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INDC INTERNATIONAL NUCLEAR DATA COMMITTEE

WRENDA 93/94

WORLD REQUEST LIST FOR NUCLEAR DATA

Compiled and edited by
N. Kocherov and P.K. McLaughlin
International Atomic Energy Agency, Vienna, Austria

Published on behalf of

National Nuclear Data Centre, Brookhaven, USA (D. Larson, coordinator)
NEA Data Bank, Saclay, France (N. Tubbs, coordinator)
Nuclear Data Section, Vienna, Austria (N. Kocherov, coordinator)
Nuclear Data Center, Obninsk, Russia (B.D. Kuzminov, coordinator)

December 1993

IAEA NUCLEAR DATA SECTION, WAGRAMERSTRASSE 5, A-1400 VIENNA

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Abstract

WRENDA 93/94 is the tenth edition of the World Request List for Nuclear Data. This list is produced from a computer file of nuclear data requests, maintained by the Nuclear Data Section of the International Atomic Energy Agency (IAEA). The requests are provided by official bodies, such as national nuclear data committees, through four regional data centers serving all Member States of the IAEA. Each request included indicates

- that the estimated accuracy of the nuclear data available does not satisfy the requirements encountered,
- and that, consequently, new data measurements and/or data evaluations with improved accuracy are highly desirable.

WRENDA is intended to serve as a guide to experimentalists, evaluators and administrators when planning nuclear data measurement and evaluation programs.

The requests in this edition come from six different countries and one international organization.

Reproduced by the IAEA in Austria
December 1993

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Contents

I. GENERAL INTRODUCTION TO WRENDA

I.A. Summary

WRENDA 93/94 is the tenth edition of the World Request List for Nuclear Data. The request list is intended to serve as guide to experimentalists, evaluators and administrators, when planning nuclear data programs. WRENDA is produced from a computer file of nuclear data requests, maintained by the Nuclear Data Section of the International Atomic Energy Agency (IAEA). Input to this request file is provided by official bodies, such as national nuclear data committees, through four regional data centers serving all Member States of the IAEA. The requests in this edition come from 6 different countries and one international organization.

In this edition, there are some changes to the request file since the production of the previous edition. To summarize the changes, 44 requests listed in the previous edition were modified, 621 withdrawn, 64 satisfied and 468 new requests were added. The total number of requests is 720 of which 291 are Priority 1, 361 are Priority 2 and 68 are Priority 3 requests. There are no Priority 4 requests.

The number of current requests related to fission reactor technology is 287, while the number of requests related to nuclear fusion is 292 and that related to nuclear material safeguards is 28 and other applications is 113.

Part II of this report provides a detailed description of the WRENDA request list structure. Part III provides explanations of the various priority criteria in use. Part IV contains the actual list. Part V contains an index of requests which appeared in the previous edition, but are now withdrawn or satisfied.

I.B. Background Information

The practice of using a "request list" to communicate the data requirements of a developing technology to the producers of data has a long history in both the United States and the United Kingdom. In 1968, the Neutron Data Compilation Centre at Saclay initiated publication of a request for neutron data measurements from a computerized file, known as *RENDA*, on behalf of the European-American Nuclear Data Committee (NEANDC). That list contained requests from the countries represented on the EANDC. In 1971, the International Nuclear Data Committee (INDC) recommended that the IAEA assume responsibility for publication of an expanded international data request list, which would include neutron data requests from a larger number of countries and international organizations.

In response to this INDC recommendation, the Nuclear Data Section (NDS) of the IAEA developed a new, computerized, data-request file, WRENDA. The input to this data request file is provided by official bodies, such as national nuclear data committees, through the following regional nuclear data centers:

NNDC	-	National Nuclear Data Center, Brookhaven National Laboratory, Upton, N.Y., USA
NEA-DB	-	NEA Data Bank, Nuclear Energy Agency, Paris, France
NDS	-	Nuclear Data Section, International Atomic Energy Agency, Vienna, Austria
CJD	-	Centr po Jadernym Dannym, Obninsk, Russia

Concurrently with the transfer of responsibility for the neutron data request file from the NEA to the IAEA, the Nuclear Data Section had developed international nuclear data request lists, for technologies related to nuclear materials safeguards and to controlled fusion. It was expedient to develop the new WRENDA system to accommodate data requests for all applications.

An immediate consequence of the expanded scope was that the new WRENDA system was designed to accommodate requests for data related to other nuclear processes as well as to neutron-induced reactions. Also concurrently with the development of the WRENDA system it was agreed that data requests related to fusion, safeguards and other applications should also be handled through the regional data centers.

The WRENDA system was designed as a cooperative effort by representatives of the regional centers, coordinated at the NDS.

This report, listing the current contents of the WRENDA request file, is published on behalf of the four regional centers by the IAEA. The co-operation of the other three centers as well as the INDC Liaison Officers in the production of the updated WRENDA file is gratefully acknowledged.

I.C. User Participation and WRENDA Services

The request list is intended to serve as a guide to experimentalists, evaluators and administrators when planning nuclear data measurement and evaluation programmes. When measurers and evaluators begin work which will provide data requested in this document, they are asked to inform the requestor(s).

Information about such work should also be provided to the Nuclear Data Section or to one of the regional data centers listed in Section I.B. The names of the requestors are printed with each request, and their addresses are given in Appendix C.

Future editions of WRENDA will continue to be issued every four years. Before each publication the national data committees will be asked to review their requests so that the lists can be kept current.

Although major updating of the file will usually occur in the spring prior to book publication, the master-files can be updated at other times as well. Between book-publications, computer listings of the current files can be requested from the IAEA Nuclear Data Section. Special sets and selective retrievals from the files can also be obtained upon request. For example, one can obtain, in essentially the same format as the complete request list, a listing of all requests originating in a given country or a given year, or relating to a given application, or having a given priority assignment - as well as arbitrary combinations.

Comments from the users of WRENDA are welcomed and encouraged so that the document and the special service available from the system can better meet their needs.

II. DESCRIPTION OF REQUEST LIST STRUCTURE

We now present a detailed description of the organization of the WRENDA request list, together with instructions on how to find requests within the list.

II.A. Request Block Format

The request list appearing in Part IV of this report is made up of a series of "request blocks". A request block contains all current data requests of a given type, that is, all requests specifying the same target, projectile (incident particle) and quantity (type of reaction or process).

A WRENDA "data request" consists of a concise statement of what data are needed, the desired accuracy, the priority assignment, the intended application, and the name and affiliation of the requestor - all coded into a particular format for computerized storage, retrieval and report production. In addition, most requests also include free text comments in which the requestor further defines his requirements.

A request block may also contain "status comments", which are short statements describing the quality of existing data or referencing work in progress. A typical example of a request block, containing 3 data requests, is listed on the following page.

Block Heading

Referring to this example, the first line of request block gives, from left to right, the target nuclide, the projectile and the quantity. This line of text is enclosed by a double line to make the beginning of each block stand out visually. The meaning of a quantity generally conforms to CINDA* usage with the addition of some quantities to describe nuclear structure data and complex reactions. A list of the allowed quantities appears in Section II.B. The target nuclide description consists of the atomic number (Z), the element name, and the mass number (A) of the isotope. In case the target is the natural element mixture of several isotopes, the mass number is left blank. In the same way, if the target is a mixture of different elements, the atomic number is omitted.

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* *CINDA - The Index to the Literature and Computer Files on Microscopic Neutron Data*
Published annually by the International Atomic Energy Agency

Reference Number

Following the block-heading, the individual data requests are listed. A serial number, the *REFERENCE* number, appears in the left-most field of the first line of each request. The reference number identifies a request in relation to this specific edition of WRENDA only. (Compare this with *IDENTIFICATION* number, discussed below).

Energy

The next two entries on the first line of each request give the range of energy of the incident particle over which data are desired. The energy unit is given after each number. Because no lower case is used, we have adopted the notation MV for milli-electron volts, reserving MEV for million electron volts.

If an energy appears in the first field with the second field blank, then the requested information is required at only a single energy. In the case of a resonance integral, the single entry gives the lower energy limit for the integral. Requests for data at "thermal" energies have been entered at 25.3 MV. An entry in the second field preceded by the words "UP TO" in the first field indicates that data are needed up to the specified energy. This format appears most frequently for threshold reactions. All spectrum averages and non-standard energy specifications must be explained in the requestor's comments (see below).

Accuracy

The fourth field on the first line gives the accuracy required of the requested data stated in percent. Any accuracy requirements which cannot be stated as a single number are given in the requestor's comments. Unless specified otherwise, requested accuracies are one standard deviation. Any other meaning is explained in the comments.

Priority

The fifth field on the first line gives the priority of the requested information. Each of the three major application areas covered in this edition (fission, fusion and safeguards) employs a different set of priority criteria, which are presented in separate sections of Part III.

TARGET — PROJECTILE — QUANTITY — APPLICATION TAG

REFERENCE NO. — ENERGY RANGE — ACCURACY — PRIORITY — COUNTRY — REQUSTOR — LABORATORY — IDENTIFICATION NO.

COMMENTS

3 LITHIUM 7 — NEUTRON — N,NT

REFERENCE NO.	ENERGY RANGE		ACCURACY	PRIORITY	COUNTRY	REQUSTOR	LABORATORY	IDENTIFICATION NO.
27	10.0 MEV	15.0 MEV	15.0%	1	RUS	I.N.GOLOVIN	KUR	724004

Q: SECONDARY ENERGY AND ANGULAR
DISTRIBUTION REQUIRED.
O: NEUTRON TRANSMISSION CALCULATION.

28	4.00 MEV	12.0 MEV	5.0%	1	JAP	A.TAKAHASHI	OSA	832036F

Q: (N.NT) CROSS SECTION.
NEUTRON SPECTRA WITH 15% ACCURACY
ALSO REQUIRED.
O: TRITIUM BREEDING AND ENERGY DEPOSITION
CALCULATIONS.
MET FOR 13 TO 15 MEV.

29	UPTO	8.00 MEV		2	USA	P.YOUNG	LAS	921122R

A: ACCURACY RANGE 3 TO 6 PERCENT
O: NEEDED TO ASSESS TRITIUM PRODUCTION
IN THE TAIL OF THE FISSION NEUTRON
ENERGY SPECTRUM.
M: NEW REQUEST

Requestor

The next three fields of the first line are used to identify the requestor. The first piece of information is a three letter code for the country originating the request. The codes and their explanations are given in Appendix A. The country code is followed by the name of the requestor. Mailing addresses for the requestors are given in Appendix C. The last piece of information is a three character code for the requestor's organization. These codes conform to the CINDA codes and are listed along with the organization name in Appendix B. In cases where there is more than one requestor for a request, then their names and organization codes are given on successive lines.

Identification Number

The number in the ninth field of the first line of each request is the *IDENTIFICATION* number. The number assigned is unique and remains associated with a request from one edition to the next.

When a request is withdrawn, this number is not assigned to another request. The first two digits of the identification number are the last two digits of the year in which the request was originated. The third digit represents the responsible nuclear data center (1 = NNDC, 2 = NEA-DB, 3 = NDS, 4 = CJD) and the final three digits are a sequence number. The nuclear data centers are responsible of assigning the identification number.

Application Tag

Each request stored in the WRENDA master file contains a two-character application code which identifies the application associated with the request. These application codes are listed along with explanations in Table 1. In this report, the first character of the application code is listed just to the right of the identification number as short *APPLICATION TAG*, allowing the user to quickly identify the general area of application. The most frequently occurring tags are **R** (fission **r**eactors), **F** (**f**usion) and **N** (**n**uclear materials safeguards).

Requestors Comments

Comments by requestors follow below the requestor's names on the right hand side of the page. The comments are grouped into four types denoted by the characters Q, A, O and M. The group of comments designated by **Q** refers to further experimental specifications such as details of the **quantity** to be measured and the energy range of incident or secondary particles. If average value of cross section in a typical spectrum is required, it should be clearly mentioned in the comment section. Those denoted by an **A** refer to further details concerning **accuracy** or energy resolution required. Energy resolution requirements or covariance assumptions, if any, should also be explicitly stated. The category **O** includes all **other** comments such as use of our justification for requested data. The last group of comments, designated by an **M**, contains statements about **modifications** which have been made since the previous version of WRENDA, such as "new requests" etc.

Table I: Explanation of Applications Codes

F	FUSION
FA	FUSION, REACTOR PHYSICS
FB	FUSION, SHIELDING
FC	FUSION, RADIATION DAMAGE
FD	FUSION, DOSIMETRY
FF	FISSION, FUSION CALCULATIONS
G	GENERAL
M	MEDICINE
MI	RADIOISOTOPE PRODUCTION
MT	CANCER RADIOTHERAPY
N	SAFEGUARDS
NA	SAFEGUARDS, ACTIVE ASSAY
NB	SAFEGUARDS, PASSIVE ASSAY
NC	BURN-UP DETERMINATION
R	FISSION REACTORS
RA	FISSION REACTORS, CORE PHYSICS
RB	FISSION REACTORS, SHIELDING
RC	FISSION REACTORS, DOSIMETRY
RD	FISSION REACTORS, RADIATION DAMAGE
RE	FISSION REACTORS, STANDARDS
RF	FISSION REACTORS, EVALUATIONS
RU	FISSION REACTORS, FUEL CYCLE
S	SPACE

Status Comments

These comments have been excluded from this edition of the WRENDA report.

One can refer to the NEA Working Party on International Cooperations Subgroup C High Priority Request List. Contact C. Nordborg for further information at the NEA Data Bank: OECD/NEA Data Bank, Le Seine Saint-Germain, 12 Boulevard des Iles, F-92130 Issy-les-Moulineaux.

II.B. How to Find a Request in WRENDA

As is discussed in the previous section, all data requests for a single target nucleus, projectile, and quantity are blocked together. These blocks are sorted first by target, then by projectile and then by quantity. Within a given block, requests are sorted by increasing identification number, hence, chronologically.

The target nuclei are listed in order of increasing atomic number (Z). (The elements are listed alphabetically, along with the corresponding atomic number, on the back cover of this report). For fixed Z, request blocks are ordered by increasing mass number (A). An element with two or more naturally-occurring isotopes is listed before the individual isotopes of the element. On the other hand, an element consisting of a single stable isotope is listed in the appropriate position among the individual isotopes of the element. Following the request blocks of highest Z are requests in which the target is lumped fission products and, finally, requests in which the target is an alloy or chemical compound.

Below are given two additional tables for assistance in locating requests. The first table gives the projectile sorting order, and the second gives the quantity sorting order. The main features of the quantity sorting order can be roughly categorized as follows: (1) structure and decay data, (2) scattering, (3) gamma-ray production, (4) neutron production, (5) charged-particle production and (6) fission.

