JAERI-M
7081

INDC (JAP) -36/G
NEANDC (J) -50/AL

JAPANESE LIST OF REQUESTS FOR NEUTRON NUCLEAR DATA
For Fission Reactors

May 1977

Compiled by

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WRENDA Working Group of Japanese Nuclear Data Committee

日本原子力研究所
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Japanese List of Requests for Neutron Nuclear Data for Fission Reactors

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(Received April 20, 1977)

Requests for neutron nuclear data for fission reactors are presented. These are screened by a WRENDA Working Group of Japanese Nuclear Data Committee and submitted to WRENDA 76/77. This report includes 163 requests of which 55 requests are newly registered in the WRENDA. Three requests of the previous list are withdrawn. This activity is a part of the international cooperation with CCDN, NEANDC and INDC.

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中性子核データに対する日本の要求リスト
核 分 裂 炉 用

シグマ研究委員会 WRENDA グループ*)
五十嵐信一，浅見哲夫（編）

（1977年4月20日受理）

核分裂炉を対象とした中性子核データに対する要求をまとめた。これらの要求はシグマ研究委員会の WRENDA ワーキンググループで検討，選択されたもので， WRENDA 76/77 に提出されている。この報告には163件の要求がまとめられており，その内55件が新しい要求である。前回の要求の内3件が取り下げられている。この仕事は CCDN，NEANDC および INDC との国際協力の一環として行われている。

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1. Introduction

This report presents the Japanese requests for neutron nuclear data for fission reactors. Original of this report was already submitted at the beginning of 1976 to the WRENDA 76/77[1] of which lists were distributed as a document from the International Atomic Energy Agency. In this sense, it may be too late to publish this report. But, it must be useful to make a domestic request list every year to keep a better link among requesters, measurers and evaluators in addition to the two-year cycle of WRENDA publication.

A Working Group of JNDC has been convened every year to screen new requests and to examine the old Japanese requests which had been compiled in WRENDA library. Requests for safeguards and fusion have been processed by other Working Groups of the JNDC. In 1975, the WRENDA Working Group for fission reactors received about 100 new requests including those for the evaluated nuclear data. Taking the present status of the experimental and evaluated data into account, the Working Group reduced these requests by one-half. The adopted requests are attached with a WRENDA registration number of which head is 76.

The old requests[2,3] registered in WRENDA 75 were also examined whether they should be left, modified or deleted. Three requests were withdrawn in this screening. They are Cr (activation ; 712015), Mn (activation ; 712018) and ^{64}Zn ((n,γ) ; 702013). Some of the remaining requests were modified by considering the present status of the data. These are shown in the next section with some comments and status information.

The Working Group has received seven new requests at the end of 1976, which have not been examined yet at present. They are cross sections for ^{40}Ar (total), ^{40}Ar (n,n'), ^{40}Ar (n,α), ^{24}Mg (n,p), ^{115}In (n,n'), ^{14}N (n,α) and spontaneous γ-ray yield from ^{237}U. They will be screened together with new additional requests and the above mentioned old requests before being submitted to the next compilation of WRENDA.

Many laboratory codes are used in the status comments of this report. The codes are probably authorized in the WRENDA system. So, those tabulated in the WRENDA 76/77[1] are used in this report, and are reprinted in the last section.

2. List of Requests

Japanese requests submitted to the WRENDA 76/77 are compiled in this section. Numbers in parentheses are the registration number given to each request in the WRENDA. Comments of each request are almost the same as those of the WRENDA 76/77. Status comments, however, are not given explicitly in the WRENDA 76/77, but in the computer output from the WRENDA system. The status comments in this report were mainly adopted from this computer output. Some were added by the requestors at the time of the reexamination for their requests.

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
1. (762175)	^{15}N	N,PROTON	TR	1.5+7	30.0	2	MAP	T. Nishimura
		Comments: For FBR shielding calculations.						
2. (762176)	^{19}F	INELASTIC	1.0+5	1.4+7	20.0	2	HOK	T. Akimoto
		Comments: For fast reactor and fusion reactor calculations.						
3. (692038)	Na	N,GAMMA	1.0+2	5.0+4	10.0	1	JAE	S. Katsuragi
		Comments: Resonance parameters needed. For fast reactors. Discrepancies in resonance parameters exist.						
		Status:						
		BUC Plostinaru+, SCF 25 387(1973), data 0.92 to 4 MeV.						
		AUA Clayton, AUJ 23 823(1970), fits total sigma near 2.85 keV with capture width of 0.36 eV.						
		RPI Yamamuro+, NSE 41 445(1970), finds capture width is 0.47 eV at 2.85 keV.						
		RPI Hockenbury+, PR 178 1746(1969), finds capture width of 0.45 eV at 2.85 keV.						
		GA Friesenhan+, 68 Washington paper 5(1968), finds capture width of 0.34 eV at 2.85 keV.						
		COL Rahn+, USNDC-3 66(1972), work in progress.						
		USA USNDC, capture width discrepancy remains.						
4. (682007)	^{27}Al	N,ALPHA	8.0+6	1.2+7	4.0	1	KYU	Y. Kanda
		Comments: For neutron yield monitor. Data available 7%.						
5. (762177)	^{36}Ar	N,PROTON	THR	1.5+7	30.0	2	MAP	T. Nishimura
		Comments: For FBR shielding calculations.						
6. (712006)	^{40}Ar	N,GAMMA		< 1.0+7	< 20.0	2	NIG	M. Kawai
		Comments: For reactor hazard calculation.						
		Status:						
		TNC Bostorom+, WADC-TN-59-107(1959), data from 136 keV to 1 MeV, counted ^{41}Ar decay beta.						

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
7. (762178)	^{40}Ar	N,PROTON		1.5+7	20.0	2	MAP	T. Nishimura
		Comments: For FBR shielding calculations.						
8. (692102)	Fe	N,GAMMA	1.0+3	2.0+5	10.0	1	JAE	S. Katsuragi
		Comments: For fast reactors. Discrepancies exist among experimental data.						
		Status: HAR Moxon, evaluation indicates 20 percent uncertainty below 100 keV. CAD Le Rigoleur, EANDC(E)-150(1972), measurements in progress 10 to 200 keV. HAR Coates, measurement planned.						
9. (682012)	^{56}Fe	N,PROTON	8.0+6	1.2+7	4.0	1	KYU	Y. Kanda
		Comments: For neutron yield monitor. Data available 5% or 7%.						
		Status: GEL Euratom neutron dosimetry group, current accuracy is 8%.						
10. (762179)	^{58}Fe	N,GAMMA	THR	1.5+7	20.0	2	NIG	M. Kawai
		Comments: For fission reactors.						
11. (712028)	^{59}Co	ACTIVATION		< 1.0+7	< 20.0	2	NIG	M. Kawai
		Comments: For fuel cask design and control rod design.						
		Status: AUW Murty+, JPJ 35 8(1973), value at 24 keV. ORL Macklin+, USNDC-3 148(1972), work in progress. ORL Spencer+, absorption data being analyzed.						

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
12. (692129)	Ni	N,GAMMA	1.0+3	2.0+5	10.0	1	JAE	S. Katsuragi

Comments:
For fast reactors. Data are not sufficient above 10 keV.
Status:
AUA Broomhall+, AAEC/PR 35(1971), work in progress 10 to 50 keV.
HAR Axmann+, AERE-PR/NP 18(1972), work in progress up to 100 keV.
CAD Le Rigoleur, EANDC(E)-150(1972), work in progress up to 200 keV.
KFK Beer+, EANDC(E)-157(1973), work in progress on separated isotopes.
HAR Coates, measurement planned.

13. (682015)	^{63}Cu	N2N REACTION	TR	1.2+7	5.0	1	KYU	Y. Kanda

Comments:
For neutron yield monitor. A few data available.

14. (682016)	^{63}Cu	N2N REACTION	1.4+7	2.0+7	5.0	1	KYU	Y. Kanda

Comments:
For neutron yield monitor. Large discrepancies among data.

15. (682017)	^{65}Cu	N2N REACTION	TR	1.2+7	5.0	1	KYU	Y. Kanda

Comments:
For neutron yield monitor.
Status:
JUL Qaim, NP/A 185 614(1972), data at 15.0 MeV.
HAM Mogharrab+, AKE 19 107(1972), data at 14 MeV.
JAE Kanda+, JAERI-1207(1972), evaluation 11 to 20 MeV.

