INDC INTERNATIONAL NUCLEAR DATA COMMITTEE

COMPARISON OF SEVENTEEN NUCLIDES CROSS SECTIONS

FROM ENDF/B-IV AND ENDL/78

by

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1 - INTRODUCTION

The point cross sections of seventeen nuclides from ENDF/B-IV (ref. 1) were processed into a 25-group structure. These multigroup cross sections were compared with the corresponding data taken from ENDF/78 (Ref. 2).

The seventeen nuclides examined are C-12, O-16, Na-23, Cr-nat, Mn-55, Ni-nat, Mo-nat, Th-232, U-234, U-235, U-236, U-238, Pu-239, Pu-240, Pu-241, and Pu-242.

The energy structure and the wighting function are given in table 1. The weighting function used was a typical one of a Na cooled fast reactor.

Although a constant weighting function would be more appropriate for the direct comparison of the cross sections, the weighting function we used is very close to practical situations.

This paper is intended to present an estimate of the differences between two evaluated libraries for some of the isotopes more frequently used in fast reactors.

Since these two libraries were elaborated during approximately the same period of time, we could assume that the same experimentally measured data were available during the evaluation process. Then, the differences between the two libraries should be attributed not only to lack of or disagreement between experimental data, but also to the interpretation of the data by the evaluators.

These differences will give the user an idea of how large is the interval within which a cross section may vary for different evaluations.

2 - COMPARISON OF THE NUCLIDES CROSS-SECTIONS

The NJOY code (Ref. 3) was used to process ENDF/B-IV and ENDL/78 libraries. In tables 2 to 18 are shown the multigroup cross sections and the percent differences between the two libraries.

From observation of the tables, we see that the main differences are:

C-12 - the total and the elastic cross sections are within a 5% difference. The capture cross section is nearly constant in ENDL and a decreasing function in ENDF/B becoming zero above 2 KeV.

C-16 - the differences for the total and the elastic cross sections are within a 5% difference. In the ENDL the capture cross section is zero for all energies and ENDF/B gives values 10^{-4} to 10^{-8} times smaller than the total cross section.

N-23 - the total and the elastic cross sections are within a 5% difference. The capture cross section is different by up to $\pm$ 25% depending on the energy interval.

Cr-nat - Most cross sections are 10% to 80% greater in ENDF than in ENDL.

Mn-55 - The ENDF cross sections are larger by up to 100%. The ENDL does not give resonance structure in groups 10 and 12.

Ni-nat - All cross sections are greater by about 10% in ENDF, except for the capture cross section where the differences are up to 280%.

Mo-nat - The cross sections are nearly the same within groups 18 to 25. In other groups, mainly for capture, the differences are as great as $\pm$ 80%.

Th-232 - In most groups, the cross sections are smaller in ENDF than in ENDL by about 10% to 20%.

U-233 - All cross sections agree within 5% except the capture and inelastic cross sections at high energies. The ENDF gives details for the cross sections and the ENDL gives slowly varying functions without resonance structure.

U-234 - The cross sections are about 20% to 80% greater in ENDF than in ENDL.

U-235 - All cross sections are within a 10% difference except for the capture cross section in groups 8 to 14, 16, 17 and 23 to 25, where the differences are from -45% to 39%.

U-236 - The cross sections are in general greater by 20% to 50% in ENDF/B except for the capture cross section, which is smaller by 30% to 500%. The ENDL does not give the resonance structure for the elastic cross section.

U-238 - There is generally a good agreement except in some groups where ENDF/B gives values 10% larger. The capture cross section is within a 7% difference. The ENDL gives fission cross section from group 20 to group 25 only. The ENDF/B gives a more complete description.

Pu-239 - The cross sections are smaller in ENDF by about 20%, except for the fission cross section which is within a 10% difference and the capture cross section where the differences are ± 25% and go up to 180% in groups 23, 24, 25.

Pu-240 - For the total and the elastic cross sections the ENDF/B gives values 40% to 60% lower up to group 13, while in other groups the situation inverts. The fission, inelastic, and capture cross sections are generally greater by 20% to 40% in ENDF.

Pu-241 - In general the cross sections are greater by about 20% in ENDF. The capture cross section has differences of up to 400%.

Pu-242 - The values are smaller in ENDF/B by 10% to 120%. The ENDF/B gives values of the fission cross section in groups 15 to 25 only. The ENDL gives a more complete evaluation.

3 - COMPARISON WITH ENDF/B-V DATA

Some of the multigroup cross sections of the precedent tables were compared with data from ENDF/B-V (Ref. 4). In that reference the data are presented in multigroup form in the energy range thermal to 100 eV or 2150 eV. The weighting function adopted there was 1/E. That difference with our weighting function from table 1 could give a diversion of 1 to 3% on the multigroup cross sections. The comparison with the new data for the uranium and plutonium is shown in table 19.

U-235 - The comparison of cross sections shows a few % closer agreement with ENDL. The new data seems to be increased in groups 2 and 3, and decrease for the other groups.

U-238 - The comparison of the cross sections shows a few % closer agreement for ENDF/B-IV up to group 5. Then the situation reverses with some exceptions in some groups.

Pu-239 - The ENDL data seems to be closer to the new data than the ENDF/B-IV data by about 5%. With some exceptions, the new data are larger than the old data by 25% approximately.

Pu-240 - The new data for the total cross section differ from the old data by -50% to 100% approximately. For the capture cross section the new data are larger by 0.6% to 94%, except for groups 2, 6 and 7 where it is smaller by about 13% to 45% and for groups 3 and 4 where it is larger by 35% to 100%.

Pu-241 - The new data are closer to ENDL, being most of the time between the two old evaluations.

Pu-242 - The new data are most of the time between the two old evaluations, except for the fission cross section.

4 - BENCHMARK TESTING OF DATA

The ENDF/B-IV and ENDL/78 data have been extensively tested (Ref. 5 and 6) against benchmark experiments.

By using ENDF/B-IV data, K_{eff} calculations were made (Ref. 5) for seventeen fast critical experiments.

The K_{eff} values obtained were in the range of 0.985 to 1.015. From the analysis of the K_{eff} values and other integral parameters, it was concluded (Ref. 5) that some data should be reviewed, as for example:

- The Pu-239 fission cross section relative to the fission cross section of U-235.

- The absolute fission cross section of U-235.

- The prompt fission neutron spectrum.

- ^{239} relative to ^{235}.

- The U-238 inelastic cross section.

- The capture cross section of U-238.

- The elastic cross section of sodium, oxygen and stainless steel.

To test the ENDL/78 data, the calculated K_{eff} values for sixty-seven critical assemblies were analysed (Ref. 6). For all cases except for two, the K_{eff} was in the range of 0.99 to 1.01.

These two cases were one with a nickel and the other with a copper reflector. It was concluded that the cross sections of these two nuclides should be reexamined.

These benchmark calculations give the user of ENDF/B-IV and ENDL/78 a first estimation of the differences he would obtain between calculated and experimental fast reactor integral parameters.

The fast critical assemblies analysed in the two references mentioned above, are not the same for both data and then it is not possible to compare the results.

5 - COMMENTS

We have tried to analyse the benchmark calculations made with ENDF/B-IV and ENDL/78 data, and when possible we have compared that data with the ENDF/B-V data.

From that analysis and that comparison, it does not seem possible to say, in a general sense, which data are better.

In order to choose the right data, it would be necessary to make the benchmark calculations with both data.

We have tried to make that kind of calculations but have not succeeded, as no information is given in the ENDL/78 about the inelastic secondary distributions (File 4), for many of the most important nuclides.

Since ENDF/B-IV and ENDL/78 were elaborated furing more or less the same period of time, similar experimental data should have been available at the time of both evaluations. Consequently one would expect a relative similarity between these two evaluations.

It is really surprising to find so much differences between the cross sections of such nuclides as U-235, U-238 and Pu-239, for which experimental data are the most abundant.

It seems that, for similar data sets, there exist several possible evaluations criteria that may make the evaluated data quite different.

It is to expect that, in the future, the introduction of the covariance data will help to diminish these kind of differences.

TABLE 3 - COMPARISON OF 25-GROUP CROSS SECTIONS FOR 0-16

TOTAL

NL-ENDL	(NL-N)/N*100	N-ENDF
3.81000E+00	-1.30	3.86000E+00
3.70600E+00	-1.25	3.75300E+00
3.70200E+00	-1.28	3.75000E+00
3.70100E+00	-1.28	3.74900E+00
3.70000E+00	-1.31	3.74900E+00
3.70000E+00	-1.28	3.74800E+00
3.70000E+00	-1.28	3.74800E+00
3.70000E+00	-1.28	3.74800E+00
3.70000E+00	-1.28	3.74800E+00
3.70000E+00	-1.25	3.74700E+00
3.70000E+00	-1.25	3.74700E+00
3.70000E+00	-1.20	3.74500E+00
3.70000E+00	-1.12	3.74200E+00
3.70000E+00	-.91	3.73400E+00
3.70000E+00	-.51	3.71500E+00
3.70000E+00	.38	3.68600E+00
3.70000E+00	2.13	3.62300E+00
3.70000E+00	5.11	3.52000E+00
3.92000E+00	3.81	3.77600E+00
6.14300E+00	3.40	5.94100E+00
4.18400E+00	3.64	4.03700E+00
1.80300E+00	1.18	1.78200E+00
2.21400E+00	-.18	2.21600E+00
1.45900E+00	2.74	1.45900E+00
1.20700E+00	-2.66	1.24000E+00

ELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
3.81000E+00	-1.30	3.86000E+00
3.70600E+00	-1.25	3.75300E+00
3.70200E+00	-1.28	3.75000E+00
3.70100E+00	-1.28	3.74900E+00
3.70000E+00	-1.31	3.74900E+00
3.70000E+00	-1.28	3.74800E+00
3.70000E+00	-1.28	3.74800E+00
3.70000E+00	-1.28	3.74800E+00
2.70000E+00	-1.28	3.74800E+00
3.70000E+00	-1.25	3.74700E+00
3.70000E+00	-1.25	3.74700E+00
3.70000E+00	-1.20	3.74500E+00
3.70000E+00	-1.12	3.74200E+00
3.70000E+00	-.91	3.73400E+00
3.70000E+00	-.51	3.71900E+00
3.70000E+00	.38	3.68600E+00
3.70000E+00	2.13	3.62300E+00
3.70000E+00	5.11	3.52000E+00
3.92000E+00	3.81	3.77600E+00
6.14300E+00	3.40	5.94100E+00
4.18400E+00	3.64	4.03700E+00
1.80300E+00	1.18	1.78200E+00
2.20800E+00	-.18	2.21200E+00
1.44200E+00	4.03	1.38600E+00
7.73400E-01	-13.00	8.89000E-01

INELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
1.41200E-06	-57.60	3.33000E-06
3.33500E-01	55.26	2.14600E-01

CAPTURE

NL-ENDL	(NL-N)/N*100	N-ENDF
		1.54300E-04
		3.45600E-05
		2.24600E-05
		1.52800E-05
		1.04000E-05
		7.10200E-06
		4.95000E-06
		3.37400E-06
		2.30100E-06
		1.56700E-06
		1.06800E-06
		7.36700E-07
		5.02000E-07
		3.42000E-07
		2.33200E-07
		1.58600E-07
		1.09500E-07
		7.60600E-08
		5.36900E-08
		3.85900E-08
		2.79800E-08
		2.10800E-08
		1.56100E-08
		1.26900E-08
		9.59100E-09

TABLE 4 - COMPARISON OF 25-GROUP CROSS SECTIONS FOR NA-23

TOTAL

NL-ENDL	(NL-N)/N*100	N-ENDF
3.975C0E+C0	3.60	3.83700E+00
3.32E0CE+C0	.15	3.32100E+0C
3.256CCE+C0	.31	3.24600E+00
3.20900F+00	.16	3.20400E+00
3.1730CE+C0	.13	3.16900E+00
3.155CCE+C0	.03	3.154CCE+CC
3.15100E+00	-.03	3.15200E+00
3.15400E+C0	.06	3.15200E+0C
3.1690CE+C0	.19	3.163C0E+00
3.213C0E+00	.06	3.2110CE+00
3.468CCE+C0	1.55	3.41500E+00
7.65C00E+C0	1.97	7.50200E+00
9.521C0E+C1	.6C	9.46400E+01
7.6540CE+C0	5.75	7.238C0E+00
4.4720CE+00	1.38	4.41100E+00
4.1020CE+00	6.85	3.835C0E+00
5.1C2CCE+C0	1.61	5.021CCE+CC
3.4930DE+C0	1.84	3.43000E+00
4.0170CE+C0	C.0C	4.01700E+CC
4.132CCE+C0	.12	4.12700E+00
3.7730CE+00	.21	3.76500E+CC
2.7C5CCF+C0	-.48	2.718CCE+00
2.1E6CCE+C0	-3.14	2.25900E+00
1.6E6C0E+C0	-2.46	1.9130CE+0C
1.6440CE+00	2.05	1.6110CE+00

ELASTIC

NL-ENDL	(NL-N)/N*1CC	N-ENDF
3.511CCE+00	4.06	3.37400E+00
3.22200E+00	.19	3.216C0E+00
3.16600E+C0	.22	3.17900E+00
3.1620CE+00	.13	3.15800E+0C
3.14CCCE+C0	.06	3.1380GE+CC
3.13200E+00	-.03	3.13300E+00
3.1350CE+C0	-.1C	3.13800E+0C
3.14300E+C0	.06	3.14100E+00
3.1610CE+00	.22	3.1540CE+00
3.2C6CCE+00	.09	3.2030CE+00
3.462GCE+C0	1.61	3.40700E+00
7.63E0CE+C0	2.04	7.48500E+0C
9.5130CE+01	.62	9.45400E+01
7.65200E+00	5.75	7.236C0E+00
4.47100E+C0	1.36	4.411CCF+00
4.0990CE+C0	6.8C	3.838C0E+0C
5.1010CE+C0	1.63	5.01900E+00
3.49200E+00	1.84	3.42900E+00
4.017CCE+C0	.02	4.01600E+00
3.996C0E+00	0.0C	3.99600E+CC
3.28600E+00	0.00	3.286C0E+00
2.175CCF+C0	C.00	2.17500E+0C
1.464CCF+00	.2C	1.48100E+C0
1.025C0E+00	0.00	1.02500F+00
6.40300E-01	1.47	6.31000E-01

INELASTIC

NL-ENOL	(NL-N)/N*100	N-ENDF
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
0.		0.
C.		0.
0.		0.
C.		0.
C.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
D.		0.
C.		0.
1.34900E-01	3.69	1.30100E-01
4.E7C00E-01	1.61	4.79300E-01
5.26E0CE-C1	-2.43	5.43C00E-01
7.C4CCCE-C1	-5.11	7.74ECCE-C1
8.316C0E-01	-5.36	8.78700E-01
8.7570CE-C1	2.29	8.56100E-C1