Table II: Projectile Sorting Order

1	No incident particle (e.g. decay data)
2	Photon
3	Neutron
4	Proton
5	Deuteron
6	Triton
7	Helium-3
8	Alpha
9	Lithium-6

Table III. Quantity Sorting Order

LEVEL DENSITY PARAMETERS
DISCRETE LEVEL STRUCTURE (ENERGY, SPIN, PARITY)
HALF LIFE
ALPHA HALF LIFE
FISSION HALF LIFE
DECAY HEAT PER GRAM
TOTAL CROSS SECTION
ELASTIC CROSS SECTION
DIFFERENTIAL ELASTIC CROSS SECTION
VECTOR POLARIZATION PRODUCED IN ELASTIC SCATTERING
INELASTIC CROSS SECTION
ANGULAR DIFFERENTIAL INELASTIC CROSS SECTION
ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
THERMAL SCATTERING LAW
TOTAL SCATTERING CROSS SECTION
DIFFERENTIAL TOTAL SCATTERING CROSS SECTION
NON-ELASTIC CROSS SECTION
ABSORPTION CROSS SECTION
CAPTURE CROSS SECTION
ENERGY DIFFERENTIAL CAPTURE CROSS SECTION
CAPTURE GAMMA RAY SPECTRUM
DELAYED CAPTURE GAMMA RAY SPECTRUM
PHOTON PRODUCTION CROSS SECTION IN INELASTIC SCAT.
ANGULAR DISTRIBUTION OF PHOTON FROM INELASTIC SCAT
ENERGY DISTRIBUTION OF PHOTON FROM INELASTIC SCAT
TOTAL PHOTON PRODUCTION CROSS SECTION
GAMMA RAY YIELD
ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION
ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION
X,N
X,N NEUTRON SPECTRA
X,2N
X,2N ANGULAR DISTRIBUTION
X,2N NEUTRON SPECTRA
ENERGY-ANGLE DIFF.2 NEUTRON-PRODUCTION CROSS SECT.
X,3N
X,4N
X,5N
NEUTRON EMISSION CROSS SECTION
TOTAL NEUTRON YIELD
DELAYED NEUTRON YIELD
ENERGY DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION
ANGULAR DIFF. NEUTRON-EMISSION CROSS SECTION
ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
ACTIVATION CROSS SECTION
(N,2N) + (N,3N) NEUTRON SPECTRUM
X,P
X,P DELAYED NEUTRON YIELD
X,NP
NEUTRON AND 2-PROTON PRODUCTION CROSS SECTION
X,2P
TOTAL PROTON PRODUCTION CROSS SECTION
ENERGY DIFF. PROTON-PRODUCTION CROSS SECTION
ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

Table III. Quantity Sorting Order (Continued)

X,D
ENERGY DISTRIBUTION OF DEUTERONS
X,ND
X,T
ANGULAR DISTRIBUTION OF TRITONS
ENERGY DISTRIBUTION OF TRITONS
X,NT
ANG.DIST.OF NEUT.FROM N AND T PRODUCING CROSS SEC.
TOTAL TRITON PRODUCTION
X,HELIUM-3
ENERGY DISTRIBUTION OF HE-3 PARTICLES
TOTAL HE-3 PRODUCTION CROSS SECTION
X,ALPHA
ANGULAR DISTRIBUTION OF ALPHA PARTICLES
X,NALPHA
X,N3ALPHA
X,N4ALPHA
ENERGY-ANGLE DIFF. NUETRON ALPHA PROD.CROSS SECTIO
ENERGY DISTRIBUTION OF HE-4 PARTICLES
ENERGY DISTRIBUTION OF HE-4 PARTICLES
THREE ALPHA PARTICLES PRODUCTION CROSS SECTION
TOTAL ALPHA PRODUCTION CROSS SECTION
ENERGY DIFFERENTIAL ALPHA-PRODUCTION CROSS SECTION
ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION
CROSS-SECTION OF ALPHA+GAMMA EMISSION
ALPHA PARTICLE AND GAMMA SPECTRA
TOTAL HYDROGEN-PRODUCTION CROSS SECTION
TOTAL HELIUM-PRODUCTION CROSS SECTION
SPECIAL QUANTITY (DESCRIPTION BELOW)
FISSION CROSS SECTION
SECOND CHANCE FISSION CROSS SECTION
CAPTURE TO FISSION RATIO (ALPHA)
NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)
NEUTRONS EMITTED PER NON-ELASTIC PROCESS
NEUTRONS EMITTED PER FISSION (NU BAR)
DELAYED NEUTRONS EMITTED PER FISSION
PROMPT NEUTRONS EMITTED PER FISSION
INFORMATION ON NEUTRONS FROM A FISSION FRAGMENT
ENERGY SPECTRUM OF FISSION NEUTRONS
ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS
SPECTRUM OF PROMPT GAMMA RAYS EMITTED IN FISSION
SPECTRUM OF GAMMA RAYS EMITTED IN FISSION
GAMMA SPECTRUM FROM NON-ELASTIC PROCESS
DELAYED GAMMA SPECTRUM FROM FISSION PRODUCTS
CHARGED PARTICLE EMISSION CROSS-SECTION
FISSION PRODUCT MASS YIELD SPECTRUM
SPALLATION PRODUCT MASS YIELD SPECTRUM
INFORMATION ON KINETICS OF FISSION FRAGMENTS
RESONANCE PARAMETERS
ABSORPTION RESONANCE INTEGRAL
CAPTURE RESONANCE INTEGRAL
FISSION RESONANCE INTEGRAL

III. PRIORITY CRITERIA AND OTHER INFORMATION

III.A. Priority Criteria for Fission Reactor (R) Requests

The fission reactor data requests (i.e. those tagged by an "R" following the identification number) are assigned a numerical priority ranging from 1 to 3 (1 being the highest). The priorities are defined as follows:

Priority 1

Nuclear data which satisfy the criteria of Priority 2 and which have been selected for maximum practicable attention, taking into account the urgency of nuclear energy programme requirements.

For example, the Nuclear Energy Agency Committee for Reactor Physics assigns its highest priorities for reactor measurements as follows:

"The highest priority should be given to requests for nuclear data for reactors to be built in the near future if:

(a) these data are still necessary to predict the different reactor properties after all information from integral experiments and operating reactors has been used; or

(b) information on an important reactor parameter is in principle attainable through mathematical calculation from nuclear data only; or

(c) these data are needed for materials required in reactor physics measurements."

Priority 2

Nuclear data which will be required during the next few years in the applied nuclear energy programme (e.g. the design of a reactor or fuel processing plant; data needed for optimum use of reactor fuel and construction materials such as neutron moderators, absorbers and radiation shields; space application and biomedical studies; data required for better understanding of some significant aspect of reactor behaviour).

Priority 3

Nuclear data of more general interest and data required to fill out the body of information for nuclear technology.

III.B. Priority Criteria for Nuclear Fusion (F) Requests

The following priority criteria for fusion requests were developed by the IAEA with the assistance of the International Fusion Research Council (IFRC), the INDC and many scientists engaged in fusion research:

Priority 1

In general highest (first) priority shall be assigned to those nuclear data upon which some important aspect of fusion research is immediately contingent. Specifically Priority 1 shall be assigned to requests for nuclear data which

(1) are required for evaluation of the feasibility of a proposed fusion reactor concept, or

(2) are required for immediate application of plasma phenomena in a fusion reactor context, or

(3) are essential for application of a material which is of conceptual importance in fusion research, or

(4) are required for an important decision involving allocation of resources or redirection of research effort in fusion, or

(5) are necessary to develop some important aspect of current fusion programmes to a level consistent with progress in other aspects of these programmes.

Priority 2

Priority 2 shall be assigned to nuclear data which

(1) are required for evaluation of materials of high potential utility in current fusion reactor designs, or

(2) are expected to contribute to significant progress in fusion research or reactor design studies in the near future.

Priority 3

Priority 3 shall be assigned to nuclear data which

(1) are of use in current design studies but are not of crucial importance, or

(2) are not of immediate importance but which have probability of becoming important as fusion programmes develop.

*Priority 4**

Priority 4 shall be assigned to nuclear data which

(1) fill out the body of information needed for fusion reactor technology, or

(2) are of potential interest for fusion research but which cannot be assigned a more definite priority at present.

III.C. Priority Criteria for Nuclear Materials Safeguards (N) Requests

The following criteria were recommended by the International Nuclear Data Committee (INDC) for use in assigning priorities to nuclear data requests for nuclear materials safeguards purposes:

Priority 1

First priority shall be given to those requests for nuclear data that

(1) are necessary for the refinement of an existing technique in order to bring its accuracy to within acceptable limits for safeguards purposes, or

(2) are essential for the development of a new and promising technique for the non-destructive assay and control of nuclear material in amounts that are significant to the safeguards system.

Priority 2

Second priority shall be given to those requests for nuclear data that

(1) are essential for the use or interpretation of an existing or proposed technique for non-destructive assay and that are now obtained either by extrapolation or by an empirical method but for which experimental confirmation is desirable, or

(2) are necessary for the development of a technique for non-destructive assay that may reasonably be expected to be useful for safeguards purposes.

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* At present, there are no Priority 4 requests in the request file.

Priority 3

Third priority shall be given to those requests which

(1) may be needed for the non-destructive assay of materials not now included in the safeguards system but that are likely to be in the future, or

(2) are necessary for the assessment or elimination of minor sources of error in the assay of nuclear material, or

(3) are needed for the exploration of new techniques for non-destructive assay for future applications, or

(4) may be needed for the development of new techniques for non-destructive assay for which the required technology does not now exist but which may reasonably be expected to in the future.

* * * * * * * * * * *

W R E N D A

* * * * * * * * * * *

1 HYDROGEN 1 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

1	10.0 MEV	200. MEV	1 %	1	USA	CARLSON	NIS		921045G

Q: RATIOS OF MEASUREMENTS AT APPROPRIATE ANGLES NEEDED (E.G., 180 DEGREES CM TO 60 DEGREES CM IN STEPS SUCH THAT CAN INTERPOLATE BETWEEN MEASURED ANGLES). A LARGE DIFFERENCE IS PRESENT COMPARING V5 TO V6. TO REDUCE THE UNCERTAINTY IN THIS STANDARD CROSS SECTION AND EXTEND ITS USEFUL ENERGY RANGE.
M: NEW REQUEST.

1 HYDROGEN 2 NEUTRON ENERGY-ANGLE DIFF.2 NEUTRON-PRODUCTION CROSS SECT.

2	UP TO	16.0 MEV	15. %	2	PRC	ZHANG BENAI	IPM		873016G

Q: ENERGY-ANGULAR SPECTRUM OF (N,2N). NO SATISFACTORY AND COMPLETE EXPERIMENTAL RESULTS.
O: RESEARCH ON MECHANISM OF NUCLEAR INTERACTION BETWEEN NEUTRON AND LIGHT NUCLEI.
M: SUBSTANTIAL MODIFICATIONS.

1 HYDROGEN 3 TRITON T,2N

3	10.0 KEV	300. KEV	15. %	3	PRC	ZHANG BENAI	IPM		873015F

Q: CROSS SECTION OF T(T,2N) REACTION. NO EXPERIMENTAL RESULTS AVAILABLE.
O: FUSION ENERGY RESEARCH.

2 HELIUM 3 NEUTRON N,P

4	5.00 KEV	3.00 MEV	1 %	2	USA	CARLSON	NIS		921040R

O: TO REDUCE THE UNCERTAINTY IN THE HE-3(N,P) STANDARD CROSS SECTION.
M: NEW REQUEST.

2 HELIUM 3 DEUTERON D,P

5	400. KEV		2 %	2	USA	WHITE	LLL		921001F

O: SHAPE OF THE CROSS SECTION HAS BEEN ESTABLISHED, HOWEVER, THE DATA BASE IS HIGHLY DISCREPANT IN ABSOLUTE MAGNITUDE. AN ACCURATE MEASUREMENT OF THE CROSS SECTION NEAR THE PEAK OF THE RESONANCE IS NEEDED FOR NORMALIZATION.
M: NEW REQUEST.

3 LITHIUM 6 NEUTRON ELASTIC CROSS SECTION

6	10.0 MEV	50.0 MEV	10.0%	2	JAP	S.CHIBA	JAE		872011F

Q: COMPARISON BETWEEN EXPERIMENTS AND CALCULATIONS, AND FOR INTERCOMPARISON OF EXPERIMENTS
A: ANGULAR DISTRIBUTION IS ALSO WANTED
O: NO DATA ABOVE 15 MEV

3 LITHIUM 6 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

7	4.00 MEV	15.0 MEV	10.0%	2	RUS	I.N.GOLOVIN	KUR		724001F

Q: REFINEMENT OF DATA BELOW 7 MEV AND ADDITIONAL DATA ABOVE 7 MEV REQUIRED.
O: CALCULATION OF NEUTRON TRANSMISSION.

3 LITHIUM 6 NEUTRON ANGULAR DIFFERENTIAL INELASTIC CROSS SECTION

8	10.0 MEV	50.0 MEV	10.0%	2	JAP	S.CHIBA	JAE		872012F

Q: COMPARISON BETWEEN EXPERIMENTS AND CALCULATIONS, AND FOR INTERCOMPARISON OF EXPERIMENTS
A: ANGULAR DISTRIBUTION IS ALSO WANTED
O: NO DATA ABOVE 15 MEV
M: SUBSTANTIAL MODIFICATIONS.

3 LITHIUM 6 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

9	9.00 MEV	15.0 MEV	15.0%	2	RUS	I.N.GOLOVIN	KUR		724004F

Q: GAMMA RAY PRODUCTION CROSS SECTIONS AND GAMMA RAY SPECTRA ARE REQUIRED.
O: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

3 LITHIUM 6 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

10 2.00 MEV 15.0 MEV 5.0% 1 JAP A.TAKAHASHI OSA 832035F
K.MAKI HIT

Q: ENERGY-ANGLE DOUBLE DIFFERENTIAL CROSS SECTION REQUIRED WITH AN INCIDENT ENERGY STEP OF 0.5 MEV.
O: NEUTRON TRANSPORT AND TRITIUM PRODUCTION RATE CALCULATIONS. ANGULAR DISTRIBUTIONS OF INELASTICALLY SCATTERED NEUTRONS FOR ALL AVAILABLE LEVELS ALSO REQUIRED.
M: SUBSTANTIAL MODIFICATIONS.

11 10.0 MEV 50.0 MEV 10.0% 1 JAP S.CHIBA JAE 872016F

Q: COMPARISON BETWEEN EXPERIMENTS AND CALCULATIONS, AND FOR INTERCOMPARISON OF EXPERIMENTS
O: NO DATA ABOVE 15 MEV
M: SUBSTANTIAL MODIFICATIONS.

12 6.00 MEV 12.0 MEV 20 % 1 USA CHENG TSI 921114F

A: MEASUREMENTS RECOMMENDED AT 6, 8, 10 AND 12 MEV.
O: NEEDED FOR MORE ACCURATE DETERMINATION OF NEUTRON SPECTRUM IN A FUSION BLANKET. LI-6 IS AN IMPORTANT FUSION BREEDING MATERIAL.
M: NEW REQUEST.

3 LITHIUM 6 NEUTRON N,ND

13 UP TO 15.0 MEV 10.0% 1 RUS I.N.GOLOVIN KUR 724003F

O: NEUTRONICS CALCULATIONS AND ENERGY DEPOSITION IN BLANKET MATERIALS.

3 LITHIUM 6 NEUTRON N,T

14 100. KEV 3.00 MEV 3.0% 1 RUS I.N.GOLOVIN KUR 724002F

O: FOR TRITIUM BREEDING AND ENERGY DEPOSITION.