16. (682018)	^{65}Cu	N2N REACTION	1.5+7	2.0+7	5.0	1	KYU	Y. Kanda

Comments:
For nuclear yield monitor. Large discrepancies among data.
Status:
JUL Qaim, NP/A 185 614(1972), data at 15.0 MeV.
HAM Mogharrab+, AKE 19 107(1972), data at 14 MeV.
JAE Kanda+, JAERI-1207(1972), evaluation 11 to 20 MeV.

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
17. (702014)	Zr	DIFF INELAST	4.0+6	7.0+6	< 20.0	3	FE	H. Nakamura
		Comments: For investigations of the level density parameters.						
18. (752004)	^{93}Zr	N,GAMMA	1.0+2	4.0+5	30.0	2	NIG SAE	S. Iijima H. Matsunobu
		Comments: For fast reactor calculations. No experimental data above 100 eV.						
19. (762180)	^{92}Mo	TOTAL	THR	1.5+7	10.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
20. (762182)	^{92}Mo	INELASTIC	TR	1.5+7	20.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
21. (762181)	^{92}Mo	N,GAMMA	THR	1.5+7	20.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
22. (762183)	^{94}Mo	TOTAL	THR	1.5+7	10.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
23. (762185)	^{94}Mo	INELASTIC	TR	1.5+7	20.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
24. (762184)	^{94}Mo	N,GAMMA	THR	1.5+7	20.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
25. (762186)	^{94}Mo	N,PROTON	TR	1.5+7	30.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
26. (762187)	^{94}Mo	N,ALPHA	THR	1.5+7	30.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
27. (762188)	^{95}Mo	TOTAL	THR	1.5+7	10.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
28. (762189)	^{95}Mo	INELASTIC	TR	1.5+7	20.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
29. (752005)	^{95}Mo	N,GAMMA	5.0+4	4.0+5	30.0	2	NIG SAE MAP	S. Iijima H. Matsunobu T. Hojuyama
		Comments: For fast reactor calculations. Desired with lower priority for wider energy range. Status: No experimental data above 50 keV.						
30. (762190)	^{95}Mo	N,PROTON	TR	1.5+7	20.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
31. (762191)	^{95}Mo	N,ALPHA	THR	1.5+7	20.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
32. (762192)	^{96}Mo	TOTAL	THR	1.5+7	10.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
33. (762194)	^{96}Mo	INELASTIC	TR	1.5+7	20.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
34. (762193)	^{96}Mo	N,GAMMA	THR	1.5+7	20.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
35. (762195)	^{96}Mo	N,ALPHA	THR	1.5+7	30.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
36. (762196)	^{97}Mo	TOTAL	THR	1.5+7	10.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
37. (762197)	^{97}Mo	INELASTIC	TR	1.5+7	30.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
38. (752006)	^{97}Mo	N,GAMMA	6.0+4	4.0+5	20.0	1	NIG SAE MAP	S. Iijima H. Matsunobu T. Hojuyama
		Comments: For fast reactor calculations. Desired with lower priority for wider energy range. Status: No experimental data above 60 keV.						
39. (762198)	^{97}Mo	N,ALPHA	THR	1.5+7	30.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
40. (762199)	^{98}Mo	INELASTIC	TR	1.5+7	30.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
41. (762200)	^{98}Mo	N,ALPHA	THR	1.5+7	30.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
42. (762201)	^{100}Mo	TOTAL	THR	1.5+7	10.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
43. (762202)	^{100}Mo	INELASTIC	TR	1.5+7	30.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
44. (762203)	^{100}Mo	N,PROTON	TR	1.5+7	30.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
45. (762204)	^{100}Mo	N,ALPHA	THR	1.5+7	30.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
46. (752007)	^{99}Tc	N,GAMMA	5.0+4	4.0+5	20.0	1	NIG SAE	S. Iijima H. Matsunobu
		Comments: For fast reactor calculations. Desired with lower priority for wider energy range. Status: No experimental data above 50 keV. KFK Chou+, JNE 27 811(1973), data 1 eV to 50 keV.						
47. (752008)	^{101}Ru	N,GAMMA	1.0+2	4.0+5	20.0	1	NIG SAE	S. Iijima H. Matsunobu

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
		Comments: For fast reactor calculations. Desired with lower priority for wider energy range. Status: No experimental data above 100 eV. SAC Ribon, 73Bologna 1, 235, review.						
48. (752009)	^{102}Ru	N,GAMMA	1.0+2	4.0+5	30.0	2	NIG SAE	S. Iijima H. Matsunobu
		Comments: For fast reactor calculations. Desired with lower priority for wider energy range. Status: No experimental data except 3 data points at 3, 24 and 190 keV. SAC Ribon, 73Bologna 1, 235, review.						
49. (752010)	^{104}Ru	N,GAMMA	1.0+2	4.0+5	30.0	2	NIG SAE	S. Iijima H. Matsunobu
		Comments: For fast reactor calculations. Desired with lower priority for wider energy range. Status: There are 7 points in the range 1 keV to 15 MeV. But the discrepancies are remarkable at 24 keV and 14 ∿ 15 MeV.						
50. (752011)	^{105}Pd	N,GAMMA	1.0+2	4.0+5	20.0	1	NIG SAE	S. Iijima H. Matsunobu
		Comments: For fast reactor calculations. Desired with lower priority for wider energy range. Status: No experimental data above 100 eV. SAC Ribon, 73Bologna 1, 235, review. ORL Macklin (1974), preliminary data 2.5 to 500 keV. RPI Knox+, USNDC-11, 220(1974), in progress.						
51. (752012)	^{107}Pd	N,GAMMA	1.0+2	4.0+5	20.0	1	NIG SAE	S. Iijima H. Matsunobu

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
		Comments: For fast reactor calculations. Desired with lower priority for wider energy range. Status: No experimental data from 100 eV to 400 keV. SAC Ribon, 73Bologna 1, 235, review.						
52. (752013)	^{109}Ag	N,GAMMA	1.0+2	4.0+5	30.0	2	NIG SAE	S. Iijima H. Matsunobu
		Comments: For fast reactor calculations. Desired with lower priority for wider energy range. Status: There are 37 data points below 6 MeV, but a systematic discrepancy is observed between Weston's data and Kononov's data.						
53. (702017)	In	DIFF INELAST energy dist	4.0+6	7.0+6	< 20.0	3	FE	H. Nakamura
		Comments: For investigations of the level density parameters.						
54. (762205)	^{121}Sb	N,GAMMA	THR	1.5+7	15.0	2	MAP	T. Hojuyama
		Comments: For neutron source calculations.						
55. (762206)	^{123}Sb	N,GAMMA	THR	1.5+7	15.0	2	MAP	T. Hojuyama
		Comments: For neutron source calculations.						
56. (752014)	^{131}Xe	N,GAMMA	1.0+2	4.0+5	20.0	1	NIG SAE	S. Iijima H. Matsunobu
		Comments: For fast reactor calculations. Desired with lower priority for wider energy range. Status: No experimental data from 100 eV to 400 keV.						

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
57. (752015)	^{133}Cs	N,GAMMA	1.0+2	4.0+5	20.0	1	NIG SAE	S. Iijima H. Matsunobu

Comments:
For fast reactor calculations. Desired with lower priority for wider energy range.
Status:
Many experimental data below 15 MeV, but systematic discrepancies are observed above 10 keV.
SAC Ribon, 73Bologna 1, 235 review, thermal to 30 keV also fission spectrum average.
BOR Rigaud+, NP/A 176 545(1971), at 14.0 MeV.
KFK Kompe, NP/A 133 513(1969), from 10 keV to 150 keV.
WUR Widder, Precise data from 0.01 to 45 eV, to be published in NSE.

58. (752016)	^{135}Cs	N,GAMMA	1.0+2	4.0+5	20.0	1	NIG SAE	S. Iijima H. Matsunobu

Comments:
For fast reactor calculations. Desired with lower priority for wider energy range.
Status:
No experimental data from 100 eV to 400 keV.