CAPTURE

NL-ENDL	(NL-N)/N*1CC	N-ENDF
4.E41C0E-01	.17	4.63300E-01
1.C37CGE-C1	-1.71	1.C55CCE-C1
6.693C0E-02	3.83	6.73500E-02
4.77E00E-C2	4.28	4.58200E-02
3.265CCE-02	5.42	3.12000E-02
2.26600E-02	6.09	2.13600E-02
1.59200E-C2	6.63	1.49300E-02
1.C93CCE-C2	.37	1.C8900E-02
8.31C00E-03	-6.71	8.90800E-C3
6.1E2C0E-03	-23.39	8.04300E-03
5.772CCE-C3	-28.33	8.05400E-03
1.225CCE-02	-26.73	1.67200E-02
7.55CCCE-C2	-26.29	1.02500E-C1
1.E66C0E-03	8.04	1.54200E-03
1.227C0E-C3	347.81	2.74C00E-04
3.331CCE-03	68.66	1.97500E-03
1.462CCE-03	-24.99	1.94900E-C3
1.163CCE-C3	-17.63	1.412CCE-03
7.429CCF-04	21.89	6.09500E-04
4.642CCF-C4	55.82	2.97400E-04
2.666C0E-04	15.C6	2.31700E-04
2.24CC0E-04	16.30	1.96500E-04
1.612CCF-C4	13.78	1.66300E-04
1.577C0F-04	-2.65	1.62C0CE-C4
1.659C0F-04	-3.94	1.72700E-04

TABLE 5 - COMPARISON OF 25-GROUP CROSS SECTIONS FOR CR

TOTAL

NL-ENDL	(NL-N)/N*1CC	N-ENDF
6.631C0E+C0	-6.68	7.32000E+00
4.65200E+00	-9.46	5.18200E+C0
4.54C00E+00	-8.87	4.98200E+00
4.46700E+00	-8.03	4.85700E+00
4.3E5CCE+C0	-8.05	4.7730CE+00
4.37200E+C0	-7.31	4.71700E+CC
4.34700E+00	-7.16	4.66200E+00
4.32100E+C0	-7.31	4.66200E+00
4.32CCCE+C0	-7.26	4.65600E+00
4.31300E+00	-8.08	4.69200E+00
4.3C3C0E+C0	-11.C2	4.836C0E+C0
4.3E4CCE+C0	-25.69	5.90000E+00
1.17600E+C1	-32.95	1.75400E+01
1.68600E+01	-26.54	2.29500E+01
4.3E600E+C0	4.83	4.18600E+00
3.15E0CE+C0	-2.53	3.24C00E+00
5.28C0CE+C0	-22.81	6.84000E+CC
6.434C0E+C0	-7.33	6.94300E+00
2.80200E+C0	-16.26	3.34600E+00
3.09800E+00	-14.84	3.63800E+00
3.01900E+00	-2.95	3.1120CE+CC
3.26C0CE+00	-3.81	3.38900E+00
3.7C7C0E+C0	-.62	3.73000E+00
3.64SCCE+C0	-1.96	3.72200E+CC
3.10700E+C0	0.00	3.10700E+00

ELASTIC

NL-ENDL	(NL-N)/N*1CC	N-ENDF
4.13800E+00	-10.66	4.63200E+0C
4.06300E+C0	-11.08	4.59200E+0C
4.14400F+00	-9.74	4.59100E+00
4.20300E+00	-8.45	4.5910CE+0C
4.21CCE+00	-8.30	4.59100E+00
4.2470CF+C0	-7.53	4.59300E+00
4.261CCE+C0	-7.29	4.59600E+0C
4.26300E+C0	-7.37	4.602C0E+00
4.27900E+C0	-7.32	4.61700E+00
4.28500E+C0	-8.11	4.66300E+00
4.2ECCCE+C0	-11.09	4.814CCE+0C
4.32600E+00	-24.62	5.73900E+00
1.17200E+C1	-33.03	1.75000E+01
1.6820CE+C1	-26.45	2.28700E+01
4.378C0E+00	5.29	4.158C0E+CG
3.154CCE+CQ	-1.71	3.20SC0E+00
5.276CE+C0	-22.72	6.827C0E+00
6.43C0CE+00	-7.28	6.93500E+CC
2.796CCE+C0	-16.28	3.34200E+00
3.08600F+00	-14.98	3.63200E+00
2.94200E+C0	-3.06	3.03500E+00
2.66SCCE+C0	-3.92	2.778C0E+CC
2.62400E+00	-.68	2.64200E+00
2.4C7CCE+C0	3.97	2.31500E+C0
1.92700E+C0	11.32	1.73100E+00

INELASTIC

NL-ENDL	(NL-N)/N*10C	N-ENDF
0.		0.
C.		0.
0.		0.
C.		0.
C.		0.
C.		0.
0.		C.
C.		0.
C.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
0.		0.
5.66200F-C3	398.85	1.13500E-03
7.3340CE-C2	4.15	7.04200E-02
5.69300E-C1	-2.88	6.C66CCE-01
1.0E200E+C0	-.18	1.0840CE+00
1.235CCE+00	-11.37	1.39800E+0C
1.12C00E+C0	-13.25	1.29100E+00

N-2N

NL-ENDL	(NL-N)/N*10C	N-ENDF
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
C.		0.
0.		0.
0.		0.
0.		0.
C.		0.
C.		0.
C.		0.
0.		0.
0.		0.
C.		0.
C.		0.
C.		0.
1.65600E-C2	-35.21	2.55600E-C2

TABLE 5 - (CONTINUED)

CAPTURE

NL-ENDL	(NL-N)/N*1CC	N-ENDF
2.69300E+00	.19	2.66800E+00
6.06600E-01	3.20	5.89900E-01
3.96700E-C1	1.48	3.90900E-C1
2.66200E-C1	-.71	2.66100E-01
1.79700E-01	-.94	1.81400E-01
1.24900E-C1	.73	1.24000E-01
8.61600E-C2	-.61	8.66900E-C2
5.80400E-02	-2.45	5.95000E-02
4.05600E-02	-1.58	4.12100E-C2
2.767C0E-02	-4.88	2.90900E-02
2.28300E-C2	5.40	2.16600E-C2
5.78400E-C2	-64.07	1.61000E-01
3.72300E-02	-9.17	4.09900E-02
3.66700E-C2	-51.29	7.52900E-02
9.54900E-03	-66.33	2.83600E-02
3.65400E-03	-88.06	3.06000E-02
4.80800E-C3	-63.33	1.31100E-02
3.95700E-C3	-45.42	7.25000E-C3
3.67500E-03	-7.69	3.98100E-03
4.03200E-C3	-9.29	4.44500E-03
3.49200E-03	-51.92	7.26300E-03
2.04400E-03	-55.46	4.58900E-03
1.53500E-C3	-30.10	2.19600E-03
1.29200E-03	25.32	1.03100E-03
1.07100E-C3	201.69	3.55000E-C4

TABLE 6 - COMPARISON OF 25-GROUP CROSS SECTIONS FOR MN-55

TOTAL

NL-ENDL	(NL-N)/N*100	N-ENDF
1.411CCE+C1	6.01	1.33100E+01
4.633CCE+C0	8.37	4.275CCE+C0
3.41t0CE+C0	-1.47	3.46700E+00
2.872CCE+C0	-3.04	2.962C0E+00
2.45t00E+00	-6.1t	2.66200E+00
2.472CCE+00	-4.CC	2.57500E+00
2.724CCE+C0	-.t2	2.741CCE+CC
3.552C0E+C0	-2.34	3.637C0E+00
1.00CC0E+01	-.1C	1.00100E+01
4.735CCE+C2	5.57	4.46500E+02
1.55700E+01	1.77	1.5230CE+01
8.25400E+C1	-2.58	8.51400E+01
1.42400E+02	-4.04	1.48400E+02
3.62300E+01	-3.t4	3.76000E+01
1.C37CCE+01	15.97	8.94200E+00
1.451CCE+C1	2.54	1.41500E+C1
6.5t20CE+00	-12.74	7.52C00E+00
6.0510CE+C0	-8.20	6.t3500E+00
4.434CCE+C0	8.7t	4.07t00E+00
4.C95CCE+00	17.13	3.49t00E+0C
3.155CCE+C0	-3.03	3.29t0CE+CC
3.43700E+00	-1.51	3.50400E+00
3.617CCE+C0	-2.15	3.69tC0E+CC
3.72CCCE+C0	.70	3.69400E+00
3.2E700E+00	.74	3.26300E+00

ELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
2.61200E+00	47.49	1.77100E+00
2.1650CE+00	22.89	1.765C0E+C0
1.745C0E+C0	-1.t3	1.77tCCE+CC
1.70000E+00	-5.71	1.803C0E+00
1.70C00E+00	-8.45	1.857C0E+00
1.85300E+C0	-5.44	2.002C0E+00
2.32700E+00	-.95	2.305C0E+0C
3.3C0C0E+00	1.35	3.26200E+00
5.80CCCE+C0	3.4t	5.4720CE+00
4.7330CE+C2	7.5t	4.38400E+02
1.937C0E+C1	1.57	1.907C0E+01
8.27500E+01	-1.39	8.35200E+01
1.422C0E+C2	-4.05	1.48200E+02
3.605CCE+C1	-3.8t	3.75400E+C1
1.0250CE+01	16.13	8.t6100E+00
1.44t0CE+01	2.55	1.41CCE+01
6.537CCE+C0	-12.77	7.45400E+00
6.05700E+C0	-5.t5	6.42C00E+00
4.2350CE+00	17.55	3.t0tC0E+00
3.t53CCE+C0	25.15	2.51800E+C0
2.445C0E+C0	-4.53	2.57tC0E+CC
2.317CCE+00	-7.87	2.51500E+00
2.23300E+C0	.31	2.22t00E+00
2.20C00E+00	8.53	2.02700E+00
1.815CCE+C0	12.70	1.61400E+C0

INELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
0.		0.
C.		0.
0.		0.
0.		0.
C.		0.
0.		0.
0.		0.
C.		0.
0.		0.
0.		C.
0.		0.
0.		0.
1.573CCE-02	-5C.13	1.55800E-01
1.6740CE-01	-55.55	4.t3300E-01
4.37E0CE-C1	-23.75	5.74200E-01
7.4t7CCE-C1	3.t8	7.202CCE-C1
1.118C0E+00	13.34	5.t6400E-01
1.3t30CE+C0	-5.52	1.47C00E+CC
1.517CCE+00	-8.50	1.t5800E+00
1.436C0E+00	-10.21	1.t1C00E+0C

N-2N

NL-ENDL	(NL-N)/N*100	N-ENOF
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
0.		0.
0.		0.
C.		0.
0.		0.
0.		0.
0.		0.
C.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
0.		0.
0.		0.
C.		0.
0.		0.
0.		0.
1.315C0E-04	1t05265.45	7.30t00E-05

TABLE 6 - (CONTINUED)

CAPTURE

NL-ENDL	(NL-N)/N*100	N-ENDF
1.15000E+01	-.35	1.15400E+01
2.4640CE+C0	-1.83	2.51000F+CC
1.6670CE+C0	-1.30	1.689C0E+CC
1.17200E+00	1.12	1.15900E+C0
7.978CCE-C1	-.83	8.04500E-01
5.79100E-01	1.01	5.73300E-01
3.968CCE-C1	-9.12	4.366C0E-01
2.4640CE-01	-34.14	3.741C0E-01
2.00000E-01	-62.63	5.35200E-01
2.0000CE-01	-98.02	1.00900E+01
2.0000CE-C1	22.32	1.635C0E-C1
1.5930CE-01	-84.42	1.21500E+C0
1.670CCE-C1	-5.70	1.77100E-01
1.37700E-01	131.39	5.95100E-02
8.264C0E-C2	2.28	8.09900E-C2
5.297CCE-02	9.83	4.822C0E-C2
2.52600E-02	.68	2.509C0E-02
1.351CCE-C2	-4.46	1.45600F-C2
7.771CCE-03	7.38	7.23700E-03
4.5190CE-C3	11.39	4.05700E-03
2.911CCE-C3	4.52	2.785C0E-03
1.9640CE-C3	-4.01	2.046C0E-C3
1.341CCE-03	-7.96	1.4570CE-C3
1.02200E-C3	-1.16	1.03400E-03
6.828C0E-04	5.55	6.465C0E-04

TABLE 7 - COMPARISON OF 25-GROUP CROSS SECTIONS FOR NI

TOTAL

NL-ENDL	(NL-N)/N*100	N-ENDF
2.0620CE+01	-8.15	2.24500E+01
1.735CCE+01	-9.53	1.92100E+01
1.70600E+01	-9.68	1.85100E+01
1.665CCE+01	-9.82	1.87300E+01
1.677COE+01	-9.79	1.85900E+01
1.665500E+01	-9.78	1.85000E+01
1.663CCE+01	-9.72	1.842CCE+01
1.65500E+01	-9.44	1.83200E+01
1.65600E+01	-8.91	1.81800E+01
1.654CCE+01	-7.65	1.751COE+01
1.653COE+01	-5.05	1.74100E+01
1.652CCE+01	-.84	1.666CCE+01
2.172CCE+01	-.18	2.17600E+01
1.481CCE+01	.68	1.47100E+01
4.656COE+01	4.65	4.44500E+01
1.40200E+01	28.62	1.09000E+01
1.1630CE+01	50.08	7.745COE+00
5.477CCE+00	-8.61	5.9930CE+00
5.21700E+00	-8.35	5.69200E+00
3.66300E+00	5.78	3.46300E+00
3.23600E+00	11.66	2.90000E+00
3.18700E+00	5.99	3.007COE+00
3.4C9COE+00	2.19	3.336CCE+00
3.572CCE+00	-2.11	3.649COE+00
3.38COOE+00	-.56	3.3990GE+00

ELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
1.664CCE+01	-10.01	1.84900E+01
1.65100E+01	-9.98	1.83400E+01
1.65000E+01	-10.03	1.23400E+01
1.65COOE+01	-9.98	1.83300E+01
1.65COOE+01	-9.98	1.83300E+01
1.65CCCE+01	-9.89	1.831COE+01
1.65000E+01	-9.79	1.825CCE+01
1.65CCOE+01	-9.49	1.82300E+01
1.65000E+01	-8.94	1.81200E+01
1.65000E+01	-7.67	1.78700E+01
1.65CCCE+01	-5.06	1.73800E+01
1.65000E+01	-.84	1.664COE+01
2.16500E+01	-.32	2.1720CE+01
1.47100E+01	.14	1.449COE+01
4.636COE+01	4.41	4.44000E+01
1.35200E+01	28.18	1.06600E+01
1.158OCE+01	45.84	7.72800E+00
5.4570CE+00	-9.73	5.97900F+00
5.204CCE+00	-8.44	5.66400E+00
3.65200E+00	5.70	3.45500E+00
3.271COE+00	11.57	2.88700E+00
2.711CCE+00	7.41	2.52400E+00
2.134CCE+00	5.63	2.02500E+00
2.01400E+00	-4.41	2.107COE+00
1.93200E+00	-.97	1.95100E+00

INELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.
0.		0.
0.		0.
0.		0.
0.		C.
C.		0.
0.		0.
0.		0.
0.		0.
0.		C.
C.		0.
C.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
3.76400E-03	-2.54	3.86200E-03
4.356CCE-01	-3.02	4.533COE-01
1.074CCE+00	-5.54	1.137CCE+00
1.177COE+00	-.68	1.18500E+00
8.115CCE-01	-4.02	8.45500E-01

N-2N

NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.
C.		0.
0.		0.
0.		0.
C.		0.
C.		0.
C.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
C.		0.
0.		0.
0.		0.
1.537CCE-03	-35.42	2.36000E-03

TABLE 7 - (CONTINUED)

CAPTURE

NL-ENDL	(NL-N)/N*100	N-ENDF
3.59800E+00	.66	3.95900E+00
8.77600E-01	.94	8.69400E-01
5.78200E-01	.36	5.76100E-01
3.93000E-01	.23	3.92100E-01
2.67500E-01	.11	2.67200E-01
1.865C0E-01	2.25	1.82400E-01
1.33100E-01	4.64	1.27200E-01
8.967C0E-02	3.44	8.686C0E-02
6.04300E-02	1.51	5.953C0E-02
4.20600E-02	2.71	4.09500E-02
2.889C0E-02	.66	2.87C00E-02
2.424C0E-02	8.26	2.239C0E-02
7.51800E-02	78.11	4.22100E-02
1.076CCE-01	280.92	2.83C00E-02
2.066C0E-01	115.28	9.597C0E-02
9.94200E-02	180.37	3.54600E-02
4.87500E-02	139.44	2.036C0E-02
1.916C0E-02	33.15	1.435C0E-02
1.16300E-02	32.43	8.78200E-03
9.338C0E-03	21.38	7.693C0E-03
7.56200E-03	.51	7.524C0E-03
5.77C00E-03	8.21	5.33200E-03
2.365C0E-03	7.84	2.193C0E-03
1.131C0E-03	-6.91	1.21500E-03
4.262C0E-04	24.88	3.41300E-04

TABLE 8 - COMPARISON OF 25-GROUP CROSS SECTIONS FOR MO

TOTAL

NL-ENDL	(NL-N)/N*100	N-ENDF
7.6470CE+C0	4.44	7.322C0E+0C
5.81900E+00	5.8C	5.50000E+00
5.65100E+00	5.92	5.33500E+00
5.5530CE+C0	6.28	5.225CCE+00
5.579CCE+C0	8.82	5.127C0E+00
6.89600F+00	20.92	5.70300E+C0
6.946000E+01	10.04	6.31200E+01
1.18C0CE+C1	55.18	7.60400E+00
1.5340CE+01	-10.29	1.71000E+01
8.8C8CCE+00	-15.27	1.C9100E+C1
9.25500E+00	-17.37	1.12000E+01
7.72600E+C0	-37.54	1.23700E+01
1.03200E+01	-.67	1.03900E+01
9.443C0E+00	2.93	9.17400E+0C
8.917CCE+00	4.02	8.57200E+CC
8.CC3C0E+00	-5.37	8.45700E+00
8.16800E+C0	-5.84	8.696C0E+00
8.98200E+C0	0.00	8.98200E+00
8.64200E+C0	C.0C	8.642C0E+00
7.914CCE+C0	-.01	7.915CCE+0C
6.333CCE+C0	0.00	6.33300E+CC
5.16C00E+00	C.0C	5.16000E+0C
4.0400CE+C0	0.00	4.04000E+00
3.62900E+00	0.00	3.82800E+00
4.253CCE+C0	C.CO	4.25300E+0C

ELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
5.32600E+00	5.99	5.02500E+00
5.3010CE+C0	6.0C	5.00100E+00
5.3CC00E+C0	6.0C	5.00000E+C0
5.3CCCCE+00	6.73	4.966C0E+00
5.3CC00E+00	6.70	4.96700E+00
6.544CCE+00	33.41	4.905CCE+00
6.318CGE+C1	88.04	3.36000F+C1
6.7C300E+C0	7.42	6.24C00E+00
1.3520CE+C1	15.16	1.174CGE+01
7.10600CE+C0	-18.94	8.766000E+00
7.8930CE+00	-16.83	9.49G00E+CG
7.CCCCCE+C0	-38.76	1.14300E+01
9.76CCCE+C0	.60	9.702C0E+00
9.01200E+00	3.5C	8.70700E+CC
8.64200E+00	4.33	8.28300E+00
7.85500F+C0	-5.35	8.29900E+00
8.C94CCE+C0	-5.97	8.608CCE+0C
8.914CCE+C0	C.00	8.91400E+CC
6.56600E+00	C.CO	6.566000E+00
7.71600CCE+C0	0.00	7.718C0E+0C
5.629CGE+00	0.0C	5.62900E+00
3.51700E+00	.03	3.51600E+CC
2.13900E+00	0.0C	2.13900E+00
1.929CCE+C0	C.00	1.92900E+00
2.3930Cf+C0	C.0C	2.39300E+0C

INELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		C.
0.		0.
0.		0.
0.		0.
1.8470CE-C2	0.00	1.84700E-02
1.51100E-01	C.0C	1.51100E-C1
6.74600E-C1	-.03	6.75000E-01
1.627CCE+C0	0.00	1.6270CE+CC
1.89200E+00	0.00	1.892C0E+0C
1.89200E+C0	C.CC	1.89200E+CC
1.405CCE+C0	0.00	1.40500E+00

N-2N

NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
C.		0.
0.		0.
0.		0.
4.52300F-01	0.0C	4.52300E-01

TABLE 8 - (CONTINUED)

CAPTURE

NL-ENDL	(NL-N)/N*10C	N-ENDF
2.32100E+C0	1.04	2.29700E+00
5.182CCE-C1	3.89	4.988CCE-01
3.5C5CCE-01	4.91	3.34100E-C1
2.52900E-01	1C.58	2.28700E-01
2.7850CE-C1	74.5C	1.596C0E-01
3.52100E-01	-55.86	7.97600E-01
6.262CCE+C0	-78.72	2.9520CE+01
5.1C2CCE+C0	274.05	1.364CCE+CC
1.8230CE+00	-65.94	5.35300E+00
1.7C2CCE+CO	-20.69	2.14600E+CC
1.362CCE+CO	-20.49	1.71300E+00
7.26500E-01	-22.66	9.394C0E-C1
5.58CCCE-C1	-18.39	6.83700E-01
4.31CCCE-C1	-7.81	4.67500E-01
2.75100E-C1	-4.84	2.85100E-C1
1.483C0E-01	-6.08	1.57900E-01
9.481C0E-02	8.71	8.72100E-C2
6.821CCE-02	.12	6.813C0E-02
5.559CCE-C2	.05	5.556CCE-C2
4.53500E-02	.04	4.53300E-02
2.91400E-C2	.C3	2.91300E-02
1.6780CE-C2	.06	1.67700E-02
9.16400E-03	.02	9.162C0E-C3
6.056CCE-C3	.03	6.C54C0E-C3
3.C89CCE-C3	.03	3.08800E-03

TABLE 9 - COMPARISON OF 25-GROUP CROSS SECTIONS FOR TH-232

TOTAL

NL-ENDL	(NL-N)/N*100	N-ENDF
1.83000E+01	.49	1.82100E+01
1.27300E+01	.55	1.266CCE+C1
1.19100E+01	.17	1.189COE+01
1.12400E+01	.18	1.12200E+01
1.061CCE+C1	-.09	1.062CCE+C1
1.187CCE+01	5C.41	7.892CCE+CC
5.8230CE+C1	17.54	4.9540CE+01
6.8C7CCE+C1	12.35	6.C59CCE+C1
4.279CCE+01	14.47	3.738CCE+01
3.5620CE+C1	24.P5	2.853CCE+01
2.34CCCE+C1	P.C8	2.165CCE+C1
1.7E8OCE+C1	4.86	1.686COE+01
1.82COCE+C1	1.63	1.594COE+01
1.579CCE+C1	11.51	1.416COE+01
1.4740CE+01	12.52	1.3100CE+C1
1.4C4COE+01	13.5C	1.237COE+C1
1.299CCE+C1	5.78	1.228COE+01
1.139CCE+C1	5.56	1.07900E+01
9.577CCE+C0	8.19	8.85200E+CC
7.78COOE+C0	6.78	7.28600E+00
6.832COE+00	5.16	6.49700E+00
6.705CCE+C0	-.5C	6.743CCE+GG
7.624CCE+C0	-1.38	7.731COE+CC
7.45COCE+C0	1.75	7.3220CE+00
6.0C4OCF+C0	1.87	5.89400E+0C

ELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
1.19CCCE+C1	.59	1.18300E+01
1.16300E+01	.61	1.15600E+01
1.13400E+C1	.18	1.13200E+01
1.C9CCOE+C1	.18	1.096COE+01
1.047CCE+C1	-.10	1.04800E+01
8.62200E+C0	22.45	7.041GOE+00
1.549CCE+C1	18.52	1.307COE+01
4.24600E+C1	11.15	3.82200E+01
2.6240CE+C1	12.28	2.337COE+C1
2.474CCE+C1	2C.86	2.047CCE+C1
1.9950CE+01	6.53	1.83900E+01
1.546COE+C1	4.04	1.48600E+C1
1.486CCE+C1	1.50	1.46400E+01
1.486OOE+01	11.96	1.32900E+01
1.39ECCE+01	12.20	1.24600E+01
1.347CCE+C1	13.0C	1.192CCE+C1
1.24500E+01	6.59	1.16800E+01
1.054CCE+C1	6.8C	9.865COE+0C
8.349CCE+00	11.00	7.518GOE+00
6.179COE+00	13.61	5.43900E+CC
4.736CCE+CC	11.72	4.235OCE+00
3.942CCE+C0	-2.09	4.026COE+00
4.62300E+00	-2.82	4.757GOE+0C
4.481CCE+00	3.01	4.35000E+00
3.036OOE+00	-.36	3.04700E+00

INELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.
0.		C.
0.		0.
0.		0.
0.		0.
C.		0.
0.		.0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
1.95300E-C1	-25.14	2.60900E-01
6.43C0E-C1	-8.7C	7.C4300E-C1
1.07200E+00	-7.11	1.15400E+00
1.437CCE+C0	-13.9C	1.66900E+CC
1.9500CE+C0	-7.56	2.11C00E+CC
2.57900E+00	1.34	2.545OOE+00
2.8330CE+C0	.85	2.8C9OOE+CC
2.792CCE+C0	-.5C	2.80C00E+CC
1.15900E+00	11.67	1.03600E+00

N-2N

NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.
0.		0.
0.		0.
C.		0.
0.		0.
0.		0.
C.		0.
0.		0.
0.		0.
0.		0.
C.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
0.		0.
0.		0.
0.		0.
C.		0.
0.		1.29800E-04
1.447CCF+C0	-3.4C	1.49ECCCE+CC

TABLE 9 – (CONTINUED)

FISSION

NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.
0.		0.
0.		C.
C.		0.
C.		0.
0.		0.
C.		0.
0.		C.
0.		0.
0.		0.
C.		0.
0.		C.
0.		0.
D.		0.
0.		0.
0.		0.
0.		0.
C.		0.
0.		0.
0.		0.
6.9530CE-03	111.27	3.29100E-03
1.02600E-01	7.03	9.56600E-02
1.369CCE-01	4.83	1.32500E-01
1.565CCE-01	6.03	1.476CCE-01
3.52C00E-01	16.40	3.02400E-01

CAPTURE

NL-ENDL	(NL-N)/N*1CC	N-ENDF
6.35700E+C0	.33	6.37600E+00
1.00500E+00	-8.11	1.09800E+CC
5.73100E-01	.07	5.72700E-01
2.61CCCE-C1	.12	2.60700E-01
1.39300E-C1	.22	1.39C00E-01
3.24500E+00	281.52	8.516C0E-01
4.27300E+C1	17.20	3.646C0E+01
2.56C00E+C1	14.44	2.237C0E+C1
1.656C0E+01	18.12	1.40200E+01
1.08600E+01	34.97	8.06100E+0C
3.816C0E+C0	17.16	3.25700E+00
2.21600E+C0	1C.9C	2.00000E+00
1.34CG0E+C0	2.45	1.308CCE+00
9.12500E-01	4.63	8.72100E-01
7.6C70CE-C1	19.42	6.37C00E-01
5.666C0E-C1	25.48	4.51700E-C1
3.39600E-01	-.41	3.41C00E-01
2.03500E-01	-7.70	2.20500E-01
1.595C0E-C1	-11.54	1.80300E-C1
1.636C0F-C1	-8.35	1.785CCE-C1
1.369CCE-01	-3.81	1.44400E-01
8.606C0E-C2	14.30	7.52900E-02
2.93300F-02	-9.22	3.23100F-02
1.966C0F-02	6.16	1.85200E-02
9.8C4CCF-C3	7.23	9.14300E-03

NU-BAR

NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.
0.		0.
0.		0.
0.		C.
0.		0.
C.		0.
0.		0.
0.		0.
0.		0.
0.		C.
0.		C.
C.		0.
C.		C.
C.		0.
0.		0.
0.		0.
0.		C.
C.		0.
C.		0.
C.		C.
2.12200E+C0	2.71	2.066C0E+CC
2.18500E+C0	1.72	2.146C0E+00
2.3530CE+C0	-1.22	2.38200E+00
2.56CCCE+00	-3.21	2.64500E+CC
3.281CCE+C0	1.77	3.224C0E+CD

TABLE 10 - COMPARISON OF 25-GROUP CROSS SECTIONS FOR U-233

TOTAL

NL-ENDL	(NL-N)/N*100	N-ENDF
5.3430CE+C2	5.01	5.08600E+C2
1.457CCE+C2	-2.54	1.495C0E+C2
4.8210CE+C2	-.62	4.85100E+02
1.38eCCE+02	-2.12	1.41600E+02
1.154C0E+02	-1.54	1.17200E+02
1.2e10CE+C2	-1.02	1.274CCE+C2
7.74500E+01	.34	7.71500E+01
5.49e0CE+C1	-.61	5.53000E+01
4.052CCE+C1	.C5	4.09000E+01
3.0970CF+01	.C3	3.096C0E+C1
2.42eCCE+C1	.12	2.425C0E+C1
2.015CCE+C1	.40	2.007C0E+01
1.e5C0CE+C1	1.7e	1.816C0E+C1
1.ee80CE+C1	.66	1.67700E+01
1.53400E+01	.2e	1.53C0E+01
1.355CCE+C1	C.00	1.355C0E+01
1.1e2CCE+C1	-.34	1.18e0E+C1
1.C140CE+01	-3.15	1.04700E+01
e.775CCE+C0	-3.ee	9.10e00E+00
7.375CCE+00	-1.e8	7.50100E+00
6.42300E+00	.52	6.390CCE+CC
e.ee1CCE+C0	-.73	6.71CC0E+00
7.e340CE+C0	-.17	7.64700E+00
7.53C0CE+C0	3.7e	7.25700E+C0
5.9e50CE+C0	-1.36	6.05100E+00

ELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
1.42C00E+01	.21	1.41700E+01
1.2410CE+01	.e5	1.233C0E+C1
1.1eeCCE+C1	-4.1e	1.25C00E+01
1.292CCE+C1	-1.52	1.312C0E+C1
1.2e300E+01	3.87	1.21e00E+01
1.2e7C0E+C1	1.02	1.274C0E+01
1.42C00E+01	2.3e	1.3e700E+01
1.3C700E+C1	-.23	1.31CCCE+01
1.1e5CCE+C1	0.0C	1.195C0E+01
1.11200E+C1	.09	1.11100E+01
1.C4CCCE+C1	.1C	1.035C0E+01
9.82200E+00	-.04	9.82600E+00
1.0e000E+C1	C.0C	1.0500DE+01
1.131C0E+C1	0.00	1.131CCE+01
1.10eCCE+C1	-.C9	1.109C0E+C1
1.C25C0E+01	0.CC	1.C25C0E+C1
9.0e40CE+C0	.3e	9.025C0E+0C
7.e51CCE+00	.1C	7.64300E+00
6.2eCCCE+C0	.35	6.23e0GE+CC
4.e54C0F+C0	.47	4.e71CGF+C0
3.e7400F+C0	.08	3.67100E+0C
3.553C0I+00	-.14	3.55e00E+CC
4.145C0E+C0	-.17	4.15200E+0G
4.11e00F+C0	-.07	4.11e00E+00
2.97eCCE+C0	.07	2.974CUF+0C

INELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
C.		0.
C.		0.
C.		0.
C.		0.
C.		0.
C.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
0.		0.
0.		0.
0.		4.03600E-03
C.		1.51e00E-01
1.554CCE-C2	-95.54	4.37e00E-01
1.1e5C0E-C1	-79.3e	5.ee3C0E-C1
3.51eCCE-01	-45.9C	e.50300E-C1
8.05SCCE-C1	-3.62	8.3e2C0E-01
1.17C0CE+00	-5.19	1.23400E+0C
1.7240CE+C0	-3.15	1.7eCC0E+0C
1.7e5CCE+CC	11.39	1.eCeCCE+CC
4.35200E-C1	17.40	3.74100E-01

N-2N

NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.
0.		C.
0.		0.
0.		0.
C.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
2.443CCE-03	-71.e1	8.6e600E-03
4.3e2C0E-01	-15.e8	5.20900E-01

TABLE 10 - (CONTINUED)

FISSION

NL-ENDL	(NL-N)/N*100	N-ENDF
4.77100E+02	5.16	4.53700E+02
1.29600E+02	-2.68	1.27400E+02
3.971CCE+02	-.55	3.95300E+02
9.63CCCE+01	-2.77	1.01100E+C2
8.63500E+01	-1.50	8.80200E+01
9.654C0E+01	-1.28	9.82000E+01
5.744CCE+01	.02	5.74300E+01
3.634CCE+01	-.74	3.66100E+01
2.50800E+01	.08	2.50600E+01
1.746CCE+01	C.0C	1.746C0E+01
1.25CCCE+01	.16	1.246C0E+01
9.403CCE+00	.91	9.318C0E+0C
6.824CCE+00	4.92	6.50400E+0C
4.992CCE+00	2.27	4.881C0E+00
3.8220CE+00	1.38	3.77C00E+CC
2.97C00E+00	.27	2.96200E+0C
2.50400E+00	4.90	2.38700E+00
2.246CCE+00	3.12	2.17800E+00
2.196CCE+00	3.83	2.115C0E+CC
1.99400E+00	7.26	1.855C0E+00
1.876C0E+00	2.68	1.82700E+00
1.9C7CCE+00	1.38	1.86100E+0C
1.751CCE+00	3.55	1.69100E+0C
1.616CCE+00	7.23	1.507C0E+00
2.11C0CE+CO	-2.76	2.17000E+00

CAPTURE

NL-ENDL	(NL-N)/N*100	N-ENDF
4.30300E+01	4.90	4.10200E+01
9.6420CE+C0	-1.44	9.78300E+CC
7.30200E+01	-.42	7.33300E+01
2.736C0E+01	.07	2.73400E+C1
1.646C0E+01	-3.23	1.70100E+01
1.625C0E+01	-1.10	1.64300E+C1
5.615C0E+C0	-1.24	5.88800E+00
5.552CCE+C0	-.70	5.59100E+00
3.865C0E+00	-.1C	3.88900E+CO
2.39400E+C0	.04	2.39300E+00
1.37500E+00	0.00	1.37500E+00
9.2350CE-01	.08	9.22800E-C1
7.79CCCE-01	.09	7.78300E-01
5.78200E-C1	C.00	5.78200E-01
4.3740CE-C1	-.05	4.37600E-01
3.30400E-01	-.06	3.30600E-01
2.505C0E-C1	.32	2.50100E-C1
2.231CCF-C1	5.15	2.12100E-C1
2.017C0E-01	6.95	1.88600E-01
1.35C0CE-C1	12.03	1.20500E-01
6.666C0E-02	20.19	5.54800E-02
3.C6200E-02	-17.24	3.72400E-C2
1.413CCF-02	-4C.88	2.39C0CE-02
7.829CCF-C3	-55.08	1.74300E-02
4.717CCF-03	-57.73	1.11600E-C2

NU-BAR

NL-ENDL	(NL-N)/N*10C	N-ENDF
2.46CCGE+CO	-1.52	2.49800E+00
2.46CCCE+CO	-1.52	2.49600E+00
2.46C0CE+CO	-1.52	2.49800E+CC
2.46C0CE+CO	-1.52	2.49600E+00
2.46C00E+CO	-1.52	2.49600E+0C
2.46CCCE+CO	-1.52	2.49800E+CO
2.46CCCE+CO	-1.52	2.49600E+CC
2.46OCCE+CO	-1.52	2.49600E+00
2.46CCCE+CO	-1.52	2.49600E+00
2.46CCCE+CO	-1.52	2.49800E+00
2.46OCCE+00	-1.52	2.49600E+CC
2.46CCCF+CO	-1.52	2.49800E+00
2.46CCCE+CO	-1.52	2.49600E+00
2.46100F+CO	-1.48	2.49800E+0C
2.46200E+00	-1.46	2.49900E+0C
2.46400F+00	-1.44	2.50000E+00
2.469CCE+CO	-1.32	2.50200E+CO
2.478CCE+CO	-1.12	2.506CCE+CO
2.495C0F+00	-.72	2.51300E+00
2.525CCE+CO	-.12	2.52800E+CC
2.58300E+CC	1.14	2.55400E+00
2.678C0E+C0	1.32	2.64300E+CO
2.858C0E+CO	-.49	2.87200E+00
3.C7500E+00	-1.32	3.116C0E+CC
3.642CCE+CO	.25	3.6330CE+0C

TABLE 11 - COMPARISON OF 25-GROUP CROSS SECTIONS FOR U-234

TOTAL

NL-ENDL	(NL-N)/N*100	N-ENDF
1.0330CE+02	6.11	9.73500E+01
4.C520CE+C1	78.58	2.265C0E+C1
3.2150CE+C1	118.09	1.52C0CE+C1
2.8C7C0E+01	63.86	1.71300E+01
2.4230CE+01	-94.52	4.41800E+02
2.1370CE+01	115.55	9.77800E+00
1.9330CE+01	-60.79	4.93C0CE+01
1.744CCE+C1	-66.15	5.53800E+01
1.6750CE+C1	-74.48	6.5640CE+01
1.6320CE+C1	-80.93	4.17700E+C1
1.5920CE+C1	-48.96	3.11900E+01
1.496C0E+01	-21.94	1.91900E+01
1.3520CE+01	-14.29	1.62400E+01
1.337CCE+C1	-14.18	1.558CCE+C1
1.29800E+01	-12.53	1.48400E+01
1.251CCE+C1	-8.55	1.36800E+01
1.185C0E+C1	-6.62	1.26900E+01
1.C920CE+01	-8.CC	1.18700E+01
9.486CCE+C0	-11.28	1.C67CCE+01
7.84C00F+C0	-14.52	9.17200E+00
6.8740CE+C0	-13.75	7.97000E+CC
6.917CCE+00	-14.36	8.C7700E+00
8.00400E+00	-2.14	8.17900E+00
7.638CCE+C0	-4.C0	7.95600E+00
6.163CCE+C0	2.CC	6.C4200E+CC

ELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
1.202C0E+C1	-22.25	1.54600E+01
1.20CCCE+C1	-3.38	1.242C0E+C1
1.20000E+01	17.76	1.01900E+01
1.20000E+01	117.94	5.50600E+CD
1.2CCCCE+01	-83.78	7.35700E+01
1.2CCCCE+C1	24.84	9.61200E+CC
1.2CC0CE+01	-33.7C	1.81000E+C1
1.2CCCCE+01	-55.59	2.70200E+01
1.20C00E+C1	-73.26	4.48700E+01
1.2CCCCE+C1	-85.86	3.51500E+C1
1.2CCC0E+01	-54.95	2.6640CE+C1
1.20C00E+01	-25.28	1.60600E+01
1.2CC00E+01	-15.91	1.42700E+01
1.2CCCCE+01	-15.61	1.42200E+01
1.154C0E+C1	-13.98	1.38800E+01
1.174CCE+C1	-9.97	1.30400E+01
1.134C0E+C1	-5.66	1.202C0E+C1
1.049C0E+C1	-.57	1.05500E+C1
8.921CCE+C0	.02	8.91900E+00
6.41900F+C0	-7.57	6.94500E+00
4.35C0CE+C0	-12.07	4.94700E+CC
3.96CCCF+C0	-10.45	4.42900E+C0
4.8C300E+00	4.82	4.58200E+C0
4.547C0F+C0	3.11	4.41000E+00
3.1C6C0E+00	-2.49	3.18400E+00

INELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		C.
C..		0.
0.		0.
0.		0.
0.		0.
C.		0.
C.		0.
C.		0.
0.		0.
C.		0.
1.72C00E-C4	-57.55	4.05200E-04
2.569C0E-C2	-88.72	2.27700E-01
7.2000CE-C2	-92.51	9.60700E-01
1.656CCF-01	-87.79	1.356C0E+C0
4.9930CE-01	-61.94	1.31200E+00
1.1050CE+00	-27.68	1.52800E+CC
1.357CCE+C0	-35.69	2.11000E+00
1.651C0E+00	-24.09	2.17500E+00
1.6690CE+C0	-23.26	2.2010CE+00
3.62500E-C1	-52.86	7.69000E-01

N-2N

NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
0.		0.
0.		0.
0.		0.
C.		0.
0.		0.
C.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
5.617C0F-01	204.28	1.84600F-01

TABLE 11 - (CONTINUED)

FISSION

NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		1.07100E-03
0.		5.62900E-03
0.		9.78200E-03
0.		1.18100E-02
0.		1.55400E-02
0.		2.03500E-02
4.68000E-02	45.16	3.22400E-02
1.45700E-01	20.91	1.20500E-01
6.811CCE-01	7.43	6.34000E-01
1.19900E+00	2.22	1.17300E+00
1.485CCE+00	5.01	1.41700E+00
1.514CCE+00	10.11	1.37500E+00
1.38700E+00	5.40	1.31600E+00
2.124CCE+00	12.44	1.88500E+00

CAPTURE

NL-ENDL	(NL-N)/N*100	N-ENDF
9.13100E+01	11.50	8.18900E+01
2.652CCE+01	177.43	1.02800E+01
2.11500E+01	321.73	5.01500E+00
1.6C7CCE+01	38.18	1.16300E+01
1.22300E+01	-96.67	3.67800E+02
9.373CCE+00	5542.59	1.66100E-01
7.33200E+00	-76.50	3.12000E+01
5.636CCE+00	-80.13	2.83600E+01
4.753CCE+00	-77.11	2.07600E+01
4.316CCE+00	-34.80	6.62000E+00
3.923CCE+00	-13.80	4.55100E+00
2.575CCE+00	-5.07	3.13400E+00
1.91500E+00	-2.39	1.96600E+00
1.37000E+00	1.56	1.34400E+00
1.04CCCE+00	10.18	9.43900E-01
7.636CCE-01	22.51	6.23300E-01
4.869CCE-01	14.38	4.25700E-01
3.046C0F-01	-6.69	3.25800E-01
2.337C0E-01	-16.03	2.78300E-01
2.4C9CCE-01	-13.56	2.80000E-01
2.2C200F-01	-31.85	3.22300E-01
1.C5500E-01	-12.74	1.20900E-01
3.575C0E-02	-23.46	4.67600E-02
1.63CCCE-02	-44.44	2.93400E-02
5.250C0E-03	-49.45	1.64500E-02

NU-BAR

NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		2.37000E+00
0.		2.37000E+00
0.		2.37100E+00
0.		2.37200E+00
0.		2.37400E+00
2.38100E+00	.08	2.37900E+00
2.38600E+00	-.04	2.38500E+00
2.40700E+00	-.12	2.41000E+00
2.44200F+00	-.16	2.44600E+00
2.497CCE+00	-.12	2.50000E+00
2.596C0E+00	-.19	2.60100E+00
2.785CCE+00	-.18	2.79000E+00
3.04CCCE+00	1.20	3.04400E+00
3.715C0E+00	6.88	3.47600E+00

TABLE 12 - COMPARISON OF 25-GROUP CROSS SECTIONS FOR U-235

TOTAL				ELASTIC		
NL-ENDL	(NL-N)/N*100	N-ENDF		NL-ENDL	(NL-N)/N*100	N-ENDF
6.CC7CCE+C2	1.38	5.92500E+02		1.5C100E+C1	-2.47	1.5390CE+01
6.809CCE+C1	3.90	8.47800E+01		1.455CCE+C1	9.48	1.32900E+01
5.34500E+01	4.C1	5.13500E+C1		1.351CCE+C1	12.18	1.24C00E+01
3.5E1CCE+C1	2.70	3.48700E+01		1.256CCE+01	11.45	1.12700E+01
1.11CCCE+02	-.54	1.11600E+02		1.1570CE+C1	2.66	1.1270CE+C1
1.151CCE+C2	-.26	1.15400E+02		1.28500E+C1	1.26	1.26900E+01
8.CC1CCE+C1	.23	7.98300E+C1		1.26C00E+00	1.61	1.240C0E+01
5.615CCE+C1	-4.06	6.06100E+01		1.292CCE+C1	1.89	1.26800E+01
4.3210CE+C1	-4.78	4.538CCE+01		1.3C700E+C1	2.91	1.27000E+01
3.74E0CE+C1	6.9E	3.50400E+01		1.25400E+C1	2.86	1.25800E+C1
2.96400E+01	5.11	2.8200CE+C1		1.26800E+C1	1.12	1.25400E+01
2.27CCCE+C1	.89	2.25CC0E+C1		1.24700E+01	1.05	1.23400E+01
1.864CCE+C1	.65	1.87100E+C1		1.23700E+C1	2.40	1.20800E+01
1.7C600E+C1	1.37	1.68300E+C1		1.216CCE+C1	.58	1.20900E+C1
1.54CCCE+01	.65	1.53000E+01		1.16400E+01	-1.77	1.18500E+01
1.3E600E+C1	.29	1.38400E+01		1.0F5CCE+C1	-1.9C	1.106C0E+01
1.275C0E+C1	1.84	1.25200E+01		1.011C0E+C1	.20	1.00900E+01
1.C6PCCE+C1	-1.09	1.10CC0E+01		8.51800E+00	-1.70	8.66500E+00
9.13C00E+00	-3.73	9.48400E+00		6.782CCE+C0	-5.46	7.174C0E+00
7.93ECCE+C0	-1.18	8.03300E+00		5.4620CE+C0	-1.51	5.566C0E+00
6.63P0CE+C0	-.47	6.67C00E+00		4.07500E+00	-1.67	4.14400E+00
6.97ECCE+00	-.99	7.04800E+CC		3.PCCCCE+C0	-4.50	4.04200E+00
7.8C9CCE+00	-.52	7.85CC0E+00		4.59F60E+00	-4.47	4.81300E+00
7.464CCE+C0	-1.18	7.573C0E+00		4.4250CE+C0	-5.34	4.675C0E+0L
6.09600E+00	.20	6.08400E+00		3.099CCE+C0	-14.98	3.645CCE+CC