3 LITHIUM 6 NEUTRON ENERGY-ANGLE DIFF. NUETRON ALPHA PROD.CROSS SECTIO

15 UP TO 16.0 MEV 15. % 2 PRC ZHANG BENAI IPM 873018G

Q: ENERGY-ANGULAR SPECTRUM OF (N,N'A). NO SATISFACTORY AND COMPLETE EXPERIMENTAL RESULTS.
O: RESEARCH ON MECHANISM OF NUCLEAR INTERACTION BETWEEN NEUTRON AND LIGHT NUCLEI.
M: SUBSTANTIAL MODIFICATIONS.

3 LITHIUM 6 TRITON T,P

16 UP TO 4.00 MEV 10 % 2 USA WHITE LLL 921134F

Q: ACTIVATION PRODUCT WITH SHORT HALF-LIFE.
O: FOR DIAGNOSING ICF IMPLOSIONS.
M: NEW REQUEST.

3 LITHIUM 7 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

17 2.00 MEV 15.0 MEV 10.0% 1 RUS I.N.GOLOVIN KUR 724005F

Q: REFINEMENT OF DATA BELOW 7 MEV AND ADDITIONAL DATA ABOVE 7 MEV REQUIRED.
O: FOR TRITIUM BREEDING AND ENERGY DEPOSITION.

18 10.0 MEV 50.0 MEV 10.0% 2 JAP S.CHIBA JAE 872015F

Q: COMPARISON BETWEEN EXPERIMENTS AND CALCULATIONS, AND FOR INTERCOMPARISON OF EXPERIMENTS
A: ANGULAR DISTRIBUTION IS ALSO WANTED
O: NO DATA ABOVE 15 MEV
M: SUBSTANTIAL MODIFICATIONS.

3 LITHIUM 7 NEUTRON INELASTIC CROSS SECTION

19 UP TO 15.0 MEV 15.0% 1 RUS I.N.GOLOVIN KUR 724006F

Q: CROSS SECTION FOR 0.478 MEV LEVEL REQUIRED.
O: NEUTRONICS CALCULATIONS AND ENERGY DEPOSITION.

20 6.00 MEV 15.0 MEV 10.0% 1 JAP K.SHIBATA JAE 872010F
S.CHIBA JAE

Q: TO ESTIMATE NEUTRON SPECTRA IN BLANKET PRECISELY
A: CROSS SECTION FOR SECOND LEVEL IS WANTED
O: LARGE DISCREPANCY BETWEEN TNL AND OTHER DATA

3 LITHIUM 7 NEUTRON ANGULAR DIFFERENTIAL INELASTIC CROSS SECTION

21	10.0 MEV	50.0 MEV	10.0%	2	JAP	S.CHIBA	JAE	872014F

Q: COMPARISON BETWEEN EXPERIMENTS AND CALCULATIONS, AND FOR INTERCOMPARISON OF EXPERIMENTS
A: ANGULAR DISTRIBUTION IS ALSO WANTED
O: NO DATA ABOVE 15 MEV
M: SUBSTANTIAL MODIFICATIONS.

3 LITHIUM 7 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

22	9.00 MEV	15.0 MEV	15.0%	1	RUS	I.N.GOLOVIN	KUR	724010F

Q: GAMMA RAY PRODUCTION CROSS SECTIONS AND GAMMA RAY SPECTRA ARE REQUIRED.
O: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

3 LITHIUM 7 NEUTRON N,2N

23	UP TO	15.0 MEV	15.0%	1	RUS	I.N.GOLOVIN	KUR	724009F

Q: SECONDARY ENERGY AND ANGULAR DISTRIBUTIONS AT 14 TO 15 MEV REQUIRED.
O: BLANKET NEUTRONICS CALCULATIONS.

3 LITHIUM 7 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

24	2.00 MEV	15.0 MEV	5.0%	1	JAP	A.TAKAHASHI	OSA	832037F

Q: ENERGY-ANGLE DIFFERENTIAL CROSS SECTIONS FOR TOTAL NEUTRON EMISSION REQUIRED.
A: HIGHER ACCURACY IS REQUIRED FROM DESIGN STUDY
O: NEUTRON TRANSPORT AND TRITIUM PRODUCTION CALCULATIONS.
ANGULAR DISTRIBUTIONS OF INELASTICALLY SCATTERED NEUTRONS FOR ALL AVAILABLE DISCRETE LEVELS ALSO REQUIRED.
EMISSION SPECTRUM IN LOW SECONDARY ENERGY REGION NOT MET FOR 7 TO 12 MEV
M: SUBSTANTIAL MODIFICATIONS.

25	10.0 MEV	50.0 MEV	10.0%	2	JAP	S.CHIBA	JAE	872013F

Q: COMPARISON BETWEEN EXPERIMENTS AND CALCULATIONS, AND FOR INTERCOMPARISON OF EXPERIMENTS
O: NO DATA ABOVE 15 MEV

26	6.00 MEV	12.0 MEV	10 %	1	USA	CHENG	TSI	921115F

A: MEASUREMENTS RECOMMENDED AT 6, 8, 10 AND 12 MEV.
O: NEEDED FOR MORE ACCURATE DETERMINATION OF NEUTRON SPECTRUM IN A FUSION BLANKET. LI-7 IS AN IMPORTANT FUSION BREEDING MATERIAL.
M: NEW REQUEST.

3 LITHIUM 7 NEUTRON N,NT

27	UP TO	15.0 MEV	5.0%	1	RUS	I.N.GOLOVIN	KUR	724007F

O: FOR TRITIUM BREEDING AND ENERGY DEPOSITION.

28	10.0 MEV	15.0 MEV	15.0%	1	RUS	I.N.GOLOVIN	KUR	724008F

Q: SECONDARY ENERGY AND ANGULAR DISTRIBUTIONS REQUIRED.
O: NEUTRON TRANSMISSION CALCULATIONS.

29	4.00 MEV	12.0 MEV	5.0%	1	JAP	A.TAKAHASHI	OSA	832036F

Q: (N,NT) CROSS SECTION.
NEUTRON SPECTRA WITH 15 PERCENT ACCURACY ALSO REQUIRED.
O: TRITIUM BREEDING AND ENERGY DEPOSITION CALCULATIONS.
MET FOR 13 TO 15 MEV

30	UP TO	8.00 MEV		2	USA	YOUNG	LAS	921122R

A: ACCURACY RANGE 3 TO 5 PERCENT.
O: NEEDED TO ASSESS TRITIUM PRODUCTION IN THE TAIL OF THE FISSION NEUTRON ENERGY SPECTRUM.
M: NEW REQUEST.

3 LITHIUM 7 NEUTRON ENERGY-ANGLE DIFF. NUETRON ALPHA PROD.CROSS SECTIO

31	UP TO	16.0 MEV	15. %	2	PRC	ZHANG BENAI	IPM	873019F

Q: ENERGY-ANGULAR SPECTRUM OF (N,N'A).
NO SATISFACTORY AND COMPLETE EXPERIMENTAL RESULTS.
O: RESEARCH ON MECHANISM OF NUCLEAR INTERACTION BETWEEN NEUTRON AND LIGHT NUCLEI.
M: SUBSTANTIAL MODIFICATIONS.

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3 LITHIUM 7 ALPHA ALPHA,N

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32 4.38 MEV 6.00 MEV 1 % 1 USA WESTON ORL 921097R

O: TO DETERMINE THE B-10(N,ALPHAO) CROSS SECTION FROM 20 KEV TO AT LEAST 1 MEV BY THE INVERSE REACTION. DATA BASE IS DISCREPANT.
M: NEW REQUEST.

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4 BERYLLIUM 9 NEUTRON TOTAL CROSS SECTION

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33 1.00 MEV 10.0 MEV 1 % 2 USA SMITH ANL 861046R

A: INCIDENT ENERGY RESOLUTION: 100 KEV. RESOLUTION SHOULD BE < 100 KEV.
O: FOR HIGH-TEMPERATURE AND SPACE SYSTEMS.

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4 BERYLLIUM 9 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

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34 2.00 MEV 20.0 MEV 5 % 2 USA SMITH ANL 861049R

A: INCIDENT ENERGY RESOLUTION: 100 KEV. ACCURACY SUFFICIENT TO PROVIDE NON-ELASTIC CROSS SECTION TO 5 PERCENT. RESOLUTION <100 KEV.
O: FOR HIGH-TEMPERATURE AND SPACE SYSTEMS.

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4 BERYLLIUM 9 NEUTRON ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

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35 2.00 MEV 10.0 MEV 5 % 2 USA SMITH ANL 861047R

A: 5 PERCENT ACCURACY ON DISCRETE INELASTIC. 10 PERCENT ON BREAKUP SPECTRUM.
O: FOR HIGH-TEMPERATURE AND SPACE SYSTEMS.

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4 BERYLLIUM 9 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

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36 3.00 MEV 15.0 MEV 15.0% 2 RUS I.N.GOLOVIN KUR 724015F

Q: GAMMA RAY SPECTRA ALSO REQUIRED.
O: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

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4 BERYLLIUM 9 NEUTRON N,2N

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37 2.00 MEV 14.0 MEV 5.0 % 1 IND V.R.NARGUNDKAR TRM 833046F

A: ENERGY STEPS 0.5 MEV
O: FUSION BLANKET STUDIES

38 14.0 MEV 15.0 MEV 3 % 1 USA *CHENG* *TSI* 861096F

A: IMPROVED PRECISION NEEDED.

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4 BERYLLIUM 9 NEUTRON ENERGY-ANGLE DIFF.2 NEUTRON-PRODUCTION CROSS SECT.

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39 UP TO 16.0 MEV 15. % 2 PRC ZHANG BENAI IPM 873017C

Q: ENERGY-ANGULAR SPECTRUM OF (N,2N). NO SATISFACTORY AND COMPLETE EXPERIMENTAL RESULTS.
O: RESEARCH ON MECHANISM OF NUCLEAR INTERACTION BETWEEN NEUTRON AND LIGHT NUCLEI.
M: SUBSTANTIAL MODIFICATIONS.

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4 BERYLLIUM 9 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

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40 1.70 MEV 15.0 MEV 5.0% 1 JAP K.MAKI HIT 832038F
A.TAKAHASHI OSA

Q: ENERGY-ANGLE DIFFERENTIAL CROSS SECTIONS FOR TOTAL NEUTRON EMISSION REQUIRED. CROSS SECTIONS FOR THE (N,2N) REACTIONS ALSO REQUIRED BY A.TAKAHASHI.
A: 3 % REQUIRED FOR (N,2N) CROSS SECTION HIGHER ACCURACY IS REQUIRED FROM DESIGN STUDY
O: BLANKET NEUTRONICS CALCULATIONS. ALSO FOR NEUTRON MULTIPLICATION CALCULATIONS.

41 6.00 MEV 12.0 MEV 10 % 1 USA CHENG TSI 921116F

A: MEASUREMENTS RECOMMENDED AT 6, 8, 10 AND 12 MEV.
O: NEEDED FOR THE DETERMINATION OF NEUTRON SPECTRUM IN A FUSION BLANKET. BERYLLIUM IS A VERY IMPORTANT NEUTRON MULTIPLIER FOR FUSION APPLICATIONS.
M: NEW REQUEST.

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4 BERYLLIUM 9 NEUTRON N,P DELAYED NEUTRON YIELD

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42 14.0 MEV 16.0 MEV 10.0% 2 RUS V.K.MARKOV GAC 714037N

Q: DELAYED NEUTRON YIELD FROM BE-9 PRODUCED BY BETA DECAY OF LI-9 REACTION PRODUCT REQUIRED.
O: ALLOWANCE FOR BACKGROUND IN DELAYED NEUTRON COUNTING

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4 BERYLLIUM 9 PROTON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

43 25.0 MEV 75.0 MEV 5 % 2 USA WHITE LLL 921002M

A: INCIDENT ENERGY RESOLUTION: 25 MEV.
O: DOUBLE-DIFFERENTIAL CROSS SECTIONS ARE NEEDED FOR THE OPTIMIZATION OF NEUTRON SOURCE PRODUCTION FOR CANCER THERAPY. A MINIMUM OF 6 ANGLES FROM 0 TO 50 DEGREES AND ONE BACK ANGLE IS DESIRED. IT IS ESSENTIAL THAT AT LEAST ONE THICK-TARGET MEASUREMENT BE MADE AT 0 DEGREES FOR EACH INCIDENT PROTON ENERGY USING THE SAME DETECTOR ARRANGEMENT AS IN THE THIN TARGET MEASUREMENTS.
M: NEW REQUEST.

4 BERYLLIUM 9 TRITON T,ALPHA

44 UP TO 4.00 MEV 10 % 2 USA WHITE LLL 921135F

Q: ACTIVATION PRODUCT WITH SHORT HALF-LIFE.
O: FOR DIAGNOSING ICF IMPLOSIONS.
M: NEW REQUEST.

5 BORON 10 NEUTRON TOTAL CROSS SECTION

45 1.00 KEV 20.0 MEV 1 USA WESTON ORL 921096R

A: ACCURACY RANGE 0.5 TO 1 PERCENT.
DATA BASE DISCREPANT AND INADEQUATE.
M: NEW REQUEST.

5 BORON 10 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

46 6.00 MEV 12.0 MEV 20 % 1 USA CHENG TSI 921117F

A: MEASUREMENTS RECOMMENDED AT 6, 8, 10 AND 12 MEV.
O: NEEDED FOR BETTER DETERMINATION OF THE NEUTRON SPECTRUM IN THE SHIELD OF A FUSION REACTOR. BORON IS NEEDED FOR RADIATION SHIELDING IN A FUSION REACTOR.
M: NEW REQUEST.

5 BORON 10 NEUTRON N,ALPHA

47 5.00 KEV 10.0 MEV 2 RUS L.N.USACHEV FEI 754025R

A: FROM 5.0 - 100 KEV ACCURACY 2 PERCENT.
O: STANDARD CROSS SECTION BELOW 100 KEV.
FOR MORE DETAIL SEE INTRODUCTION.

48 1.00 KEV 3.00 MEV 1 % 1 USA CARLSON NIS 861148R

O: TO IMPROVE ACCURACY OF STANDARD CROSS SECTION. BOTH N,ALPHA0 AND N,ALPHA1 CROSS SECTIONS OF INTEREST. MEASUREMENTS UNDERWAY AT LAMPF/WNR (HAIGHT ET AL.) AND AT ORELA.
M: SUBSTANTIAL MODIFICATIONS.

5 BORON 10 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

49 20.0 KEV 20.0 MEV 2 USA WESTON ORL 921098R

A: ACCURACY RANGE 2 TO 5 PERCENT.
DATA BASE INADEQUATE AND DISCREPANT.
M: NEW REQUEST.

5 BORON 10 NEUTRON CROSS-SECTION OF ALPHA+GAMMA EMISSION

50 10.0 KEV 5.00 MEV 1 USA WESTON ORL 921095R

A: ACCURACY RANGE 2 TO 5 PERCENT.
ONLY RATIO (N,ALPHA0)/(N,ALPHA1) NEEDED. DATA BASE INADEQUATE AND DISCREPANT.
M: NEW REQUEST.