59. (762207)	^{133}Ba	MISCELLA			3.0	3	TIT	K. Hisatake

Comments:
Relative yields of 53.2, 79.6, 81.0, 160.6, 276.4, 302.0 and 356.0 keV gamma rays. Intensity standards for gamma ray measurements.

60. (752017)	^{143}Nd	N,GAMMA	1.0+2	4.0+5	20.0	1	NIG SAE	S. Iijima H. Matsunobu

Comments:
For fast reactor calculations. Desired with lower priority for wider energy range.
Status:
No experimental data between 100 eV and 400 keV.
SAC Ribon, 73Bologna 1, 235, evaluation from 0.025 eV to 30 keV. Also fission neutron spectrum average.
HAR Cabell+, JIN 30 897(1968), pile spectra averages.

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
61. (752018)	^{145}Nd	N,GAMMA	1.0+2	4.0+5	20.0	1	NIG SAE	S. Iijima H. Matsunobu

Comments:
For fast reactor calculations. Desired with lower priority for wider energy range.
Status:
No experimental data from 100 eV to 400 keV.
SAC Ribon, 73Bologna 1 235, evaluation from 0.025 eV to 30 keV. Also fission neutron spectrum average.
HAR Cabell+, JIN 30 897(1968), pile spectra averages.
ORL Macklin+, (1974), preliminary data 2.5 to 500 keV.

62. (752019)	^{147}Pm	N,GAMMA	1.0+2	4.0+5	20.0	1	NIG SAE	S. Iijima H. Matsunobu

Comments:
For fast reactor calculations. Desired with lower priority for wider energy range.
Status:
No experimental data from 100 eV to 400 keV.
MTR Codding+, NSE 43 58(1971), resonance parameters.
SAC Ribon, 73Bologna 1 235, review.

63. (752020)	^{149}Sm	N,GAMMA	1.0+2	4.0+5	20.0	1	NIG SAE	S. Iijima H. Matsunobu

Comments:
For fast reactor calculations. Desired with lower priority for wider energy range.
Status:
No experimental data except a measurement at 30 keV.
SAC Ribon, 73Bologna 1 235, review.

64. (752021)	^{151}Sm	N,GAMMA	1.0+2	4.0+5	30.0	2	NIG SAE	S. Iijima H. Matsunobu

Comments:
For fast reactor calculations. Desired with lower priority for wider energy range.
Status:
No experimental data from 100 eV to 400 keV.
SAC Ribon, 73Bologna 1 235, review.

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
65. (752022)	^{153}Eu	N,GAMMA	4.0+4	4.0+5	30.0	2	NIG SAE	S. Iijima H. Matsunobu

Comments:
For fast reactor calculations. Desired with lower priority for wider energy range.
Status:
No experimental data from 40 keV to 400 keV.
RPI Knox+, USNDC-11 220(1974), in progress 20 eV to 100 keV.
LAS Harlow+, 68Washington P. 837(1968), 25 eV to 10 keV.
DUB Konks+, SNP 7 310(1968), 1 eV to 50 keV.
WUR Widder, Precise data from 0.01 to 10 eV, to be published in NSE.
Error at thermal 15%, at least 8% in rest of energy range.

66. (762208)	^{233}Pa	N,GAMMA	2.0+1	1.5+7	10.0	1	JAE	R. Shindo

Comments:
For burn-up calculation of thorium fueled thermal reactors.

67. (682052)	^{235}U	DIFF INELAST energy dist angula dist	1.3+4	1.0+7	10.0	1	SAE	H. Matsunobu

Comments:
For fast reactor. For evaluation of nuclear data. No experimental data above 7.5 MeV.
Xsections for excitation of individual levels also wanted. Energy resolution 1 ∿ 2% desired.

68. (752026)	^{235}U	TOT. SCAT.	1.0+3	1.0+7	2.0	1	SAE	H. Matsunobu

Comments:
Energy resolution 1 ∿ 2%. Evaluation of ^{235}U nuclear data and for reactor design calculations.
Status:
The experimental data are very poor. No experimental data from 5.5 MeV to 10 MeV.

69. (752027)	^{235}U	DIFF. SCAT.	1.0+3	1.0+7	2.0 ∿ 5.0	1	SAE	H. Matsunobu

Comments:
Accuracy required 2 ∿ 5%. Energy resolution 1 ∿ 2%. Evaluation of ^{235}U nuclear data and for reactor design calculations.
Status:
The experimental data are very poor. No experimental data from 5.5 to 10.0 MeV.

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	ENERGY(EV) MAX	ACCURACY (%)	P	LAB	REQUESTORS
70. (682055)	^{235}U	N,GAMMA (alpha)	1.0+3	1.0+7	5.0 ∿ 10.0	1	JAE SAE	S. Katsuragi H. Matsunobu

Comments:
For fast reactor. For nuclear data evaluation. Resolution 1 ∿ 2% desired. No experimental data above 2.6 MeV.
Status:
ORL Perez+, USNDC-1 145(1972), data 8.0 eV to 10 keV.
ORL De Saussure+, PR/C 7 2018(1973), analysis to 60 eV.

71. (752028)	^{235}U	N,2N	5.0+6	1.0+7	10.0	1	SEA	H. Matsunobu

Comments:
Evaluation of ^{235}U nuclear data and for reactor design calculations. Energy resolution 1 ∿ 2%.
Status:
The experimental data are very poor.

72. (752023)	^{235}U	FISSION	1.0+3	1.0+5	2.0	1	SAE	H. Matsunobu

Comments:
Evaluation of the nuclear data on U-235, and design calculation for thermal and fast reactors. Absolute measurement wanted. Energy resolution 1 ∿ 2% desired.
Status:
Discrepancies between the experimental data are very remarkable in the energy range below 70 keV.

73. (752024)	^{235}U	FISSION	1.0+5	1.0+6	1.0	1	SAE	H. Matsunobu

Comments:
Evaluation of the nuclear data on U-235, and design calculation for thermal and fast reactors. Absolute measurement wanted. Energy resolution 1 ∿ 2% desired.

74. (752025)	^{235}U	FISSION	1.0+6	2.0+7	1.0 ∿ 2.0	1	SAE	H. Matsunobu

Comments:
Evaluation of the nuclear data on U-235, and design calculation for thermal and fast reactors. Absolute measurement wanted. Energy resolution 1 ∿ 2% desired.
Status: (for 72, 73 and 74)
The experimental data are comparatively poor in the energy range above 6 MeV except 14 MeV data.

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS

HAR Sowerby+, ANE 1 409(1974), evaluation of data published before about Jan. 1973.
Estimated uncertainty in fission cross section.
100 eV ∿ 4 keV --- 3.3%
4 keV ∿ 20 keV --- better than 4%
20 keV ∿ 100 keV --- 4 ∿ 5%
100 keV ∿ 3 MeV --- 3 ∿ 4%
3 MeV ∿ 20 MeV --- 4 ∿ 7% except 2% near 14 MeV.
Following data available since Sowerby's evaluation.
LRL Czirr+, 75Wash., data 1 keV to 20 MeV, measurements to thermal energies in progress.
LRL Czirr+, NSE 57 18(1975), data 3 to 20 MeV. Reported accuracy 1% from 3 to 7 MeV, 2% at 14 MeV and 6% at 20 MeV.
ANL Poenitz, NSE 53 370(1974), data 35 keV to 3.5 MeV.
ORL Perez+, NSE 55 203(1974), data 2 to 100 keV.
MHG Gilliam+, USNDC-11 162(1974), in progress at 960 keV, also see thesis (1973).
LAS Hansen+, USNDC-11 147(1974), telescope efficiency being studied. Preliminary data were considered in evaluation by Sowerby.
ORL Perez+, NSE 52 46(1973), data 8 eV to 10 keV.
SAC Blons, NSE 51 130(1973), data 18 eV to 30 keV.
KFK Kappeler, KFK-1772(1973), data 0.5 to 1.2 MeV.
HAR Gayther+, 72Vienna 201, data 1 keV to 1 MeV.
GEL Knitter+, ZP 257 108(1972), data 1.5 to 2.3 MeV.
ORL Gwin+, USNDC-3 149(1972), in progress thermal to 200 keV. Data available from data centers.
GEL Theobald+, NEANDC(E)-161 202(1974), in progress 1 to 500 keV.
KFK Brotz+, NEANDC(E)-161 99(1974), in progress from 1 to 30 MeV.
NBS Wasson+, Measurements from 200 keV to 1.5 MeV using black detector. In progress.
NBS Carlson+, measurement 0.8 to 15 MeV relative to H. In progress.
HAR Lynn, measurement planned.
Followings are measurements planned, in progress, or not fully documented:
MHG Robertson+, 100 keV to 1 MeV.
HAR James and Evans, 100 keV to 15 MeV.
KFK Cierjacks+, 1 MeV to 15 MeV.
CAD Szabo, 1 MeV to 15 MeV.
LAS 6 MeV to 15 MeV.
ORL < 100 keV to 1 MeV.
NBS < 100 keV to 15 MeV.
BRC 100 keV to 15 MeV.

