.961+1	1.342+1	.117	2.957+1	1.083+1	.122
2.952+1	8.682+0	.140	2.947+1	6.841+0	.151	2.943+1	4.649+0	.274
2.938+1	3.619+0	.305	2.934+1	3.340+0	.429	2.929+1	2.337+0	.429
2.925+1	3.384+0	.469	2.920+1	3.303+0	.449	2.915+1	2.833+0	.370
2.911+1	3.877+0	.393	2.906+1	4.065+0	.331	2.902+1	3.890+0	.452
2.897+1	3.027+0	.354	2.893+1	5.209+0	.360	2.888+1	5.143+0	.378
2.884+1	6.250+0	.256	2.879+1	7.392+0	.242	2.875+1	9.812+0	.257
2.870+1	8.580+0	.178	2.866+1	1.030+1	.292	2.861+1	1.106+1	.127
2.856+1	1.393+1	.141	2.852+1	2.085+1	.136	2.847+1	2.280+1	.106
2.843+1	2.386+1	.108	2.838+1	2.723+1	.098	2.834+1	2.437+1	.096
2.830+1	2.201+1	.104	2.825+1	2.240+1	.095	2.821+1	2.037+1	.104
2.816+1	2.081+1	.112	2.812+1	2.328+1	.097	2.807+1	2.519+1	.096
2.803+1	3.494+1	.095	2.798+1	4.662+1	.131	2.794+1	6.601+1	.083
2.789+1	8.232+1	.096	2.785+1	9.663+1	.084	2.780+1	1.019+2	.080
2.776+1	9.241+1	.080	2.771+1	7.298+1	.111	2.767+1	5.176+1	.101
2.763+1	3.868+1	.112	2.758+1	2.990+1	.168	2.754+1	1.832+1	.168
2.749+1	1.409+1	.129	2.745+1	1.388+1	.116	2.740+1	1.091+1	.187
2.736+1	1.091+1	.158	2.732+1	1.301+1	.126	2.727+1	1.404+1	.126
2.723+1	1.605+1	.121	2.718+1	1.630+1	.124	2.714+1	1.646+1	.145
2.710+1	1.767+1	.220	2.705+1	1.580+1	.119	2.701+1	1.713+1	.140
2.697+1	1.924+1	.109	2.692+1	1.639+1	.119	2.688+1	2.052+1	.126
2.683+1	2.512+1	.117	2.679+1	3.035+1	.100	2.675+1	3.361+1	.118
2.670+1	4.782+1	.101	2.666+1	4.926+1	.089	2.662+1	6.258+1	.082
2.657+1	7.048+1	.088	2.653+1	7.119+1	.089	2.649+1	7.460+1	.081
2.644+1	6.896+1	.084	2.640+1	5.781+1	.093	2.636+1	4.553+1	.098
2.631+1	3.647+1	.123	2.627+1	2.342+1	.162	2.623+1	1.662+1	.116
2.618+1	1.393+1	.130	2.614+1	1.072+1	.154	2.610+1	1.069+1	.153
2.605+1	1.371+1	.153	2.601+1	1.433+1	.135	2.597+1	2.048+1	.143
2.592+1	2.701+1	.103	2.588+1	3.562+1	.122	2.584+1	4.514+1	.109
2.580+1	5.477+1	.104	2.575+1	6.245+1	.095	2.571+1	6.249+1	.091
2.567+1	7.744+1	.082	2.562+1	8.110+1	.081	2.558+1	8.136+1	.083
2.554+1	8.193+1	.089	2.550+1	7.974+1	.083	2.545+1	8.689+1	.088
2.541+1	7.560+1	.087	2.537+1	7.736+1	.085	2.533+1	6.720+1	.104
2.528+1	6.418+1	.105	2.524+1	6.258+1	.085	2.520+1	5.593+1	.087
2.516+1	5.477+1	.128	2.511+1	5.236+1	.152	2.507+1	4.724+1	.096

E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR	E (EV)	σ(BARN)	ERROR
2.503+1	4.451+1	.093	2.499+1	3.809+1	.098	2.495+1	4.013+1	.112
2.490+1	3.994+1	.112	2.486+1	3.381+1	.099	2.482+1	3.461+1	.097
2.478+1	3.539+1	.101	2.474+1	3.554+1	.098	2.469+1	3.520+1	.103
