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JAPANESE LIST OF REQUESTS FOR NUCLEAR DATA

September 1983

Compiled by

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and

WRENDA Group of Japanese Nuclear Data Committee

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Japanese List of Requests for Nuclear Data

Compiled by

Sin-iti IGARASI

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WRENDA Group of Japanese Nuclear Data Committee*)

(Received August 11, 1983)

Requests for nuclear data at 1982 are presented. They are 62 for fission reactor, 45 for fusion reactor, 14 for safeguards, and 2 for others. These will be registered in WRENDA 83/84+). This report contains these 123 requests, and also 59 requests which should be withdrawn from the previous WRENDA list. These withdrawn requests are 13 for fission reactor, 19 for fusion reactor and 27 for safeguards.

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Keywords: Nuclear Data, Data Requests, Fission Reactors, Fusion Reactors, Safeguards, WRENDA

+) WRENDA: World Request List for Nuclear Data, see Ref. 1.

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核データに対する要求リスト

シグマ研究委員会WRENDAグループ*)

五十嵐　信　一（編）

（1983年8月11日受理）

1982年時点でまとめた核データに対する要求リストである。要求の内容は核分裂炉関係62件，核融合炉関係45件，保障措置関係14件，その他2件である。これらの要求はWRENDA83/84+)に登録される。この報告書にはこれら123件の要求の他に，前回のリストから取り下げた59件の内容も載せてある。取り下げたものの内訳は核分裂炉関係13件，核融合関係19件，保障措置関係27件になっている。

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+) WRENDA：World Request List for Nuclear Data のことである。参考文献1を参照。

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1. Introduction

WRENDA Group of Japanese Nuclear Data Committee was convened in November 1982 to screen new requests, to examine the old Japanese requests and to compile Japanese List of Requests for Nuclear Data in 1982. About 20 new requests were received by the WRENDA Group, and were examined whether or not they were appropriate to the requests from the viewpoint of the present status of the nuclear data. When questions arose about the requests, the WRENDA Group asked the requestors the reasons behind their requests and discussed with them the questionable matters of their requests. In some cases, the WRENDA Group modified partly the descriptions of the original requests so that they might fit the status quo of the data. Finally, the WRENDA Group adopted 12 requests for fission reactors, 3 for fusion reactors and 2 for other purposes.

The old requests[1,2] were returned back to the requestors and were reviewed in the light of the data status and needs. The nuclear reaction data requested from fusion branch were mostly withdrawn. The data satisfies these requests, and 19 requests for fusion reactors were deleted. For safeguards, 27 requests were withdrawn. Most of them are rather old, and are already satisfied. For fission reactors, there are still constant requests, and only 13 old requests were deleted.

In the present review work, 59 requests were finally withdrawn. Hence, a total of 123 Japanese requests will be registered in WRENDA. In this report, these requests are presented in the form of the computer output lists.

2. List of Requests Submitted to New WRENDA

In this section, Japanese requests submitted to new WRENDA are presented in the form of output lists from the computer. First line of each request shows, from the left, sequential number for this request list, atomic number, name of element, mass number, incident particle, and physical quantity, respectively. Second line gives generation figure, date of reception at JAERI/NDC, date of revision (if any, with increase of generation figure), date of submission to WRENDA, and date of withdrawal from WRENDA (for only withdrawn requests). Third line is for the energy region, required accuracy, priority, and requestors' names. If requestors are more than three persons, their names are shown in fourth and fifth lines. The next line is for the registration numbers for this storage and retrieval system and for WRENDA entry, and category for application. Comment area is devoted to quantity comment (Q), accuracy comment (A) and other comment (O), respectively. These structures are made so as to reproduce the WRENDA lists.

** REQUESTS REGISTERED TO WRENDA. ** PAGE 1

1 001 HYDROGEN 001 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION
00 821120 821225
5.00 MEV 15.00 MEV 0.5% 3 ELH T.MICHIKAWA
820001 OTHERS
Q: STANDARD FOR ABSOLUTE MEASUREMENTS OF MONOENERGITIC FAST NEUTRON FLUENCE.
A: PRESENT ACCURACY IS 1.0%. LESS THAN 0.5% ACCURACY REQUESTED.
O: PRECISE MEASUREMENTS AND EVALUATIONS ARE REQUIRED. PRECISE EVALUATION OF ELASTIC SCATTERING CROSS SECTION FROM 10 KEV TO 20 MEV IS ALSO WANTED.

2 001 HYDROGEN 002 NEUTRON DOUBLE DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION
00 801110 801225
UP TO 15.00 MEV 15.0% 2 OSA A.TAKAHASHI
800001 812018 FUSION REACTOR
Q: ENERGY-ANGLE DIFFERENTIAL CROSS SECTION FOR (N,2N) REACTION WANTED.
O: FOR ESTIMATION OF EMITTED NEUTRON SPECTRA FROM D-T MIXTURE OF INERTIALLY CONFINED TARGET PLASMA.

3 001 HYDROGEN 003 NEUTRON DOUBLE DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION
00 801110 801225
UP TO 15.00 MEV 15.0% 2 OSA A.TAKAHASHI
800002 812019 FUSION REACTOR
Q: ENERGY-ANGLE DIFFERENTIAL CROSS SECTION FOR (N,2N) REACTION WANTED.
O: FOR ESTIMATION OF EMITTED NEUTRON SPECTRA FROM D-T MIXTURE OF INERTIALLY CONFINED TARGET PLASMA.

4 003 LITHIUM 006 NEUTRON N,T
00 760401 761010
3.00 MEV 15.00 MEV 5.0% 1 JAE Y.SEKI
780005 762053 FUSION REACTOR
O: TRITIUM BREEDING AND ENERGY DEPOSITION CALCULATION.

5 003 LITHIUM 006 NEUTRON DOUBLE DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION
00 801110 801225
2.00 MEV 15.00 MEV 10.0% 2 OSA A.TAKAHASHI JAE Y.SEKI
800003 FUSION REACTOR
Q: ENERGY-ANGLE DIFFERENTIAL CROSS SECTIONS REQUIRED WITH INCIDENT ENERGY STEP OF 0.5 MEV.
O: NEUTRON TRANSPORT AND TRITIUM PRODUCTION RATE CALCULATIONS. ANGULAR DISTRIBUTIONS OF INELASTICALLY SCATTERED NEUTRONS FOR ALL AVAILABLE DISCRETE LEVELS ALSO REQUIRED.

6 003 LITHIUM 007 NEUTRON N,NT
01 760401 801110 761010
UP TO 15.00 MEV 5.0% 1 JAE Y.SEKI OSA A.TAKAHASHI
780013 762058 FUSION REACTOR
Q: NEUTRON SPECTRA WITH ACCURACY 15 PER CENT ALSO REQUIRED.
O: TRITIUM BREEDING AND ENERGY DEPOSITION CALCULATION.

7 003 LITHIUM 007 NEUTRON DOUBLE DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION
00 801110 801225
2.00 MEV 15.00 MEV 10.0% 2 JAE Y.SEKI OSA A.TAKAHASHI
800004 FUSION REACTOR
Q: ENERGY-ANGLE DIFFERENTIAL CROSS SECTIONS FOR TOTAL NEUTRON EMISSIONS REQUIRED.
O: NEUTRON TRANSPORT AND TRITIUM PRODUCTION RATE CALCULATIONS. ANGULAR DISTRIBUTIONS OF INELASTICALLY SCATTERED NEUTRONS FOR ALL AVAILABLE DISCRETE LEVELS ALSO REQUIRED.

8 004 BERYLLIUM 009 NEUTRON N,ALPHA
00 760401 761010
8.00 MEV 15.00 MEV 15.0% 3 JAE Y.SEKI
780018 762063 FUSION REACTOR
O: HELIUM ACCUMULATION CALCULATIONS.

9 004 BERYLLIUM 009 NEUTRON DOUBLE DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION
00 801110 801225
1.70 MEV 15.00 MEV 15.0% 2 JAE Y.SEKI OSA A.TAKAHASHI
800005 FUSION REACTOR
Q: ENERGY-ANGLE DIFFERENTIAL CROSS SECTIONS FOR TOTAL NEUTRON EMISSIONS REQUIRED. DOUBLE DIFFERENTIAL FOR THE (N,2N) REACTION IS ALSO REQUIRED BY A.TAKAHASHI.
O: BLANKET NEUTRONICS CALCULATIONS. FOR ALSO NEUTRON MULTIPLICATION CALCULATIONS.

10 006 CARBON 012 NEUTRON N,N 3ALPHA
00 760401 761010
UP TO 15.00 MEV 15.0% 2 JAE Y.SEKI
780020 762065 FUSION REACTOR
Q: TOTAL ALPHA PRODUCTION CROSS SECTION AND SECONDARY NEUTRON ENERGY SPECTRUM REQUIRED.
O: NEUTRON TRANSPORT AND HELIUM ACCUMULATION CALCULATIONS.

11 006 CARBON 012 NEUTRON DOUBLE DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION
00 801110 801225
7.00 MEV 15.00 MEV 10.0% 2 JAE Y.SEKI OSA A.TAKAHASHI
800006 FUSION REACTOR
Q: ENERGY-ANGLE DIFFERENTIAL CROSS SECTIONS FOR TOTAL NEUTRON EMISSIONS REQUIRED. ANGULAR DISTRIBUTIONS OF INELASTIC SCATTERING CROSS SECTIONS FOR ALL AVAILABLE DISCRETE LEVELS ESPECIALLY WANTED BY A.TAKAHASHI.
O: NEUTRON TRANSPORT CALCULATIONS.

12 006 CARBON 012 NEUTRON N,N ALPHA
00 801110 801225
UP TO 40.00 MEV 15.0% 2 KTO K.SHIN TOH H.ORIHARA
NAG S.ITOH
800011 FUSION REACTOR
Q: SECONDARY NEUTRON AND ALPHA-PARTICLE ENERGY SPECTRA ARE REQUIRED.
O: FOR DETECTOR EFFICIENCY DETERMINATION IN FUSION REACTOR NEUTRONICS EXPERIMENTS.

13 006 CARBON 012 NEUTRON N,P
00 801110 801225
5.00 MEV 20.00 MEV 5.0% 2 NAG S.ITOH
800031 FUSION REACTOR
O: FOR CALCULATION OF DETECTOR RESPONSE FUNCTION. DISAGREEMENT BETWEEN KREGER AND RIMMER ABOVE 16.0 MEV.

14 006 CARBON 013 ALPHA NEUTRON EMISSION CROSS SECTION
00 780808 781212
UP TO 10.00 MEV 20.0% 2 SAE N.YAMANO
780021 792070 FISSION REACTOR
Q: EXPERIMENTAL DATA WANTED. ANGULAR DISTRIBUTION ALSO REQUIRED. REQUIRED NEUTRON ENERGIES ARE 100 KEV TO 10 MEV.
O: FOR NEUTRON SHIELDING AND EVALUATION OF NEUTRON SOURCE. FOR EVALUATION OF NEUTRON ENERGY SPECTRUM IN FUEL RECYCLE PROCESS.

15 008 OXYGEN 016 NEUTRON N,ALPHA
00 760401 761010
7.50 MEV 15.00 MEV 15.0% 2 JAE Y.SEKI
780022 762066 FUSION REACTOR
Q: TOTAL ALPHA PRODUCTION CROSS SECTION.
O: HELIUM ACCUMULATION CALCULATION IN LI-OXIDE BLANKETS.

16 008 OXYGEN 016 NEUTRON N,N ALPHA
00 760401 761010
UP TO 15.00 MEV 15.0% 2 JAE Y.SEKI
780023 762067 FUSION REACTOR
Q: SECONDARY NEUTRON ENERGY SPECTRA REQUIRED.
O: CALCULATION OF NEUTRON TRANSPORT AND HELIUM ACCUMULATION IN LI-OXIDE BLANKETS.

17 008 OXYGEN 016 TRITON NEUTRON EMISSION CROSS SECTION
00 780808 781212
UP TO 12.00 MEV 10.0% 2 JAE K.TANAKA JAE H.KUDO
780024 792071 FUSION REACTOR
Q: EXPERIMENTAL DATA WANTED.
A: 5% ENERGY RESOLUTION DESIRABLE.
O: FOR PRECISE ESTIMATION OF LI2O BURNUP IN CTR BLANKET. FOR EVALUATION OF NUMBER OF O18 ATOMS FROM BETA PLUS DECAY OF F18 PRODUCED THROUGH O16(T,N)F18.