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
75. (702032)	^{238}U	N,GAMMA	1.0+3	1.0+6	< 5.0	1	NIG	S. Iijima

Comments:
For fast reactor calculations. Precise measurement at some energy points also desired.
Status:
HAR Sowerby+, ANE 1 409(1974), evaluation of data published before about Jan. 1973.
Estimated uncertainty in capture cross section.
1 keV to 100 keV --- 6%
100 keV to 300 keV --- 5%
300 keV to 2 MeV --- 5 ∿ 10%
2 MeV to 20 MeV --- 10 ∿ 100%
Following data available since Sowerby evaluation.
KFK Bluhm, KFK-1798 (1973), data 10 keV to 5 MeV.
FEI Chelnokov+, YFI-13 6(1972), data 200 eV to 35 keV.
CCP Stavissky+, AE 31 107(1971), data to 40 keV.
ANL Poenitz, USNDC-1 8(1972), in progress 400 keV to 1.5 MeV.
ORL DeSaussure+, NSE 51 385(1973), data 5 eV to 100 keV. Also data 270 eV to 500 keV and work in progress.
HAR Pearlstein+, EANDC(UK)-151(1973), data 80 to 1600 keV.
KFK Spencer+, NEANDC(E)-161 91(1974), 10 to 600 keV, in progress.
LRL Lindner+, UCRL-75838, data 120 keV to 2.9 MeV.
HAR Moxon, (1974), provisional data available from 5 mV to 6 eV, analysis continues.
BNL Rimawi, (1974), data at 24 keV.
CAD (1974), data to 65 keV.
GEL (1974), data to 4.1 keV.
BNL Seminar on U-238 resonance capture, 18-20 March 1975.

76. (712075)	^{239}Np	N,GAMMA	1.0+4	1.0+6	20.0	3	KYU	M. Ohta

Comments:
For normalization of calculated capture cross section.

77. (762209)	^{239}Np	N,GAMMA	THR	1.5+7	20.0	2	JAE	R. Shindo

Comments:
For burn-up calculation of thermal reactor.

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
78. (762210)	^{239}Pu	TOTAL	1.0+4	1.0+5	2.0	1	NIG	M. Kawai
		Comments: For fission reactors.						
79. (682066)	^{239}Pu	DIFF INELAST	1.0+4	1.0+7	10.0	1	NIG	M. Kawai
		Comments: For fast reactor. Xsections for excitation of individual levels desired. Status: GEL Coppola+, ZP 232 286(1970), data 1.9 to 5.5 MeV. ANL Guenther+, USNDC-3 13(1972), in progress to 4.0 MeV.						
80. (702039)	^{239}Pu	N,GAMMA (alpha)	1.0+3	2.0+5	5.0	1	JAE	S. Katsuragi
		Comments: For fast reactor. Large discrepancies exist among measurements. Status: FEI Chelnokov+, YFI-13 6(1972), data 200 eV to 12 keV. ORL Gwin+, NSE 45 25(1971), data thermal to 30 keV. ORL Gwin+, 75Wash. 627(1975)						
81. (762212)	^{239}Pu	ALPHA	1.0+3	1.0+6	5.0	1	NIG	M. Kawai
		Comments: For fission reactor.						
82. (762211)	^{239}Pu	FISSION	1.0+3	1.5+7	3.0	1	NIG	M. Kawai
		Comments: For fission reactor. Status: HAR James and Evans, 100 keV to 15 MeV. GEL Weigmann+, below 100 keV. KFK Voss+, 100 keV to 15 MeV. CAD Szabo, 1 to 6 MeV. LRL Behrens, below 100 keV to 15 MeV. BRC 1 to 15 MeV.						

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
83. (702037)	^{239}Pu	NU BAR		< 1.5+7	< 0.5	1	NIG	M. Kawai

Comments:
For fast reactor calculations.
Status:
IEA Manero+, REA 10 637(1972), review.
CCP Volodin+, AE 33 901(1972), data to 1.6 MeV.
BRC Frehaut+, EANDC(E)-150(1972), in progress 7 eV to 40 keV.
LRL Howe+, USNDC-7 105(1973), in progress thermal to 15 MeV.
RPI Reed+, USNDC-7 202(1973), in progress thermal to 100 eV.
ORL Weston, PR/C 10 1402(1974), data for resolved resonances in range 10 to 170 eV.
AUA Walsh+, ANE 1 353(1974), 200 keV to 2 MeV.

84. (712080)	^{239}Pu	SPECT FISS N	THR			2	JAE	T. Iijima

Comments:
For fast reactors. Accuracy of nuclear temperature for Maxwell distribution is required within 30 keV.
Status:
KFK Werle+, JNE 26 165(1972), data 100 keV to 10 MeV.
ANL Smith, ANL-7910 18(1972), data 300 keV to 8 MeV.
HAR Rose+, preliminary data available.

85. (682071)	^{240}Pu	N,GAMMA (res. param.)	1.0+3	1.5+7	10.0	1	JAE	S. Katsuragi

Comments:
For fast reactor.
Status:
RPI Hockenbury+, NSE 49 153(1972), previous discrepancies resolved.
HAR Moxon+, AERE-PR/NP19 (1972)

86. (762214)	^{240}Pu	N,GAMMA	1.0+3	5.0+5	10.0	1	MAP	Y. Seki

Comments:
For fast reactor calculations.

87. (762213)	^{240}Pu	FISSION	THR	1.0+6	10.0	1	MAP	M. Sasaki

Comments:
For fast reactor calculations.

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
88. (762215)	^{240}Pu	RES. PARAM.	1.0+0	1.0+4		1	MAP	M. Sasaki
		Comments: For fast reactor calculations.						
89. (762216)	^{241}Pu	TOTAL	1.0+2	1.5+7	10.0	1	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
90. (762220)	^{241}Pu	INELASTIC	TR	1.5+7	10.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
91. (762217)	^{241}Pu	N,GAMMA	1.0-1	1.5+7	8.0	1	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
92. (762221)	^{241}Pu	N,2N	TR	1.5+7	20.0	2	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
93. (682072)	^{241}Pu	FISSION (res. param.)	1.0+3	1.5+7	10.0	1	JAE	S. Katsuragi
		Comments: For fast reactor. Status: SAC Blons+, NSE 51 130(1973), data 1 eV to 30 keV. KFK Kaeppeler+, NSE 51 124(1973), data 10 keV to 1.2 MeV relative to U-235. LRL Behrens+, NCSAC-42 130(1971), in progress 1 keV to 15 MeV. GEL Theobald+, EANDC(E)-150 (1972), in progress. ORL Weston+, USNDC-7 179(1973), in progress thermal to 20 keV.						
94. (762218)	^{241}Pu	FISSION	1.0-1	1.5+7	5.0	1	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
95. (762219)	^{241}Pu	ALPHA	1.0-1	1.5+7	8.0	1	MAP	T. Hojuyama
		Comments: For fast reactor calculations.						
96. (762222)	^{241}Pu	RES. PARAM.	2.0-1	2.0+2	10.0	1	MAP	T. Hojuyama
		Comments: For fast reactor calculations. 10% in fission width.						
97. (762223)	^{242}Pu	N,GAMMA	1.0+3	1.5+7	10.0	2	MAP	T. Hojuyama
		Comments: For shielding of spent fuel.						
98. (762224)	^{242}Pu	FISSION	1.0+3	1.5+7	10.0	2	MAP	T. Hojuyama
		Comments: For shielding of spent fuel.						
99. (752029)	^{243}Pu	FISSION	THR	5.0+5	10.0	1	PNC SAE	R. Yumoto H. Matsunobu
		Comments: Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.						
100. (752030)	^{243}Pu	FISSION	2.0+6	1.0+7	10.0	1	PNC SAE	R. Yumoto H. Matsunobu
		Comments: Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel. Status: (for 99 and 100) LAS Bell+, PR 158 1127(1967), estimated at 10 keV from nuclear explosion (TWEED) data. ANL Diamond+, JIN 30 2553(1968), thermal column data.						
101. (752031)	^{243}Pu	N,GAMMA	THR	1.0+7	10.0 ∿ 20.0	1	PNC SAE	R. Yumoto H. Matsunobu
		Comments: Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.						