INELASTIC				N-2N		
NL-ENDL	(NL-N)/N*100	N-ENDF		NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.		0.		0.
C.		0.		0.		0.
C.		0.		0.		0.
0.		0.		0.		0.
0.		0.		0.		0.
0.		0.		0.		0.
0.		0.		0.		0.
0.		0.		0.		0.
0.		0.		0.		0.
0.		0.		0.		0.
0.		0.		0.		0.
0.		0.		0.		0.
C.		0.		C.		0.
0.		0.		0.		0.
6.91400E-04	-77.26	3.04C00E-C3		C.		0.
1.09600E-01	402.75	2.18000E-02		0.		0.
3.107CCE-C1	117.58	1.42600E-01		0.		0.
5.22C00E-C1	6.9C	4.88300E-01		0.		0.
8.092CCE-C1	3.66	7.80600E-01		0.		0.
1.161C0E+C0	2.56	1.13200E+00		0.		0.
1.46400E+C0	4.50	1.401CCE+00		0.		0.
1.794CCE+C0	6.85	1.67900E+CC		C.		0.
1.99C00E+00	10.37	1.80300E+0C		0.		0.
1.9110CE+C0	1C.46	1.73C00E+C0		2.17500E-02	-8.54	2.37800E-02
5.6C000E-01	81.41	3.08700E-01		6.615C0E-C1	73.42	3.932C0E-01

TABLE 12 - (CONTINUED)

FISSION

NL-ENDL	(NL-N)/N*100	N-ENDF
4.957CCE+02	1.26	4.93500E+02
6.6C200E+C1	2.48	6.44200E+C1
2.735C0E+C1	2.97	2.66000E+01
1.592CCE+C1	-1.61	1.61800E+C1
6.264CCE+01	-1.15	6.33700E+01
5.7C70CE+C1	-.83	5.75500E+C1
4.338CCE+C1	-.12	4.34300E+01
3.14500E+01	-2.93	3.24000E+01
2.01400E+01	-3.73	2.09200E+C1
1.598CCF+C1	1.98	1.5670CE+01
1.04C00E+C1	-5.20	1.097CCE+C1
6.915CCE+00	-3.7C	7.185C0E+00
4.968C0E+00	1.10	4.91400E+00
3.667C0E+00	9.36	3.353CCE+00
2.7340CE+00	11.27	2.45700E+00
2.101CCE+C0	3.14	2.037C0E+00
1.7270CE+C0	-1.20	1.74800E+C0
1.44700E+C0	-1.96	1.476C0E+00
1.27500E+00	0.00	1.27500E+00
1.137CCE+C0	-2.57	1.1670CE+00
1.1E900E+C0	-1.98	1.21300E+CC
1.26500E+00	0.00	1.265CCE+C0
1.20CCCE+C0	-.17	1.202CCE+00
1.111CCE+C0	-.89	1.12100E+C0
1.749CCE+00	1.10	1.73C00E+CC

CAPTURE

NL-ENDL	(NL-N)/N*100	N-ENDF
8.6CC00E+01	2.83	8.36300E+01
7.5240CE+00	6.38	7.073C0E+CC
1.214CCE+01	-1.94	1.23800E+01
7.32FCCE+C0	-1.32	7.42600E+CC
3.67700E+01	-.43	3.69300E+01
4.51900E+C1	.09	4.51500E+01
2.403CCE+01	.12	2.40000E+C1
1.37800E+01	-11.27	1.553C0E+01
9.997C0E+00	-14.99	1.17600E+C1
8.558CCE+C0	26.19	6.78200E+00
6.5EC0CE+CO	39.78	4.69300E+00
3.31400E+C0	11.51	2.97200E+00
1.5C200E+00	-12.42	1.71500E+C0
1.23200E+00	-10.72	1.36000E+00
1.0220CE+C0	2.52	9.96900E-C1
8.211C0E-01	13.04	7.26400E-01
6.05C00E-01	13.98	5.308C0E-01
3.9CC00E-01	5.91	3.68600E-01
2.596C0E-C1	3.76	2.502C0E-01
1.58400E-01	-5.55	1.67700E-01
1.09100E-01	-2.24	1.11600E-01
5.92300E-02	-2.58	6.080C0E-02
2.056CCE-02	-35.22	3.177UCE-02
1.C7400E-C2	-45.32	1.96400E-C2
6.159C0E-03	-17.36	7.50100E-03

NU-BAR

NL-ENDL	(NL-N)/N*100	N-ENDF
2.396E00E+CO	-.87	2.41900E+00
2.398CCE+CO	-.87	2.419CCE+CC
2.398C0E+00	-.87	2.41900E+00
2.398CCE+C0	-.87	2.41900E+CC
2.398C0E+C0	-.87	2.41900E+00
2.398C0E+C0	-.87	2.41900E+CC
2.398CCE+C0	-.87	2.41900E+C0
2.398CCE+C0	-.87	2.41900E+00
2.398C00E+00	-.87	2.41900E+00
2.398CCE+00	-.87	2.41900E+0C
2.395C0F+00	-.83	2.41500E+00
2.399CCE+C0	-.83	2.41900E+00
2.399CCE+C0	-.63	2.419C0E+CC
2.399C0E+C0	-.87	2.42CC0E+00
2.40100E+C0	-.83	2.4210CE+CC
2.4030CE+C0	-.83	2.423CCE+00
2.4CECCE+C0	-.82	2.428CCE+CC
2.4190CE+00	-.74	2.437C0E+00
2.43700E+C0	-.73	2.455C0E+00
2.471CCE+C0	-.72	2.489C0E+00
2.536CCE+C0	-.63	2.552CCE+00
2.639C0E+00	-.26	2.646C0E+CC
2.835CCE+C0	-.11	2.83800E+00
3.097CCE+C0	-.55	3.11400E+C0
3.741CCE+00	1.00	3.704C0E+CC

TABLE 13 - COMPARISON OF 25-GROUP CROSS SECTIONS FOR U-236

TOTAL

NL-ENDL	(NL-N)/N*100	N-ENDF
1.69600E+01	21.72	1.39500E+01
1.36600E+01	30.97	1.04300E+01
1.33600E+01	34.54	9.94500E+00
1.47900E+01	38.37	1.06600E+01
5.82000E+02	145.16	2.37600E+02
1.30100E+01	30.20	9.99200E+00
4.94600E+01	-27.30	6.80300E+01
3.91700E+01	-27.21	5.38100E+01
3.25000E+01	-45.61	5.97500E+01
2.73600E+01	-33.35	4.10600E+01
1.71100E+01	-46.76	3.21400E+01
1.47500E+01	-38.97	2.41700E+01
1.37800E+01	-27.13	1.89100E+01
1.32700E+01	-18.89	1.63600E+01
1.28400E+01	-13.54	1.48500E+01
1.23900E+01	-9.10	1.36300E+01
1.16100E+01	-6.64	1.26500E+01
1.10100E+01	-6.14	1.17300E+01
9.74100E+00	-6.87	1.04600E+01
7.91700E+00	-10.84	8.88000E+00
6.89300E+00	-10.07	7.66500E+00
6.89700E+00	-7.68	7.47100E+00
7.99900E+00	4.48	7.65600E+00
7.65600E+00	2.44	7.51500E+00
6.27400E+00	-2.32	6.42300E+00

ELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
1.20200E+01	26.78	9.48100E+00
1.20000E+01	25.36	9.27500E+00
1.20000E+01	34.38	8.93000E+00
1.20000E+01	65.52	7.25000E+00
1.20000E+01	-60.04	3.00300E+01
1.20000E+01	21.10	9.90500E+00
1.20000E+01	-53.18	2.56300E+01
1.20000E+01	-61.46	3.11400E+01
1.20000E+01	-72.58	4.37700E+01
1.20000E+01	-58.99	2.92600E+01
1.20000E+01	-56.57	2.76300E+01
1.20000E+01	-44.06	2.14500E+01
1.20000E+01	-30.19	1.71900E+01
1.20000E+01	-20.74	1.51400E+01
1.19400E+01	-14.47	1.39600E+01
1.17300E+01	-9.84	1.30100E+01
1.13100E+01	-5.75	1.20000E+01
1.05300E+01	-.19	1.05500E+01
8.98900E+00	1.00	8.90000E+00
6.52800E+00	-5.69	6.92200E+00
4.37600E+00	-11.31	4.93400E+00
3.79000E+00	-12.17	4.29500E+00
4.52700E+00	5.35	4.58200E+00
4.56400E+00	3.95	4.41000E+00
3.23000E+00	1.44	3.18400E+00

INELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		2.56700E-05
1.98600E-02	-91.25	2.27100E-01
1.53400E-01	-82.03	8.53600E-01
4.93200E-01	-61.44	1.27900E+00
1.10400E+00	-33.73	1.66600E+00
1.79400E+00	-10.30	2.00000E+00
2.13100E+00	-.58	2.15200E+00
2.24600E+00	3.26	2.17500E+00
2.19500E+00	-.27	2.20100E+00
4.65500E-01	-38.45	7.70200E-01

N-2N

NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
9.85000E-01	34.18	7.34100E-01

TABLE 13 - (CONTINUED)

FISSION

NL-ENDL	(NL-N)/N*100	N-ENDF
5.01000E-01	0.	
5.00000E-01	0.	
5.00000E-01	0.	
5.00000E-01	0.	
5.00000E-01	0.	
5.00000E-01	0.	
4.453C0E-01	0.	
1.376C0E-01	0.	
3.30400E-02	0.	
1.625C0E-02	0.	
1.23600E-02	0.	
5.7C5C0E-03	0.	
8.716C0F-03	0.	
6.551C0E-03	0.	
4.8230CE-03	0.	
4.232C0E-03	0.	
3.01000E-03	0.	
2.145C0F-03	0.	
2.622C0E-03	0.	
2.46500E-02	98.31	1.24300E-02
4.07500E-01	-.22	4.08400E-01
7.46100E-01	-3.09	7.69900E-01
8.779C0E-01	3.03	8.52100E-01
8.895C0E-01	1.55	8.75200E-01
1.55900E+00	-5.25	1.71800E+00

CAPTURE

NL-ENDL	(NL-N)/N*100	N-ENDF
4.452C0E+00	-.42	4.47100E+00
1.155C0E+00	.09	1.15800E+00
8.84C00E-01	-12.82	1.01400E+00
2.252C0E+00	-33.98	3.41100E+00
5.7C500E+02	174.68	2.07700E+02
5.138C0E-01	515.92	8.34200E-02
3.7C1C0E+01	-12.69	4.235C0E+01
2.7C3C0E+01	15.23	2.26700E+01
2.046C0E+01	28.04	1.596C0E+01
1.536C0E+01	29.95	1.18200E+01
5.101C0E+00	13.13	4.50900E+00
2.72F00E+00	.70	2.715C0E+00
1.766C0E+00	2.38	1.72500E+00
1.2640E+00	3.69	1.219C0E+00
8.996C0E-01	.53	8.94900E-01
8.546C0E-01	7.17	6.11C00E-01
4.686C0E-01	10.44	4.243C0E-01
3.2C900E-01	-1.53	3.25900E-01
2.582C0F-01	-7.94	2.78300E-01
2.594C0E-01	-7.36	2.80000E-01
3.152C0F-01	-2.14	3.22100E-01
1.3C5C01-01	7.44	1.20900E-01
4.686C0F-02	4.49	4.676C0E-02
2.546C0F-02	1.59	2.549C0E-02
1.076C01-02	-34.51	1.646C0E-02

NU-BAR

NL-ENDL	(NL-N)/N*100	N-ENDF
2.35300E+00	0.	
2.35300E+00	0.	
2.353C0E+00	0.	
2.3530CE+00	0.	
2.35300E+00	0.	
2.353C0E+00	0.	
2.3530CE+00	0.	
2.353C0E+00	0.	
2.353C0E+00	0.	
2.35300E+00	0.	
2.353C0F+00	0.	
2.353C0E+00	0.	
2.35300E+00	0.	
2.354C0E+00	0.	
2.35500E+00	0.	
2.35700E+00	0.	
2.362C0E+00	0.	
2.37300E+00	0.	
2.35300E+00	0.	
2.44700E+00	-1.05	2.47300E+00
2.5C40CE+00	-.63	2.52000E+00
2.6C4C0E+00	-.69	2.62200E+00
2.612C0E+00	-.46	2.625C0E+00
3.056C0E+00	.07	3.05400E+00
3.612C0E+00	1.03	3.575C0E+00

TABLE 14 - COMPARISON OF 25-GROUP CROSS SECTIONS FOR U-238

TOTAL

NL-ENDL	(NL-N)/N*100	N-ENDF
1.028CCF+C1	-9.11	1.131CCE+C1
8.459CCE+00	-1C.C9	9.4530CE+CC
8.281CCE+00	-9.84	9.1P500E+C0
8.350COF+00	-5.37	8.86600E+00
1.61CCCE+02	-3.54	1.66900E+02
1.932CCE+C2	-3.64	2.CC5CCE+C2
1.44600E+02	-3.73	1.50200E+02
4.22CCOE+01	5.98	3.982C0F+01
8.32100E+01	-2.46	8.531COE+01
2.19500E+01	5.43	2.06200E+01
2.419CCE+C1	3.29	2.342C0E+01
1.9C30CE+C1	-8.55	2.08100E+01
1.517CCE+C1	-22.09	1.9470CE+C1
1.441CCE+C1	-11.38	1.626COE+C1
1.4C10CF+01	-5.66	1.48500E+01
1.351CCE+C1	-3.C2	1.39300E+01
1.279CCE+C1	.71	1.27CCOE+C1
1.1530CE+C1	.09	1.15200E+01
1.0C300E+C1	.1C	1.00200E+01
8.432CCF+00	.11	8.4230DE+C0
7.2C1CCE+00	.10	7.194C0E+CC
7.169CCE+C0	.24	7.152C0E+C0
7.836CCE+CC	-.41	7.870C0E+C0
7.412CCE+C0	-2.5C	7.602C0E+0C
6.26CCOE+00	1.66	6.156C0E+00

ELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
7.69800E+C0	-11.92	8.967C0E+0C
7.87700E+00	-11.12	8.863C0E+00
7.77CCCE+00	-10.66	8.697C0E+00
7.55600E+C0	-6.9C	8.11800E+00
1.793CCE+01	-1.27	1.8160CE+01
5.25300E+01	-3.40	5.43600E+01
8.29CCCE+01	-3.96	8.63200E+01
2.553CCE+C1	7.95	2.365CCE+C1
6.52500E+01	-2.55	6.696C0E+C1
1.7540CE+01	6.76	1.643C0E+01
2.076COF+01	3.44	2.00700E+01
1.71100E+C1	-10.04	1.90200E+C1
1.396CCE+C1	-23.63	1.82PCCE+C1
1.36C00E+01	-11.86	1.54300E+01
1.34C0CE+C1	-5.90	1.424CCE+01
1.3C6CCE+01	-3.26	1.35CC0E+01
1.21100E+01	-.82	1.22100E+01
1.C23CCE+C1	-3.31	1.05800E+01
8.3CCCCF+CC	-4.34	8.677CCE+CC
6.47300E+00	-1.85	6.595DOF+00
4.581CCE+C0	-4.24	4.784CCE+00
3.599C0F+00	-12.54	4.11500E+CC
4.34200F+00	-9.35	4.79200E+CC
4.15700F+00	-8.15	4.5280CE+00
3.131CCE+C0	-1.75	3.19200F+00

INELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
0.	.	0.
0.		0.
C.		0.
0.		0.
Q.		0.
0.		0.
0.		0.
C.		0.
C.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
0.		0.
4.631CCE-04	96.73	2.3540CE-04
3.952C0F-01	77.22	2.23000E-01
1.1276LE+C0	45.01	7.772C0E-C1
1.6CCCCE+C0	31.15	1.22C0CE+CC
1.636C0E+00	7.17	1.71500E+CC
2.462CCE+C0	8.51	2.269CCE+C0
3.C53CCE+C0	2C.24	2.539C0E+CC
2.922C0E+00	16.74	2.50300E+CC
2.661CCE+C0	7.52	2.4750CE+0C
8.174C0E-C1	13.45	7.20500E-C1

N-2N

NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.
C.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
C.		0.
0.		0.
0.		0.
C.		0.
0.		0.
4.735C0E-08	-100.00	2.749C0E-03
1.306CCE+C0	2.67	1.2720CE+00

TABLE 14 - (CONTINUED)

FISSION

NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.
0.		0.
C.		1.69300E-08
0.		1.21000E-08
0.		8.32600E-09
0.		5.80900E-09
0.		4.22600E-09
0.		3.19300E-09
0.		2.79400E-09
0.		4.10000E-09
0.		1.49300E-04
C.		4.69000E-05
C.		0.
0.		1.02200E-05
0.		8.70000E-05
C.		6.76000E-05
C.		4.00000E-05
0.		4.66300E-05
C.		7.54900E-05
5.07600E-04	23.73	7.33700E-04
3.612G0E-02	29.51	2.78900E-02
4.551CCE-01	4.12	4.3710CE-01
5.534C0E-01	-.14	5.542C0E-01
5.847C0E-01	-.46	5.87400E-01
9.97800E-01	2.68	9.71800E-01

CAPTURE

NL-ENDL	(NL-N)/N*100	N-ENDF
2.38000E+00	1.71	2.34000E+00
6.21600E-01	5.30	5.90300E-01
5.1100CE-01	4.54	4.88800E-01
8.32400E-01	11.19	7.48600E-01
1.43100E+02	-3.77	1.48700E+02
1.40600E+02	-3.76	1.46100E+02
6.16700E+01	-3.50	6.39100E+01
1.66600E+01	3.03	1.61700E+01
1.79600E+01	-2.13	1.63500E+01
4.41200E+00	.71	4.381C0E+00
3.42800E+00	2.39	3.34800E+00
1.92300E+00	7.37	1.79100E+00
1.20400E+00	1.18	1.19000E+00
8.13800E-01	-2.20	8.32100E-01
6.12600E-01	1.56	6.03200E-01
4.50400E-01	5.41	4.27300E-01
2.75500E-01	6.44	2.62600E-01
1.66300E-01	3.36	1.63800E-01
1.25900E-01	4.74	1.20200E-01
1.20000E-01	7.43	1.11700E-01
1.21700E-01	7.51	1.13200E-01
6.13000E-02	.62	6.09200E-02
2.04900E-02	.83	2.05200E-02
8.83500E-03	1.39	8.71400E-03
2.82800E-03	2.84	2.75000E-03

NU-BAR

NL-ENDL	(NL-N)/N*100	N-ENDF
C.		0.
0.		2.32000E+00
0.		2.32000E+00
0.		2.32C0F+CC
0.		2.32C00E+00
0.		2.32CC0E+C0
0.		2.32CCCF+0C
0.		2.32CCCE+C0
0.		2.32CC00E+C0
0.		2.32C00E+0C
C.		2.32CC0E+CC
0.		2.32000E+00
0.		2.32000E+0C
C.		2.321C0E+00
C.		2.322C0E+00
0.		2.3240CE+00
C.		2.33C00E+00
0.		2.342C0E+00
C.		2.36CCCF+CC
2.446C0E+00	1.03	2.421C0E+00
2.522C0E+00	.72	2.5040CE+CC
2.626C0E+00	.46	2.614CCE+00
2.64C00E+00	.18	2.635C0E+CC
3.10900E+00	.16	3.104C0E+CC
3.711CCE+C0	.64	3.66000E+00

TABLE 15 - COMPARISON OF 25-GROUP CROSS SECTIONS FOR PU-239

TOTAL

NL-ENDL	(NL-N)/N*100	N-ENDF
1.CC7CCE+C3	4.23	9.66100E+02
1.4C80CE+02	5.15	1.33900E+02
3.943C0F+01	4.17	3.78500E+C1
2.145CCE+01	6.56	2.01300E+C1
8.135CCE+01	2.10	7.96600E+01
1.53C00E+C2	5.59	1.449C0E+02
7.3120CE+01	9.35	6.68700E+01
1.16C00E+02	7.41	1.08000E+02
5.2210CE+C1	4.40	5.0010CE+01
4.325CCE+C1	13.1C	3.8240CE+C1
2.949CCE+01	1.90	2.89400E+01
2.621CCE+C1	23.57	2.12100E+C1
2.2110CE+01	16.18	1.90300E+01
1.811CCE+01	14.84	1.577C0E+C1
1.531CCE+01	7.06	1.43C00E+01
1.4C9CCE+C1	7.01	1.31300E+01
1.277C0E+C1	5.62	1.20900E+01
1.133CCE+01	4.52	1.08400E+01
1.CC50CF+01	6.00	9.48100E+00
8.292CCF+00	1.82	8.14400E+00
7.033CCE+C0	-.40	7.06100E+CC
7.09700E+00	-1.53	7.20700E+CC
7.87300E+C0	-.81	7.93700E+00
7.56300E+00	-1.37	7.66600E+00
6.18C00E+00	-.61	6.21800E+00

ELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
9.59700E+C0	22.85	7.81200E+00
1.24C00E+01	11.61	1.11100E+01
1.1C900E+C1	12.37	9.86900E+0C
1.02900E+C1	13.80	9.04200E+00
1.C2400E+01	24.65	8.21500E+00
1.428C0E+C1	33.58	1.06900E+01
1.6C6C0E+C1	40.81	1.142C0E+C1
2.43800E+C1	41.99	1.71700E+01
1.7E5CCE+C1	15.81	1.52400E+C1
1.64100E+01	6.70	1.53800E+01
1.428C0F+01	-2.53	1.46500E+01
1.6E3C0E+01	27.34	1.306C0E+01
1.5E8C0E+C1	19.13	1.33300E+C1
1.422C0E+01	17.04	1.21500E+C1
1.273C0E+01	1C.6C	1.15100E+01
1.19600E+01	10.95	1.07800E+01
1.C9EC0E+01	11.13	9.88000E+CC
9.56CC0F+00	9.53	8.72C00E+CC
8.122C0F+00	11.44	7.26800E+00
6.01900F+C0	5.28	5.71700E+0C
4.0770CE+C0	-2.28	4.17200E+00
3.7C69C0E+00	-2.65	3.80900F+00
4.46100F+00	.18	4.453C0F+0C
4.335C0F+00	.16	4.32700E+00
3.12200E+00	-8.34	3.40600F+0C

INELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
C.		0.
0.		0.
C.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
0.		0.
0.		C.
0.		1.76000E-02
0.		1.61400E-01
C.		2.27100E-01
2.656CCE-C3	-98.96	2.57700E-01
5.735CCF-C2	-84.35	3.66400E-01
2.286C0E-01	-55.01	5.037C0E-01
5.796CCF-C1	-20.17	7.26000F-01
1.1540CE+C0	2.76	1.12300E+CC
1.46100E+00	-.07	1.46200E+00
1.6CECCE+C0	-2.72	1.65300E+CC
1.5CCCCE+C0	-6.43	1.60300E+00
5.34300E-01	72.57	3.08900E-01

N-2N

NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.
0.		0.
C.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
0.		0.
0.		0.
C.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
3.5C400F-C3	-37.63	5.61800E-03
3.64900E-C1	92.15	1.89900E-01

TABLE 15 - (CONTINUED)

FISSION

NL-ENDL	(NL-N)/N*1CC	N-ENDF
7.1C5CCE+C2	3.50	6.86500E+C2
6.865CCE+C1	4.15	8.51600E+01
2.215COF+C1	2.35	2.16800E+01
1.021CCF+C1	.49	1.01600E+01
3.747CCF+C1	-6.11	3.991C0E+01
7.973CCE+C1	.85	7.906CCF+C1
1.695C0E+01	1.55	1.F6600E+01
5.635CCE+C1	1.08	5.575CCE+C1
1.884C0E+C1	1.02	1.86500E+01
1.285COF+C1	12.18	1.14900E+C1
7.C51CCF+C0	-10.21	7.85300E+CC
4.558C0E+00	3.87	4.388C0E+00
3.155CCE+C0	5.23	3.040C0E+00
2.243C0E+C0	6.40	2.108C0E+00
1.8CCCCF+C0	2.86	1.75000E+0C
1.637CCE+C0	.55	1.62100E+0C
1.532CCE+C0	-4.19	1.595C0E+CC
1.463C0E+00	-3.32	1.53400E+CC
1.541CCF+00	1.78	1.514C0E+00
1.606C0E+00	.25	1.60400E+0C
1.762C0E+C0	1.26	1.74CC0E+00
1.911CCF+C0	-.78	1.926C0E+CC
1.798C0E+00	-1.59	1.827C0E+00
1.721CCE+CC	-.58	1.731CCE+CC
2.157C0E+C0	-6.70	2.312C0E+C0

CAPTURE

NL-ENDL	(NL-N)/N*1CC	N-ENDF
2.867CCE+C2	5.48	2.71800E+02
3.966CCF+C1	5.28	3.767C0E+01
6.144C0E+00	-2.46	6.295C0E+00
9.524C0E-01	2.74	9.27000E-C1
3.365CCF+C1	6.66	3.15500E+01
5.899C0E+C1	6.96	5.51500E+01
3.81CC0F+C1	3.56	3.67900E+C1
3.522C0E+01	.37	3.505C0E+01
1.571CCE+01	-2.48	1.61100F+01
1.356C0E+C1	22.69	1.136C0F+01
8.151C0E+C0	26.57	6.44C00E+00
5.019CCF+00	33.63	3.756C0E+00
3.037CCE+C0	14.09	2.662C0E+00
1.646C0E+00	10.25	1.45300E+00
7.749CCF-01	-11.50	8.75600E-01
4.462C0E-01	-10.41	5.00300E-01
2.539C0E-01	-29.08	3.58000E-01
2.066C0F-01	-5.40	2.16600E-01
1.417CCE-01	-7.76	1.753C0E-01
5.855C0E-02	-11.51	9.67200E-02
4.095CCF-02	57.96	2.594C0F-02
1.665CCF-02	74.52	9.678CCE-03
5.6C700E-03	100.90	2.791C0E-03
4.056C0F-03	198.45	1.42000E-03
2.517C0E-03	131.13	1.08900E-03

NU-BAR

NL-ENDL	(NL-N)/N*100	N-ENDF
2.84400E+C0	-1.01	2.87300E+CC
2.84400E+C0	-1.01	2.87300E+CC
2.84400E+C0	-1.01	2.87300E+00
2.84400E+C0	-1.01	2.87300E+CC
2.84400E+C0	-1.01	2.87300E+CC
2.84400E+00	-1.01	2.F7300E+00
2.84400E+C0	-1.C1	2.87300E+0C
2.84400E+CC	-1.01	2.87300E+CC
2.84400E+C0	-1.01	2.873C0E+00
2.84400E+C0	-1.01	2.873CCF+CC
2.84400E+C0	-1.C1	2.87300F+CC
2.84400E+C0	-1.04	2.87400E+00
2.84500E+0C	-1.01	2.87400E+00
2.84500E+00	-1.01	2.87400E+00
2.847CCE+C0	-.97	2.87500E+CC
2.849CCF+C0	-1.01	2.878C0E+CC
2.855COF+C0	-.97	2.883C0E+CC
2.866CCE+00	-.93	2.89300E+00
2.885C0E+00	-.86	2.91400E+00
2.925CCE+C0	-.78	2.95200E+00
3.0C5CCE+CC	-.53	3.02100E+00
3.127C0E+C0	-.22	3.13400E+CC
3.361C0E+C0	.18	3.35500E+00
3.633C0E+00	.58	3.61200E+C0
4.2040CE+C0	.43	4.186C0E+C0

TABLE 16 - COMPARISON OF 25-GROUP CROSS SECTIONS FOR PU-240

TOTAL

NL-ENDL	(NL-N)/N*100	N-ENDF
2.731C0F+02	4.24	2.62000E+02
2.2230CE+03	17.43	1.89300E+03
4.732CCE+03	-6.78	5.076C0E+03
2.518CCE+01	21.82	2.067C0E+01
1.4C6C0E+01	35.32	1.03900E+01
8.2C4CCE+01	45.31	5.646C0E+01
1.7C1C0E+02	25.17	1.35900E+02
1.1460CE+02	7.81	1.06300E+02
5.C61CCE+01	1.79	4.972C0E+01
3.2C4CCE+01	3.79	3.087C0E+01
2.55400E+01	2.17	2.53900E+01
2.221CCE+01	.14	2.218C0E+01
1.65500E+01	-9.86	1.83600E+01
1.243CCE+01	-26.80	1.69E00E+01
1.18BCCE+01	-24.19	1.567C0E+C1
1.15700E+01	-18.29	1.41600E+01
1.1490CE+01	-6.36	1.227C0E+01
1.115CCE+01	1.92	1.09400E+01
5.785C0E+00	1.66	9.625C0E+00
7.8CCCCE+00	-1.47	7.916C0E+CC
7.2E6CGE+CC	2.46	7.092C0E+00
6.942C0E+00	-2.12	7.C92C0E+CC
7.1B4CCE+00	-5.73	7.62100E+CC
7.152C0E+00	-2.08	7.304C0E+C0
6.061CCE+00	-2.16	6.195C0E+00

ELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
4.E7300E+00	36.88	3.56000E+00
1.137CCE+C2	24.68	9.1190CE+01
4.C4CC0E+C2	-3.69	4.19500E+C2
1.645C0E+01	25.85	1.42400E+01
1.33700E+C1	37.99	9.685C0E+00
1.763CCE+01	62.04	1.08800E+C1
8.656C0E+C1	63.82	5.28400E+01
7.445CCE+C1	2C.18	6.196C0E+01
3.2C500E+01	16.50	2.75100E+01
2.47400E+01	10.20	2.24500E+01
2.112CCE+C1	8.14	1.953C0E+C1
1.9410CE+01	3.46	1.876C0E+01
1.47500E+01	-9.06	1.622C0E+01
1.12400E+01	-27.48	1.55CG0E+01
1.09900E+01	-24.52	1.45600E+01
1.C9500E+C1	-18.59	1.345C0E+01
1.C8700F+01	-6.05	1.157C0F+C1
1.CC1G0E+01	3.26	9.694G0E+00
8.231C0E+C0	2.85	8.003C0E+CC
5.622CCE+C0	-1.63	5.7150CE+00
4.13400E+00	5.27	3.927C0E+C0
3.412CCE+C0	-8.84	3.743C0E+00
3.74B0CF+C0	-13.08	4.31200E+00
3.4510GE+00	-4.31	4.12400F+00
3.C56OUE+00	-13.77	3.544C0E+00

INELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
C.		0.
0.		0.
C.		0.
C.		0.
C.		0.
C.		0.
C.		0.
0.		0.
0.		0.
0.		0.
C.		C.
C.		0.
C.		0.
0.		0.
0.		C.
1.461C0F-04	-85.31	9.94300E-04
2.4C4CCE-C1	-19.81	2.996C0E-01
8.621CCE-C1	-4.54	9.38500E-01
1.2B4CCE+C0	-2.58	1.318C0E+CC
1.45ECCE+00	-2.74	1.49700E+00
1.4B80CE+00	-5.7C	1.578C0E+CC
1.721CCE+00	4.37	1.649C0E+0C
1.67200E+00	1.33	1.65CC0E+C0
1.547CCE+C0	-5.5C	1.63BCCE+C0
4.334CCE-C1	-20.35	5.441CCE-01

N-2N

NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.
C.		0.
C.		0.
0.		0.
C.		0.
C.		0.
0.		0.
0.		0.
C.		0.
0.		0.
C.		0.
0.		0.
C.		0.
0.		0.
0.		0.
0.		0.
C.		0.
C.		0.
0.		0.
0.		0.
0.		0.
0.		0.
C.		0.
C.		0.
2.587CCF-01	65.47	1.52200E-01

TABLE 16 - (CONTINUED)

FISSION		
NL-ENDL	(NL-N)/N*100	N-ENDF
5.34300E-02	3.85	5.14500E-02
4.035COF-C1	16.85	3.45300E-01
8.287COE-C1	-7.08	8.89700E-C1
1.866COE-C3	-2.76	1.91900E-03
6.246COE-04	-10.19	6.95500E-04
5.64400E-01	102.29	2.79000E-01
6.18COCE-C1	56.42	3.93800E-01
3.772COF-01	24.28	3.035C0E-C1
1.6470CE-01	-46.49	3.07800E-01
7.355COE-C2	-65.43	2.13900E-01
2.597CCF-C1	-14.09	3.37200E-01
1.7520CE-01	-20.6C	2.25700E-01
1.6740CE-C1	-5.58	1.77300E-01
1.206CCE-01	47.88	8.155C0E-C2
9.57700E-02	26.18	7.59000E-02
8.668COF-C2	6.11	8.16900E-02
6.791CCE-C2	12.83	6.01900E-02
6.625COE-C2	-16.9C	7.97200E-02
1.335CCE-C1	4.46	1.27800E-01
5.886CCE-C1	6.80	5.51100E-01
1.519COF+C0	2.50	1.48200E+00
1.7340CE+00	5.73	1.64000E+00
1.725C0E+00	5.63	1.63300E+00
1.626C0E+C0	6.89	1.52300E+00
2.299C0E+C0	17.96	1.94900E+C0

CAPTURE		
NL-ENDL	(NL-N)/N*100	N-ENDF
2.66200E+02	3.83	2.58300E+02
2.109CCE+C3	17.1C	1.80100E+03
4.327CCE+C3	-7.07	4.65600E+C3
6.665COE+00	4.08	6.42700E+0C
6.917C0E-01	-1.30	7.00800E-01
6.36400E+01	40.93	4.53000E+01
8.29600E+C1	.30	8.27100E+01
3.973C0E+01	-9.85	4.40700E+C1
1.83900E+01	-16.03	2.19000E+01
7.22200E+C0	-12.01	8.208C0E+00
4.531CCE+C0	-17.99	5.52500E+0C
2.615C0E+C0	-18.10	3.19300E+00
1.625CCE+C0	-16.89	1.96000E+0C
1.065CCE+C0	-23.87	1.399C0E+CC
7.95600E-01	-22.89	1.03200E+00
5.315CCF-C1	-16.07	6.333C0E-C1
3.117CCE-C1	-8.13	3.39300E-01
1.767C0E-01	-21.08	2.25800E-01
1.37CC0E-01	-21.94	1.75500E-01
1.336CCF-C1	-11.97	1.520C0E-C1
1.2650CF-01	20.40	1.05400E-01
7.517CCF-C2	25.89	5.97100E-02
3.937C0F-02	51.61	2.59400E-02
2.556C0F-02	100.93	1.28500E-C2
1.435CCE-02	151.82	5.758C0F-C3

NU-BAR		
NL-ENDL	(NL-N)/N*100	N-ENDF
2.76C00F+00	-3.83	2.87000E+00
2.766C0E+C0	-3.83	2.87C00E+0C
2.760C0E+C0	-3.83	2.87C00E+CC
2.76C00E+00	-3.83	2.87000E+00
2.760CCF+C0	-3.83	2.87C00E+CC
2.766CCE+00	-3.63	2.87000E+00
2.766CCOF+00	-3.83	2.87C00E+CC
2.766C0CE+C0	-3.83	2.87C00E+CC
2.766CCE+CC	-3.83	2.87000E+0C
2.760CCE+CC	-3.83	2.87000E+0C
2.76CCCE+00	-3.83	2.87C00E+C0
2.766CC0E+00	-3.63	2.87C00E+00
2.76CC0E+00	-3.83	2.87C00F+00
2.7610CE+C0	-3.83	2.8710CF+CC
2.76200E+00	-3.83	2.872C0E+00
2.766C0E+00	-3.79	2.87500E+C0
2.77200E+C0	-3.75	2.88C00F+0C
2.766CCE+C0	-3.63	2.891C0E+0C
2.813COE+C0	-3.47	2.91400E+CC
2.866C0E+00	-3.14	2.95900E+00
2.944CCE+00	-2.71	3.028C0E+00
3.06100E+C0	-1.85	3.13900E+0C
3.314CCE+C0	-1.49	3.364C0E+00
3.554C0E+C0	-.33	3.606C0F+CC
4.19C00E+0C	.22	4.18100E+00

TABLE 17 - COMPARISON OF 25-GROUP CROSS SECTIONS FOR PU-241

TOTAL

NL-ENDL	(NL-N)/N*100	N-ENDF
1.27100E+03	1.19	1.25600E+03
7.06300E+01	7.93	6.54400E+01
5.55300E+01	42.38	3.90000E+01
2.24500E+02	-7.33	2.42700E+02
3.16200E+02	18.96	2.65800E+02
2.10800E+02	18.10	1.78500E+02
9.75000E+01	27.31	7.65000E+01
6.59500E+01	-5.76	6.99800E+01
5.53700E+01	10.62	5.36700E+01
3.82400E+01	-12.53	4.38300E+01
1.91500E+01	-38.31	3.10400E+01
1.77500E+01	-28.17	2.47100E+01
1.69200E+01	-20.75	2.13500E+01
1.57000E+01	-11.80	1.78000E+01
1.44200E+01	-6.51	1.54900E+01
1.34500E+01	-7.88	1.46000E+01
1.27700E+01	-6.10	1.36000E+01
1.19600E+01	-2.52	1.22900E+01
1.07100E+01	-1.65	1.08900E+01
8.94100E+00	-5.52	9.46300E+00
7.61600E+00	-2.03	7.98000E+00
7.61100E+00	3.66	7.34200E+00
7.68400E+00	-1.68	7.81500E+00
7.30500E+00	-2.95	7.52700E+00
6.36400E+00	2.20	6.22700E+00

ELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
1.00200E+01	-6.62	1.07300E+01
1.00000E+01	-13.72	1.15900E+01
1.00000E+01	.95	9.90600E+00
1.00000E+01	21.17	8.25300E+00
1.00000E+01	-3.94	1.04100E+01
1.00000E+01	-35.40	1.54800E+01
1.00000E+01	-17.01	1.20500E+01
1.00000E+01	-25.54	1.34300E+01
1.00000E+01	-26.52	1.36100E+01
1.00000E+01	-26.83	1.40500E+01
1.00000E+01	-24.36	1.32200E+01
9.95300E+00	-22.41	1.28800E+01
9.97100E+00	-22.59	1.28600E+01
9.95000E+00	-19.24	1.23200E+01
9.95000E+00	-15.25	1.17400E+01
9.95000E+00	-13.40	1.14900E+01
9.67100E+00	-6.61	1.05700E+01
9.27100E+00	-.19	9.28900E+00
7.46600E+00	5.36	7.48500E+00
5.91900E+00	3.97	5.69300E+00
4.41200E+00	-.72	4.44400E+00
4.05700E+00	4.21	3.89300E+00
4.47100E+00	9.96	4.06600E+00
4.27100E+00	7.94	3.95700E+00
3.29600E+00	18.13	2.78500E+00

INELASTIC

NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		1.32900E-02
3.96300E-02	-86.77	2.99600E-01
2.11000E-01	-70.94	7.26000E-01
7.18800E-01	-53.05	1.53100E+00
1.31100E+00	-38.13	2.11900E+00
1.73800E+00	-5.08	1.83100E+00
1.61700E+00	12.86	1.61000E+00
1.69000E+00	-20.13	2.11600E+00
1.37100E+00	-26.84	1.87400E+00
1.21400E-01	-77.37	5.36400E-01

N-2N

NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
0.		0.
2.35700E-01	112.88	1.12600E-01
9.67300E-01	46.52	6.58400E-01

TABLE 17 - (CONTINUED)

FISSION

NL-ENDL	(NL-N)/N*100	N-ENDF
8.55100E+02	-3.13	9.24000E+02
4.34200E+C1	3.45	4.19700E+01
3.2480CE+C1	21.78	2.667CCE+C1
1.535CCF+C2	-6.74	1.64600E+02
2.191C0E+C2	-6.81	2.35100E+02
1.434C0E+C2	18.61	1.20900E+02
6.275C0E+C1	5.81	5.93400E+01
4.CC3CCE+C1	-8.27	4.36400E+01
3.527CCE+C1	16.90	3.01700E+C1
2.026C0E+01	-10.00	2.25100E+01
6.6850CE+C0	-5C.70	1.356C0E+01
5.90300E+00	-35.49	9.15100E+00
5.5820CE+00	-15.45	6.60200E+0C
4.886CCF+00	13.25	4.316C0E+00
3.6920CE+C0	22.74	3.00800E+00
2.76200E+00	9.40	2.54300E+0C
2.247C0E+00	-3.15	2.32C00E+00
1.55100E+00	C.00	1.99100E+00
1.72C0CE+00	2.56	1.67700E+00
1.504CCE+C0	-.46	1.5110CE+00
1.559C0E+00	-1.83	1.58800E+00
1.665C0E+C0	-4.31	1.74000E+00
1.45C00F+00	-4.91	1.56700E+00
1.407C0E+00	-8.58	1.53900E+0C
1.976CCE+00	-11.C7	2.22200E+00

CAPTURE

NL-ENDL	(NL-N)/N*100	N-ENDF
3.656CCE+C2	13.89	3.21000E+02
1.722C0E+C1	45.07	1.18700E+01
1.3C500F+01	437.7C	2.42700E+CC
6.14200E+01	-11.96	6.97600E+01
8.712C0E+C1	328.74	2.03200E+01
5.7310CE+01	35.93	4.21600E+01
2.51200E+01	356.40	5.50400E+0C
1.592CCE+C1	23.41	1.29C00E+C1
1.41CCCE+C1	42.55	9.89100E+00
8.06000E+CC	11.C7	7.2750CE+0C
2.467CCE+00	-42.14	4.26400E+00
1.65300E+00	-30.83	2.67900E+00
1.368CCE+C0	-26.65	1.86500E+00
8.213CCE-01	-26.07	1.16500E+00
7.8C100E-01	4.59	7.43000E-01
7.136C0F-01	29.86	5.49500E-01
6.11CCCE-C1	48.23	4.12200E-01
5.1C8C0E-C1	79.61	2.84400E-01
3.839C0F-01	98.60	1.93300E-01
2.6C0C0E-01	47.46	1.39700E-01
1.C640CE-01	-7.27	1.16900E-01
7.157CCE-02	-27.36	9.90800E-C2
3.2e3C0E-02	-50.60	6.60500E-02
1.71C0OF-02	-61.35	4.42400E-02
8.955COF-C3	-64.70	2.54800E-02

NU-BAR

NL-ENDL	(NL-N)/N*100	N-ENDF
2.865C0E+00	-1.60	2.93200E+00
2.865C0E+C0	-1.6C	2.93200E+00
2.865C0E+00	-1.60	2.93200E+0C
2.865C0E+C0	-1.60	2.93200E+0C
2.865CCE+C0	-1.6C	2.93200E+CC
2.865C0E+00	-1.60	2.93200E+00
2.865C0E+C0	-1.6C	2.93200E+00
2.865C0E+00	-1.60	2.93200E+00
2.865C0E+00	-1.6C	2.932C0E+00
2.865CCF+C0	-1.6C	2.93200E+00
2.865CCF+C0	-1.60	2.9320CE+CC
2.865C0E+00	-1.64	2.9330CE+0C
2.866C0E+00	-1.6C	2.93300E+00
2.866C0E+00	-1.6C	2.93300E+00
2.867CCE+00	-1.6C	2.93400E+00
2.869CCCE+00	-1.60	2.93700E+CC
2.869C0E+00	-1.56	2.94200E+00
2.9C8CCF+C0	-1.52	2.95300E+00
2.932C0E+00	-1.38	2.97300E+00
2.975C0E+C0	-1.20	3.011C0E+C0
3.C57CCE+C0	-.81	3.08200E+CC
3.185C0E+C0	-.31	3.195C0E+00
3.435C0E+C0	.88	3.40900E+C0
3.735C0E+C0	2.27	3.656C0E+00
4.256C0E+00	2.21	4.20300E+00