18 008 OXYGEN 017 NEUTRON N,ALPHA
01 780808 821210 781212
0.25-1 EV 15.00 MEV 30.0% 2 PNC T.KAWAKITA
780025 792073 FISSION REACTOR
Q: EVALUATED DATA WANTED.
O: FOR EVALUATION OF QUANTITY OF C14 FROM OXIDE FUEL IN FAST REACTOR. BOTH EVALUATIONS AND MEASUREMENTS ARE SCARCE.

19 008 OXYGEN 017 ALPHA NEUTRON EMISSION CROSS SECTION
00 780808 781212
UP TO 10.00 MEV 20.0% 2 SAE N.YAMANO
780026 792072 FISSION REACTOR
Q: EXPERIMENTAL DATA WANTED. ANGULAR DISTRIBUTION ALSO REQUIRED. REQUIRED NEUTRON ENERGIES ARE 100 KEV TO 10 MEV.
O: FOR NEUTRON SHIELDING AND EVALUATION OF NEUTRON SOURCE. FOR EVALUATION OF NEUTRON ENERGY SPECTRUM IN FUEL RECYCLE PROCESS.

20 008 OXYGEN 017 NEUTRON N,P
00 821120 821225
UP TO 20.00 MEV 20.0% 2 CRC T.ISHIZUKA CRC H.KADOTANI
820002 FISSION REACTOR
O: SHIELDING PRIMARY COOLING SYSTEMS FROM DELAYED NEUTRONS FROM N-17.

21 008 OXYGEN 018 ALPHA NEUTRON EMISSION CROSS SECTION
00 780808 781212
UP TO 10.00 MEV 20.0% 2 SAE N.YAMANO
780027 792074 FISSION REACTOR
Q: EXPERIMENTAL DATA WANTED. ANGULAR DISTRIBUTION ALSO REQUIRED. REQUIRED NEUTRON ENERGIES ARE 100 KEV TO 10 MEV.
O: FOR NEUTRON SHIELDING AND EVALUATION OF NEUTRON SOURCE. FOR EVALUATION OF NEUTRON ENERGY SPECTRUM IN FUEL RECYCLE PROCESS.

22 013 ALUMINIUM 027 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION
00 760401 761010
0.25-1 EV 15.00 MEV 15.0% 3 MAP M.KASAI
780032 762075 FUSION REACTOR
O: GAMMA-RAY HEATING CALCULATIONS.

23 013 ALUMINIUM 027 NEUTRON N,D
00 760401 761010
UP TO 15.00 MEV 15.0% 3 MAP M.KASAI
780035 762072 FUSION REACTOR
O: HYDROGEN ACCUMULATION CALCULATIONS.

24 013 ALUMINIUM 027 NEUTRON N,T
00 760401 761010
UP TO 15.00 MEV 15.0% 3 MAP M.KASAI
780036 762073 FUSION REACTOR
O: HYDROGEN ACCUMULATION CALCULATIONS.

25 018 ARGON 040 NEUTRON CAPTURE CROSS SECTION
00 710401 711010
UP TO 10.00 MEV 2 NIG M.KAWAI
780039 712006 FISSION REACTOR
A: ACCURACY REQUIRED TO BETTER THAN 20.0 PERCENT.
O: FOR REACTOR HAZARD CALCULATION.

26 019 POTASSIUM 039 NEUTRON N,P
01 780808 821210 781212
0.25-1 EV 15.00 MEV 30.0% 2 PNC T.KAWAKITA
780040 792076 FISSION REACTOR
Q: EVALUATED DATA WANTED.
O: FOR REACTOR HAZARD CALCULATION. THERE ARE MANY EXPERIMENTAL DATA IN MEV REGION.

27 020 CALCIUM NEUTRON DOUBLE DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION
00 821120 821225
1.00 MEV 15.00 MEV 15.0% 3 JAE Y.SEKI
820003 FUSION REACTOR
O: INCLUDED IN CONCRETE. SHIELDING DESIGN.

28 022 TITANIUM NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION
00 760401 761010
0.25-1 EV 15.00 MEV 15.0% 3 MAP M.KASAI
780046 762083 FUSION REACTOR
O: POTENTIAL CONSTITUENT OF STRUCTURAL MATERIAL. GAMMA-RAY HEATING CALCULATIONS.

29 022 TITANIUM NEUTRON N,ALPHA
00 760401 761010
UP TO 15.00 MEV 15.0% 3 MAP M.KASAI
780049 762082 FUSION REACTOR
O: POTENTIAL CONSTITUENT OF STRUCTURAL MATERIAL. HELIUM ACCUMULATION CALCULATIONS.

30 023 VANADIUM NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION
00 760401 761010
0.25-1 EV 15.00 MEV 10.0% 2 MAP M.KASAI
780052 762089 FUSION REACTOR
O: POTENTIAL CONSTITUENT OF STRUCTURAL MATERIAL. GAMMA-RAY HEATING CALCULATIONS.

31 023 VANADIUM NEUTRON N,2N
00 760401 761010
UP TO 15.00 MEV 10.0% 2 MAP M.KASAI
780053 762085 FUSION REACTOR
O: POTENTIAL CONSTITUENT OF STRUCTURAL MATERIAL. NEUTRON MULTIPLICATION CALCULATIONS.

32 024 CHROMIUM NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION
01 760401 801110 761010
UP TO 15.00 MEV 15.0% 2 JAE Y.SEKI
780059 762094 FUSION REACTOR
Q: GAMMA-RAY SPECTRA ALSO REQUIRED.
O: GAMMA-RAY HEATING CALCULATIONS.

33 024 CHROMIUM NEUTRON DOUBLE DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION
00 821120 821225
UP TO 15.00 MEV 15.0% 2 JAE Y.SEKI
820004 FUSION REACTOR
O: NEUTRON TRANSPORT CALCULATIONS.

34 026 IRON NEUTRON INELASTIC CROSS SECTION
01 760401 801110 761010
UP TO 20.00 MEV 5.0% 1 JAE Y.SEKI NIG M.KAWAI
780064 762099 FUSION REACTOR
Q: INELASTIC GAMMA RAY SPECTRA ALSO REQUIRED.
O: NEUTRON TRANSPORT AND GAMMA-RAY HEATING CALCULATIONS.

35 026 IRON NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION
00 760401 761010
0.25-1 EV 15.00 MEV 10.0% 2 MAP M.KASAI
780066 762104 FUSION REACTOR
O: GAMMA-RAY HEATING CALCULATIONS.

36 026 IRON 000 NEUTRON DOUBLE DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION
00 801110 801225
UP TO 15.00 MEV 10.0% 2 OSA A.TAKAHASHI
800007 FUSION REACTOR
Q: ENERGY-ANGLE DIFFERENTIAL CROSS SECTIONS FOR INELASTIC SCATTERING AND (N,2N) REACTION ARE ESPECIALLY WANTED.
O: NEUTRON TRANSPORT CALCULATION.

37 026 IRON NEUTRON DOUBLE DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION
00 821120 821225
UP TO 15.00 MEV 10.0% 2 JAE Y.SEKI
820005 FUSION REACTOR
O: NEUTRON TRANSPORT CALCULATIONS.

38 026 IRON 057 NEUTRON INELASTIC CROSS SECTION
00 801110 801225
UP TO 800.00 KEV 10.0% 2 NIG M.KAWAI
800014 812031 FISSION REACTOR
O: FOR REACTOR SHIELDING CALCULATION.

39 028 NICKEL NEUTRON INELASTIC CROSS SECTION
02 760401 821210 761010
UP TO 20.00 MEV 5.0% 1 JAI Y.SEKI MAP M.KASAI
780072 762105 FUSION REACTOR
Q: INELASTIC GAMMA-RAY SPECTRA ALSO REQUIRED.
O: NEUTRON TRANSPORT AND GAMMA-RAY HEATING CALCULATIONS.

40 028 NICKEL NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION
00 760401 761010
0.25-1 EV 15.00 MEV 10.0% 2 MAP M.KASAI
780074 762111 FUSION REACTOR
O: GAMMA-RAY HEATING CALCULATIONS.

41 029 COPPER NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION
00 760401 761010
0.30-1 EV 15.00 EV 15.0% 2 JAE Y.SEKI
780081 762113 FUSION REACTOR
Q: GAMMA-RAY SPECTRA ALSO REQUIRED.
O: GAMMA-RAY HEATING IN MAGNETS.

42 030 ZINC 064 NEUTRON CAPTURE CROSS SECTION
01 780808 821210 780808
0.25-1 EV 15.00 MEV 20.0% 2 PNC T.KAWAKITA
780082 792077 FISSION REACTOR
Q: EXPERIMENTAL DATA WANTED.
O: FOR ESTIMATION OF RADIOACTIVITY OF SPENT STRUCTURAL MATERIALS IN FAST REACTORS. BOTH EXPERIMENTAL AND EVALUATED DATA ARE SCARCE.

43 040 ZIRCONIUM 093 NEUTRON CAPTURE CROSS SECTION
01 750401 801110 751010
100.00 EV 500.00 KEV 20.0% 2 NIG S.IIJIMA SAE H.MATSUNOBU
780086 752004 FISSION REACTOR
O: FOR FAST REACTOR BURNUP CALCULATIONS.

44 040 ZIRCONIUM 093 NEUTRON RESONANCE PARAMETERS
01 780808 801110 781212
20.0% 2 SAE H.MATSUNOBU NIG S.IIJIMA
780087 792068 FISSION REACTOR
O: FOR FAST REACTOR BURNUP CALCULATIONS. MORE RESONANCE DATA ARE REQUIRED. ONLY ONE RESONANCE LEVEL AT 110 EV. NO KEV DATA.

45 041 NIOBIUM 000 NEUTRON DOUBLE DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION
00 801110 801225
UP TO 15.00 MEV 10.0% 2 OSA A.TAKAHASHI
800009 FUSION REACTOR
Q: ENERGY-ANGLE DIFFERENTIAL CROSS SECTIONS FOR TOTAL NEUTRON EMISSIONS REQUIRED.
O: FOR NEUTRON MULTIPLICATION CALCULATION OF FUSION BLANKET.

46 041 NIOBIUM 000 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION
00 801110 801225
1.00 EV 20.00 MEV 20.0% 2 KTO K.SHIN
800010 812027 FUSION REACTOR
Q: LARGE DIFFERENCES BETWEEN EXPERIMENTAL DATA MEASURED AT ORNL, LASL AND KYOTO UNIVERSITY.
O: MORE EXPERIMENTS WANTED.

47 041 NIOBIUM 093 NEUTRON INELASTIC CROSS SECTION
00 760401 761010
UP TO 15.00 MEV 20.0% 2 MAP M.KASAI
780089 762117 FUSION REACTOR
Q: NB-93M PRODUCTION CROSS SECTION BY INELASTIC.
A: 15.0% REQUIRED FOR NEUTRON TRANSPORT CALCULATIONS.
O: TRANSMUTATION AND NEUTRON TRANSPORT CALCULATIONS.

48 041 NIOBIUM 093 NEUTRON N,P
00 760401 761010
UP TO 15.00 MEV 20.0% 2 MAP M.KASAI MAP K.IOKI
780094 762119 FUSION REACTOR
O: HYDROGEN ACCUMULATION CALCULATIONS.

49 041 NIOBIUM 093 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION
00 760401 761010
UP TO 15.00 MEV 15.0% 2 MAP K.IOKI
780096 762121 FUSION REACTOR
O: HELIUM ACCUMULATION CALCULATIONS.

50 041 NIOBIUM 093 NEUTRON INELASTIC CROSS SECTION
01 801110 821210 801225
UP TO 20.00 MEV 10.0% 2 MAP M.SASAKI JAE K.SAKURAI
800012 812029 FISSION REACTOR
Q: PRODUCTION FOR 13.6 YEAR ISOMER.
O: FOR NEUTRON DOSIMETRY.