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS

Status:
ANL Studier, PR 93 1433(1954), thermal value.
ANL Bentley+, 55Geneva 7 261(1955), pile.
ANL Fields+, NSE 1 62(1956), pile.
LRL Ingley+, AF 36 509(1967), estimate at 20 keV from nuclear explosion (TWEED) data.
LRL Ingley+, NP/A 124 130(1969), estimate from ^{242}Pu fission yields.

102. (752032)	^{241}Am	N,GAMMA	1.0-2	2.0+1	5.0 ∿ 10.0	1	PNC SAE MAP	R. Yumoto H. Matsunobu T. Hojuyama

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel. Energy dependence wanted.

103. (752033)	^{241}Am	N,GAMMA	2.0+1	1.5+7	10.0	1	PNC SAE MAP	R. Yumoto H. Matsunobu T. Hojuyama

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. (n,γ) cross sections to the ground and isomer states of Am-242. Neutron shielding design for transport cask of spent fuel.
Status: (for 102 and 103)
BUC Flerov+, NP/A 102 443(1967), data 0.3 to 6.8 MeV.
BUC Vilcov, SCF 22 795(1970), data at 7 MeV.
FEI Dovbenko+, INDC(CCP)-9 7(1970), thermal.
KFK Hinkelmann, KFK-1186 (1970), evaluation to 10 MeV.
CCP Ivanova+, AE 30 369(1971), cross section for fast reactor spectrum.
HAR Wiltshire+, AERE-R-7363(1973), cross section for fast reactor spectrum.
ORL Weston+, USNDC-7 179(1973), thermal to 20 keV.
HAR Coates, (1974), measurements planned, awaiting samples.

104. (762225)	^{241}Am	FISSION	1.0-1	1.5+7	10.0	1	MAP	T. Hojuyama

Comments:
For shielding of spent fuel.

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
105. (752036)	^{242}Am	N,GAMMA	THR	1.0+7	5.0 ∿ 20.0	1	PNC SAE JAE	R. Yumoto H. Matsunobu R. Shindo

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. (n,γ) cross sections of the ground and isomer states of Am-242. Neutron shielding design for transport cask of spent fuel.
Status:
CRC Hanna+, PR 81 893(1951)
LRL Street, PR 85 135(1952)
LRL Bowman+, PR 166 1219(1968), resonance parameters to 4 eV.
JUL Ihle+, JIN 34(8) 2427(1972), pile.

106. (752034)	^{242}Am	FISSION	1.0+6	6.0+6	10.0 ∿ 20.0	1	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. (n,f) cross section of the ground state of Am-242. Neutron shielding design for transport cask of spent fuel.

107. (752035)	^{242}Am	FISSION	6.0+6	1.0+7	10.0 ∿ 20.0	1	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. (n,f) cross sections of the ground and isomer states of Am-242. Neutron shielding design for transport cask of spent fuel.
Status: (for 106 and 107)
LRL Browne+, NCSAC-42 135(1971), in progress to 14 MeV.
LRL Perkins+, NSE 32 131(1968), data from 0.4 eV to 4.7 MeV.

108. (762226)	^{242}Am	FISSION	1.0-1	1.0+4	10.0	2	JAE	R. Shindo

Comments:
For burn-up calculation of thermal reactor.

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
109. (752038)	^{243}Am	N,GAMMA	2.0+1	1.5+7	5.0 ∿ 20.0	1	PNC SAE JAE MAP	R. Yumoto H. Matsunobu R. Shindo T. Hojuyama

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. (n,γ) cross sections to the ground and isomer states of Am-244. Neutron shielding design for transport cask of spent of fuel.
Status:
ANC Simpson+, ANCR-1060(1972), data 0.5 eV to 1.0 keV.
JUL Ihle+, JIN 34(8) 2427(1972), pile.
MTR Berreth+, IN-1407 66(1970), resonance parameters to 25 eV.
BUC Boca+, NP/A 134 541(1969), data 0.3 to 4.0 MeV.

110. (752037)	^{243}Am	FISSION	4.0+6	1.5+7	10.0 ∿ 20.0	1	PNC SAE MAP	R. Yumoto H. Matsunobu T. Hojuyama

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.
Status:
CCP Formushkin+, YF 5 966(1967), value at 15 MeV.
DUB Nad'+, JINR-P7-5162(1970), 16 MeV.
LAS Seeger, LA-4420(1970), data 49 eV to 3 MeV.

111. (762227)	^{243}Am	FISSION	THR	4.0+6	20.0	1	MAP	T. Hojuyama

Comments:
For fast reactor calculations.

112. (752040)	^{244}Am	N,GAMMA	THR	1.0+7	10.0 ∿ 20.0	2	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
113. (752039)	^{244}Am	FISSION	THR	1.0+7	10.0 ∿ 20.0	2	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.
Status:
LAS Hublet, WASH-1033 28(1961), thermal.
ANL Vandenbosch+, JIN 23 187(1962), thermal.

114. (752042)	^{242}Cm	N,GAMMA	THR	1.5+7	10.0 ∿ 20.0	1	PNC SAE MAP	R. Yumoto H. Matsunobu T. Hojuyama

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.
Status:
JUL Ihle+, JIN 34(8) 2427(1972), pile.

115. (752041)	^{242}Cm	FISSION	THR	1.5+7	10.0 ∿ 20.0	1	PNC SAE MAP	R. Yumoto H. Matsunobu T. Hojuyama

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.
Status:
CRC Hanna+, PR 81 893(1951), thermal.
CCP Formushkin+, YF 5 966(1967), 15 MeV.
JUL Ihle+, JIN 34(8) 2427(1972), pile.

116. (752046)	^{243}Cm	N,GAMMA	1.0-2	1.0+1	5.0 ∿ 10.0	1	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.
Energy dependence wanted.

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
117. (752047)	^{243}Cm	N,GAMMA	2.0+1	1.0+7	10.0 ∿ 20.0	1	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.
Status: (for 116 and 117)
JUL Ihle+, JIN 34(8) 2427(1972), pile.

118. (752043)	^{243}Cm	FISSION	1.0-1	1.0+0	10.0	1	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.
Energy dependence wanted.

119. (752044)	^{243}Cm	FISSION	2.0+1	1.0+5	10.0	1	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.

120. (752045)	^{243}Cm	FISSION	3.0+6	1.0+7	10.0 ∿ 20.0	1	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.
Status: (for 118, 119 and 120)
JUL Ihle+, JIN 34(8) 2427(1972), pile.
LRL Browne+, NCSAC-42 135(1971), measurement thermal to 14 MeV planned.
LAS Fullwood+, LA-4420(1970), data 0.11 to 2.9 MeV.
LRL Hulet+, PR 107 1294(1957), thermal.

121. (752049)	^{244}Cm	N,GAMMA	1.0+3	1.5+7	10.0 ∿ 20.0	1	PNC SAE MAP	R. Yumoto H. Matsunobu T. Hojuyama

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
		Comments: Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel. Status: LAS Moore+, PR/C 3 1656(1971), data 20 eV to 10 keV.						
122. (762228)	^{244}Cm	N,GAMMA	5.0+0	1.0+3	10.0	2	MAP	T. Hojuyama
		Comments: For shielding of spent fuel.						
123. (752048)	^{244}Cm	FISSION	1.0+3	1.5+7	5.0 ∿ 10.0	1	PNC SAE MAP	R. Yumoto H. Matsunobu T. Hojuyama
		Comments: Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel. Status: LAS Moore+, PR/C 3 1656(1971), data 20 eV to 3 MeV. SRL Benjamin+, NSE 47 203(1972), thermal cross section and resonance integral relative to U-235.						
124. (762229)	^{244}Cm	FISSION	5.0+0	1.0+3	10.0	2	MPA	T. Hojuyama
		Comments: For shielding of spent fuel.						
125. (752053)	^{245}Cm	N,GAMMA	1.0-2	1.0+0	10.0	1	PNC SAE	R. Yumoto H. Matsunobu
		Comments: Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel. Energy dependence wanted.						
126. (752054)	^{245}Cm	N,GAMMA	6.0+1	1.0+7	20.0	1	PNC SAE	R. Yumoto H. Matsunobu
		Comments: Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.						