5 BORON 10 TRITON T,2N

51 UP TO 4.00 MEV 10 % 2 USA WHITE LLL 921136F

Q: ACTIVATION PRODUCT WITH SHORT HALF-LIFE.
O: FOR DIAGNOSING ICF IMPLOSIONS.
M: NEW REQUEST.

5 BORON 10 TRITON T,P

52 UP TO 4.00 MEV 10 % 2 USA WHITE LLL 921137F

Q: ACTIVATION PRODUCT WITH SHORT HALF-LIFE.
O: FOR DIAGNOSING ICF IMPLOSIONS.
M: NEW REQUEST.

5 BORON 10 ALPHA ALPHA,N

53 UP TO 4.00 MEV 10 % 1 USA WHITE LLL 921132F

Q: ACTIVATION PRODUCT WITH SHORT HALF-LIFE.
O: FOR DIAGNOSING ICF IMPLOSIONS.
M: NEW REQUEST.

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5 BORON 11 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

54 6.00 MEV 12.0 MEV 10 % 1 USA CHENG TSI 921118F

A: MEASUREMENTS RECOMMENDED AT 6, 8, 10 AND 12 MEV.
O: NEEDED TO DETERMINE MORE ACCURATE NEUTRON SPECTRUM. BORON IS AN ESSENTIAL SHIELDING MATERIAL IN A FUSION REACTOR.
M: NEW REQUEST.

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5 BORON 11 PROTON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

55 25.0 MEV 75.0 MEV 5 % 2 USA WHITE LLL 921003M

A: INCIDENT ENERGY RESOLUTION: 25 MEV.
O: DOUBLE-DIFFERENTIAL CROSS SECTIONS ARE NEEDED FOR THE OPTIMIZATION OF NEUTRON SOURCE PRODUCTION FOR CANCER THERAPY. A MINIMUM OF 6 ANGLES FROM 0 TO 50 DEGREES AND ONE BACK ANGLE ARE DESIRED. IT IS ESSENTIAL THAT AT LEAST ONE THICK-TARGET MEASUREMENT BE MADE AT 0 DEGREES FOR EACH INCIDENT PROTON ENERGY USING THE SAME DETECTOR ARRANGEMENT AS IN THE THIN TARGET MEASUREMENTS.
M: NEW REQUEST.

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6 CARBON NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

56 UP TO 20.0 MEV 10.0% 2 JAP T.MURATA JAE 922004F

Q: ENERGY AND ANGULAR DIFFERENTIAL GAMMA-RAY PRODUCTION CROSS SECTION
A: ACCURACY REQUIRED 5 TO 10 %
O: SHIELDING CALCULATIONS OF FUSION REACTOR
M: NEW REQUEST.

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6 CARBON NEUTRON ENERGY DISTRIBUTION OF HE-4 PARTICLES

57 20.0 MEV 65.0 MEV 2 USA FU ORL 921084M

A: ACCURACY RANGE 10 TO 20 PERCENT.
INCIDENT ENERGY RESOLUTION: 1 MEV.
O: ENDF/B-VI FOR CARBON HAS BEEN EXTENDED TO 32 MEV. MOST REACTION CROSS SECTIONS WERE BASED ON ESTIMATES IN THE EXTENSION. SINCE (N,N'3A) APPEARS TO BE THE LARGEST OF ALL CROSS SECTIONS FROM 20 TO 40 MEV, SOME MEASUREMENTS FOR THIS CROSS SECTION WOULD HELP CONSTRAIN THE ESTIMATES FOR OTHER CROSS SECTIONS. SOME DATA ARE AVAILABLE NEAR 20 MEV, BUT THE SPREAD OF THEM IS A FACTOR OF TWO. THERE ARE MEDICAL NEEDS FOR THE KERMA.
M: NEW REQUEST.

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6 CARBON 12 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

58 8.00 MEV 15.0 MEV 10.0% 2 RUS I.N.GOLOVIN KUR 724016F

O: NEUTRON TRANSMISSION CALCULATIONS.

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6 CARBON 12 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

59 6.00 MEV 12.0 MEV 10 % 1 USA CHENG TSI 921119F

A: MEASUREMENTS RECOMMENDED AT 6, 8, 10 AND 12 MEV.
O: NEEDED TO DETERMINE THE NEUTRON SPECTRUM IN A LOW ACTIVATION (SIC) FUSION BLANKET. SIC IS AN IMPORTANT LOW ACTIVATION STRUCTURAL MATERIAL FOR FUSION.
M: NEW REQUEST.

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6 CARBON 12 NEUTRON N,ALPHA

60 UP TO 15.0 MEV 15.0% 2 RUS I.N.GOLOVIN KUR 724017F

O: NEUTRON ABSORPTION CALCULATIONS.

61 UP TO 65.0 MEV 10 % 2 USA CASWELL NIS 921030M

Q: IMPROVED CHARGED-PARTICLE ENERGY SPECTRA ARE OF INTEREST. MEASUREMENT AT 2-MEV INTERVALS SUFFICIENT EXCEPT 1-MEV INTERVALS BELOW 10 MEV. NEEDED TO IMPROVE ACCURACY OF DOSIMETRY FOR NEUTRON RADIATION THERAPY.
A: INCIDENT ENERGY RESOLUTION: 5 PERCENT.
M: NEW REQUEST.

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6 CARBON 12 NEUTRON N,N3ALPHA

62 UP TO 15.0 MEV 15.0% 2 RUS I.N.GOLOVIN KUR 724018F

Q: SECONDARY NEUTRON ENERGY DISTRIBUTION REQUIRED
AT 14. MEV.
O: FOR BLANKET NEUTRONICS CALCULATIONS.

6 CARBON 12 NEUTRON ENERGY DISTRIBUTION OF HE-4 PARTICLES

63 UP TO 65.0 MEV 10 % 2 USA CASWELL NIS 921031M

Q: IMPROVED ALPHA ENERGY SPECTRA ARE OF INTEREST.
A: INCIDENT ENERGY RESOLUTION: 5 PERCENT.
MEASUREMENT AT 2-MEV INTERVALS SUFFICIENT EXCEPT
O: 1-MEV INTERVALS BELOW 20 MEV. NEEDED TO IMPROVE
ACCURACY OF DOSIMETRY FOR NEUTRON RADIATION
THERAPY.
M: NEW REQUEST.

6 CARBON 13 TRITON T,P

64 UP TO 4.00 MEV 10 % 2 USA WHITE LLL 921138F

Q: ACTIVATION PRODUCT WITH SHORT HALF-LIFE.
O: FOR DIAGNOSING ICF IMPLOSIONS.
M: NEW REQUEST.

6 CARBON 13 TRITON T,ALPHA

65 UP TO 4.00 MEV 10 % 2 USA WHITE LLL 921139F

Q: ACTIVATION PRODUCT WITH SHORT HALF-LIFE.
O: FOR DIAGNOSING ICF IMPLOSIONS.
M: NEW REQUEST.

6 CARBON 13 ALPHA NEUTRON EMISSION CROSS SECTION

66 UP TO 10.0 MEV 20.0% 2 JAP N.YAMANO SAE 792070R

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.
M: SUBSTANTIAL MODIFICATIONS.

7 NITROGEN PROTON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

67 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922006G

O: SHIELDING CACLULATIONS FOR SPALLATION NEUTRON
SOURCE
M: NEW REQUEST.

7 NITROGEN PROTON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

68 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922005G

O: SHIELDING CACLULATIONS FOR SPALLATION NEUTRON
SOURCE
M: NEW REQUEST.

7 NITROGEN PROTON ACTIVATION CROSS SECTION

69 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922007G

O: SHIELDING CACLULATIONS FOR SPALLATION NEUTRON
SOURCE
M: NEW REQUEST.

7 NITROGEN 14 NEUTRON N,P

70 10.0 MEV 15.0 MEV 20 % 1 USA CHENG TSI 861174F

O: LONG-LIVED RADIONUCLIDE, C-14 (5730 YR),
PRODUCED. DATA SPARSE ABOVE 10 MEV.
M: SUBSTANTIAL MODIFICATIONS.

7 NITROGEN 14 PROTON NEUTRON EMISSION CROSS SECTION

71 UP TO 15.0 MEV 20.0% 2 JAP M.MIZUMOTO JAE 922008G

O: CALCULATIONS FOR ACCELERATOR TESTING SPALLATION
NEUTRON SOURCE
M: NEW REQUEST.

8 OXYGEN NEUTRON INELASTIC CROSS SECTION

72 UP TO 15.0 MEV 10 % 2 USA MCGARRY NIS 921024R

O: C/E DISCREPANCIES IN THRESHOLD DOSIMETRY IN POWER REACTOR BENCHMARK EXPERIMENTS WITH THICK WATER REGIONS IN FRONT OF IRON SUGGEST INELASTIC SCATTERING CROSS SECTION IS IN ERROR.
M: NEW REQUEST.

8 OXYGEN NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

73 UP TO 20.0 MEV 10.0% 2 JAP T.MURATA JAE 922009F

Q: ENERGY AND ANGULAR DIFFERENTIAL GAMMA-RAY PRODUCTION CROSS SECTION
A: ACCURACY REQUIRED 5 TO 10 %
O: SHIELDING CALCULATIONS OF FUSION REACTOR
M: NEW REQUEST.

8 OXYGEN NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

74 390. KEV 3.00 MEV 1 USA CARO KAP 921113R

A: ACCURACY RANGE 1 TO 5 PERCENT. INCIDENT ENERGY RESOLUTION: 5 KEV. MEASUREMENTS RECOMMENDED AT THE FOLLOWING ENERGIES (MEV): .39, .48, .65, .90, 1.10, 1.20, 1.27, 1.35, 1.5, 1.88, 1.94 AND AT EVERY .10 MEV FROM 2.0 TO 3.0 AT THE FOLLOWING ANGLES: FROM .39 MEV TO 1.5: 0, 30, 60, 120, 150, AND 180 DEGREES FROM 1.88 MEV TO 3.0 MEV EVERY 20 DEGREES STARTING AT 0 DEGREES PLUS AT 90 DEGREES. AS GOOD ENERGY RESOLUTION AS
O: POSSIBLE. NEEDED FOR THE DESIGN OF WATER MODERATED POWER REACTORS AND FOR THE CALCULATION OF BENCHMARK WATER MODERATED CRITICAL ASSEMBLIES.
M: NEW REQUEST.

75 6.00 MEV 15.0 MEV 10 % 1 USA CHENG TSI 921126F

Q: MEASUREMENTS RECOMMENDED AT 6,8,10,12 AND 14 MEV.
A: DISCREPANCY EXISTS AT 450 KEV AND IN MEV RANGE.
M: NEW REQUEST.

8 OXYGEN PROTON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

76 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922011G

O: SHIELDING CACLULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

8 OXYGEN PROTON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

77 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922010G

O: SHIELDING CACLULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

8 OXYGEN PROTON ACTIVATION CROSS SECTION

78 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922012G

O: SHIELDING CACLULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

8 OXYGEN 16 NEUTRON N,ALPHA

79 1.00 MEV 14.0 MEV 5 % 1 USA YOUNG LAS 921123F

O: NEEDED FOR ACCURATE CORRECTION OF NEUTRON ABSORPTION IN MN BATH MEASUREMENTS OF BE-9 NEUTRON MULTIPLICITY.
M: NEW REQUEST.

8 OXYGEN 16 NEUTRON ENERGY DISTRIBUTION OF HE-4 PARTICLES

80 UP TO 65.0 MEV 10 % 2 USA CASWELL NIS 921034M

Q: ALPHA ENERGY SPECTRA ARE OF INTEREST.
A: INCIDENT ENERGY RESOLUTION: 5 PERCENT. MEASUREMENT AT 5-MEV INTERVALS SUFFICIENT EXCEPT 2-MEV INTERVALS BELOW 30 MEV. NEEDED TO IMPROVE
O: ACCURACY OF DOSIMETRY FOR NEUTRON RADIATION THERAPY.
M: NEW REQUEST.

8 OXYGEN 16 NEUTRON ALPHA PARTICLE AND GAMMA SPECTRA

81 UP TO 65.0 MEV 10 % 2 USA CASWELL NIS 921032M

Q: GAMMA-RAY PRODUCTION AND CHARGED-PARTICLE SPECTRA
A: INCIDENT ENERGY RESOLUTION: 5 PERCENT.
O: ARE OF INTEREST. MEASUREMENT AT 2-MEV INTERVALS SUFFICIENT EXCEPT 1-MEV INTERVALS BELOW 10 MEV. NEEDED TO IMPROVE ACCURACY OF DOSIMETRY FOR NEUTRON RADIATION THERAPY.
M: NEW REQUEST.

8 OXYGEN 16 PROTON NEUTRON EMISSION CROSS SECTION

82 UP TO 15.0 MEV 20.0% 2 JAP M.MIZUMOTO JAE 922013G

O: CALCULATION FOR ACCELERATOR TESTING SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

8 OXYGEN 17 NEUTRON N,ALPHA

83 25.3 MV 15.0 MEV 30.0% 2 JAP T.KAWAKITA PNC 792073R

Q: EVALUATED DATA WANTED.
O: FOR EVALUATION OF QUANTITY OF C 14 FROM OXIDE FUEL IN FAST REACTOR. BOTH EVALUATIONS AND MEASUREMENTS ARE SCARCE.

8 OXYGEN 17 ALPHA NEUTRON EMISSION CROSS SECTION

84 UP TO 10.0 MEV 20.0% 2 JAP N.YAMANO SAE 792072R

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 CYCLE PROCESS.
M: SUBSTANTIAL MODIFICATIONS.

8 OXYGEN 18 ALPHA NEUTRON EMISSION CROSS SECTION

85 UP TO 10.0 MEV 20.0% 2 JAP N.YAMANO SAE 792074R

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.
M: SUBSTANTIAL MODIFICATIONS.

9 FLUORINE 19 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

86 2.00 MEV 15.0 MEV 10.0% 2 RUS I.N.GOLOVIN KUR 724019F

O: USE IN COOLANT.

9 FLUORINE 19 NEUTRON INELASTIC CROSS SECTION

87 1.00 MEV 15.0 MEV 15.0% 2 RUS I.N.GOLOVIN KUR 724020F

O: NEUTRONICS CALCULATIONS FOR BLANKET AND SHIELD.

9 FLUORINE 19 NEUTRON ABSORPTION CROSS SECTION

88 25.3 MV 15.0 MEV 15.0% 2 RUS I.N.GOLOVIN KUR 724021F

Q: ALL NEUTRON ABSORPTION PROCESSES SHOULD BE INCLUDED.
O: NEUTRONICS CALCULATIONS AND ENERGY DEPOSITION IN COOLANT.

9 FLUORINE 19 NEUTRON CAPTURE CROSS SECTION

89 25.3 MV 15.0 MEV 20 % 2 USA CHENG TSI 861099F

O: ACTIVATION DATA NEEDED FOR AFTERHEAT AND SAFETY ASSESSMENT.