51 042 MOLYBDENUM NEUTRON DOUBLE DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION
01 760401 801110 761010
1.00 MEV 15.00 MEV 10.0% 2 JAE Y.SEKI
780099 762126 FUSION REACTOR
O: NEUTRON TRANSPORT CALCULATIONS.

52 042 MOLYBDENUM NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION
01 760401 801110 761010
0.25-1 EV 15.00 MEV 15.0% 2 JAE Y.SEKI MAP K.IOKI
780102 762131 FUSION REACTOR
Q: GAMMA-RAY SPECTRA ALSO REQUIRED.
O: NEUTRON BALANCE AND GAMMA-RAY HEATING CALCULATION.

53 042 MOLYBDENUM NEUTRON N,P
00 760401 761010
UP TO 15.00 MEV 10.0% 2 JAE Y.SEKI MAP K.IOKI
JAE H.IIDA
780104 762129 FUSION REACTOR
Q: CROSS SECTION FOR EACH ISOTOPE ARE ALSO REQUESTED. ESPECIALLY, DATA OF MO-95,-96 ARE REQUIRED FOR ESTIMATION OF DOSE RATES AROUND THE MOLYBDENUM STRUCTURES.
O: HYDROGEN ACCUMULATION CALCULATIONS AND FOR CALCULATION OF INDUCED ACTIVITIES.

54 042 MOLYBDENUM NEUTRON N,ALPHA
00 760401 761010
UP TO 15.00 MEV 20.0% 2 JAE Y.SEKI MAP K.IOKI
780105 762130 FUSION REACTOR
Q: CROSS SECTIONS FOR EACH ISOTOPE ARE ALSO REQUESTED.
O: HELIUM ACCUMULATION CALCULATIONS.

55 042 MOLYBDENUM 092 NEUTRON N,NP
00 780808 781212
UP TO 15.00 MEV 20.0% 2 JAE H.IIDA
780108 792078 FUSION REACTOR
Q: EXPERIMENTAL DATA REQUIRED.
O: FOR CALCULATION OF INDUCED ACTIVITIES AROUND MOLYBDENUM STRUCTURES.

56 042 MOLYBDENUM 094 NEUTRON N,2N
00 760401 761010
UP TO 15.00 MEV 10.0% 2 MAP K.IOKI
780111 762133 FISSION REACTOR
O: NEUTRON BALANCE AND TRANSMUTATION CALCULATIONS.

57 042 MOLYBDENUM 095 NEUTRON RESONANCE PARAMETERS
00 821120 821225
UP TO 10.00 KEV 10.0% 2 NIG M.KAWAI
820006 FISSION REACTOR
Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATION.

58 042 MOLYBDENUM 097 NEUTRON RESONANCE PARAMETERS
00 821120 821225
UP TO 10.00 KEV 10.0% 2 NIG M.KAWAI
820007 FISSION REACTOR
Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATION.

59 043 TECHNETIUM 099 NEUTRON RESONANCE PARAMETERS
00 821120 821225
UP TO 10.00 KEV 10.0% 2 NIG M.KAWAI
820008 FISSION REACTOR
Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATION. TO RESOLVE DISCREPANCIES BETWEEN DIFFERENTIAL AND INTEGRAL DATA.

60 044 RUTHENIUM 101 NEUTRON RESONANCE PARAMETERS
00 821120 821225
UP TO 10.00 KEV 10.0% 2 NIG M.KAWAI
820009 FISSION REACTOR
Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATION.

61 044 RUTHENIUM 102 NEUTRON RESONANCE PARAMETERS
01 801110 821210 801225
UP TO 3.00 KEV 20.0% 2 NIG S.IIJIMA SAE H.MATSUNOBU
800028 FISSION REACTOR
Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR FAST REACTOR BURNUP CALCULATIONS.

62 044 RUTHENIUM 103 NEUTRON CAPTURE CROSS SECTION
01 780808 801110 781212
100.00 EV 500.00 KEV 20.0% 2 NIG S.IIJIMA SAE H.MATSUNOBU
780127 792079 FISSION REACTOR
Q: EXPERIMENTAL DATA REQUIRED.
O: FOR FAST REACTOR BURNUP CALCULATIONS. NO DIFFERENTIAL OR INTEGRAL DATA EXIST. VERY LARGE DISCREPANCIES BETWEEN EVALUATIONS.

63 044 RUTHENIUM 104 NEUTRON RESONANCE PARAMETERS
01 801110 821210 801225
UP TO 3.00 KEV 20.0% 2 NIG S.IIJIMA SAE H.MATSUNOBU
800029 812034 FISSION REACTOR
Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR FAST REACTOR BURNUP CALCULATIONS.

64 046 PALLADIUM 104 NEUTRON RESONANCE PARAMETERS
00 821120 821225
UP TO 15.00 KEV 20.0% 2 NIG M.KAWAI
820010 FISSION REACTOR
Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATION.

65 046 PALLADIUM 105 NEUTRON RESONANCE PARAMETERS
01 801110 821210 801225
UP TO 10.00 KEV 10.0% 2 NIG S.IIJIMA SAE H.MATSUNOBU
800030 812035 FISSION REACTOR
Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR FAST REACTOR BURNUP CALCULATIONS.

66 046 PALLADIUM 106 NEUTRON RESONANCE PARAMETERS
00 821120 821225
UP TO 15.00 KEV 20.0% 2 NIG M.KAWAI
820011 FISSION REACTOR
Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATION.

67 046 PALLADIUM 107 NEUTRON CAPTURE CROSS SECTION
01 750401 801110 751010
500.00 EV 500.00 KEV 10.0% 1 NIG S.IIJIMA SAE H.MATSUNOBU
780130 752012 FISSION REACTOR
Q: FOR FAST REACTOR BURNUP CALCULATIONS. EVALUATIONS ARE VERY DISCREPANT. NO KEV DATA.

68 049 INDIUM 115 GAMMA SPECIAL QUANTITY
00 780808 781212
500.00 KEV 10.00 MEV 20.0% 3 TOK Y.OKA
780132 792080 FISSION REACTOR
Q: EXPERIMENTAL DATA WANTED FOR (G,G') REACTION.
O: FOR CORRECTION OF IN-115M PRODUCTION THROUGH IN-115(N,N') IN-115M, FOR REACTOR SHIELDING AND DOSIMETRY APPLICATIONS.

69 051 ANTIMONY 124 NEUTRON CAPTURE CROSS SECTION
00 780808 781212
0.25-1 EV 0.25-1 EV 20.0% 3 JAE K.NISHIMURA
780135 792082 FISSION REACTOR
Q: EXPERIMENTAL DATA REQUIRED.
O: FOR ESTIMATION OF SB-124 PRODUCTION IN SB-BE NEUTRON SOURCE. VERY LARGE DISCREPANCIES EXIST AMONG EXPERIMENTAL DATA.

70 053 IODINE 129 NEUTRON CAPTURE CROSS SECTION
01 801110 821210 801225
100.00 EV 500.00 KEV 20.0% 2 NIG S.IIJIMA SAE H.MATSUNOBU
800016 812036 FISSION REACTOR
Q: EXPERIMENTAL DATA ARE SCARCE.
O: FOR FAST REACTOR BURNUP CALCULATIONS.

71 053 IODINE 129 NEUTRON RESONANCE PARAMETERS
01 801110 821210 801225
20.0% 2 NIG S.IIJIMA SAE H.MATSUNOBU
800017 812037 FISSION REACTOR
Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR FAST REACTOR BURNUP CALCULATIONS.

72 054 XENON 131 NEUTRON CAPTURE CROSS SECTION
02 750401 821210 751010
4.00 KEV 500.00 KEV 20.0% 1 NIG S.IIJIMA SAE H.MATSUNOBU
780142 752014 FISSION REACTOR
O: FOR FAST REACTOR BURNUP CALCULATIONS. RESONANCE PARAMETERS ARE KNOWN UP TO 4 KEV.

73 054 XENON 132 NEUTRON CAPTURE CROSS SECTION
01 801110 821210 801225
100.00 EV 500.00 KEV 20.0% 2 NIG S.IIJIMA SAE H.MATSUNOBU
800018 812038 FISSION REACTOR
O: FOR FAST REACTOR BURNUP CALCULATIONS.

74 054 XENON 132 NEUTRON RESONANCE PARAMETERS
01 801110 821210 801225
UP TO 40.00 KEV 20.0% 2 NIG S.IIJIMA SAE H.MATSUNOBU
800019 812039 FISSION REACTOR
Q: ONLY 5 LEVELS BELOW 3.85 KEV.
O: FOR FAST REACTOR BURNUP CALCULATIONS.

75 054 XENON 134 NEUTRON RESONANCE PARAMETERS
00 821120 821225
UP TO 40.00 KEV 20.0% 2 NIG M.KAWAI
820012 FISSION REACTOR
Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATION.

76 055 CESIUM 134 NEUTRON CAPTURE CROSS SECTION
00 720401 721010
0.25-1 EV 0.25-1 EV 3.0% 1 JAE H.OKASHITA
780148 722022 SAFEGUARDS
Q: RESONANCE INTEGRAL ALSO WANTED.
O: FOR BURNUP CALCULATION FROM NON-DESTRUCTIVE MEASUREMENT.

77 055 CESIUM 134 NEUTRON CAPTURE CROSS SECTION
00 760401 761010
0.25-1 EV 10.00 MEV 20.0% 1 JAE K.TASAKA
780149 762024 SAFEGUARDS
Q: CROSS-SECTION VALUES AT HIGHER NEUTRON ENERGIES ARE NEEDED, AS WELL AS AT THERMAL ENERGY.
A: 10 PER CENT ACCURACY FOR 25.3 MV, 20 PER CENT ACCURACY FOR HIGHER ENERGY REGION.
O: BURNUP DETERMINATION BASED ON ABSOLUTE MEASUREMENT OF ACTIVITY RATIO CS-134/CS-137 ESTIMATION OF THE DECAY POWER OF FISSION PRODUCTS.

78 055 CESIUM 135 NEUTRON CAPTURE CROSS SECTION
01 750401 821210 751010
100.00 EV 500.00 KEV 10.0% 1 NIG S.IIJIMA SAE H.MATSUNOBU
780150 752016 FISSION REACTOR
O: FOR FAST REACTOR BURNUP CALCULATIONS. EVALUATIONS ARE VERY DISCREPANT.

79 055 CESIUM 135 NEUTRON RESONANCE PARAMETERS
01 801110 821210 801225
10.0% 1 NIG S.IIJIMA SAE H.MATSUNOBU
800020 812040 FISSION REACTOR
Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR FAST REACTOR BURNUP CALCULATIONS.

80 056 BARIUM 137 NEUTRON RESONANCE PARAMETERS
00 821120 821225
UP TO 10.00 KEV 20.0% 2 NIG M.KAWAI
820013 FISSION REACTOR
Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATION.

81 061 PROMETHIUM 147 NEUTRON CAPTURE CROSS SECTION
01 750401 801110 751010
100.00 EV 500.00 KEV 10.0% 1 NIG S.IIJIMA SAE H.MATSUNOBU
780158 752019 FISSION REACTOR
O: FOR FAST REACTOR BURNUP CALCULATIONS.

82 062 SAMARIUM 149 NEUTRON CAPTURE CROSS SECTION
01 750401 801110 751010
25.00 KEV 25.00 KEV 5.0% 1 NIG S.IIJIMA SAE H.MATSUNOBU
780159 752020 FISSION REACTOR
Q: ONE POINT PRECISE MEASUREMENT AT 25 KEV IS REQUIRED.
O: FOR FAST REACTOR BURNUP CALCULATIONS. DISCREPANCY BETWEEN STEK DATA AND RECENT DIFFERENTIAL DATA.

83 062 SAMARIUM 151 NEUTRON CAPTURE CROSS SECTION
00 750401 751010
100.00 EV 500.00 KEV 10.0% 1 NIG S.IIJIMA SAE H.MATSUNOBU
780160 752021 FISSION REACTOR
O: FOR FAST REACTOR BURNUP CALCULATIONS. NO KEV DATA.

84 063 EUROPIUM 152 NEUTRON CAPTURE CROSS SECTION
00 801110 801225
100.00 EV 500.00 KEV 10.0% 1 NIG S.IIJIMA SAE H.MATSUNOBU
800021 812041 FISSION REACTOR
Q: NO KEV DATA.
O: FOR CONTROL ROD AND THERMAL REACTOR BURNUP CALCULATIONS.