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
		Status: (for 125 and 126) ANL Stevens+, PR 94 974(1954), pile. ANL Bentley+, 55Geneva 7 261(1955), pile. ANL Jaffey, NSE 1 204(1956), thermal. ORL Halperin+, ORNL-4437 20(1969), thermal.						
127. (752050)	^{245}Cm	FISSION	1.0-2	1.0+0	5.0	1	PNC SAE	R. Yumoto H. Matsunobu
		Comments: Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel. Energy dependence wanted.						
128. (752051)	^{245}Cm	FISSION	6.0+1	1.0+4	5.0 ∿ 10.0	1	PNC SAE	R. Yumoto H. Matsunobu
		Comments: Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.						
129. (752052)	^{245}Cm	FISSION	3.0+6	1.0+7	10.0 ∿ 20.0	1	PNC SAE	R. Yumoto H. Matsunobu
		Comments: Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel. Status: (for 127, 128 and 129) SRL Benjamin+, NSE 47 203(1972), thermal cross section and resonance integral relative to ^{235}U. LAS Moore+, PR/C 3 1656(1971), data 20 eV to 3 MeV. CCP Formushkin+, YF 17 24(1973). SRL Thompson+, JIN 33 1553(1971), pile. SRL Rusche, ANS 14 344(1971), thermal. ORL Halperin+, ORNL-4581 (1970), thermal. SRL Smith+, 68Wash. paper H 12 (1968), thermal average. LRL Hulet+, PR 107 1294(1957), thermal. ANL Jaffey, NSE 1 204(1956), thermal. LRL Browne+, NCSAC-42 135(1971), work planned.						

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
130. (752058)	^{246}Cm	N,GAMMA	1.0-2	5.0+0	10.0	1	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.
Energy dependence wanted.

131. (752059)	^{246}Cm	N,GAMMA	4.0+2	1.0+7	20.0	1	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.
Status: (for 130 and 131)
LAS Moore+, PR/C 3 1656(1971), data 80 eV to 400 eV.
ORL Halperin+, ORNL-4437 20(1969), thermal.
SRL Folger+, 68Wash. 1279, thermal
ANL Stevens+, PR 94 974(1954), pile.

132. (752055)	^{246}Cm	FISSION	1.0-2	5.0+0	20.0	1	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.
Energy dependence wanted.

133. (752056)	^{246}Cm	FISSION	1.0+3	1.0+4	20.0	1	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.

134. (752057)	^{246}Cm	FISSION	3.0+6	1.0+7	20.0	1	PNC SAE	R. Yumoto H. Matsunobu

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.
Status: (for 132, 133 and 134)
SRL Thompson+, JIN 33 1553(1971), pile.
LAS Moore+, PR/C 3 1656(1971), data 20 eV to 3 MeV.
SRL Benjamin+, NSE 47 203(1972), thermal cross section and resonance integral relative to ^{235}U.
CCP Formushkin+, YF 12 24(1973), fast spectrum.

135. (752063)	^{247}Cm	N,GAMMA	THR	1.0+7	20.0	1	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.

136. (752060)	^{247}Cm	FISSION	THR	2.0+1	5.0 ∿ 10.0	1	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.
Energy dependence wanted.

137. (752061)	^{247}Cm	FISSION	6.0+1	1.0+4	5.0 ∿ 10.0	1	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.

138. (752062)	^{247}Cm	FISSION	3.0+6	1.0+7	10.0 ∿ 20.0	1	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS

Status: (for 136, 137 and 138)
CCP Formushkin+, YF 17 24(1973)
SRL Benjamin+, NSE 47 203(1972), thermal cross section and resonance integral relative to ^{235}U.
LAS Moore+, PR/C 3 1656(1971), data 20 eV to 2 MeV.
SRL Thompson+, JIN 33 1553(1971), pile.
SRL Rusche, ANS 14 344(1971), thermal.
LRL Browne+, NCSAC-42 135(1971), work planned.
ORL Halperin+, ORNL-4581 37(1970), thermal.
ANL Diamond+, JIN 30 2553(1968), thermal.
ANL Smith+, 68Wash. paper H 12, pile.

139. (752067)	^{248}Cm	N,GAMMA	THR	1.0+7	10.0 ∿ 20.0	1	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.
Status:
ORL Halperin+, ORNL-3832 1(1965), thermal.
LAS Moore+, PR/C 3 1656(1971), data 25 to 100 keV.
ORL Druschel+, ORNL-4891 23(1973), thermal.

140. (752064)	^{248}Cm	FISSION	THR	2.0+1	20.0	1	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.
Energy dependence wanted.

141. (752065)	^{248}Cm	FISSION	1.0+3	1.0+4	20.0	1	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
142. (752066)	^{248}Cm	FISSION	3.0+6	1.0+7	20.0	1	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.
Status: (for 140, 141 and 142)
CCP Formushkin+, YF 17 24(1973).
ORL Benjamin+, USNDC-7 170(1973), in progress.
SRL Benjamin+, NSE 47 203(1972), thermal cross section and resonance integral relative to ^{235}U.
LAS Moore+, PR/C 3 1656(1971), data 20 eV to 3 MeV.
SRL Thompson+, JIN 13 1553(1971), pile.

143. (752069)	^{249}Cm	N,GAMMA	THR	1.0+7	10.0 ∿ 20.0	1	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.
Status:
ANL Diamond+, ANL-7330 (1967), pile.

144. (752068)	^{249}Cm	FISSION	THR	1.0+7	20.0	2	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.

145. (752071)	^{250}Cm	N,GAMMA	THR	1.0+7	20.0	2	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
146. (752070)	^{250}Cm	FISSION	THR	1.0+7	20.0	2	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.

REF	NUCLIDE	QUANTITY	MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
147. (752074)	^{249}Bk	N,GAMMA	THR	1.0+7	20.0	1	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.
Status:
ANL Magnusson+, PR 96 1576(1954), pile.
SRL Folger+, 68Wash. 1279, thermal.

REF	NUCLIDE	QUANTITY	MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
148. (752072)	^{249}Bk	FISSION	THR	2.0+5	20.0	2	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.

REF	NUCLIDE	QUANTITY	MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
149. (752073)	^{249}Bk	FISSION	5.0+6	1.0+7	20.0	2	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.
Status: (for 148 and 149)
KUR Vorotnikov+, NP/A 150 56(1970), data 0.6 to 4.6 MeV.
SRL Rusche, ANS 14 344(1971), thermal.
CCP Formushkin+, YF 14 73(1971), data 1.5 to 15 MeV.
LRL Browne+, NCSAC-42 135(1971), measurement planned.

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
150. (752076)	^{250}Bk	N,GAMMA	THR	1.0+7	20.0	2	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.

151. (752075)	^{250}Bk	FISSION	THR	1.0+7	20.0	2	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thremal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.
Status:
ANL Diamond+, JIN 30 2553(1968), thermal.

152. (752077)	^{249}Cf	N,GAMMA	THR	1.0+7	10.0 ∿ 20.0	1	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.
Status:
BRK Harvey+, PR 95 581(1954), pile.
ORL Halperin+, ORNL-4706 47(1971), thermal.

153. (752079)	^{250}Cf	N,GAMMA	THR	1.0+7	10.0 ∿ 20.0	1	PNC SAE	R. Yumoto H. Matsunobu

Comments:
Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.
Status:
ANL Magnusson+, PR 96 1576(1954), pile.
SRL Folger+, 68Wash. 1279, thermal.
ORL Halperin+, ORNL-4706 47(1971), thermal.