TABLE 18 - COMPARISON OF 25-GROUP CROSS SECTIONS FOR PU-242

	TOTAL				ELASTIC	
NL-ENDL	(NL-N)/N*100	N-ENDF		NL-ENDL	(NL-N)/N*100	N-ENDF
2.796C0E+01	13.75	2.45800E+01		1.136C0E+01	35.66	8.37400E+00
2.357C0E+01	66.24	1.40100E+01		1.41400E+01	87.38	7.54600E+0C
3.611C0E+01	49.65	2.41300E+01		1.412C0E+01	187.75	4.90700E+0C
1.211CCE+C3	24.15	9.754CCE+02		1.3720CF+02	95.24	8.61600E+01
2.33rCCE+C1	88.55	1.24000E+01		2.2C6CCE+C1	85.69	1.18600E+01
2.312C0E+01	119.77	1.05200E+01		2.037CCE+C1	95.49	1.042C0E+01
2.625CCE+01	103.65	1.28900E+01		1.9C7C0E+01	115.41	8.85300F+0C
1.1C900F+C2	6.12	1.04500E+02		7.87500E+01	17.80	6.68500E+01
5.119CCF+C1	49.07	3.434C0E+01		3.647C0E+C1	55.92	2.339C0E+01
4.564CCE+C1	8.88	4.21000E+01		3.919CCE+C1	11.08	3.528C0E+01
4.443CCE+C1	15.91	3.83300E+01		4.0C30CE+C1	17.98	3.393CCE+C1
2.3030CE+C1	-22.82	2.98400E+01		2.06400E+01	-24.73	2.74200E+01
1.199C0F+01	-49.73	2.38500E+01		1.074CCE+01	-52.2C	2.24700E+C1
1.216CCE+01	-38.45	1.97900E+01		1.133C0E+01	-4C.15	1.893C0E+01
1.612C0E+01	-2.95	1.66100E+C1		1.55C00E+01	-3.00	1.596C0E+01
1.517C0E+01	4.98	1.445C0E+01		1.4740Cf+01	5.36	1.395C0F+01
1.331CCE+C1	6.82	1.24600E+01		1.261CCE+C1	7.47	1.192C0E+01
1.19400E+01	11.48	1.07100E+01		1.0790CE+C1	9.38	9.86500E+0C
1.C220CE+C1	11.47	9.16800E+0C		8.716C0E+00	9.33	7.97200E+00
8.7C3C0E+00	9.22	7.96800E+00		6.54CC0F+00	4.02	6.287C0F+00
7.485CCE+00	4.23	7.18100E+00		4.465CCE+00	-2.91	4.599C0F+00
7.152C0E+00	2.10	7.00500E+CC		3.572CCI+C0	-8.62	3.909CCF+CC
7.638C0E+00	5.19	7.45100E+0C		4.376C0F+00	16.66	3.75100E+00
7.611C0E+00	3.73	7.33700E+00		4.4130Uf+C0	22.07	3.61500E+00
6.217CCE+C0	-.24	6.23200E+00		3.2C6C0E+00	10.67	2.84700E+00

	INELASTIC				N-2N	
NL-ENDL	(NL-N)/N*100	N-ENDF		NL-ENDL	(NL-N)/N*100	N-ENDF
0.		0.		0.		0.
0.		0.		0.		0.
0.		0.		C.		0.
0.		0.		C.		0.
0.		0.		0.		0.
0.		0.		0.		0.
C.		0.		0.		0.
0.		0.		0.		0.
0.		0.		C.		0.
C.		0.		0.		0.
0.		0.		C.		0.
0.		0.		C.		0.
C.		0.		0.		0.
0.		0.		0.		0.
C.		0.		0.		0.
2.96400E-04	1309.42	2.10300F-05		0.		0.
2.4C000E-01	-12.15	2.73200E-01		C.		0.
9.5E4C0E-01	42.85	6.70500E-01		0.		0.
1.3C5CCE+C0	29.85	1.C0500E+00		0.		0.
1.679CCE+C0	39.68	1.202C0E+CC		C.		0.
1.5E40CE+00	31.23	1.20700E+00		0.		0.
2.1020CE+C0	24.38	1.69C0E+00		0.		0.
2.1C600F+00	5.25	2.001C0E+0C		C.		0.
1.8900CE+C0	-1.56	1.92CCCE+CC		1.678CCE-C4	-1.21	1.901CCE-04
5.C77CCE-C1	-4C.54	8.53900E-C1		5.765CCE-C1	8.73	5.30200E-01

TABLE 18 - (CONTINUED)

FISSION

NL-ENDL	(NL-N)/N*1CC	N-ENDF
7.7276CE-C4		0.
1.42CCCE-C1		0.
5.92100E-C1		0.
2.89E00E+01		0.
1.62700E-02		0.
7.32CCCE-C3		0.
7.7E5CCF-C2		0.
1.2C500E-01		0.
3.744CCE-02		0.
1.3C2CCE-C2		0.
1.2E2CCF-C2		0.
4.417CCE-C3		0.
4.932CCE-C3		0.
6.1E400E-03		0.
5.45900E-C3	-83.71	5.80500E-02
1.1C600E-C2	-75.67	4.54500E-02
1.322CCE-C2	-59.65	3.27600E-02
2.22600E-02	-30.98	3.225C0E-C2
5.504C0E-C2	-7.36	7.02100E-02
3.5C2CCE-C1	-4.24	3.65700E-01
1.31CCCE+CO	-.30	1.31400E+00
1.413C0E+00	3.59	1.36400E+00
1.323CCCE+C0	-21.30	1.68100E+0C
1.294CCE+CO	-27.87	1.7940CE+GC
1.92100E+00	-1.34	1.94700E+00

CAPTURE

NL-ENDL	(NL-N)/N*10C	N-ENDF
1.659CCF+C1	2.41	1.62CCCE+C1
9.28600E+C0	43.68	6.46300E+00
2.14CCCE+01	11.34	1.92200E+C1
1.C450CF+C3	17.52	8.89200E+C2
1.29400E+00	148.99	5.19700E-01
2.741CCE+00	2779.20	9.52C00E-02
7.C97CCF+C0	75.76	4.C38CCE+CC
3.20500E+C1	-14.85	3.76400E+01
1.4E6CCE+C1	34.06	1.C95C0E+01
6.63500E+C0	-2.76	6.82300E+00
4.3E500E+00	-.43	4.40800E+00
2.3E3CCF+C0	-1.61	2.422C0E+00
1.25CCCE+C0	-9.29	1.3780CE+00
8.437CCF-C1	-2.73	8.67400E-01
6.127CCE-C1	7.08	5.72200E-01
4.23400E-01	3.01	4.11500E-01
2.532CCF-C1	7.42	2.35700E-01
1.6E9CCE-C1	16.71	1.43C00F-C1
1.37600E-01	13.98	1.20900E-01
1.334CCE-01	18.79	1.12300E-01
1.261CCF-C1	107.16	6.08700E-02
6.511CCF-02	56.74	4.15400E-C2
3.221CCE-C2	76.01	1.83C00F-C2
1.323CCE-C2	76.82	7.48260E-03
5.CC9UCE-C3	42.98	3.92000E-03

NU-BAR

NL-ENDL	(NL-N)/N*1CC	N-ENDF
2.792CCE+C0		0.
2.792CCE+C0		0.
2.792CCF+C0		0.
2.79200E+C0		0.
2.792CCE+C0		0.
2.792CCE+00		0.
2.792CCE+C0		0.
2.792C0E+00		0.
2.792C0E+C0		0.
2.792CCE+C0		0.
2.792C0E+00		0.
2.792CCE+C0		0.
2.793CCE+C0		0.
2.793CCE+CC	-.57	2.80900E+C0
2.794CCE+C0	-.57	2.81000E+00
2.797C0E+C0	-.57	2.81300E+00
2.8C30CF+C0	-.53	2.81800E+C0
2.81ECCE+C0	-.46	2.82900E+CC
2.84C0CE+00	-.42	2.85200E+C0
2.8E9C0E+00	-.24	2.89600E+00
2.956CCE+C0	-.07	2.96000E+00
3.077CCE+C0	.23	3.07000E+00
3.315C0F+00	.86	3.28600E+CC
3.6C30CE+00	2.18	3.52600E+00
4.3C400E+00	6.C1	4.06C00E+00

TABLE 19 - COMPARISON OF CROSS SECTIONS WITH DATA FROM ENDF/B-V

U-235	σ_t ENDF/B-V	A	B	σ_c ENDF/B-V	A	B	σ_f ENDF/B-V	A	B
2	86.69	2.25	-1.50	7.95	12.44	5.71	65.32	1.40	-1.07
3	60.89	18.48	13.91	12.38	0.00	1.97	35.95	35.15	31.27
4	35.50	1.81	-0.86	6.98	-6.00	-4.64	17.11	5.74	7.47
5	96.60	-13.44	-12.97	37.20	0.73	1.17	48.36	-23.68	-22.79
6	108.05	-6.37	-6.12	44.67	-1.06	-1.10	51.14	-11.13	-10.39
7	79.31	-0.65	-0.87	23.90	-0.40	-5.40	43.09	-0.78	-0.66

U-238	σ_t ENDF/B-V	A	B	σ_c ENDF/B-V	A	B	σ_f ENDF/B-V	A	B
2	9.41	-0.42	10.71	0.587	-0.51	-5.41			
3	9.17	-0.10	10.74	0.476	-2.65	-6.84			
4	8.94	-0.90	6.55	0.646	-13.70	-22.35			
5	190.93	14.39	18.59	170.910	14.93	19.43			
6	131.73	-34.29	-31.80	86.750	-40.62	38.30	0.0002		
7	145.82	-2.91	0.84	54.960	-14.00	-10.88		>100%	>100%
8	41.91	5.25	-0.68	16.570	2.47	-0.65			
9	90.68	6.29	8.97	20.030	9.05	11.52			
10	22.28	7.01	1.50	4.530	3.42	2.72	0.0005		
11	23.37	-0.21	-3.38	3.370	0.99	-1.46	0.0009		
12	22.19	6.68	16.60	1.900	6.14	-1.19	0.0003		

Pu-239	σ_t ENDF/B-V	A	B	σ_c ENDF/B-V	A	B	σ_f ENDF/B-V	A	B
2	154.30	15.23	9.59	44.34	17.70	11.80	98.68	15.87	11.26
3	41.79	9.24	5.98	7.69	22.06	25.16	24.14	11.34	8.79
4	21.35	6.06	-0.46	1.14	22.58	19.70	11.04	8.66	8.12
5	69.50	-12.77	-14.57	26.35	-16.48	-21.11	34.74	-12.95	-7.28
6	181.99	25.59	18.94	66.75	21.03	12.13	104.49	32.16	31.05
7	67.39	0.77	7.83	34.06	-7.42	-10.60	22.37	19.88	19.04
8	110.60	2.40	-4.65	37.16	5.89	5.50	56.51	1.39	0.21
9	51.23	2.44	-1.87	17.11	6.21	8.90	18.80	0.80	-0.21

$$A = \frac{(ENDF/B-V) - (N-ENDF)}{(N-ENDF)} \times 100 \qquad B = \frac{(ENDF/B-V) - (NL-ENDL)}{(NL-ENDF)}$$

TABLE 19 - (CONTINUED)

Pu-240	σ_t ENDF/B-V	A	B	σ_c ENDF/B-V	A	B	σ_f ENDF/B-V	A	B
2	1189.80	-13.19	-46.50	1149.40	-36.20	-45.52	0.2080	-39.21	-48.38
3	9740.00	91.88	105.82	9077.10	94.95	109.77	1.6360	83.09	98.06
4	23.79	15.09	-5.50	8.98	39.87	34.23	0.0211	9.89	10.00
5	10.89	4.81	-22.54	0.87	23.68	25.34	0.0005	-92.80	19.87
6	41.87	-25.84	-48.96	31.30	-30.90	-50.90	0.2250	-19.35	-60.13
7	121.63	-10.50	-28.49	71.39	-13.68	-13.97	0.1810	-54.03	-51.98
8	106.53	2.10	-7.04	43.40	-1.31	9.31	0.0293	-90.34	-90.30
9	55.12	10.86	8.91	24.73	12.92	34.47	0.0153	-95.02	100.00
10	32.08	3.91	0.12	9.44	15.01	29.00	0.0050	-97.66	-94.00
11	24.43	-3.78	-5.82	5.56	0.72	-22.73	0.2440	-27.63	-15.50
12	22.24	0.27	0.13	3.30	3.35	-27.15	0.1070	-17.14	4.40

Pu-241	σ_t ENDF/B-V	A	B	σ_c ENDF/B-V	A	B	σ_f ENDF/B-V	A	B
2	77.84	18.94	10.20	22.86	95.58	32.75	43.22	2.98	-0.46
3	43.75	12.17	-11.78	6.25	158.26	-52.10	26.79	0.45	-17.51
4	196.00	-19.24	-12.80	69.76	0.0	13.59	112.53	-31.63	-26.69
5	302.65	13.86	-4.28	40.10	97.34	-53.97	248.52	5.70	13.42
6	225.84	26.52	7.13	69.75	65.32	21.70	137.32	13.58	-4.23
7	90.49	17.67	-7.56	13.35	142.72	-46.85	64.48	8.60	2.69
8	62.88	-10.14	-4.65	11.80	-8.52	-25.88	37.93	-13.08	-5.24

Pu-242	σ_t ENDF/B-V	A	B	σ_c ENDF/B-V	A	B	σ_f ENDF/B-V	A	B
2	13.45	-4.00	-43.11	6.590	2.01	-28.88	0.0002	$> 10^4$	-99.85
3	20.55	-14.84	-43.09	16.010	-16.70	-25.19	0.0001	$> 10^4$	-99.98
4	1738.30	-78.25	43.52	1561.000	75.59	49.37	0.0001	$> 10^4$	-10.00
5	12.95	4.40	-44.61	0.735	41.34	43.19	0.0001	$> 10^4$	-99.38
6	12.03	14.35	-47.96	1.630	16.16	-40.51	0.0001	$> 10^4$	-98.63
7	13.32	3.33	-49.25	4.480	10.95	-36.87	0.0001	$> 10^4$	-99.87
8	114.54	9.60	3.28	33.180	-11.85	3.52	0.0742	$> 10^4$	-38.42
9	30.24	-11.93	-40.92	10.110	-7.70	-31.13	0.0645	$> 10^4$	72.38
10	32.15	-23.63	-29.86	5.770	-15.39	-12.97	0.0207	$> 10^4$	58.98

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