85 063 EUROPIUM 152 NEUTRON RESONANCE PARAMETERS
01 801110 821210 801225
10.0% 1 NIG S.IIJIMA SAE H.MATSUNOBU
800022 312042 FISSION REACTOR
Q: THERE EXIST NO DATA, EXCEPT THOSE BY VERTEBNYJ ET AL.(1977) IN 0.88 TO 17 EV. RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR CONTROL ROD AND THERMAL REACTOR BURNUP CALCULATIONS.

86 063 EUROPIUM 154 NEUTRON CAPTURE CROSS SECTION
00 720401 721010
0.25-1 EV 0.25-1 EV 5.0% 1 JAE H.OKASHITA
780162 722039 SAFEGUARDS
Q: RESONANCE INTEGRAL ALSO WANTED.
O: FOR BURNUP CALCULATION FROM NON-DESTRUCTIVE MEASUREMENT.

87 063 EUROPIUM 154 NEUTRON CAPTURE CROSS SECTION
00 801110 801225
100.00 EV 500.00 KEV 10.0% 1 NIG S.IIJIMA SAE H.MATSUNOBU
800023 812043 FISSION REACTOR
Q: NO EXPERIMENTAL DATA.
O: FOR CONTROL ROD AND THERMAL REACTOR BURNUP CALCULATIONS.

88 063 EUROPIUM 154 NEUTRON RESONANCE PARAMETERS
01 801110 821210 801225
10.0% 1 NIG S.IIJIMA SAE H.MATSUNOBU
800024 812044 FISSION REACTOR
Q: INSUFFICIENT RESONANCE PARAMETERS. RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR CONTROL ROD AND THERMAL REACTOR BURNUP CALCULATIONS.

89 063 EUROPIUM 155 GAMMA RAY YIELD
00 720401 721010
1.0% 2 JAE K.TASAKA
780163 722015 SAFEGUARDS
Q: YIELD PER DISINTEGRATION OF 86.5 AND 105.3 KEV GAMMA-RAYS REQUIRED. (FOLLOWING BETA DECAY EVENT).
O: FOR BURNUP CALCULATION FROM NON-DESTRUCTIVE MEASUREMENT.

90 063 EUROPIUM 155 NEUTRON CAPTURE CROSS SECTION
00 801110 801225
100.00 EV 500.00 KEV 20.0% 2 NIG S.IIJIMA SAE H.MATSUNOBU
800025 812045 FISSION REACTOR
Q: NO EXPERIMENTAL DATA.
O: FOR FAST REACTOR BURNUP CALCULATIONS.

91 063 EUROPIUM 155 NEUTRON RESONANCE PARAMETERS
01 801110 821210 801225
20.0% 2 NIG S.IIJIMA SAE H.MATSUNOBU
800026 812046 FISSION REACTOR
Q: INSUFFICIENT RESONANCE PARAMETERS. RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR FAST REACTOR BURNUP CALCULATIONS.

92 072 HAFNIUM NEUTRON CAPTURE CROSS SECTION
00 821120 821225
1.00 KEV 1.00 MEV 2 NIG S.IIJIMA
820014 FISSION REACTOR
Q: GREATER THAN 10% DISCREPANCY AMONG EXPERIMENTAL DATA. INCONSISTENCY BETWEEN CROSS SECTIONS OF HF AND SUM OF ISOTOPIC DATA.
A: 5 TO 10% REQUIRED.
O: CONTROL ROD MATERIAL IN LWR.

93 072 HAFNIUM 176 NEUTRON CAPTURE CROSS SECTION
00 821120 821225
1.00 KEV 1.00 MEV 10.0% 2 NIG S.IIJIMA
820015 FISSION REACTOR
Q: NO EXPERIMENTAL DATA.
O: CONTROL ROD MATERIAL.

94 072 HAFNIUM 177 NEUTRON CAPTURE CROSS SECTION
00 821120 821225
1.00 KEV 1.00 MEV 10.0% 2 NIG S.IIJIMA
820016 FISSION REACTOR
Q: NO EXPERIMENTAL DATA.
O: CONTROL ROD MATERIAL.

95 077 IRIDIUM 191 NEUTRON CAPTURE CROSS SECTION
00 821120 821225
0.25-1 EV 10.00 MEV 10.0% 3 JAE K.TSUCHIHASHI
820017 OTHERS
Q: EVALUATED DATA REQUIRED.
O: RADIOISOTOPE PRODUCTION. FOR NON-DESTRUCTIVE ASSAY OF ENGINES.

96 080 MERCURY 199 NEUTRON INELASTIC CROSS SECTION
01 801110 821210 801225
500.00 KEV 20.00 MEV 10.0% 3 JAE K.SAKURAI
800013 812030 FISSION REACTOR
Q: PRODUCTION CROSS SECTION FOR 42.6 MIN ISOMER THROUGH INELASTIC SCATTERING.
O: FOR NEUTRON DOSIMETRY.

97 082 LEAD NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION
00 760401 761010
0.25-1 EV 15.00 MEV 15.0% 2 JAE Y.SEKI
780166 762134 FUSION REACTOR
Q: GAMMA-RAY SPECTRA ALSO REQUIRED.
A: AN UPPER LIMIT OF THE CROSS SECTION OR ACCURACY 20 PER CENT USEFUL.. NEUTRON ENERGY RESOLUTION 300 KEV ABOVE 100 KEV AND 10 PER CENT OTHERWISE. GAMMA ENERGY RESOLUTION 1 MEV.
O: SHIELDING DESIGN AND GAMMA-RAY HEATING CALCULATION.

98 082 LEAD 000 NEUTRON DOUBLE DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION
00 801110 801225
UP TO 15.00 MEV 10.0% 2 OSA A.TAKAHASHI
800008 FUSION REACTOR
Q: ENERGY-ANGLE DIFFERENTIAL CROSS SECTIONS FOR TOTAL NEUTRON EMISSIONS REQUIRED.
O: FOR NEUTRON MULTIPLICATION CALCULATION OF FUSION BLANKET.

99 082 LEAD 206 NEUTRON N,ALPHA
00 780808 781212
UP TO 15.00 MEV 20.0% 2 JAE H.IIDA
780167 792091 FUSION REACTOR
Q: EXPERIMENTAL DATA REQUIRED.
O: FOR FUSION REACTOR SHIELDING CALCULATION. FOR CALCULATION OF RESIDUAL ACTIVITY. NO EXPERIMENTAL DATA EXCEPT FOR A FEW AT 14 MEV.

100 092 URANIUM 233 NEUTRON CAPTURE CROSS SECTION
01 780808 821210 781212
1.00 MEV 20.00 MEV 10.0% 2 SAE N.ASANO
780169 792083 FISSION REACTOR
Q: EXPERIMENTAL DATA REQUIRED.

101 092 URANIUM 233 NEUTRON N,2N
01 780808 821210 781212
UP TO 20.00 MEV 10.0% 2 SAE N.ASANO
780170 792092 FISSION REACTOR
Q: EXPERIMENTAL DATA WANTED.

102 092 URANIUM 235 NEUTRON CAPTURE CROSS SECTION
01 680401 821210 681010
1.00 MEV 10.00 MEV 3 SAE H.MATSUNOBU
780173 682055 FISSION REACTOR
Q: ALPHA ALSO WANTED.
A: REQUIRED ACCURACY - 5 TO 10 PER CENT.
O: FOR FAST REACTORS. NUCLEAR DATA EVALUATION. NO EXPERIMENTAL DATA ABOVE 2.6 MEV.

103 092 URANIUM 235 NEUTRON DELAYED NEUTRONS EMITTED PER FISSION
00 760401 761010
0.25-1 EV 10.00 MEV 5.0% 2 NIG T.MURATA
780174 762046 SAFEGUARDS
Q: THE REQUESTED QUANTITIES ARE THE GROUP HALF LIVES AND GROUP YIELDS (NORMALIZED TO 1 FISSION) WHICH CAN BE USED TO FIT THE DECAY CURVE OF DELAYED NEUTRONS FOR THE TIME RANGE 0.1-300 SEC WITHIN AN ACCURACY OF 5 PER CENT.
O: INCIDENT ENERGY STEP LESS THAN 2 MEV. ACTIVE ASSAY OF MIXED FRESH AND IRRADIATED FUEL.

104 092 URANIUM 238 NEUTRON DELAYED NEUTRONS EMITTED PER FISSION
00 760401 761010
0.25-1 EV 10.00 MEV 5.0% 2 NIG T.MURATA
780179 762047 SAFEGUARDS
Q: THE REQUESTED QUANTITIES ARE THE GROUP HALF LIVES AND GROUP YIELDS (NORMALIZED TO 1 FISSION) WHICH CAN BE USED TO FIT THE DECAY CURVE OF DELAYED NEUTRONS FOR THE TIME RANGE 0.1 - 300 SEC WITHIN AN ACCURACY OF 5.0 PER CENT.
O: INCIDENT ENERGY STEP LESS THAN 2 MEV. ACTIVE ASSAY OF MIXED FRESH AND IRRADIATED FUEL.

105 094 PLUTONIUM 238 GAMMA RAY YIELD
00 760401 761010
1.0% 1 JAE T.SUZUKI
780189 762009 SAFEGUARDS
Q: YIELD PER DISINTEGRATION OF 43.45,99.7,152.7 KEV GAMMA RAYS REQUIRED. (FOLLOWING ALPHA DECAY EVENT).
O: THOUGH PRESENT STATUS OF ACCURACY SEEMED TO MEET THE REQUIREMENT CONFIRMATION IS REQUIRED. ASSAY OF PU ISOTOPES BY GAMMA-RAY SPECTROSCOPY.

106 094 PLUTONIUM 239 GAMMA RAY YIELD
00 760401 761010
1.0% 1 JAE T.SUZUKI
780195 762010 SAFEGUARDS
Q: YIELD PER DISINTEGRATION OF 45.2,104.2 AND 642.3 KEV GAMMA RAYS REQUIRED. (FOLLOWING ALPHA DECAY EVENT).
O: THOUGH PRESENT STATUS OF ACCURACY SEEMED TO MEET THE REQUIREMENT CONFIRMATION IS REQUIRED. ASSAY OF PU ISOTOPES BY GAMMA-RAY SPECTROSCOPY.

107 094 PLUTONIUM 239 NEUTRON TOTAL CROSS SECTION
01 760401 801110 761010
1.00 KEV 200.00 KEV 2.0% 1 NIG M.KAWAI
780198 762210 FISSION REACTOR
O: FISSION REACTOR CALCULATIONS.

108 094 PLUTONIUM 239 NEUTRON FISSION CROSS SECTION
02 760401 821210 761010
1.00 KEV 1.00 MEV 3.0% 1 NIG M.KAWAI
780199 762211 FISSION REACTOR
O: FISSION REACTOR CORE DESIGN AND ANALYSIS. LARGE DISCREPANCY BETWEEN EXPERIMENTAL DATA FROM 50 KEV TO 1.0 MEV.

109 094 PLUTONIUM 239 NEUTRON NEUTRONS EMITTED PER FISSION(NU BAR)
01 700401 801110 701010
UP TO 15.00 MEV 0.5% 1 NIG M.KAWAI
780201 702037 FISSION REACTOR
A: ACCURAY REQUIRED TO BETTER THAN 0.2 PER CENT, IF POSSIBLE.
O: FOR FAST AND HYBRID FUSION REACTOR CALCULATIONS. DISCREPANCY EXISTS BETWEEN EXPERIMENTAL DATA.

110 094 PLUTONIUM 239 NEUTRON DELAYED NEUTRONS EMITTED PER FISSION
00 760401 761010
0.25-1 EV 10.00 MEV 5.0% 2 NIG T.MURATA
780203 762048 SAFEGUARDS
Q: THE REQUESTED QUANTITIES ARE THE GROUP HALF LIVES AND GROUP YIELDS (NORMALIZED TO 1 FISSION) WHICH CAN BE USED TO FIT THE DECAY CURVE OF DELAYED NEUTRONS FOR THE TIME RANGE 0.1 - 300 SEC WITHIN AN ACCURACY OF 5 PER CENT.
O: INCIDENT ENERGY STEP LESS THAN 2 MEV. ACTIVE ASSAY OF MIXED FRESH AND IRRADIATED FUEL.