9 FLUORINE 19 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

90 500. KEV 15.0 MEV 15.0% 2 RUS I.N.GOLOVIN KUR 724022F

Q: GAMMA RAY SPECTRA ALSO REQUIRED.
O: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

9 FLUORINE 19 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

91	6.00 MEV	12.0 MEV	10. %	2	USA	CHENG	TSI	861094F

Q: DOUBLE DIFFERENTIAL DATA NEEDED FOR NEUTRON TRANSPORT CALCULATIONS.
A: MEASUREMENTS RECOMMENDED AT 6, 8, 10 AND 12 MEV.

11 SODIUM PROTON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

92	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE	922015G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

11 SODIUM PROTON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

93	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE	922014G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

94	UP TO	1.50 GEV	30.0%	2	JAP	T.NISHIDA	JAE	922017G

O: CALCULATIONS AROUND TARGET OF SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

11 SODIUM PROTON ACTIVATION CROSS SECTION

95	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE	922016G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

11 SODIUM PROTON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

96	UP TO	1.50 GEV	30.0%	2	JAP	T.NISHIDA	JAE	922018G

O: CALCULATIONS AROUND TARGET OF SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

12 MAGNESIUM PROTON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

97	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE	922020G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

12 MAGNESIUM PROTON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

98	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE	922019G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

12 MAGNESIUM PROTON ACTIVATION CROSS SECTION

99	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE	922021G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

12 MAGNESIUM PROTON SPALLATION PRODUCT MASS YIELD SPECTRUM

100	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE	922023G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

13 ALUMINUM NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

101	UP TO	15.0 MEV	15.0%	2	RUS	I.N.GOLOVIN	KUR	794011F

O: FOR NEUTRON TRANSPORT CALCULATIONS.

13 ALUMINUM NEUTRON CAPTURE CROSS SECTION

102 6.00 MEV 16.0 MEV 8. % 3 PRC ZHANG BENAI IPM 873020R

Q: GAMMA-RAY ENERGY REGION 10-22MEV.
RADIATIVE CAPTURE CROSS-SECTION.
NO SATISFACTORY EXPERIMENTAL DATA AVAILABLE.
A: ACCURACY 8-10%.
O: RESEARCH ON REACTION MECHANISM AND NUCLEAR TECH-
NOLOGY.

13 ALUMINUM NEUTRON CAPTURE GAMMA RAY SPECTRUM

103 6.00 MEV 16.0 MEV 15. % 3 PRC ZHANG BENAI IPM 873029R

Q: GAMMA-RAY ENERGY REGION 10-22MEV.
GAMMA-RAY SPECTRUM.
NO SATISFACTORY EXPERIMENTAL DATA AVAILABLE.
A: ACCURACY 15-20%.
O: RESEARCH ON REACTION MECHANISM AND NUCLEAR TECH-
NOLOGY.

13 ALUMINUM PROTON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

104 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922025G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON
SOURCE
M: NEW REQUEST.

13 ALUMINUM PROTON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

105 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922024G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON
SOURCE
M: NEW REQUEST.

13 ALUMINUM PROTON ACTIVATION CROSS SECTION

106 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922026G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON
SOURCE
M: NEW REQUEST.

13 ALUMINUM PROTON SPALLATION PRODUCT MASS YIELD SPECTRUM

107 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922028G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON
SOURCE
M: NEW REQUEST.

14 SILICON NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

108 UP TO 20.0 MEV 10.0% 2 JAP T.MURATA JAE 922029F

Q: ENERGY AND ANGULAR DIFFERENTIAL GAMMA-RAY
PRODUCTION CROSS SECTION
A: ACCURACY REQUIRED 5 TO 10 %
O: SHIELDING CALCULATIONS OF FUSION REACTOR
M: NEW REQUEST.

14 SILICON NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

109 6.00 MEV 12.0 MEV 10 % 1 USA CHENG TSI 861151F

Q: RECOMMEND MEASUREMENTS AT 6,8,10 AND 12 MEV.
M: SUBSTANTIAL MODIFICATIONS.

14 SILICON NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

110 UP TO 15.0 MEV 20 % 1 USA CHENG TSI 921120F

Q: ALL REACTION CROSS SECTIONS LEADING TO THE GENERA-
TION OF THE STABLE NUCLIDE AL-27. NEEDED TO
DETERMINE THE PRODUCTION OF LONG-LIVED RADIO-
O: NUCLIDE, AL-26 VIA A 2-STEP REACTION WITH SI.
SIC IS AN IMPORTANT ACTIVATION MATERIAL FOR
FUSION.
M: NEW REQUEST.

14 SILICON PROTON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

111 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922031G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON
SOURCE
M: NEW REQUEST.

14 SILICON PROTON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

112 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922030G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

14 SILICON PROTON ACTIVATION CROSS SECTION

113 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922032G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

14 SILICON 28 NEUTRON N,P

114 UP TO 15.0 MEV 10 % 1 USA WHITE LLL 921130F

Q: ACTIVATION PRODUCT WITH SHORT HALF-LIFE.
O: FOR DIAGNOSING ICF IMPLOSIONS.
M: NEW REQUEST.

16 SULFUR NEUTRON ABSORPTION CROSS SECTION

115 25.3 MV 1 % 2 USA CARLSON NIS 921036R

A: THE MEASUREMENT COULD BE AT THERMAL OR FOR AN ENERGY RANGE WHICH INCLUDES THERMAL. TO ACCURATELY CALCULATE NEUTRON ABSORPTION IN MANGANESE BATHS SO THE THERMAL CONSTANTS CAN BE DETERMINED MORE ACCURATELY.
M: NEW REQUEST.

16 SULFUR 32 NEUTRON N,P

116 5.00 MEV 12.0 MEV 5 % 2 USA GRIFFIN SAN 921008F

O: NEEDED FOR CALIBRATION TRANSFER IN RADIATION DAMAGE TO SEMICONDUCTOR ELECTRONICS.
M: NEW REQUEST.

18 ARGON PROTON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

117 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922034G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

18 ARGON PROTON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

118 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922033G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

18 ARGON PROTON ACTIVATION CROSS SECTION

119 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922035G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

18 ARGON 40 NEUTRON ENERGY DIFFERENTIAL CAPTURE CROSS SECTION

120 UP TO 10.0 MEV 20.0% 2 JAP M.KAWAI NIG 712006R

A: ACCURACY REQUIRED TO BETTER THAN 20.0 PERCENT.
O: FOR REACTOR HAZARD CALCULATION.
M: SUBSTANTIAL MODIFICATIONS.

18 ARGON 40 NEUTRON N,2N

121 10.0 MEV 15.0 MEV 20 % 2 USA CHENG TSI 861102F

Q: LONG-LIVED ACTIVATION PRODUCT, AR-39 (269 YR), PRODUCED.

19 POTASSIUM 39 NEUTRON N,P

122 10.0 MEV 15.0 MEV 20 % 2 USA CHENG TSI 861104F

Q: LONG-LIVED ACTIVATION PRODUCT, AR-39 (269 YR), PRODUCED.

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19 POTASSIUM 39            NEUTRON            N,ALPHA
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

  123    100.  KEV     15.0  MEV     20 %     2     USA    CHENG             TSI                     861103F

                                                       Q: LONG-LIVED ACTIVATION PRODUCT, CL-36
                                                          (3.01+5 YR), PRODUCED.

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20 CALCIUM                 PROTON             ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

  124          UP TO    1.50  GEV    30.0%    2     JAP    M.MIZUMOTO        JAE                     922037G

                                                       O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON
                                                          SOURCE
                                                       M: NEW REQUEST.

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20 CALCIUM                 PROTON             ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

  125          UP TO    1.50  GEV    30.0%    2     JAP    M.MIZUMOTO        JAE                     922036G

                                                       O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON
                                                          SOURCE
                                                       M: NEW REQUEST.

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20 CALCIUM                 PROTON             ACTIVATION CROSS SECTION
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

  126          UP TO    1.50  GEV    30.0%    2     JAP    M.MIZUMOTO        JAE                     922038G

                                                       O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON
                                                          SOURCE
                                                       M: NEW REQUEST.

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20 CALCIUM 42              NEUTRON            N,2N
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

  127    12.0  MEV     15.0  MEV     20 %     2     USA    CHENG             TSI                     861107F

                                                       Q: LONG-LIVED ACTIVATION PRODUCT, CA-41
                                                          (1.03+5 YR), PRODUCED.

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20 CALCIUM 42              NEUTRON            N,ALPHA
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

  128    100.  KEV     15.0  MEV     20 %     2     USA    CHENG             TSI                     861108F

                                                       Q: LONG-LIVED ACTIVATION PRODUCT, AR-39 (269 YR),
                                                          PRODUCED.

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22 TITANIUM                NEUTRON            CAPTURE CROSS SECTION
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

  129    6.00  MEV     16.0  MEV     8. %     3     PRC    ZHANG BENAI       IPM                     873025R

                                                       Q: GAMMA-RAY ENERGY REGION 10-22MEV.
                                                          RADIATIVE CAPTURE CROSS-SECTION.
                                                          NO SATISFACTORY EXPERIMENTAL DATA AVAILABLE.
                                                       A: ACCURACY 8-10%.
                                                       O: RESEARCH ON REACTION MECHANISM AND NUCLEAR TECH-
                                                          NOLOGY.

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22 TITANIUM                NEUTRON            ANGULAR DISTRIBUTION OF ALPHA PARTICLES
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

  130          UP TO   16.0  MEV     10. %    3     PRC    ZHANG BENAI       IPM                     923135F

                                                       Q: ANGULAR DISTRIBUTION OF HE4 FROM (N,HE4)
                                                          NO EXPERIMENTAL DATA
                                                       A: ACCURACY  10 - 15 %
                                                       O: RESEARCH ON MECHANISM OF NUCLEAR INTERACTION
                                                       M: NEW REQUEST.

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22 TITANIUM                NEUTRON            SPECIAL QUANTITY (DESCRIPTION BELOW)
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  131          UP TO   35.0  MEV     5.0%     2     EUR    NEUTRON DOSIMETRY GROUP            GEL   812002F

                                                       Q: FOR PRODUCTION OF SC-46.
                                                          REACTION INCLUDES TI-46(N,P), TI-47(N,D),
                                                          TI-47(N,NP). FOR TI-46(N,P) THE ENERGY RANGE
                                                          NEEDED IS FROM 20MEV TO 30MEV
                                                       O: FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES

  132          UP TO   35.0  MEV     5.0%     2     EUR    NEUTRON DOSIMETRY GROUP            GEL   812003F

                                                       Q: FOR PRODUCTION OF SC-47.
                                                          REACTION INCLUDES TI-47(N,P), TI-48(N,D) AND
                                                          TI-48(N,NP). FOR TI-47(N,P) THE ENERGY RANGE
                                                          NEEDED IS FROM 20MEV TO 35MEV
                                                       O: FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES

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22 TITANIUM 48             NEUTRON            N,ALPHA
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

  133    3.00  MEV     14.0  MEV     20 %     1     USA    CHENG             TSI                     861175F

                                                       O: IMPORTANT FOR ANALYSIS OF LONG-LIVED AR-42
                                                          PRODUCTION: TI-48(N,ALPHA)CA-45(N,ALPHA)AR-42.
                                                       M: SUBSTANTIAL MODIFICATIONS.
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23 VANADIUM NEUTRON ELASTIC CROSS SECTION

134 2.00 MEV 15.0 MEV 10.0% 1 RUS I.N.GOLOVIN KUR 724023F

O: POTENTIAL USE AS STRUCTURAL MATERIAL.
FOR DETERMINATION OF NEUTRON TRANSMISSION.

23 VANADIUM NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

135 2.00 MEV 15.0 MEV 15.0% 1 RUS I.N.GOLOVIN KUR 724024F

O: NEUTRONICS CALCULATIONS FOR BLANKET AND SHIELD.

23 VANADIUM NEUTRON CAPTURE CROSS SECTION

136 1.00 KEV 2.00 MEV 15.0% 1 RUS I.N.GOLOVIN KUR 724027F

O: NEUTRON ABSORPTION, GAMMA RAY HEATING, AND
PRODUCTION OF HIGHER ISOTOPES.

137 14.0 MEV 15.0% 1 RUS I.N.GOLOVIN KUR 724028F

O: NEUTRON ABSORPTION, GAMMA RAY HEATING, AND
PRODUCTION OF HIGHER ISOTOPES.

23 VANADIUM NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

138 300. KEV 15.0 MEV 15.0% 1 RUS I.N.GOLOVIN KUR 724029F

Q: GAMMA RAY SPECTRUM ALSO WANTED.
O: GAMMA RAY HEATING CALCULATIONS.

23 VANADIUM NEUTRON N,2N

139 2.00 MEV 15.0 MEV 15.0% 1 RUS I.N.GOLOVIN KUR 724025F

O: NEUTRON BLANKET CALCULATIONS.

140 14.0 MEV 15.0% 1 RUS I.N.GOLOVIN KUR 724026F

Q: ENERGY AND ANGULAR DEPENDENCE OF SECONDARY
NEUTRONS REQUIRED.
O: NEUTRON BLANKET CALCULATIONS.

23 VANADIUM NEUTRON N,P

141 UP TO 15.0 MEV 15.0% 1 RUS I.N.GOLOVIN KUR 724030F

O: FOR HYDROGEN ACCUMULATION CALCULATIONS.

23 VANADIUM NEUTRON N,ALPHA

142 UP TO 15.0 MEV 15.0% 1 RUS I.N.GOLOVIN KUR 724031F

O: HELIUM ACCUMULATION CALCULATIONS.

23 VANADIUM 50 NEUTRON N,2N

143 10.0 MEV 15.0 MEV 20 % 1 USA CHENG TSI 861114F

Q: MEDIUM-TERM ACTIVATION PRODUCT, V-49(330 DAY),
PRODUCED.

23 VANADIUM 51 NEUTRON TOTAL CROSS SECTION

144 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923003F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING
CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE
UNCERTAINTIES
M: NEW REQUEST.

23 VANADIUM 51 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

145 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923006F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING
CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE
UNCERTAINTIES
M: NEW REQUEST.

23 VANADIUM 51 NEUTRON ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

146 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923010F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

23 VANADIUM 51 NEUTRON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

147 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923014F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

23 VANADIUM 51 NEUTRON ENERGY DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION

148 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923007F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

23 VANADIUM 51 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

149 6.00 MEV 12.0 MEV 10 % 1 USA CHENG TSI 861152F

Q: RECOMMEND MEASUREMENTS AT 6, 8, 10 AND 12 MEV.

150 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923011F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

23 VANADIUM 51 NEUTRON TOTAL PROTON PRODUCTION CROSS SECTION

151 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923004F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

23 VANADIUM 51 NEUTRON ENERGY DIFF. PROTON-PRODUCTION CROSS SECTION

152 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923008F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

23 VANADIUM 51 NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

153 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923012F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

23 VANADIUM 51 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

154 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923005F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

23 VANADIUM 51 NEUTRON ENERGY DIFFERENTIAL ALPHA-PRODUCTION CROSS SECTION

155 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923009F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

23 VANADIUM 51 — NEUTRON — ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

156	UP TO	30.0 MEV	10.0%	1	IND	S.B.GARG	TRM	923013F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM — NEUTRON — ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

157	4.00 MEV	15.0 MEV	10. %	2	USA	HEMMIG	DOE	661012R

Q: TOTAL INTEGRAL OVER 4PI REQUIRED. SPECTRA AT SEVERAL ANGLES IF SIGNIFICANTLY ANISOTROPIC.
A: ENERGY RESOLUTION REQUIRED TO DETERMINE MAJOR STRUCTURE.