2.465+1	3.595+1	.095	2.461+1	3.591+1	.100	2.457+1	3.376+1	.135
2.453+1	3.506+1	.105	2.449+1	4.088+1	.105	2.444+1	4.272+1	.147
2.440+1	5.140+1	.090	2.436+1	6.152+1	.102	2.432+1	6.912+1	.091
2.428+1	6.631+1	.093	2.424+1	5.679+1	.094	2.419+1	4.825+1	.098
2.415+1	3.722+1	.134	2.411+1	2.710+1	.134	2.407+1	2.218+1	.129
2.403+1	2.410+1	.164	2.399+1	2.890+1	.153	2.395+1	3.052+1	.160
2.390+1	4.060+1	.118	2.386+1	5.239+1	.105	2.382+1	6.662+1	.114
2.378+1	8.722+1	.096	2.374+1	1.010+2	.092	2.370+1	1.128+2	.089
2.366+1	1.323+2	.086	2.362+1	1.367+2	.089	2.358+1	1.282+2	.084
2.353+1	1.284+2	.086	2.349+1	1.184+2	.084	2.345+1	1.095+2	.084
2.341+1	9.841+1	.097	2.337+1	8.027+1	.101	2.333+1	6.291+1	.111
2.329+1	4.529+1	.116	2.325+1	3.558+1	.138	2.321+1	2.662+1	.122
2.317+1	2.383+1	.129	2.313+1	3.631+1	.158	2.309+1	5.296+1	.097
2.305+1	6.847+1	.100	2.301+1	7.442+1	.100	2.297+1	8.153+1	.096
2.293+1	7.106+1	.117	2.289+1	5.170+1	.119	2.284+1	3.534+1	.121
2.280+1	2.757+1	.204	2.276+1	1.903+1	.158	2.272+1	1.455+1	.170
2.268+1	1.215+1	.194	2.264+1	8.793+0	.268	2.260+1	1.144+1	.444
2.256+1	6.584+0	.303	2.252+1	9.297+0	.433	2.248+1	8.036+0	.367
2.244+1	1.310+1	.299	2.240+1	1.198+1	.389	2.236+1	1.053+1	.366
2.232+1	1.145+1	.358	2.228+1	1.172+1	.355	2.224+1	1.159+1	.423
2.220+1	1.178+1	.399	2.216+1	1.212+1	.379	2.213+1	9.968+0	.504
2.209+1	4.333+0	.665	2.205+1	8.015+0	.890	2.201+1	5.320+0	.840
2.197+1	7.183+0	.943	2.193+1	1.007+1	.535	2.189+1	7.952+0	.566
2.185+1	7.523+0	.836	2.181+1	8.883+0	.583	2.177+1	7.376+0	.652
2.173+1	9.278+0	.618	2.169+1	9.724+0	.585	2.165+1	9.607+0	.489
2.161+1	1.132+1	.488	2.157+1	1.005+1	.456	2.153+1	1.079+1	.408
2.150+1	1.455+1	.319	2.146+1	1.350+1	.366	2.142+1	1.276+1	.301
2.138+1	1.607+1	.339	2.134+1	2.276+1	.223	2.130+1	3.793+1	.204
2.126+1	7.133+1	.157	2.122+1	1.108+2	.136	2.118+1	1.654+2	.121
2.115+1	2.182+2	.111	2.111+1	2.290+2	.109	2.107+1	2.061+2	.129
2.103+1	1.660+2	.111	2.099+1	1.204+2	.148	2.095+1	7.263+1	.135
2.091+1	5.393+1	.131	2.087+1	3.582+1	.163	2.084+1	2.842+1	.215
2.080+1	3.278+1	.230	2.076+1	3.700+1	.157	2.072+1	3.755+1	.148
2.068+1	3.787+1	.169	2.064+1	3.853+1	.145	2.061+1	3.572+1	.163
2.057+1	2.903+1	.252	2.053+1	2.406+1	.362	2.049+1	1.315+1	.286
2.045+1	1.619+1	.417	2.042+1	1.967+1	.338	2.038+1	1.574+1	.273
2.034+1	2.090+1	.367	2.030+1	2.152+1	.398	2.026+1	2.154+1	.267
2.023+1	2.333+1	.204	2.019+1	2.352+1	.196	2.015+1	2.238+1	.262
2.011+1	2.841+1	.385	2.007+1	2.436+1	.305	2.004+1	1.884+1	.214