111 094 PLUTONIUM 239 NEUTRON CAPTURE TO FISSION RATIO(ALPHA)
01 801110 821210 801225
1.00 MEV 20.00 MEV 10.0% 2 MAP M.SASAKI
800015 812032 FISSION REACTOR
Q: INSUFFICIENT EXPERIMENTAL DATA.
O: FOR CALCULATION OF FBR BREEDING RATIO. EVALUATED DATA WANTED.

112 094 PLUTONIUM 240 GAMMA RAY YIELD
00 760401 761010
1.0% 1 JAE T.SUZUKI
780206 762011 SAFEGUARDS
Q: YIELD PER DISINTEGRATION OF 45.2,104.2 AND 642.3 KEV GAMMA-RAYS REQUIRED. (FOLLOWING ALPHA DECAY EVENT).
O: THOUGH PRESENT STATUS OF ACCURACY SEEMED TO MEET THE REQUIREMENT CONFIRMATION IS REQUIRED. ASSAY OF PU ISOTOPES BY GAMMA-RAY SPECTROSCOPY.

113 094 PLUTONIUM 240 NEUTRON FISSION CROSS SECTION
02 760401 821210 761010
1.00 KEV 1.00 MEV 5.0% 1 MAP M.SASAKI
780209 762213 FISSION REACTOR
O: FOR FAST REACTOR CALCULATIONS.

114 094 PLUTONIUM 240 NEUTRON DELAYED NEUTRONS EMITTED PER FISSION
00 760401 761010
0.25-1 EV 10.00 MEV 5.0% 2 NIG T.MURATA
780210 762049 SAFEGUARDS
Q: THE REQUESTED QUANTITIES ARE THE GROUP HALF LIVES AND GROUP YIELDS (NORMALIZED TO 1 FISSION) WHICH CAN BE USED TO FIT THE DECAY CURVE OF DELAYED NEUTRONS FOR THE TIME RANGE 0.1-300 SEC WITHIN AN ACCURACY OF 5 PER CENT.
O: INCIDENT ENERGY STEP LESS THAN 2 MEV. ACTIVE ASSAY OF MIXED FRESH AND IRRADIATED FUEL.

115 094 PLUTONIUM 241 NEUTRON GAMMA RAY YIELD
00 760401 761010
5.0% 1 JAE T.SUZUKI
780213 762012 SAFEGUARDS
Q: YIELD PER DISINTEGRATION OF 56.4,77,103.5,148.6 AND 160 KEV GAMMA-RAYS REQUIRED. (FOLLOWING ALPHA DECAY EVENT).
A: 1 PER CENT ACCURACY FOR 103.5 AND 148.6 KEV GAMMA RAYS, 5 PER CENT ACCURACY FOR 56.4,77 AND 160 KEV GAMMA RAYS.
O: THOUGH PRESENT STATUS OF ACCURACY SEEMED TO MEET THE REQUIREMENT CONFIRMATION IS REQUIRED. ASSAY OF PU ISOTOPES BY GAMMA-RAY SPECTROSCOPY.

116 094 PLUTONIUM 241 NEUTRON DELAYED NEUTRONS EMITTED PER FISSION
00 760401 761010
0.25-1 EV 10.00 MEV 5.0% 2 NIG T.MURATA
780220 762050 SAFEGUARDS
Q: THE REQUESTED QUANTITIES ARE THE GROUP HALF LIVES AND GROUP YIELDS (NORMALIZED TO 1 FISSION) WHICH CAN BE USED TO FIT THE DECAY CURVE OF DELAYED NEUTRONS FOR THE TIME RANGE 0.1 - 300 SEC WITHIN AN ACCURACY OF 5 PER CENT.
O: ACTIVE ASSAY OF MIXED FRESH AND IRRADIATED FUEL INCIDENT ENERGY STEP LESS THAN 2 MEV.

117 095 AMERICIUM 241 NEUTRON CAPTURE CROSS SECTION
02 750401 821210 751010
500.00 KEV 15.00 MEV 10.0% 1 PNC R.YUMOTO SAE H.MATSUNOBU
FBE T.HOJUYAMA
780230 752033 FISSION REACTOR
Q: PRODUCTION OF AM-242 AND AM-242M WANTED.
A: 20% IN MEV REGION.
O: REACTOR BURNUP CALCULATIONS AND ESTIMATION OF TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL. NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.

118 095 AMERICIUM 242 NEUTRON CAPTURE CROSS SECTION
00 750401 751010
0.25-1 EV 100.00 KEV 1 PNC R.YUMOTO SAE H.MATSUNOBU
JAE R.SHINDO
780234 752036 FISSION REACTOR
Q: WANTED FOR GROUND AND ISOMERIC STATES.
A: ACCURACY REQUIRED 5 TO 20 %.
O: REACTOR BURNUP CALCULATIONS AND ESTIMATION OF TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL. NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.

119 095 AMERICIUM 243 NEUTRON CAPTURE CROSS SECTION
01 801110 821210 801225
1.00 MEV 15.00 MEV 20.0% 2 PNC R.YUMOTO SAE H.MATSUNOBU
JAE R.SHINDO FBE T.HOJUYAMA
800027 81204? FISSION REACTOR NFI M.YADA
Q: CAPTURE CROSS SECTIONS TO GROUND AND ISOMER STATES OF AM-244 REQUIRED. THE EXPERIMENTAL DATA ARE VERY SCARCE IN KEV AND MEV REGIONS.
O: FOR BURNUP CALCULATIONS OF THERMAL AND FAST REACTORS, ESTIMATION FOR BUILD-UP OF TRANSURANIUM NUCLIDES IN SPENT FUEL, AND NEUTRON SHIELDING DESIGN FOR TRANSPORT CASK OF SPENT FUEL.

120 096 CURIUM 242 NEUTRON CAPTURE CROSS SECTION
01 750401 821210 751010
0.25-1 EV 100.00 KEV 2 PNC R.YUMOTO SAE H.MATSUNOBU
FBE T.HOJUYAMA
780238 752042 FISSION REACTOR
A: ACCURACY REQUIRED 10 TO 20 PER CENT.
O: REACTOR BURNUP CALCULATIONS AND ESTIMATION OF TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL. NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.

121 096 CURIUM 242 NEUTRON FISSION CROSS SECTION
01 750401 821210 751010
100.00 KEV 15.00 MEV 2 PNC R.YUMOTO SAE H.MATSUNOBU
FBE T.HOJUYAMA
780240 752041 FISSION REACTOR
A: ACCURACY REQUIRED 10 TO 20 PER CENT.
O: REACTOR BURNUP CALCULATIONS AND ESTIMATION OF TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL. NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.

122 096 CURIUM 243 NEUTRON CAPTURE CROSS SECTION
01 750401 821210 751010
20.00 EV 100.00 KEV 2 PNC R.YUMOTO SAE H.MATSUNOBU
780241 752047 FISSION REACTOR
A: ACCURACY REQUIRED 10 TO 20 PER CENT.
O: REACTOR BURNUP CALCULATIONS AND ESTIMATION OF TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL. NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.

123 096 CURIUM 243 NEUTRON FISSION CROSS SECTION
01 750401 821210 751010
3.00 MEV 10.00 MEV 2 PNC R.YUMOTO SAE H.MATSUNOBU
780243 752045 FISSION REACTOR
A: ACCURACY REQUIRED 10 TO 20 PER CENT.
O: REACTOR BURNUP CALCULATIONS AND ESTIMATION OF TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL. NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.

3. High Priority Requests

Requests of priority 1 are presented in this section. Among these, 16 requests are submitted to NEANDC as the high priority requests. They are those having the following sequential number:

5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 23, 25, 27.

** SPECIAL RETRIEVAL FROM JAPANESE REQUEST. ** PAGE 1

1 003 LITHIUM 006 NEUTRON N,T
00 760401 761010
3.00 MEV 15.00 MEV 5.0% 1 JAE Y.SEKI
780005 762053 FUSION REACTOR
O: TRITIUM BREEDING AND ENERGY DEPOSITION CALCULATION.

2 003 LITHIUM 007 NEUTRON N,NT
01 760401 801110 761010
UP TO 15.00 MEV 5.0% 1 JAE Y.SEKI OSA A.TAKAHASHI
780013 762058 FUSION REACTOR
Q: NEUTRON SPECTRA WITH ACCURACY 15 PER CENT ALSO REQUIRED.
O: TRITIUM BREEDING AND ENERGY DEPOSITION CALCULATION.

3 026 IRON NEUTRON INELASTIC CROSS SECTION
01 760401 801110 761010
UP TO 20.00 MEV 5.0% 1 JAE Y.SEKI NIG M.KAWAI
780064 762099 FUSION REACTOR
Q: INELASTIC GAMMA RAY SPECTRA ALSO REQUIRED.
O: NEUTRON TRANSPORT AND GAMMA-RAY HEATING CALCULATIONS.

4 028 NICKEL NEUTRON INELASTIC CROSS SECTION
02 760401 821210 761010
UP TO 20.00 MEV 5.0% 1 JAI Y.SEKI MAP M.KASAI
780072 762105 FUSION REACTOR
Q: INELASTIC GAMMA-RAY SPECTRA ALSO REQUIRED.
O: NEUTRON TRANSPORT AND GAMMA-RAY HEATING CALCULATIONS.

5 046 PALLADIUM 107 NEUTRON CAPTURE CROSS SECTION
01 750401 801110 751010
500.00 EV 500.00 KEV 10.0% 1 NIG S.IIJIMA SAE H.MATSUNOBU
780130 752012 FISSION REACTOR
O: FOR FAST REACTOR BURNUP CALCULATIONS. EVALUATIONS ARE VERY DISCREPANT. NO KEV DATA.

6 054 XENON 131 NEUTRON CAPTURE CROSS SECTION
02 750401 821210 751010
4.00 KEV 500.00 KEV 20.0% 1 NIG S.IIJIMA SAE H.MATSUNOBU
780142 752014 FISSION REACTOR
O: FOR FAST REACTOR BURNUP CALCULATIONS. RESONANCE PARAMETERS ARE KNOWN UP TO 4 KEV.

7 055 CESIUM 134 NEUTRON CAPTURE CROSS SECTION
00 720401 721010
0.25-1 EV 0.25-1 EV 3.0% 1 JAE H.OKASHITA
780148 722022 SAFEGUARDS
Q: RESONANCE INTEGRAL ALSO WANTED.
O: FOR BURNUP CALCULATION FROM NON-DESTRUCTIVE MEASUREMENT.

8 055 CESIUM 134 NEUTRON CAPTURE CROSS SECTION
00 760401 761010
0.25-1 EV 10.00 MEV 20.0% 1 JAE K.TASAKA
780149 762024 SAFEGUARDS
Q: CROSS-SECTION VALUES AT HIGHER NEUTRON ENERGIES ARE NEEDED, AS WELL AS AT THERMAL ENERGY.
A: 10 PER CENT ACCURACY FOR 25.3 MV, 20 PER CENT ACCURACY FOR HIGHER ENERGY REGION.
O: BURNUP DETERMINATION BASED ON ABSOLUTE MEASUREMENT OF ACTIVITY RATIO CS-134/CS-137 ESTIMATION OF THE DECAY POWER OF FISSION PRODUCTS.

9 055 CESIUM 135 NEUTRON CAPTURE CROSS SECTION
01 750401 821210 751010
100.00 EV 500.00 KEV 10.0% 1 NIG S.IIJIMA SAE H.MATSUNOBU
780150 752016 FISSION REACTOR
O: FOR FAST REACTOR BURNUP CALCULATIONS. EVALUATIONS ARE VERY DISCREPANT.

10 055 CESIUM 135 NEUTRON RESONANCE PARAMETERS
01 801110 821210 801225
10.0% 1 NIG S.IIJIMA SAE H.MATSUNOBU
800020 812040 FISSION REACTOR
Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR FAST REACTOR BURNUP CALCULATIONS.

11 061 PROMETHIUM 147 NEUTRON CAPTURE CROSS SECTION
01 750401 801110 751010
100.00 EV 500.00 KEV 10.0% 1 NIG S.IIJIMA SAE H.MATSUNOBU
780158 752019 FISSION REACTOR
O: FOR FAST REACTOR BURNUP CALCULATIONS.