24 CHROMIUM — NEUTRON — TOTAL PHOTON PRODUCTION CROSS SECTION

158	UP TO	15.0 MEV	10.0%	1	JAP	K.MAKI T.MURATA	HIT JAE	922039F

Q: GAMMA-PRODUCTION CROSS SECTION. SECONDARY GAMMA ENERGY AND ANGULAR DISTRIBUTION.
O: NUCLEAR HEATING CALCULATION IN BLANKETS, SHIELDS AND SUPERCONDUCTING MAGNETS. SHIELDING CALCULATIONS OF FUSION REACTOR.
M: NEW REQUEST.

24 CHROMIUM — NEUTRON — ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

159	2.00 MEV	10.0 MEV	10.0%	2	JAP	K.MAKI	HIT	832024F

O: FOR NEUTRON TRANSPORT CALCULATIONS.
M: SUBSTANTIAL MODIFICATIONS.

160	UP TO	20.0 MEV	20 %	2	USA	HETRICK	ORL	921075R

O: MODEL CALCULATION USED FOR ENDF/B-VI BASED ON FITTING DATA AT 14.5 MEV. NEED DATA AT OTHER ENERGIES FOR CONFIRMATION.
M: NEW REQUEST.

161	6.00 MEV	15.0 MEV	20 %	1	USA	CHENG	TSI	921128F

Q: MEASUREMENTS RECOMMENDED AT 6,8,10,12 AND 14 MEV.
M: NEW REQUEST.

24 CHROMIUM — NEUTRON — N,ALPHA

162	UP TO	14.0 MEV	20 %	2	USA	LARSON	ORL	861080R

24 CHROMIUM — NEUTRON — ANGULAR DISTRIBUTION OF ALPHA PARTICLES

163	UP TO	16.0 MEV	10. %	3	PRC	ZHANG BENAI	IPM	923146G

Q: ANGULAR DISTRIBUTION OF HE4 FROM (N,HE4) NO EXPERIMENTAL DATA
A: ACCURACY 10 - 15 %
O: RESEARCH ON MECHANISM OF NUCLEAR INTERACTION
M: NEW REQUEST.

24 CHROMIUM — PROTON — ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

164	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE	922041G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

24 CHROMIUM — PROTON — ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

165	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE	922040G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

24 CHROMIUM — PROTON — ACTIVATION CROSS SECTION

166	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE	922042G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

24 CHROMIUM PROTON SPALLATION PRODUCT MASS YIELD SPECTRUM

167 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922044G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

24 CHROMIUM 50 NEUTRON TOTAL CROSS SECTION

168 10.0 EV 20.0 MEV 3 % 3 USA LARSON ORL 921076R

A: NEED HIGH RESOLUTION RESONANCE REGION DATA, *0.2 PERCENT ENERGY RESOLUTION OVER RESONANCE
O: REGION. NEEDED FOR ISOTOPIC EVALUATION OF THIS MATERIAL. AVAILABLE DATA ARE INADEQUATE.
M: NEW REQUEST.

24 CHROMIUM 50 NEUTRON CAPTURE CROSS SECTION

169 25.3 MV 300. KEV 10. % 2 USA LARSON ORL 861081R

24 CHROMIUM 50 NEUTRON N,P

170 UP TO 20.0 MEV 20 % 3 USA HETRICK ORL 921066R

A: LARGE CROSS SECTION, ONLY ONE POINT AVAILABLE, EVALUATIONS DISAGREE (I.E., BROND, ENDF/B-VI, JENDL-3).
M: NEW REQUEST.

24 CHROMIUM 50 NEUTRON N,NP

171 UP TO 20.0 MEV 20 % 3 USA HETRICK ORL 921068R

A: LARGE CROSS SECTION, ONLY 1 DATA PT AVAILABLE, EVALUATIONS DISAGREE(I.E., ENDF/B-VI, BROND, JENDL-3).
M: NEW REQUEST.

24 CHROMIUM 50 NEUTRON N,ALPHA

172 UP TO 20.0 MEV 20 % 3 USA HETRICK ORL 921067R

A: DATA AVAILABLE DISAGREE AS DO THE SHAPES OF THE EVALUATIONS (ENDF/B-IV, BROND, JENDL-3).
M: NEW REQUEST.

24 CHROMIUM 52 NEUTRON TOTAL CROSS SECTION

173 10.0 EV 20.0 MEV 3 % 1 USA LARSON ORL 921083R

A: NEED HIGH RESOLUTION RESONANCE REGION DATA *0.02 PERCENT IN RESONANCE REGION.
O: NEEDED FOR ISOTOPIC EVALUATION OF MAJOR ISOTOPE OF CHROMIUM. AVAILABLE DATA ARE INADEQUATE.
M: NEW REQUEST.

174 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923015F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 52 NEUTRON CAPTURE CROSS SECTION

175 1.00E-05 EV 100. KEV 10 % 3 USA LARSON ORL 921077R

A: RESONANCE REGION. NEED CAPTURE AREA OF RESONANCES TO 10 PERCENT. CAPTURE CROSS SECTIONS MAY BE UP TO 25 PERCENT IN ERROR FOR STRUCTURAL MATERIALS, DEPENDING ON DECAY PROPERTIES OF RESONANCE.
M: NEW REQUEST.

24 CHROMIUM 52 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

176 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923018F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 52 NEUTRON ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

177 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923022F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 52 NEUTRON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

178 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923026F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 52 NEUTRON ENERGY DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION

179 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923019F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 52 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

180 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923023F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 52 NEUTRON N,P

181 10.0 MEV 35.0 MEV 5 % 2 USA HETRICK ORL 921069R

A: NO DATA AVAILABLE FROM 10-13 MEV AND AVAILABLE DATA ABOVE 13 MEV DISAGREE. TO DETERMINE ACTIVATION AND HYDROGEN PRODUCTION.
M: NEW REQUEST.

24 CHROMIUM 52 NEUTRON N,NP

182 UP TO 20.0 MEV 20 % 2 USA HETRICK ORL 921071R

A: NO DATA AVAILABLE AND EVALUATIONS FROM ENDF/B-VI, BROND AND JENDL-3 DISAGREE.
M: NEW REQUEST.

24 CHROMIUM 52 NEUTRON TOTAL PROTON PRODUCTION CROSS SECTION

183 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923016F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 52 NEUTRON ENERGY DIFF. PROTON-PRODUCTION CROSS SECTION

184 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923020F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 52 NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

185 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923024F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 52 NEUTRON N,ALPHA

186 UP TO 20.0 MEV 10 % 2 USA HETRICK ORL 921070R

A: EVALUATIONS FOR ENDF/B-VI, BROND, AND JENDL-3 DISAGREE. ONLY ONE TOTAL ALPHA EMISSION DATA POINT AVAILABLE.
M: NEW REQUEST.

24 CHROMIUM 52 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

187 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923017F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 52 NEUTRON ENERGY DIFFERENTIAL ALPHA-PRODUCTION CROSS SECTION

188 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923021F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 52 NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

189 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923025F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 53 NEUTRON TOTAL CROSS SECTION

190 10.0 EV 20.0 MEV 3 % 2 USA LARSON ORL 921078R

A: NEED HIGH RESOLUTION DATA, *0.02 PERCENT IN
O: RESONANCE REGION. NEEDED FOR ISOTOPIC EVALUATION OF SECOND LARGEST CHROMIUM ISOTOPE. AVAILABLE DATA ARE INADEQUATE.
M: NEW REQUEST.

191 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923027F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 53 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

192 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923030F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 53 NEUTRON ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

193 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923034F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 53 NEUTRON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

194 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923038F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 53 NEUTRON N,2N

195 UP TO 20.0 MEV 10 % 2 USA HETRICK ORL 921072R

A: LARGE CROSS SECTION, NO DATA AVAILABLE. EVALUATIONS FROM ENDF/B-IV, BROND, AND JENDL-3 DISAGREE.
M: NEW REQUEST.

24 CHROMIUM 53 NEUTRON ENERGY DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION

196 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923031F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 53 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

197 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923035F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 53 NEUTRON TOTAL PROTON PRODUCTION CROSS SECTION

198 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923028F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 53 NEUTRON ENERGY DIFF. PROTON-PRODUCTION CROSS SECTION

199 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923032F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 53 NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

200 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923036F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 53 NEUTRON N,ALPHA

201 UP TO 20.0 MEV 20 % 3 USA HETRICK ORL 921073R

A: NO DATA AVAILABLE AND EVALUATIONS FROM ENDF/B-VI, BROND AND JENDL-3 DISAGREE
M: NEW REQUEST.

24 CHROMIUM 53 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

202 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923029F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 53 NEUTRON ENERGY DIFFERENTIAL ALPHA-PRODUCTION CROSS SECTION

203 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923033F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 53 NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

204 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923037F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

24 CHROMIUM 53 PROTON CAPTURE CROSS SECTION

205 UP TO 15.0 MEV 15.0% 2 JAP M.MIZUMOTO JAE 922045G

Q: MN-54 PRODUCTION CROSS SECTION
O: CALCULATIONS FOR ACCELERATOR TESTING SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

24 CHROMIUM 54 NEUTRON TOTAL CROSS SECTION

206 10.0 EV 20.0 MEV 3 % 3 USA LARSON ORL 921079R

A: NEED HIGH RESOLUTION DATA, *0.02 PERCENT IN RESONANCE REGION. NEEDED FOR ISOTOPIC EVALUATION
O: OF CHROMIUM ISOTOPES. AVAILABLE DATA INADEQUATE.
M: NEW REQUEST.

24 CHROMIUM 54 NEUTRON N,2N

207 UP TO 20.0 MEV 10 % 3 USA HETRICK ORL 921074R

A: LARGE CROSS SECTION, NO DATA AVAILABLE, EVALUATIONS FROM ENDF/B-VI, BROND AND JENDL-3 DISAGREE.
M: NEW REQUEST.

24 CHROMIUM 54 PROTON NEUTRON EMISSION CROSS SECTION

208 UP TO 15.0 MEV 15.0% 2 JAP M.MIZUMOTO JAE 922046G

Q: MN-54 PRODUCTION CROSS SECTION
O: CALCULATIONS FOR ACCELERATOR TESTING SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

25 MANGANESE NEUTRON TOTAL CROSS SECTION

209 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923063F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

25 MANGANESE NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

210 UP TO 15.0 MEV 10.0% 1 JAP K.MAKI HIT 922047F

Q: GAMMA-PRODUCTION CROSS SECTION. SECONDARY GAMMA ENERGY SPECTRA.
O: NUCLEAR HEATING CALCULATION IN BLANKETS, SHIELDS AND SUPERCONDUCTING MAGNETS.
M: NEW REQUEST.

211 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923066F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

25 MANGANESE NEUTRON ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

212 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923070F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

25 MANGANESE NEUTRON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

213 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923074F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

25 MANGANESE NEUTRON ENERGY DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION

214 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923067F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

25 MANGANESE		**NEUTRON**	**ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION**					
215	6.00 MEV	15.0 MEV	20 %	1	USA	CHENG	TSI	921129F
						Q: MEASUREMENTS RECOMMENDED AT 6, 8, 10, 12 AND 14 O: MEV. MORE ACCURATE DATA NEEDED FOR FUSION POWER REACTOR STUDIES. M: NEW REQUEST.		
216	UP TO	30.0 MEV	10.0%	1	IND	S.B.GARG	TRM	923071F
						Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES M: NEW REQUEST.		
25 MANGANESE		**NEUTRON**	**TOTAL PROTON PRODUCTION CROSS SECTION**					
217	UP TO	30.0 MEV	10.0%	1	IND	S.B.GARG	TRM	923064F
						Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES M: NEW REQUEST.		
25 MANGANESE		**NEUTRON**	**ENERGY DIFF. PROTON-PRODUCTION CROSS SECTION**					
218	UP TO	30.0 MEV	10.0%	1	IND	S.B.GARG	TRM	923068F
						Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES M: NEW REQUEST.		
25 MANGANESE		**NEUTRON**	**ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION**					
219	UP TO	30.0 MEV	10.0%	1	IND	S.B.GARG	TRM	923072F
						Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES M: NEW REQUEST.		
25 MANGANESE		**NEUTRON**	**TOTAL ALPHA PRODUCTION CROSS SECTION**					
220	UP TO	30.0 MEV	10.0%	1	IND	S.B.GARG	TRM	923065F
						Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES M: NEW REQUEST.		
25 MANGANESE		**NEUTRON**	**ENERGY DIFFERENTIAL ALPHA-PRODUCTION CROSS SECTION**					
221	UP TO	30.0 MEV	10.0%	1	IND	S.B.GARG	TRM	923069F
						Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES M: NEW REQUEST.		
25 MANGANESE		**NEUTRON**	**ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION**					
222	UP TO	30.0 MEV	10.0%	1	IND	S.B.GARG	TRM	923073F
						Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES M: NEW REQUEST.		
25 MANGANESE		**PROTON**	**ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION**					
223	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE	922049G
						O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE M: NEW REQUEST.		
25 MANGANESE		**PROTON**	**ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION**					
224	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE	922048G
						O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE M: NEW REQUEST.		

25 MANGANESE PROTON ACTIVATION CROSS SECTION

225	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE		922050G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

25 MANGANESE PROTON SPALLATION PRODUCT MASS YIELD SPECTRUM

226	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE		922052G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

26 IRON NEUTRON INELASTIC CROSS SECTION

227	UP TO	3.00 MEV	5 %	2	USA	MCGARRY	NIS		921025R

A: INCIDENT ENERGY RESOLUTION: 5 PERCENT.
O: C/E DISCREPANCIES IN POWER REACTOR BENCHMARK EXPERIMENTS FOR LOW-ENERGY THRESHOLD DETECTORS SUCH AS NP-237(N,F) SUGGEST REVISIONS IN THE IRON INELASTIC CROSS SECTION AT ENERGIES BELOW 3 MEV.
M: NEW REQUEST.

26 IRON NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

228	UP TO	15.0 MEV	10.0%	1	JAP	K.MAKI T.MURATA	HIT JAE		922053F

Q: GAMMA-PRODUCTION CROSS SECTION. SECONDARY GAMMA ENERGY AND ANGULAR DISTRIBUTION.
O: NUCLEAR HEATING CALCULATION IN BLANKETS, SHIELDS AND SUPERCONDUCTING MAGNETS. SHIELDING CALCULATIONS OF FUSION REACTOR.
M: NEW REQUEST.

26 IRON NEUTRON ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

229	1.00 MEV	15.0 MEV	10.0%	2	RUS	I.N.GOLOVIN	KUR		794012F

O: FOR GAMMA-RAY HEATING AND SHIELDING CALCULATIONS.