154. (752078)	^{250}Cf	FISSION	THR	1.0+7	20.0	2	PNC SAE	R. Yumoto H. Matsunobu

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
		Comments: Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.						
155. (752081)	^{251}Cf	N,GAMMA	THR	1.0+7	10.0 ∿ 20.0	1	PNC SAE	R. Yumoto H. Matsunobu
		Comments: Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel. Status: ANL Magnusson+, PR 96 1576(1954), pile. SRL Folger+, 68Wash. 1279, thermal value. ORL Halperin+, ORNL-4706 47(1971), thermal.						
156. (752080)	^{251}Cf	FISSION	THR	1.0+7	10.0 ∿ 20.0	1	PNC SAE	R. Yumoto H. Matsunobu
		Comments: Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel. Status: ANL Metta+, JIN 27 33(1965), thermal value. SRL Smith+, 68Wash. paper H12, pile. SRL Rusche, ANS 14 344(1971), thermal value. LRL Ragaini, PR/C 9 399(1974), thermal value.						
157. (752084)	^{252}Cf	N,GAMMA	THR	1.0+7	10.0 ∿ 20.0	1	PNC SAE	R. Yumoto H. Matsunobu
		Comments: Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel. Status: BRK Harvey+, PR 95 581(1954), pile. ANL Magnusson+, PR 96 1576(1954), pile.						

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
		SRL Folger+, 68Wash. 1279, thermal value. ORL Halperin+, NSE 37 228(1969), thermal value. ORL Bemis, NSE 41 146(1970), pile. KFK Eberle+, KFK-1338 (1971), pile.						
158. (752082)	^{252}Cf	FISSION	THR	2.0+1	10.0	1	PNC SAE	R. Yomoto H. Matsunobu
		Comments: Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel. Energy dependence wanted.						
159. (752083)	^{252}Cf	FISSION	5.0+6	1.0+7	20.0	2	PNC SAE	R. Yumoto H. Matsunobu
		Comments: Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel. Status: (for 158 and 159) ORL Bemis, NSE 41 146(1970), pile. LAS Moore+, PR/C 4 273(1971), nuclear explosion, 20 eV to 5 MeV. ORL Halperin+, ORNL-4706 53(1971), thermal value.						
160. (752086)	^{253}Cf	N,GAMMA	THR	1.0+7	10.0 ∿ 20.0	2	PNC SAE	R. Yumoto H. Matsunobu
		Comments: Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel. Status: ORL Bemis+, NSE 41 146 (1970), pile. CCP Anufriev+, AE 32 493(1972), pile, estimated value.						
161. (752085)	^{253}Cf	FISSION	THR	1.0+7	10.0 ∿ 20.0	1	PNC SAE	R. Yumoto H. Matsunobu

REF	NUCLIDE	QUANTITY	ENERGY(EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTORS
		Comments: Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel. Status: ORL Bemis+, NSE 41 146(1970), pile. SRL Rusche, ANS 14 344(1971), thermal value. LRL Wild+, JIN 35(4) 1063(1973), thermal.						
162. (752088)	^{254}Cf	N,GAMMA	THR	1.0+7	20.0	2	PNC SAE	R. Yumoto H. Matsunobu
		Comments: Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel. Status: BRK Harvey+, PR 95 581(1954), pile, upper limit.						
163. (752087)	^{254}Cf	FISSION	THR	1.0+7	20.0	2	PNC SAE	R. Yumoto H. Matsunobu
		Comments: Burn-up calculation of thermal and fast reactors, and estimation for build up of transuranium nuclides in spent fuel. Neutron shielding design for transport cask of spent fuel.						

3. Codes of Laboratories

The laboratory codes used in the status comments are tabulated in this section. These are the transcript from the WRENDA 76/77.[1)]

ABD	US ARMY ABERDEEN RESEARCH AND DEVEL. CENT., ABERDEEN, MD.	USA
AE	AKTIEBOLAGET ATOMENERGI, STUDSVIK	SWD
AEC	UNITED STATES ATOMIC ENERGY COMMISSION, WASHINGTON, DC	USA
AI	ATOMICS INTERNATIONAL, CANOGA PARK, CALIFORNIA	USA
ALD	UK AWRE, ALDERMASTON	UK
ALG	ALGERIA	ALG
ALK	ALKEM GMBH, LEOPOLDSHAFEN	GER
ANC	AEROJET NUCLEAR CORP., IDAHO FALLS, IDAHO	USA
ANL	ARGONNE NATIONAL LABORATORY, LEMONT, ILLINOIS	USA
ARL	AEROSPACE RES.LABS, WRIGHT-PATTERSON AIR-FORCE BASE, OHIO	USA
ATI	ATOMINST. DER OESTERREICHISCHEN HOCHSCHULEN, VIENNA	AUS
AUA	AUSTRALIAN AEC RESEARCH ESTABLISHMENT, LUCAS HEIGHTS	AUL
AUB	AUBURN UNIVERSITY, ALABAMA	USA
AUW	ANDRAH U., NUCLEAR RESEARCH LAB., WALTAIR	IND
BAC	BULGARIAN ACADEMY OF SCIENCES, SOFIA	BUL
BET	WESTINGHOUSE, BETTIS ATOMIC POWER LAB., PITTSBURGH, PA.	USA
BIR	UNIVERSITY OF BIRMINGHAM, ENGLAND	UK
BNL	BROOKHAVEN NATIONAL LABORATORY, UPTON, NEW YORK	USA
BNW	BATTELLE NORTHWEST LABORATORY, RICHLAND, WASHINGTON	USA
BOL	COMISION NACIONAL DE ENERGIA ATOMICA, BOLOGNA	ITY
BOR	BORDEAUX UNIVERSITY	FR
BRC	CEN BRUYERE LE CHATEL	FR
BRK	UNIVERSITY OF CALIFORNIA, LAWRENCE BERKELEY LAB. BERKELEY	USA
BUC	INSTITUTE FOR ATOMIC PHYSICS, BUCHAREST	RUM
BUQ	BISHOP'S UNIVERSITY, QUEBEC	CAN
CAD	CADARACHE, BOUCHES-DU-RHONE	FR
CAS	CENTRO DI STUDI NUCLEARI DELLA CASACCIA, ROME	ITY
CCP	SOVIET UNION	CCP
CNA	CEKMECE NUCLEAR RESEARCH CENTER, ISTANBUL	TUK
COL	COLUMBIA UNIVERSITY, NEW YORK CITY, NEW YORK	USA
CRC	CHALK RIVER NUCLEAR LABORATORIES, ONTARIO	CAN
CSE	CASE INSTITUTE OF TECHNOLOGY, CLEVELAND, OHIO	USA