12 062 SAMARIUM 149 NEUTRON CAPTURE CROSS SECTION
01 750401 801110 751010
25.00 KEV 25.00 KEV 5.0% 1 NIG S.IIJIMA SAE H.MATSUNOBU
780159 752020 FISSION REACTOR
Q: ONE POINT PRECISE MEASUREMENT AT 25 KEV IS REQUIRED.
O: FOR FAST REACTOR BURNUP CALCULATIONS. DISCREPANCY BETWEEN STEK DATA AND RECENT DIFFERENTIAL DATA.

13 062 SAMARIUM 151 NEUTRON CAPTURE CROSS SECTION
00 750401 751010
100.00 EV 500.00 KEV 10.0% 1 NIG S.IIJIMA SAE H.MATSUNOBU
780160 752021 FISSION REACTOR
O: FOR FAST REACTOR BURNUP CALCULATIONS. NO KEV DATA.

14 063 EUROPIUM 152 NEUTRON CAPTURE CROSS SECTION
00 801110 801225
100.00 EV 500.00 KEV 10.0% 1 NIG S.IIJIMA SAE H.MATSUNOBU
800021 812041 FISSION REACTOR
Q: NO KEV DATA.
O: FOR CONTROL ROD AND THERMAL REACTOR BURNUP CALCULATIONS.

15 063 EUROPIUM 152 NEUTRON RESONANCE PARAMETERS
01 801110 821210 801225
10.0% 1 NIG S.IIJIMA SAE H.MATSUNOBU
800022 812042 FISSION REACTOR
Q: THERE EXIST NO DATA, EXCEPT THOSE BY VERTEBNYJ ET AL.(1977) IN 0.88 TO 17 EV. RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR CONTROL ROD AND THERMAL REACTOR BURNUP CALCULATIONS.

16 063 EUROPIUM 154 NEUTRON CAPTURE CROSS SECTION
00 720401 721010
0.25-1 EV 0.25-1 EV 5.0% 1 JAE H.OKASHITA
780162 722039 SAFEGUARDS
Q: RESONANCE INTEGRAL ALSO WANTED.
O: FOR BURNUP CALCULATION FROM NON-DESTRUCTIVE MEASUREMENT.

17 063 EUROPIUM 154 NEUTRON CAPTURE CROSS SECTION
00 801110 801225
100.00 EV 500.00 KEV 10.0% 1 NIG S.IIJIMA SAE H.MATSUNOBU
800023 812043 FISSION REACTOR
Q: NO EXPERIMENTAL DATA.
O: FOR CONTROL ROD AND THERMAL REACTOR BURNUP CALCULATIONS.

18 063 EUROPIUM 154 NEUTRON RESONANCE PARAMETERS
01 801110 821210 801225
10.0% 1 NIG S.IIJIMA SAE H.MATSUNOBU
800024 812044 FISSION REACTOR
Q: INSUFFICIENT RESONANCE PARAMETERS. RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR CONTROL ROD AND THERMAL REACTOR BURNUP CALCULATIONS.

19 094 PLUTONIUM 238 GAMMA RAY YIELD
00 760401 761010
1.0% 1 JAE T.SUZUKI
780189 762009 SAFEGUARDS
Q: YIELD PER DISINTEGRATION OF 43.45,99.7,152.7 KEV GAMMA RAYS REQUIRED. (FOLLOWING ALPHA DECAY EVENT).
O: THOUGH PRESENT STATUS OF ACCURACY SEEMED TO MEET THE REQUIREMENT CONFIRMATION IS REQUIRED. ASSAY OF PU ISOTOPES BY GAMMA-RAY SPECTROSCOPY.

20 094 PLUTONIUM 239 GAMMA RAY YIELD
00 760401 761010
1.0% 1 JAE T.SUZUKI
780195 762010 SAFEGUARDS
Q: YIELD PER DISINTEGRATION OF 45.2,104.2 AND 642.3 KEV GAMMA RAYS REQUIRED. (FOLLOWING ALPHA DECAY EVENT).
O: THOUGH PRESENT STATUS OF ACCURACY SEEMED TO MEET THE REQUIREMENT CONFIRMATION IS REQUIRED. ASSAY OF PU ISOTOPES BY GAMMA-RAY SPECTROSCOPY.

21 094 PLUTONIUM 239 NEUTRON TOTAL CROSS SECTION
01 760401 801110 761010
1.00 KEV 200.00 KEV 2.0% 1 NIG M.KAWAI
780198 762210 FISSION REACTOR
O: FISSION REACTOR CALCULATIONS.

22 094 PLUTONIUM 239 NEUTRON FISSION CROSS SECTION
02 760401 821210 761010
1.00 KEV 1.00 MEV 3.0% 1 NIG M.KAWAI
780199 762211 FISSION REACTOR
O: FISSION REACTOR CORE DESIGN AND ANALYSIS. LARGE DISCREPANCY BETWEEN EXPERIMENTAL DATA FROM 50 KEV TO 1.0 MEV.

23 094 PLUTONIUM 239 NEUTRON NEUTRONS EMITTED PER FISSION(NU BAR)
01 700401 801110 701010
UP TO 15.00 MEV 0.5% 1 NIG M.KAWAI
780201 702037 FISSION REACTOR
A: ACCURAY REQUIRED TO BETTER THAN 0.2 PER CENT, IF POSSIBLE.
O: FOR FAST AND HYBRID FUSION REACTOR CALCULATIONS. DISCREPANCY EXISTS BETWEEN EXPERIMENTAL DATA.

24 094 PLUTONIUM 240 GAMMA RAY YIELD
00 760401 761010
1.0% 1 JAE T.SUZUKI
780206 762011 SAFEGUARDS
Q: YIELD PER DISINTEGRATION OF 45.2,104.2 AND 642.3 KEV GAMMA-RAYS REQUIRED. (FOLLOWING ALPHA DECAY EVENT).
O: THOUGH PRESENT STATUS OF ACCURACY SEEMED TO MEET THE REQUIREMENT CONFIRMATION IS REQUIRED. ASSAY OF PU ISOTOPES BY GAMMA-RAY SPECTROSCOPY.

25 094 PLUTONIUM 240 NEUTRON FISSION CROSS SECTION
02 760401 821210 761010
1.00 KEV 1.00 MEV 5.0% 1 MAP M.SASAKI
780209 762213 FISSION REACTOR
O: FOR FAST REACTOR CALCULATIONS.

26 094 PLUTONIUM 241 NEUTRON GAMMA RAY YIELD
00 760401 761010
5.0% 1 JAE T.SUZUKI

780213 762012 SAFEGUARDS
Q: YIELD PER DISINTEGRATION OF 56.4,77,103.5,148.6 AND 160 KEV GAMMA-RAYS REQUIRED. (FOLLOWING ALPHA DECAY EVENT).
A: 1 PER CENT ACCURACY FOR 103.5 AND 148.6 KEV GAMMA RAYS, 5 PER CENT ACCURACY FOR 56.4,77 AND 160 KEV GAMMA RAYS.
O: THOUGH PRESENT STATUS OF ACCURACY SEEMED TO MEET THE REQUIREMENT CONFIRMATION IS REQUIRED. ASSAY OF PU ISOTOPES BY GAMMA-RAY SPECTROSCOPY.

27 095 AMERICIUM 241 NEUTRON CAPTURE CROSS SECTION
02 750401 821210 751010
500.00 KEV 15.00 MEV 10.0% 1 PNC R.YUMOTO SAE H.MATSUNOBU
FBE T.HOJUYAMA

780230 752033 FISSION REACTOR
Q: PRODUCTION OF AM-242 AND AM-242M WANTED.
A: 20% IN MEV REGION.
O: REACTOR BURNUP CALCULATIONS AND ESTIMATION OF TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL. NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.

28 095 AMERICIUM 242 NEUTRON CAPTURE CROSS SECTION
00 750401 751010
0.25-1 EV 100.00 KEV 1 PNC R.YUMOTO SAE H.MATSUNOBU
JAE R.SHINDO

780234 752036 FISSION REACTOR
Q: WANTED FOR GROUND AND ISOMERIC STATES.
A: ACCURACY REQUIRED 5 TO 20 %.
O: REACTOR BURNUP CALCULATIONS AND ESTIMATION OF TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL. NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.

4. List of Withdrawn Requests from WRENDA 81/82

Withdrawn requests of 59 are shown in this section. They were carefully reviewed by the requestors before they were decided to be withdrawn. Reasons for withdrawal are satisfaction of the requirements, changes of the requestors' plan in which they were going to use the data, amalgamation of some requests which were made for similar quantities, and so forth.

** REQUESTS WITHDRAWN FROM WRENDA ON DEC.25,'82 ** PAGE 1

1 003 LITHIUM 006 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION
00 760401 761010 821225
1.00 MEV 15.00 MEV 15.0% 2 JAE Y.SEKI MAP M.KASAI
780003 762054 FUSION REACTOR
Q: GAMMA-RAY HEATING CALCULATIONS.

2 003 LITHIUM 006 NEUTRON N,ND
00 760401 761010 821225
UP TO 15.00 MEV 10.0% 2 JAE Y.SEKI
780004 762052 FUSION REACTOR
Q: NEUTRONICS CALCULATIONS AND ENERGY DEPOSITION.

3 003 LITHIUM 007 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION
00 760401 761010 821225
0.25-1 EV 15.00 MEV 15.0% 2 JAE Y.SEKI
780010 762059 FUSION REACTOR
Q: GAMMA-RAY SPECTRA ALSO REQUIRED.
Q: GAMMA-RAY HEATING CALCULATIONS.

4 008 OXYGEN 018 ALPHA TOTAL NEUTRON YIELD
01 760401 801110 761010 821225
5.10 MEV 5.50 MEV 5.0% 2 PNC S.SUZUKI
780028 762041 SAFEGUARDS
Q: ABSOLUTE NEUTRON YIELD REQUIRED.
Q: DETECTION OF PU BY NEUTRON COINCIDENCE METHOD.

5 009 FLUORINE 019 NEUTRON INELASTIC CROSS SECTION
00 760401 761010 821225
1.00 MEV 15.00 MEV 10.0% 3 JAE Y.SEKI
780029 762068 FUSION REACTOR
Q: POTENTIAL CONSTITUENT IN COOLANT,FLIBE. TRITIUM BREEDING CALCULATIONS.

6 009 FLUORINE 019 NEUTRON ABSORPTION CROSS SECTION
00 760401 761010 821225
0.25-1 EV 15.00 MEV 10.0% 3 JAE Y.SEKI
780030 762069 FUSION REACTOR
Q: POTENTIAL CONSTITUENT IN COOLANT,FLIBE. TRITIUM BREEDING CALCULATIONS.

7 014 SILICON 030 NEUTRON CAPTURE CROSS SECTION
00 780808 781212 821225
1.00-4 EV 100.00 KEV 10.0% 3 JAE N.AOYAGI
780037 792075 FISSION REACTOR
Q: EXPERIMENTAL DATA WANTED.
Q: FOR DOPING P31 INTO SINGLECRYSTAL OF SI BY NEUTRON IRRADIATION TO MAKE SEMICONDUCTOR. ONLY A FEW OLD DATA ARE AVAILABLE.

8 020 CALCIUM NEUTRON ELASTIC CROSS SECTION
00 760401 761010 821225
1.00 MEV 15.00 MEV 15.0% 3 JAE Y.SEKI
780041 762234 FUSION REACTOR
O: INCLUDED IN CONCRETE. SHIELDING DESIGN.

9 020 CALCIUM NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION
00 760401 761010 821225
1.00 MEV 15.00 MEV 15.0% 3 JAE Y.SEKI
780042 762076 FUSION REACTOR
O: INCLUDED IN CONCRETE. SHIELDING DESIGN.

10 020 CALCIUM NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION
00 760401 761010 821225
500.00 KEV 15.00 MEV 15.0% 3 JAE Y.SEKI
780044 762078 FUSION REACTOR
Q: GAMMA-RAY SPECTRA ALSO REQUIRED.
O: INCLUDED IN CONCRETE. GAMMA-RAY HEATING CALCULATIONS.