26 IRON NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

230	2.00 MEV	10.0 MEV	5.0%	1	JAP	A.TAKAHASHI K.MAKI	OSA HIT		832042F

Q: ENERGY-ANGLE DIFFERENTIAL CROSS SECTIONS FOR INELASTIC SCATTERING AND (N,2N) REACTIONS ARE ESPECIALLY WANTED.
O: NEUTRON TRANSPORT CALCULATIONS.
NOT MET FOR LOW ENERGY PART OF EMISSION SPECTRUM
M: SUBSTANTIAL MODIFICATIONS.

231	5.00 MEV	15.0 MEV		2	USA	FU	ORL		921086F

A: ACCURACY RANGE 5 TO 10 PERCENT.
INCIDENT ENERGY RESOLUTION: 0.1 MEV.
O: ENDF/B-VI OF REQUESTED ITEM WAS BASED ON MODEL CALCULATION FITTING 14-MEV DATA. MEASUREMENTS RECOMMENDED AT 5,6,8,10,12 AND 14 MEV.
M: NEW REQUEST.

26 IRON NEUTRON ANGULAR DISTRIBUTION OF ALPHA PARTICLES

232	UP TO	16.0 MEV	10. %	3	PRC	ZHANG BENAI	IPM		923136F

Q: ANGULAR DISTRIBUTION OF HE4 FROM (N,HE4)
NO EXPERIMENTAL DATA
A: ACCURACY 10 - 15 %
O: RESEARCH ON MECHANISM OF NUCLEAR INTERACTION
M: NEW REQUEST.

26 IRON PROTON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

233	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE		922055G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

26 IRON PROTON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

234	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE		922054G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

26 IRON PROTON ACTIVATION CROSS SECTION

235 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922056G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

26 IRON PROTON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

236 UP TO 1.50 GEV 30.0% 2 JAP T.NISHIDA JAE 922060G

O: CALCULATIONS AROUND TARGET OF SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

26 IRON PROTON SPALLATION PRODUCT MASS YIELD SPECTRUM

237 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922058G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

26 IRON 54 NEUTRON TOTAL CROSS SECTION

238 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923039F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 54 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

239 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923042F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 54 NEUTRON ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

240 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923046F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 54 NEUTRON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

241 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923050F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 54 NEUTRON N,2N

242 UP TO 20.0 MEV 10 % 2 USA HETRICK ORL 921054R

A: DATA AVAILABLE DISAGREE OVER THE WHOLE ENERGY RANGE.
M: NEW REQUEST.

26 IRON 54 NEUTRON ENERGY DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION

243 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923043F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 54 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

244 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923047F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 54		NEUTRON		N,NP				

245 UP TO 20.0 MEV 10 % 2 USA METRICK ORL 921047R

A: SPARSE DATA AVAILABLE. WHEN ADDED TO (N,P) DOES NOT AGREE WITH AVAILABLE TOTAL PROTON EMISSION. EVALUATIONS FROM ENDF/B-VI, BROND AND JENDL-3 DISAGREE.
M: NEW REQUEST.

26 IRON 54 NEUTRON TOTAL PROTON PRODUCTION CROSS SECTION

246 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923040F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 54 NEUTRON ENERGY DIFF. PROTON-PRODUCTION CROSS SECTION

247 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923044F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 54 NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

248 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923048F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 54 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

249 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923041F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 54 NEUTRON ENERGY DIFFERENTIAL ALPHA-PRODUCTION CROSS SECTION

250 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923045F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 54 NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

251 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923049F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 56 NEUTRON TOTAL CROSS SECTION

252 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923051F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 56 NEUTRON INELASTIC CROSS SECTION

253 UP TO 4.00 MEV 1 USA FU ORL 921085R

A: ACCURACY RANGE 2 TO 5 PERCENT. INCIDENT ENERGY RESOLUTION: 5 KEV.
O: N,N' TO THE 847-KEV LEVEL. IMPORTANT REACTION AND ENERGY RANGE FOR REACTOR PRESSURE VESSEL SURVEILLANCE DOSIMETRY. CURRENTLY KNOWN TO ABOUT 10 PERCENT. NEEDED ACCURACY IS LESS THAN 5 PERCENT.
M: NEW REQUEST.

26 IRON 56 NEUTRON CAPTURE CROSS SECTION

254 1.00E-05 EV 100. KEV 5 % 1 USA LARSON ORL 921080R

A: ESPECIALLY THE 1.15 KEV RESONANCE. RESONANCE REGION. CAPTURE CROSS SECTIONS MAY BE UP TO 25 PERCENT WRONG FOR STRUCTURAL MATERIALS, NEEDED FOR CONFIRMATION OF AN UPGRADED EVALUATION.
M: NEW REQUEST.

26 IRON 56 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

255 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923054F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 56 NEUTRON ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

256 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923058F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 56 NEUTRON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

257 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923062F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 56 NEUTRON ENERGY DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION

258 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923055F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 56 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

259 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923059F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 56 NEUTRON N,NP

260 UP TO 20.0 MEV 10 % 2 USA HETRICK ORL 921048R

A: EVALUATIONS FROM ENDF/B-VI, BROND, AND JENDL-3 DISAGREE. NO DATA AVAILABLE.
M: NEW REQUEST.

26 IRON 56 NEUTRON TOTAL PROTON PRODUCTION CROSS SECTION

261 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923052F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 56 NEUTRON ENERGY DIFF. PROTON-PRODUCTION CROSS SECTION

262 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923056F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 56 NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

263 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923060F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 56 NEUTRON N,ALPHA

264 UP TO 20.0 MEV 10 % 2 USA HETRICK ORL 921049R

A: EVALUATIONS FROM BROND, ENDF/B-VI AND JENDL-3 DISAGREE. DATA AVAILABLE BDLOW 10 MEV IS DISCREP-ANT.
M: NEW REQUEST.

26 IRON 56 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

265 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923053F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 56 NEUTRON ENERGY DIFFERENTIAL ALPHA-PRODUCTION CROSS SECTION

266 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923057F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 56 NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

267 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923061F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

26 IRON 56 PROTON CAPTURE CROSS SECTION

268 UP TO 15.0 MEV 15.0% 2 JAP M.MIZUMOTO JAE 922061G

Q: CO-57 PRODUCTION CROSS SECTION
O: CALCULATIONS FOR ACCELERATOR TESTING SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

26 IRON 57 NEUTRON N,2N

269 UP TO 20.0 MEV 10 % 2 USA HETRICK ORL 921052R

A: LARGE CROSS SECTION, NO DATA AVAILABLE AND EVALUA-TIONS (ENDF/B-VI, BROND, JENDL-3) DISAGREE.
M: NEW REQUEST.

26 IRON 57 NEUTRON N,P

270 UP TO 20.0 MEV 10 % 2 USA HETRICK ORL 921051R

A: DATA AVAILABLE AT 14 MEV DISAGREE AND THE EVALUA-TIONS (ENDF/B/V1, BROND, JENDL-3) HAVE DIFFERENT SHAPES.
M: NEW REQUEST.

26 IRON 57 NEUTRON N,ALPHA

271 UP TO 20.0 MEV 10 % 2 USA HETRICK ORL 921050R

A: TWO POINTS AVAILABLE AT 14.5 MEV DISAGREE AND ALSO EVALUATIONS (ENDF/VI, BROND AND JENDL-3).
M: NEW REQUEST.

26 IRON 58 NEUTRON CAPTURE CROSS SECTION

272 30.0 KEV 14.0 MEV 20 % 1 USA CHENG TSI 861177F

O: IMPORTANT REACTION LEADING TOWARD PRODUCTION OF LONG-LIVED RADIONUCLIDE FE-60 (1.49+06 YR): FE-58(N,GAMMA)FE-59(N,GAMMA)FE-60.
M: SUBSTANTIAL MODIFICATIONS.

26 IRON 58 NEUTRON N,2N

273	UP TO	20.0 MEV	10 %	2	USA	HETRICK	ORL		921053R

O: LARGE CROSS SECTION AND NO DATA AVAILABLE.
M: NEW REQUEST.

26 IRON 58 NEUTRON RESONANCE PARAMETERS

274	1.00 KEV	400. KEV		1	USA	FU	ORL		921087R

A: ACCURACY RANGE 5 TO 10 PERCENT.
INCIDENT ENERGY RESOLUTION: 1 KEV.
FE-58(N,GAMMA) IS STILL BEING USED FOR REACTOR DOSIMETRY. HOWEVER, THE EXISTING DATA BASE USED FOR ENDF/B-VI IS VERY POOR. HIGH-QUALITY DATA ARE NEEDED FOR THE LOWEST 10 S-WAVE RESONANCES, PARTICULARLY THE RADIATIVE WIDTHS.
M: NEW REQUEST.

26 IRON 58 PROTON NEUTRON EMISSION CROSS SECTION

275	UP TO	15.0 MEV	15.0%	2	JAP	M.MIZUMOTO	JAE		922062G

Q: CO-58 PRODUCTION CROSS SECTION
O: CALCULATIONS FOR ACCELERATOR TESTING SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

26 IRON 59 NEUTRON CAPTURE CROSS SECTION

276	25.3 MV	15.0 MEV	20 %	1	USA	CHENG	TSI		861115F

Q: RADIOACTIVE TARGET 44.5 DAY
LONG-LIVED ACTIVATION PRODUCT, FE-60 (1.49+6 YR), PRODUCED. FE-58(N,GAMMA)
O: FE-59(N,GAMMA)FE-60 MULTIPLE REACTIONS ARE IMPORTANT FOR THE ASSESSMENT OF WASTE DISPOSAL FOR IRON-BASED BLANKET MATERIALS.

27 COBALT PROTON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

277	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE		922064G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

27 COBALT PROTON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

278	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE		922063G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

27 COBALT PROTON ACTIVATION CROSS SECTION

279	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE		922065G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

27 COBALT PROTON SPALLATION PRODUCT MASS YIELD SPECTRUM

280	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE		922067G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

27 COBALT 59 NEUTRON N,3N

281	24.0 MEV	40.0 MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP		GEL	812010F

O: MEASURED UP TO 24MEV. EXTENSION TO 40MEV REQUIRED FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES

27 COBALT 60 NEUTRON N,P

282	100. KEV	15.0 MEV	20 %	2	USA	CHENG	TSI		861116F

Q: RADIOACTIVE TARGET 5.27 YR
LONG-LIVED ACTIVATION PRODUCT, FE-60 (1.49+6 YR), PRODUCED.

28 NICKEL NEUTRON CAPTURE CROSS SECTION

283 600. KEV 10.0 MEV 10.0% 1 JAP M.KAWAI NIG 872019R

Q: FISSION AND FUSION REACTOR CALCULATIONS
A: EXISTING DATA FOR 600 KEV - 1 MEV ARE DISCREPANT ABOUT 20%
O: NO DATA ARE AVAILABLE ABOVE 1 MEV
EVALUATED DATA ARE ALSO DISCREPANT BY A FACTOR OF 2 ABOVE 1 MEV

284 6.00 MEV 16.0 MEV 8. % 3 PRC ZHANG BENAI IPM 873022R

Q: GAMMA-RAY ENERGY REGION 10-22MEV.
RADIATIVE CAPTURE CROSS-SECTION.
NO SATISFACTORY EXPERIMENTAL DATA AVAILABLE.
A: ACCURACY 8-10%.
O: RESEARCH ON REACTION MECHANISM AND NUCLEAR TECH-NOLOGY.

28 NICKEL NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

285 UP TO 15.0 MEV 10.0% 1 JAP K.MAKI HIT 922068F

Q: GAMMA-PRODUCTION CROSS SECTION. SECONDARY GAMMA ENERGY AND ANGULAR DISTRIBUTION.
O: NUCLEAR HEATING CALCULATION IN BLANKETS, SHIELDS AND SUPERCONDUCTING MAGNETS.
SHIELDING CALCULATIONS OF FUSION REACTORS.
M: NEW REQUEST.

28 NICKEL NEUTRON N,2N

286 8.00 MEV 20.0 MEV 15.0% 2 JAP M.KAWAI NIG 872017F

Q: RADIATION DAMAGE STUDY AND FUSION NEUTRONICS CALCULATION
O: DISCREPANCY BETWEEN FREHAUT AND CALCULATED VALUES

28 NICKEL NEUTRON NEUTRON EMISSION CROSS SECTION

287 8.00 MEV 20.0 MEV 15.0% 2 JAP M.KAWAI NIG 872018F

Q: RADIATION DAMAGE STUDY AND FUSION NEUTRONICS CALCULATION
O: NO DATA AVAILABLE, EXCEPT AT 15 MEV

28 NICKEL NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

288 5.00 MEV 20.0 MEV 10 % 1 USA HETRICK ORL 921055R

O: MODEL CALCULATION USED FOR ENDF/B-VI BASED ON FIT TING DATA AT EN = 14.5 MEV. NEED DATA AT OTHER ENERGIES FOR CONFIRMATION.
M: NEW REQUEST.

28 NICKEL NEUTRON N,ALPHA

289 25.3 MV 20.0 MEV 10. % 2 USA LARSON ORL 861088R

O: FOR EVALUATION AND MODEL TESTING PURPOSES.

28 NICKEL NEUTRON ANGULAR DISTRIBUTION OF ALPHA PARTICLES

290 UP TO 16.0 MEV 10. % 3 PRC ZHANG BENAI IPM 923151F

Q: ANGULAR DISTRIBUTION OF HE4 FROM (N,HE4)
NO EXPERIMENTAL DATA
A: ACCURACY 10 - 15 %
O: RESEARCH ON MECHANISM OF NUCLEAR INTERACTION
M: NEW REQUEST.

28 NICKEL PROTON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

291 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922070G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

28 NICKEL PROTON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

292 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922069G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

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28 NICKEL              PROTON              ACTIVATION CROSS SECTION

  293        UP TO     1.50  GEV    30.0%    2    JAP   M.MIZUMOTO       JAE                      922071G

                                                      O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON
                                                         SOURCE
                                                      M: NEW REQUEST.

28 NICKEL              PROTON              SPALLATION PRODUCT MASS YIELD SPECTRUM

  294        UP TO     1.50  GEV    30.0%    2    JAP   M.MIZUMOTO       JAE                      922073G

                                                      O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON
                                                         SOURCE
                                                      M: NEW REQUEST.

28 NICKEL 58           NEUTRON             TOTAL CROSS SECTION

  295        UP TO     30.0  MEV    10.0%    1    IND   S.B.GARG         TRM                      923075F

                                                      Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING
                                                         CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
                                                      O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE
                                                         UNCERTAINTIES
                                                      M: NEW REQUEST.

28 NICKEL 58           NEUTRON             CAPTURE CROSS SECTION

  296    2.00  MEV     15.0  MEV    20 %     2    USA   CHENG            TSI                      861178F

                                                      O: PRODUCTION OF LONG-LIVED RADIONUCLIDE,
                                                         NI-59 (7.5+04 YR).

  297    1.00E-05 EV   100.  KEV     5 %     1    USA   LARSON           ORL                      921081R

                                                      A: RESONANCE REGION.  NEED 5 PERCENT ACCURACY IN
                                                         CAPTURE AREA OF RESONANCES.  CAPTURE CROSS
                                                         SECTIONS MAY BE AS MUCH AS 25 PERCENT IN ERROR,
                                                         DEPENDING UPON DECAY SPECTRA FROM RESONANCE.
                                                      M: NEW REQUEST.