DEB	ATOMMAG KUTATO INTEZET, DEERECEN	HUN
DKE	DUKE UNIVERSITY, DURHAM, NORTH CAROLINA	USA
DRF	DOW CHEMICAL COMPANY, ROCKY FLATS, COLORADO	USA
DUB	JOINT INSTITUTE FOR NUCLEAR RESEARCH, DUBNA	ZZZ
FAR	CEA FONTENAY-AUX-ROSES, SEINE	FR
FE	FUJI ELECTRIC	JAP
FEI	FIZIKO-ENERGETICHESKIJ INSTITUT, OBNINSK	CCP
FOA	RESEARCH INSTITUTE OF NATICNAL DEFENSE, STOCKHOLM	SWD
FRK	J.W.GOETHE UNIVERSITY, FRANKFURT	GER
GA	GENERAL ATOMIC, SAN DIEGO, CALIFORNIA	USA
GAC	INSTITUTE FOR GEO- AND ANALYTIC CHEMISTRY, MOSCOW	CCP
GEB	GENERAL ELECTRIC, BRDO, SUNNYVALE, CALIF.	USA
GEL	B.C.M.N. EURATOM, GEEL	EUR
GEV	GENERAL ELECTRIC CO., VALLECITOS, CALIF.	USA
GIT	GEORGIA INSTITUTE OF TECHNOLOGY, ATLANTA, GEORGIA	USA
GLS	UNIVERSITY OF GLASGOW, SCOTLAND	UK
GOE	UNIVERSITY CF GOETTINGEN	GER
GRE	CÉA AND UNIVERSITY, GRENOBLE	FR
GRT	GULF RADIATION TECHNOLOGY, SAN DIEGO, CALIFORNIA	USA
HAM	INSTITUT FUER EXPERIMENTALPHYSIK, HAMBURG	GER
HAR	UK ATOMIC ENERGY RESEARCH ESTABLISHMENT, HARWELL	UK
HED	HANFORD ENGINEERING DEVELOPMENT LAB., RICHLAND, WASH.	USA
HFA	TECHNION HAIFA	ISL
HLS	UNIVERSITY CF HELSINKI	SF
HRV	HARVARD UNIVERSITY, CAMBRIDGE, MASS	USA
IAE	INTERNATIONAL ATOMIC ENERGY AGENCY, VIENNA	UNO
IEN	INSTITUTO DE ENGENHARIA NUCLEAR, RIO DE JANEIRO	BZL
IFU	INSTITUT FIZIKI AN UKRAINSKOI SSR, KIEV	CCP
IIT	ILLINOIS INSTITUTE OF TECHNOLOGY, CHICAGO, ILLINOIS	USA
IJI	INSTITUT JADERNYKH ISSLEDOVANIJ, KIEV	CCP
IRK	INSTITUT FUER RADIUMFORSCHUNG UND KERNPHYSIK, VIENNA	AUS
IRT	INTELCOM RADIATION TECHNOLOGY, SAN DIEGO, CALIF.	USA
JAE	JAPAN ATOMIC ENERGY RESEARCH INSTITUTE, TOKAI	JAP
JAP	JAPAN	JAP
JUL	KERNFORSCHUNGSANLAGE, JUELICH	GER
JYV	JYVAESKYLAE UNIVERSITY	SF
KAP	KNOLLS ATOMIC POWER LABORATORY, SCHENECTADY, NEW YORK	USA
KFK	KERNFORSCHUNGSZENTRUM, KARLSRUHE	GER
KGU	GOSUDARSTVENNYJ UNIVERSITY, KIEV	CCP
KIG	GKSS, GEESTHACHT	GER
KIL	UNIVERSITY OF KIEL	GER

KOS	KOSSUTH UNIVERSITY, DEBRECEN	HUN
KTC	KYOTO UNIVERSITY	JAP
KTY	UNIVERSITY OF KENTUCKY, LEXINGTON, KENTUCKY	USA
KUR	I.V. KURCHATOV ATOMIC ENERGY INST., MOSCOW	CCP
KYU	KYUSHU UNIVERSITY, FUKUOKA	JAP
LAS	LOS ALAMOS SCIENTIFIC LABORATORY, NEW MEXICO	USA
LOU	UNIVERSITY OF LODZ, LODZ	POL
LRL	LAWRENCE LIVERMORE LABORATORY, LIVERMORE, CALIFORNIA	USA
LTI	LOWELL TECHNOLOGICAL INSTITUTE, LOWELL, MASS.	USA
MCM	MCMASTER UNIVERSITY, HAMILTON, ONTARIO	CAN
MGT	MICHIGAN TECHNOLOGICAL UNIVERSITY	USA
MHG	UNIVERSITY OF MICHIGAN	USA
MIT	MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MASS.	USA
MND	MOUND LABORATORY, MIAMISBURG, OHIO	USA
MOL	C.E.N., MOL	BLG
MTR	IDAHO NUCLEAR CORP., IDAHO FALLS, IDAHO	USA
MUA	MUSLIM UNIVERSITY, ALIGARH	IND
MUN	TECH. HOCHSCHULE, MUENCHEN	GER
NBS	NATIONAL BUREAU OF STANDARDS, WASHINGTON, D.C.	USA
NDC	NEA NUCLEAR DATA COMPILATION CENTER, SACLAY, FRANCE	ZZZ
NEL	U.S. ARMY NUCLEAR EFFECTS LABORATORY, ABERDEEN, MARYLAND	USA
NEU	UNIVERSITY OF NEUCHATEL	SWT
NPG	NIPPON ATOMIC POWER INDUSTRY GROUP	JAP
NPL	NATIONAL PHYSICAL LABORATORY, TEDDINGTON	UK
NRD	U.S. NAVAL RADIOLOGICAL DEFENSE LAB., SAN FRANCISCO	USA
NYU	NEW YORK UNIVERSITY, NEW YORK CITY	USA
OHO	OHIO UNIVERSITY, ATHENS, OHIO	USA
ORE	UNIVERSITY OF OREGON, EUGENE, OREGON	USA
ORL	OAK RIDGE NATIONAL LABORATORY, TENNESSEE	USA
OSL	UNIVERSITY OF OSLO	NOR
PAD	UNIVERSITY OF PADUA	ITY
PAR	UNIVERSITY OF PARIS (INCL.CRSAY) PARIS	FR
PEL	AE BOARD, PELINDABA, PRETORIA	SAF
PNC	POWER REACTOR AND NUCLEAR FUEL DEV. CORP., TOKAI-MURA	JAP
PTN	PRINCETON UNIVERSITY, PRINCETON, N.J.	USA
RAM	ATOMIC ENERGY CENTRE, RAMNA, DACCA	BAN
RCN	REACTOR CENTRUM NEDERLAND, PETTEN	NED
REH	REHOVOTH LAB., ISRAEL AEC.	ISL
RI	KHLOPIN RADIUM INSTITUTE, LENINGRAD	CCP
RIS	RISO, ROSKILDE	DEN

RL	RICHLAND OPERATIONS OFFICE, RICHLAND, WASHINGTON	USA
ROS	ROSSENDORF BEI DRESDEN	DDR
RPI	RENNSELAER POLYTECHNIC INSTITUTE, TROY, NEW YORK	USA
RUM	ROMANIA	RUM
SAC	C.E.N. SACLAY, GIF-SUR-YVETTE	FR
SAE	SUMITOMO ATOMIC ENERGY INDUSTRIES, LTD., TOKYO	JAP
SAI	SCIENTIFIC APPLICATIONS INC., LA JOLLA, CALIFORNIA	USA
SAS	UNIV. OF SASKATCHEWAN, SASKATOON	CAN
SGA	OEST.STUDIENGES.F.ATOMENERGIE, VIENNA	AUS
SOR	SOREQ RESEARCH CENTER, YAVNE	ISL
SRE	SIEMENS REAKTORENTWICKLUNG, ERLANGEN	GER
SRL	SAVANNAH RIVER LABORATORIES, AIKEN, S.C.	USA
SUN	SOUTHERN UNIVERSITIES NUCLEAR INST., FAURE, CAPE PROV.	SAF
THD	TECH. HOCHSCHULE, DARMSTADT	GER
TNC	TEXAS NUCLEAR CORPORATION, AUSTIN, TEXAS	USA
TRM	BHABHA ATOMIC RESEARCH CENTRE, TROMBAY	IND
TUD	DRESDEN, TECHNICAL UNIVERSITY AT DRESDEN AND PIRNA	DDR
UK	UNITED KINGDOM	UK
UKW	WINDSCALE REACTOR DEVELOPMENT LABS., UKAEA	UK
UMK	UNION MINIERE DU HAUT KATANGA, BRUSSELS	BLG
UPP	UNIVERSITY OF UPPSALA	SWD
USA	UNITED STATES OF AMERICA	USA
USP	UNIVERSITY OF SAO PAULO, SAO PAULO	BZL
VDN	CENTRAL BUREAU DER V.D.E.N., ARNHEM	NED
WIN	UK ATOMIC ENERGY ESTABLISHMENT, WINFRITH	UK
WIS	UNIVERSITY OF WISCONSON, MADISON, WISCONSON	USA
WML	WESTERN MICHIGAN UNIVERSITY	USA
WUR	EIDG. INSTITUT FUER REAKTORFORSCHUNG, WUERENLINGEN	SWT
WWA	WARSAW UNIVERSITY	POL
YAL	YALE UNIVERSITY, NEW HAVEN, CONNECTICUT	USA
YOK	RIKKYO UNIVERSITY, YOKOSUKA	JAP

4. References

1) Lessler, R.M. : World Request List for Nuclear Data, INDC(SEC)-55/URSF, IAEA, (1976)

2) Japanese List of Requests for Neutron Nuclear Data Measurements, compiled by WRENDA Working Group of JNDC (1975)

3) WRENDA 75, World Request List for Nuclear Data Measurements, INDC(SEC)-46/U+R+F+S (1975)

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