11 024 CHROMIUM NEUTRON N,2N
00 760401 761010 821225
UP TO 15.00 MEV 15.0% 2 JAE Y.SEKI
780060 762095 FUSION REACTOR
O: NEUTRON BALANCE CALCULATIONS.

12 024 CHROMIUM NEUTRON N,P
00 760401 761010 821225
UP TO 15.00 MEV 20.0% 2 JAE Y.SEKI
780061 762096 FUSION REACTOR
O: HYDROGEN ACCUMULATION CALCULATIONS.

13 024 CHROMIUM NEUTRON N,ALPHA
00 760401 761010 821225
UP TO 15.00 MEV 20.0% 2 JAE Y.SEKI
780062 762097 FUSION REACTOR
O: HELIUM ACCUMULATION CALCULATIONS.

14 026 IRON NEUTRON N,2N
00 760401 761010 821225
UP TO 15.00 MEV 10.0% 2 JAE Y.SEKI
780067 762101 FUSION REACTOR
O: NEUTRON MULTIPLICATION CALCULATIONS.

15 026 IRON NEUTRON N,P
00 760401 761010 821225
UP TO 15.00 MEV 20.0% 2 JAE Y.SEKI
780068 762102 FUSION REACTOR
O: HYDROGEN ACCUMULATION CALCULATIONS.

16 026 IRON NEUTRON N,ALPHA
00 760401 761010 821225
UP TO 15.00 MEV 20.0% 2 JAE Y.SEKI
780069 762103 FUSION REACTOR
O: HELIUM ACCUMULATION CALCULATIONS.

17 028 NICKEL NEUTRON N,2N
00 760401 761010 821225
UP TO 15.00 MEV 15.0% 2 JAE Y.SEKI MAP M.KASAI
780075 762106 FUSION REACTOR
O: NEUTRON BALANCE CALCULATIONS.

18 028 NICKEL NEUTRON N,P
00 760401 761010 821225
UP TO 15.00 MEV 20.0% 2 JAE Y.SEKI MAP M.KASAI
780076 762107 FUSION REACTOR
O: HYDROGEN ACCUMULATION CALCULATIONS.

19 028 NICKEL NEUTRON N,ALPHA
00 760401 761010 821225
UP TO 15.00 MEV 20.0% 2 JAE Y.SEKI MAP M.KASAI
780078 762108 FUSION REACTOR
O: HELIUM ACCUMULATION CALCULATIONS.

20 035 BROMINE 087 GAMMA RAY YIELD
00 760401 761010 821225
10.0% 3 TOS H.SHIMOJIMA
780083 762001 SAFEGUARDS
Q: YIELD PER DISINTEGRATION OF 1419 KEV GAMMA-RAY REQUIRED. (FOLLOWING BETA DECAY EVENT).
O: DETECTION OF FAILED FUEL.

21 035 BROMINE 088 GAMMA RAY YIELD
00 760401 761010 821225
10.0% 3 TOS H.SHIMOJIMA
780084 762002 SAFEGUARDS
Q: YIELD PER DISINTEGRATION OF 767 KEV GAMMA-RAY REQUIRED. (FOLLOWING BETA DECAY EVENT).
O: DETECTION OF FAILED FUEL.

22 036 KRYPTON 090 GAMMA RAY YIELD
00 760401 761010 821225
10.0% 3 TOS H.SHIMOJIMA
780085 762003 SAFEGUARDS
Q: YIELD PER DISINTEGRATION OF MAJOR GAMMA-RAYS REQUIRED. (FOLLOWING BETA DECAY EVENT).
O: DETECTION OF FAILED FUEL.

23 041 NIOBIUM 093 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION
00 760401 761010 821225
0.25-1 EV 15.00 MEV 15.0% 2 JAE Y.SEKI
780092 762124 FUSION REACTOR
Q: GAMMA-RAY SPECTRA ALSO REQUIRED.
O: GAMMA-RAY HEATING CALCULATIONS.

24 043 TECHNETIUM 099 NEUTRON CAPTURE CROSS SECTION
01 750401 801110 751010 821225
25.00 KEV 25.00 KEV 10.0% 1 NIG S.IIJIMA SAE H.MATSUNOBU
780124 752007 FISSION REACTOR
Q: ONE POINT ABSOLUTE DATA AT 25 KEV IS REQUIRED.
O: FOR FAST REACTOR BURNUP CALCULATIONS.

25 044 RUTHENIUM 103 GAMMA RAY YIELD
00 720401 721010 821225
1.0% 2 JAE K.TASAKA
780126 722002 SAFEGUARDS
Q: YIELDS PER DISINTEGRATION OF 497 AND 610 KEV GAMMA-RAY REQUIRED. (FOLLOWING BETA DECAY EVENT).
O: FOR BURNUP CALCULATION FROM NON-DESTRUCTIVE MEASUREMENT.

26 053 IODINE 135 GAMMA RAY YIELD
00 760401 761010 821225
10.0% 3 TOS H.SHIMOJIMA
780137 762004 SAFEGUARDS
Q: YIELD PER DISINTEGRATION OF 527,1132,1260, AND 1458 KEV GAMMA-RAYS REQUIRED. (FOLLOWING BETA DECAY EVENT).
O: DETECTION OF FAILED FUEL.

27 053 IODINE 137 GAMMA RAY YIELD
00 760401 761010 821225
10.0% 3 TOS H.SHIMOJIMA
780138 762005 SAFEGUARDS
Q: YIELD PER DESINTEGRATION OF MAJOR GAMMA-RAYS REQUIRED. (FOLLOWING BETA DECAY EVENT).
O: DETECTION OF FAILED FUEL.

28 053 IODINE 138 GAMMA RAY YIELD
00 760401 761010 821225
10.0% 3 TOS H.SHIMOJIMA
780139 762006 SAFEGUARDS
Q: YIELD PER DISINTEGRATION OF 589 KEV GAMMA-RAY REQUIRED. (FOLLOWING BETA DECAY EVENT).
O: DETECTION OF FAILED FUEL.

29 053 IODINE 139 HALF LIFE
00 760401 761010 821225
10.0% 3 TOS H.SHIMOJIMA
780140 762013 SAFEGUARDS
Q: DETECTION OF FAILED FUEL.

30 053 IODINE 139 GAMMA RAY YIELD
00 760401 761010 821225
10.0% 3 TOS H.SHIMOJIMA
780141 762007 SAFEGUARDS
Q: YIELD PER DISINTEGRATION OF MAJOR GAMMA-RAYS REQUIRED. (FOLLOWING BETA DECAY EVENT).
O: DETECTION OF FAILE FUEL.

31 054 XENON 139 GAMMA RAY YIELD
00 760401 761010 821225
10.0% 3 TOS H.SHIMOJIMA
780144 762008 SAFEGUARDS
Q: YIELD PER DISINTEGRATION OF 175,219,290,297 AND 393 KEV GAMMA-RAYS REQUIRED. (FOLLOWING BETA DECAY EVENT).
O: DETECTION OF FAILED FUEL.

32 073 TANTALUM 182 NEUTRON CAPTURE CROSS SECTION
00 780808 781212 821225
0.25-1 EV 0.25-1 EV 10.0% 3 KTO M.KOYAMA
780164 792084 FISSION REACTOR
Q: EXPERIMENTAL DATA REQUIRED.
O: FOR ESTIMATION OF NEUTRON FLUENCE AND SPECTRUM.

33 079 GOLD 198 NEUTRON CAPTURE CROSS SECTION
00 780808 781212 821225
0.25-1 EV 0.25-1 EV 10.0% 3 KTO M.KOYAMA
780165 792085 FISSION REACTOR
Q: EXPERIMENTAL DATA REQUIRED.
O: FOR ESTIMATION OF NEUTRON FLUENCE AND SPECTRUM.

34 091 PROTACTINIUM 233 NEUTRON CAPTURE CROSS SECTION
00 760401 761010 821225
20.00 EV 15.00 MEV 10.0% 1 JAE R.SHINDO
780168 762208 FISSION REACTOR
O: FOR BURNUP CALCULATION OF THORIUM FUELED THERMAL REACTORS.

35 092 URANIUM 236 NEUTRON CAPTURE CROSS SECTION
00 720401 721010 821225
0.25-1 EV 14.00 MEV 2 JAE Y.NAITO
780175 722040 SAFEGUARDS
A: ACCURACY REQUIRED AT THERMAL IS 3 PER CENT, 10 PER CENT ABOVE.
O: FOR BURNUP CALCULATION OF A PU LOADED THERMAL REACTOR.

36 092 URANIUM 237 GAMMA RAY YIELD
00 780808 781212 821225
5.0% 2 NIS Y.NODA NIS H.OKABAYASHI
780176 792090 FISSION REACTOR
Q: YIELD PER DISINTEGRATION OF 59.5 AND 208 KEV GAMMA RAYS.
O: RADIATION DOSE CALCULATION FOR PU-241 DAUGHTER. STATUS NUCLEAR DATA SHEETS, 23 71 (1978) ; EVALUATION 10 %.

37 092 URANIUM 238 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM
00 760401 761010 821225
10.0% 3 TOS H.SHIMOJIMA
780180 762044 SAFEGUARDS
Q: CUMULATIVE YIELDS OF BR-87,BR-88,KR-90,I-137,I-138,I-139, XE-137,XE-138 FOR FISSION NEUTRON AND 1 - 14 MEV NEUTRON SPECTRA.
O: DETECTION OF FAILED FUEL.

38 093 NEPTUNIUM 237 NEUTRON CAPTURE CROSS SECTION
00 780808 781212 821225
0.25-1 EV 1.00 KEV 10.0% 1 PNC I.OHTAKE
780181 792086 FISSION REACTOR
Q: EXPERIMENTAL DATA WANTED. EVALUATION DESIRABLE. RESONANCE PARAMETERS ARE ALSO REQUIRED.
O: FOR BURNUP CALCULATION OF THERMAL AND FAST REACTORS.

39 093 NEPTUNIUM 237 NEUTRON CAPTURE CROSS SECTION
00 780808 781212 821225
1.00 KEV 15.00 MEV 20.0% 1 PNC I.OHTAKE
780182 792089 FISSION REACTOR
Q: EXPERIMENTAL DATA REQUIRED. EVALUATION DESIRABLE.
O: FOR BURNUP CALCULATION OF THERMAL AND FAST REACTORS.

40 093 NEPTUNIUM 237 NEUTRON FISSION CROSS SECTION
00 760401 761010 821225
UP TO 15.00 MEV 1.0% 2 JAE Y.SEKI
780183 762135 FUSION REACTOR
Q: RATIO TO U-235 FISSION USEFUL.
A: ACCURACY 3 PER CENT USEFUL. NEUTRON ENERGY RESOLUTION 300 KEV.
O: FOR MONITOR REACTION AND RADIATION DOSIMETRY IN NEUTRONICS EXPERIMENTS ON BLANKET SYSTEM OF FUSION REACTORS.

41 093 NEPTUNIUM 239 NEUTRON CAPTURE CROSS SECTION
00 710401 711010 821225
10.00 KEV 5.00 MEV 20.0% 3 KYU M.OHTA
780184 712075 FISSION REACTOR
Q: SOME POINT DATA ARE ALSO USEFUL.
O: FOR NORMALIZATION OF CALCULATED CAPTURE CROSS SECTION. FOR BURNUP CALCULATION.

42 093 NEPTUNIUM 239 NEUTRON CAPTURE CROSS SECTION
00 760401 761010 821225
0.25-1 EV 15.00 MEV 20.0% 2 JAE R.SHINDO
780186 762209 FISSION REACTOR
O: FOR BURNUP CALCULATION OF THERMAL REACTOR.

43 094 PLUTONIUM 238 SPONTANEOUS FISSION HALF LIFE
01 760401 801110 761010 821225
1.0% 2 PNC S.SUZUKI
780188 762014 SAFEGUARDS
O: DETECTION OF PU BY NEUTRON COINCIDENCE METHOD.

44 094 PLUTONIUM 238 NEUTRON CAPTURE CROSS SECTION
00 780808 781212 821225
0.25-1 EV 500.00 KEV 20.0% 2 PNC I.OHTAKE
780191 792087 FISSION REACTOR
Q: EXPERIMENTAL DATA DESIRED. EVALUATED DATA ALSO REQUIRED.
O: FOR BURNUP CALCULATION OF THERMAL AND FAST REACTORS.

45 094 PLUTONIUM 238 NEUTRON CAPTURE CROSS SECTION
00 780808 781212 821225
500.00 KEV 15.00 MEV 10.0% 2 PNC I.OHTAKE
780192 792088 FISSION REACTOR
Q: EXPERIMENTAL DATA DESIRED. EVALUATED DATA ALSO REQUIRED.
O: FOR BURNUP CALCULATION OF THERMAL AND FAST REACTORS.

46 094 PLUTONIUM 238 SPECIAL QUANTITY
01 760401 801110 761010 821225
0.5% 1 PNC S.SUZUKI
780193 762018 SAFEGUARDS
Q: DECAY HEAT (W/G) REQUIRED.
O: ASSAY OF PU BY CALORIMETRY.

47 094 PLUTONIUM 239 NEUTRON CAPTURE TO FISSION RATIO(ALPHA)
00 720401 721010 821225
0.25-1 EV 14.00 MEV 2 JAE Y.NAITO
780200 722046 SAFEGUARDS
A: ACCURACY REQUIRED AT THERMAL IS 1 PER CENT, 5 PER CENT ABOVE.
O: FOR BURNUP CALCULATION OF A PU LOADED THERMAL REACTOR.

48 094 PLUTONIUM 239 NEUTRON NEUTRONS EMITTED PER FISSION(NU BAR)
00 720401 721010 821225
0.25-1 EV 0.25-1 EV 0.5% 2 JAE Y.NAITO
780202 722048 SAFEGUARDS
Q: DATA WANTED FOR EPI-THERMAL NEUTRONS ALSO.
O: FOR BURNUP CALCULATION OF A PU LOADED THERMAL REACTOR.

49 094 PLUTONIUM 239 SPECIAL QUANTITY
01 760401 801110 761010 821225
0.5% 1 PNC S.SUZUKI
780204 762019 SAFEGUARDS
Q: DECAY HEAT (W/G) REQUIRED.
O: ASSAY OF PU BY CALORIMETRY.

50 094 PLUTONIUM 240 SPONTANEOUS FISSION HALF LIFE
01 760401 801110 761010 821225
1.0% 2 PNC S.SUZUKI
780205 762016 SAFEGUARDS
O: DETECTION OF PU BY NEUTRON COINCIDENCE METHOD.

51 094 PLUTONIUM 240 NEUTRON RESONANCE PARAMETERS
01 760401 801110 761010 821225
1.00 EV 10.00 KEV 1 PNC M.SASAKI
780211 762215 FISSION REACTOR
O: FOR FAST REACTOR CALCULATIONS.

52 094 PLUTONIUM 240 SPECIAL QUANTITY
01 760401 801110 761010 821225
0.5% 1 PNC S.SUZUKI
780212 762020 SAFEGUARDS
Q: DECAY HEAT (W/G) REQUIRED.
O: ASSAY OF PU BY CALORIMETRY.

53 094 PLUTONIUM 241 NEUTRON CAPTURE TO FISSION RATIO(ALPHA)
00 720401 721010 821225
0.25-1 EV 14.00 MEV 2 JAE Y.NAITO
780218 722047 SAFEGUARDS
A: ACCURACY REQUIRED AT THERMAL IS 1 PER CENT, 5 PER CENT ABOVE.
O: FOR BURNUP CALCULATION OF A PU LOADED THERMAL REACTOR.

54 094 PLUTONIUM 241 SPECIAL QUANTITY
01 760401 801110 761010 821225
0.5% 1 PNC S.SUZUKI
780222 762021 SAFEGUARDS
Q: DECAY HEAT (W/G) REQUIRED.
O: ASSAY OF PU BY CALORIMETRY.

55 094 PLUTONIUM 242 SPONTANEOUS FISSION HALF LIFE
01 760401 801110 761010 821225
1.0% 2 PNC S.SUZUKI
780223 762017 SAFEGUARDS
O: DETECTION OF PU BY NEUTRON COINCIDENCE METHOD.

56 094 PLUTONIUM 242 NEUTRON CAPTURE CROSS SECTION
00 720401 721010 821225
0.25-1 EV 14.00 MEV 2 JAE Y.NAITO
780224 722043 SAFEGUARDS
A: ACCURACY REQUIRED AT THERMAL IS 5 PER CENT, 10 PER CENT ABOVE.
O: FOR BURNUP CALCULATION OF A PU LOADED THERMAL REACTOR.

57 094 PLUTONIUM 242 SPECIAL QUANTITY
01 760401 801110 761010 821225
0.5% 1 PNC S.SUZUKI
780227 762022 SAFEGUARDS
Q: DECAY HEAT (W/G) REQUIRED.
O: ASSAY OF PU BY CALORIMETRY.

58 095 AMERICIUM 241 SPECIAL QUANTITY
01 760401 801110 761010 821225
0.5% 1 PNC S.SUZUKI
780231 762023 SAFEGUARDS
Q: DECAY HEAT (W/G) REQUIRED.
O: ASSAY OF PU BY CALORIMETRY.

59 095 AMERICIUM 243 NEUTRON CAPTURE CROSS SECTION
00 760401 761010 821225
0.25-1 EV 2.00 MEV 20.0% 3 NFI M.YADA TIT K.EBIZUKA
780236 762028 SAFEGUARDS
Q: TOTAL,ELASTIC AND INELASTIC CROSS SECTIONS ARE ALSO REQUIRED BY K.EBIZUKA TIT.
A: 10 PER CENT ACCURACY FOR 25 MV, 20 PER CENT ACCURACY FOR HIGHER ENERGY REGION.
O: BURNUP ANALYSIS OF FAST BREEDER REACTORS.

5. New Requests Submitted to WRENDA

In this section, 17 new requests are listed. They were adopted from about 20 requests after the WRENDA Group in JNDC examined their suitableness for the requests. They are 12 requests for fission reactors, 3 for fusion research and 2 for others.

** REQUESTS SUBMITTED TO WRENDA ON DEC.25,'82 ** PAGE 1

1 001 HYDROGEN 001 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION
00 821120 821225
5.00 MEV 15.00 MEV 0.5% 3 ELH T.MICHIKAWA
820001 OTHERS
Q: STANDARD FOR ABSOLUTE MEASUREMENTS OF MONOENERGITIC FAST NEUTRON FLUENCE.
A: PRESENT ACCURACY IS 1.0%. LESS THAN 0.5% ACCURACY REQUESTED.
O: PRECISE MEASUREMENTS AND EVALUATIONS ARE REQUIRED. PRECISE EVALUATION OF ELASTIC SCATTERING CROSS SECTION FROM 10 KEV TO 20 MEV IS ALSO WANTED.

2 008 OXYGEN 017 NEUTRON N,P
00 821120 821225
UP TO 20.00 MEV 20.0% 2 CRC T.ISHIZUKA CRC H.KADOTANI
820002 FISSION REACTOR
O: SHIELDING PRIMARY COOLING SYSTEMS FROM DELAYED NEUTRONS FROM N-17.

3 020 CALCIUM NEUTRON DOUBLE DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION
00 821120 821225
1.00 MEV 15.00 MEV 15.0% 3 JAE Y.SEKI
820003 FUSION REACTOR
O: INCLUDED IN CONCRETE. SHIELDING DESIGN.

4 024 CHROMIUM NEUTRON DOUBLE DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION
00 821120 821225
UP TO 15.00 MEV 15.0% 2 JAE Y.SEKI
820004 FUSION REACTOR
O: NEUTRON TRANSPORT CALCULATIONS.

5 026 IRON NEUTRON DOUBLE DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION
00 821120 821225
UP TO 15.00 MEV 10.0% 2 JAE Y.SEKI
820005 FUSION REACTOR
O: NEUTRON TRANSPORT CALCULATIONS.

6 042 MOLYBDENUM 095 NEUTRON RESONANCE PARAMETERS
00 821120 821225
UP TO 10.00 KEV 10.0% 2 NIG M.KAWAI
820006 FISSION REACTOR
Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATION.

7 042 MOLYBDENUM 097 NEUTRON RESONANCE PARAMETERS
00 821120 821225
UP TO 10.00 KEV 10.0% 2 NIG M.KAWAI
820007 FISSION REACTOR
Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATION.

8 043 TECHNETIUM 099 NEUTRON RESONANCE PARAMETERS
00 821120 821225
UP TO 10.00 KEV 10.0% 2 NIG M.KAWAI
820008 FISSION REACTOR
Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATION. TO RESOLVE DISCREPANCIES BETWEEN DIFFERENTIAL AND INTEGRAL DATA.

9 044 RUTHENIUM 101 NEUTRON RESONANCE PARAMETERS
00 821120 821225
UP TO 10.00 KEV 10.0% 2 NIG M.KAWAI
820009 FISSION REACTOR
Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATION.

10 046 PALLADIUM 104 NEUTRON RESONANCE PARAMETERS
00 821120 821225
UP TO 15.00 KEV 20.0% 2 NIG M.KAWAI
820010 FISSION REACTOR
Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATION.

11 046 PALLADIUM 106 NEUTRON RESONANCE PARAMETERS
00 821120 821225
UP TO 15.00 KEV 20.0% 2 NIG M.KAWAI
820011 FISSION REACTOR
Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATION.

12 054 XENON 134 NEUTRON RESONANCE PARAMETERS
00 821120 821225
UP TO 40.00 KEV 20.0% 2 NIG M.KAWAI
820012 FISSION REACTOR
Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATION.

13 056 BARIUM 137 NEUTRON RESONANCE PARAMETERS
00 821120 821225
UP TO 10.00 KEV 20.0% 2 NIG M.KAWAI
820013 FISSION REACTOR
Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATION.

14 072 HAFNIUM NEUTRON CAPTURE CROSS SECTION
00 821120 821225
1.00 KEV 1.00 MEV 2 NIG S.IIJIMA
820014 FISSION REACTOR
Q: GREATER THAN 10% DISCREPANCY AMONG EXPERIMENTAL DATA. INCONSISTENCY BETWEEN CROSS SECTIONS OF HF AND SUM OF ISOTOPIC DATA.
A: 5 TO 10% REQUIRED.
O: CONTROL ROD MATERIAL IN LWR.

15 072 HAFNIUM 176 NEUTRON CAPTURE CROSS SECTION
00 821120 821225
1.00 KEV 1.00 MEV 10.0% 2 NIG S.IIJIMA
820015 FISSION REACTOR
Q: NO EXPERIMENTAL DATA.
O: CONTROL ROD MATERIAL.

16 072 HAFNIUM 177 NEUTRON CAPTURE CROSS SECTION
00 821120 821225
1.00 KEV 1.00 MEV 10.0% 2 NIG S.IIJIMA
820016 FISSION REACTOR
Q: NO EXPERIMENTAL DATA.
O: CONTROL ROD MATERIAL.

17 077 IRIDIUM 191 NEUTRON CAPTURE CROSS SECTION
00 821120 821225
0.25-1 EV 10.00 MEV 10.0% 3 JAE K.TSUCHIHASHI
820017 OTHERS
Q: EVALUATED DATA REQUIRED.
O: RADIOISOTOPE PRODUCTION. FOR NON-DESTRUCTIVE ASSAY OF ENGINES.

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References

1) DayDay, N.: INDC(SEC)-78/URSF, "WRENDA 81/82, World Request List for Nuclear Data", (1981).

2) Igarasi S. et al.: JAERI-M 9464, "Japanese List of Requests for Nuclear Data", (1981).

Appendix. Codes of Laboratories.

CRC	Century Research Center Corporation
ELH	Electrotechnical Laboratory Headquarters
FBE	Fast Breeder Reactor Engineering Co., Ltd.
JAE	Japan Atomic Energy Research Institute
KTO	Kyoto University
KYU	Kyushu University
MAP	Mitsubishi Atomic Power Industries, Inc.
NAG	Nagoya University
NFI	Nuclear Fuel Industries
NIG	Nippon Atomic Industry Group Co., Ltd.
OSA	Osaka University
PNC	Power Reactor and Nuclear Fuel Development Corporation
SAE	Sumitomo Atomic Energy Industries, Ltd.
TIT	Tokyo Institute of Technology
TOH	Tohoku University
TOK	Tokyo University
TOS	Toshiba Research and Development Center