28 NICKEL 58           NEUTRON             TOTAL PHOTON PRODUCTION CROSS SECTION

  298        UP TO     30.0  MEV    10.0%    1    IND   S.B.GARG         TRM                      923078F

                                                      Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING
                                                         CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
                                                      O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE
                                                         UNCERTAINTIES
                                                      M: NEW REQUEST.

28 NICKEL 58           NEUTRON             ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

  299        UP TO     30.0  MEV    10.0%    1    IND   S.B.GARG         TRM                      923082F

                                                      Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING
                                                         CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
                                                      O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE
                                                         UNCERTAINTIES
                                                      M: NEW REQUEST.

28 NICKEL 58           NEUTRON             ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

  300        UP TO     30.0  MEV    10.0%    1    IND   S.B.GARG         TRM                      923086F

                                                      Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING
                                                         CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
                                                      O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE
                                                         UNCERTAINTIES
                                                      M: NEW REQUEST.

28 NICKEL 58           NEUTRON             N,2N

  301    20.0  MEV     30.0  MEV     5.0%    2    EUR   NEUTRON DOSIMETRY GROUP           GEL     812012F

                                                      O: FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES

  302        UP TO     20.0  MEV     5. %    1    PRC   CAI DUNJIU       AEP                      923142R

                                                      Q: NO SATISFACTORY EXPERIMENTAL DATA UP TO NOW
                                                      A: ACCURACY  5 - 10 %
                                                      O: DOSIMETRY.
                                                      M: NEW REQUEST.

28 NICKEL 58           NEUTRON             ENERGY DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION

  303        UP TO     30.0  MEV    10.0%    1    IND   S.B.GARG         TRM                      923079F

                                                      Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING
                                                         CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
                                                      O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE
                                                         UNCERTAINTIES
                                                      M: NEW REQUEST.
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28 NICKEL 58 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

304 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923083F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

28 NICKEL 58 NEUTRON N,P

305 UP TO 25.0 MEV 5.0% 2 EUR NEUTRON DOSIMETRY GROUP GEL 812011F

O: FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES

306 2.00 MEV 10.0 MEV 5 % 2 USA MCGARRY NIS 921125R

A: INCIDENT ENERGY RESOLUTION: 5 PERCENT.
O: REQUIRED FOR REACTOR PRESSURE VESSEL DOSIMETRY.
M: NEW REQUEST.

28 NICKEL 58 NEUTRON N,NP

307 UP TO 20.0 MEV 15 % 2 USA LARSON ORL 921121R

O: LARGE CROSS SECTION. DATA EXIST AROUND 14 MEV BUT ARE DISCREPANT.
M: NEW REQUEST.

28 NICKEL 58 NEUTRON TOTAL PROTON PRODUCTION CROSS SECTION

308 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923076F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

28 NICKEL 58 NEUTRON ENERGY DIFF. PROTON-PRODUCTION CROSS SECTION

309 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923080F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

28 NICKEL 58 NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

310 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923084F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

28 NICKEL 58 NEUTRON N,ALPHA

311 6.00 MEV 10.0 MEV 10 % 1 USA FU ORL 921056R

A: DIFFERENCE BETWEEN DATA OF QAIM AND GRAHAM IS 80 PERCENT AND SPREAD OF ENDF/B-VI, EFF-2, AND JENDL-3 IS 100 PERCENT NEAR 8 MEV.
M: NEW REQUEST.

28 NICKEL 58 NEUTRON N,NALPHA

312 UP TO 20.0 MEV 5 % 1 USA HETRICK ORL 921057R

A: ONLY ONE DATA POINT AVAILABLE AND EVALUATIONS FROM ENDF/B-VI, BROND, AND JENDL-3 ALL DISAGREE.
M: NEW REQUEST.

28 NICKEL 58 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

313 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923077F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

28 NICKEL 58 NEUTRON ENERGY DIFFERENTIAL ALPHA-PRODUCTION CROSS SECTION

314 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923081F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

28 NICKEL 58 NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

315 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923085F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

28 NICKEL 60 NEUTRON TOTAL CROSS SECTION

316 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923087F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

28 NICKEL 60 NEUTRON CAPTURE CROSS SECTION

317 1.00E-05 EV 100. KEV 5 % 1 USA LARSON ORL 921082R

A: RESONANCE REGION. CAPTURE CROSS SECTIONS MAY BE AS MUCH AS 25 PERCENT IN ERROR, DEPENDING UPON SHAPE OF DECAY SPECTRA FROM RESONANCE.
M: NEW REQUEST.

28 NICKEL 60 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

318 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923090F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

28 NICKEL 60 NEUTRON ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

319 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923094F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

28 NICKEL 60 NEUTRON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

320 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923098F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

28 NICKEL 60 NEUTRON N,2N

321 12.0 MEV 20.0 MEV 2 JAP M.KAWAI NIG 872020F

Q: RADIATION DAMAGE STUDY AND FUSION NEUTRONICS CALCULATION
O: NO EXPERIMENTAL DATA

322 UP TO 20.0 MEV 10 % 2 USA HETRICK ORL 921060R

A: LARGE CROSS SECTION, NO DATA AVAILABLE; EVALUATIONS FROM ENDF/B-VI, BROND, AND JENDL-3 DISAGREE ABOVE 1MEV INCIDENT ENERGY.
M: NEW REQUEST.

28 NICKEL 60 NEUTRON NEUTRON EMISSION CROSS SECTION

323 12.0 MEV 20.0 MEV 2 JAP M.KAWAI NIG 872021F

Q: RADIATION DAMAGE STUDY AND FUSION NEUTRONICS CALCULATION

28 NICKEL 60 NEUTRON ENERGY DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION

324 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923091F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

28 NICKEL 60 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

325 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923095F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

28 NICKEL 60 NEUTRON N,NP

326 UP TO 20.0 MEV 10 % 2 USA HETRICK ORL 921059R

A: ONLY 1 DATA POINT AVAILABLE; EVALUATIONS FROM ENDF/B-VI, BROND, AND JENDL-3 ALL DISAGREE.
M: NEW REQUEST.

28 NICKEL 60 NEUTRON TOTAL PROTON PRODUCTION CROSS SECTION

327 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923088F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

28 NICKEL 60 NEUTRON ENERGY DIFF. PROTON-PRODUCTION CROSS SECTION

328 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923092F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

28 NICKEL 60 NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

329 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923096F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

28 NICKEL 60 NEUTRON N,ALPHA

330 UP TO 20.0 MEV 10 % 2 USA HETRICK ORL 921058R

A: EVALUATIONS FROM ENDF/B-VI, BROND, AND JENDL-3 DISAGREE - ONLY TOTAL ALPHA EMISSION AVAILABLE.
M: NEW REQUEST.

28 NICKEL 60 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

331 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923089F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

28 NICKEL 60 NEUTRON ENERGY DIFFERENTIAL ALPHA-PRODUCTION CROSS SECTION

332 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923093F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

28 NICKEL 60 NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

333	UP TO	30.0 MEV	10.0%	1	IND	S.B.GARG	TRM	923097F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

28 NICKEL 61 NEUTRON N,2N

334	UP TO	20.0 MEV	10 %	3	USA	HETRICK	ORL	921061R

A: LARGE CROSS SECTIONS AND NO DATA AVAILABLE. EVALUATIONS FROM ENDF/B-VI, BROND, AND JENDL-3 DISAGREE.
M: NEW REQUEST.

28 NICKEL 62 NEUTRON CAPTURE CROSS SECTION

335	1.00 KEV	1.00 MEV	20 %	1	USA	CHENG	TSI	861179F

O: PRODUCTION OF LONG-LIVED RADIONUCLIDE, NI-63(100.1 YR).
M: SUBSTANTIAL MODIFICATIONS.

28 NICKEL 62 NEUTRON N,2N

336	UP TO	20.0 MEV	10 %	3	USA	HETRICK	ORL	921062R

A: LARGE CROSS SECTION AND NO DATA AVAILABLE.
M: NEW REQUEST.

28 NICKEL 62 NEUTRON N,ALPHA

337	UP TO	20.0 MEV	5. %	1	PRC	CAI DUNJIU	AEP	923141R

Q: NO SATISFACTORY EXPERIMENTAL DATA UP TO NOW
A: ACCURACY 5 - 8 %
O: DOSIMETRY.
M: NEW REQUEST.

28 NICKEL 63 NEUTRON N,ALPHA

338	100. KEV	15.0 MEV	20 %	1	USA	CHENG	TSI	861118F

Q: RADIOACTIVE TARGET 100 YR LONG-LIVED ACTIVATION PRODUCT, FE-60 (1.49+6 YR), PRODUCED.

28 NICKEL 64 NEUTRON N,2N

339	10.0 MEV	15.0 MEV	20 %	1	USA	CHENG	TSI	861119F

Q: LONG-LIVED ACTIVATION PRODUCT, NI-63 (100.1 YR), PRODUCED.
O: NEEDED FOR THE ASSESSMENT OF ALLOWABLE NI LEVEL IN STRUCTURAL ALLOYS TO QUALIFY AS LOW ACTIVATION MATERIAL.

29 COPPER NEUTRON ELASTIC CROSS SECTION

340	8.00 MEV	15.0 MEV	10.0%	2	RUS	I.N.GOLOVIN	KUR	724032F

O: NEUTRON TRANSMISSION CALCULATIONS.

29 COPPER NEUTRON PHOTON PRODUCTION CROSS SECTION IN INELASTIC SCAT.

341	UP TO	15.0 MEV	15.0%	2	RUS	I.N.GOLOVIN	KUR	724033F

O: NEUTRONICS CALCULATIONS FOR BLANKET AND SHIELD.

29 COPPER NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

342	500. KEV	15.0 MEV	15.0%	2	RUS	I.N.GOLOVIN	KUR	724034F

Q: GAMMA RAY SPECTRA ALSO WANTED.
O: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

343	UP TO	15.0 MEV	10.0%	1	JAP	K.MAKI	HIT	922074F

Q: GAMMA-PRODUCTION CROSS SECTION. SECONDARY GAMMA ENERGY SPECTRA.
O: NUCLEAR HEATING CALCULATION IN SUPERCONDUCTING MAGNETS.
M: NEW REQUEST.

29 COPPER NEUTRON N,P

344	UP TO	15.0 MEV	15.0%	2	RUS	I.N.GOLOVIN	KUR		724035F

O: HYDROGEN ACCUMULATION CALCULATIONS.

29 COPPER NEUTRON N,ALPHA

345	UP TO	15.0 MEV	15.0%	2	RUS	I.N.GOLOVIN	KUR		724036F

O: HELIUM ACCUMULATION CALCULATIONS.

29 COPPER PROTON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

346	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE		922076G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

29 COPPER PROTON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

347	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE		922075G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

29 COPPER PROTON ACTIVATION CROSS SECTION

348	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE		922077G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

29 COPPER PROTON SPALLATION PRODUCT MASS YIELD SPECTRUM

349	UP TO	1.50 GEV	30.0%	2	JAP	M.MIZUMOTO	JAE		922079G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

29 COPPER 63 NEUTRON N,P

350	UP TO	20.0 MEV	10 %	2	USA	HETRICK	ORL		921065R

A: ONLY 1 PT AVAILABLE WHICH DISAGREES DRASTICALLY WITH CALCULATION.
M: NEW REQUEST.

29 COPPER 63 NEUTRON N,NP

351	UP TO	20.0 MEV	10 %	2	USA	HETRICK	ORL		921064R

A: LARGE CROSS SECTION, NEED ADDITIONAL DATA SINCE ONLY 3 DISCREPANT POINTS AVAILABLE.
M: NEW REQUEST.

29 COPPER 63 NEUTRON N,ALPHA

352	UP TO	20.0 MEV	3. %	1	PRC	CAI DUNJIU	AEP		923138R

Q: NO SATISFACTORY EXPERIMENTAL DATA UP TO NOW
A: ACCURACY 3 - 5 %
O: DOSIMETRY.
M: NEW REQUEST.

29 COPPER 63 PROTON NEUTRON EMISSION CROSS SECTION

353	UP TO	15.0 MEV	15.0%	2	JAP	M.MIZUMOTO	JAE		922080G

Q: ZN-63 PRODUCTION CROSS SECTION
O: CALCULATIONS FOR ACCELERATOR TESTING SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

29 COPPER 65 NEUTRON N,NP

354	UP TO	20.0 MEV	20 %	3	USA	HETRICK	ORL		921063R

A: ONLY 1 DATA POINT AVAILABLE AT 14.5 MEV.
M: NEW REQUEST.

29 COPPER 65 NEUTRON N,T

355 9.00 MEV 15.0 MEV 20 % 1 USA CHENG TSI 861120F

Q: LONG-LIVED ACTIVATION PRODUCT, NI-63 (100.1 YR), PRODUCED.
O: CRITICAL FOR JUSTIFICATION FOR ISOTOPIC TAILORING OF COPPER TO MEET LOWER RESIDUAL ACTIVATION CRITERIA.

29 COPPER 65 PROTON NEUTRON EMISSION CROSS SECTION

356 UP TO 15.0 MEV 15.0% 2 JAP M.MIZUMOTO JAE 922081G

Q: ZN-65 PRODUCTION CROSS SECTION
O: CALCULATIONS FOR ACCELERATOR TESTING SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

30 ZINC PROTON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

357 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922083G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

30 ZINC PROTON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

358 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922082G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

30 ZINC PROTON ACTIVATION CROSS SECTION

359 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922084G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

30 ZINC PROTON SPALLATION PRODUCT MASS YIELD SPECTRUM

360 UP TO 1.50 GEV 30.0% 2 JAP M.MIZUMOTO JAE 922086G

O: SHIELDING CALCULATIONS FOR SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

30 ZINC 64 NEUTRON N,P

361 5.00 MEV 15.0 MEV 5 % 1 USA CHENG TSI 921127F

O: DOSIMETRY CROSS SECTION FOR FUSION APPLICATIONS.
M: NEW REQUEST.

30 ZINC 67 NEUTRON N,P

362 1.00 MEV 10.0 MEV 2 USA SCHENTER WHC 921009M

A: ACCURACY RANGE 10 TO 20 PERCENT. A MEASUREMENT AT 14 MEV HAS BEEN MADE BY THE
O: JAPANESE. CU-67 WILL HAVE IMPORTANT FUTURE APPLICATION IN THE TREATMENT OF CANCER. IT IS CURRENTLY INVOLVED IN CLINICAL TRIALS ASSOCIATED WITH MONOCLONAL ANTIBODIES. INTEGRAL DATA EXISTS FOR PRODUCTION OF CU-67 IN HFBR. FUTURE INTEGRAL RESULTS WILL BE AVAILABLE FROM THE OSU TRIGA REACTOR. ZN-67(N,P) DATA ARE IMPORTANT FOR MEDICAL ISOTOPE PRODUCTION OPTIMIZATION OF CU-67. NO EVALUATION OF THIS REACTION EXISTS ON ENDF/B.
M: NEW REQUEST.

363 UP TO 20.0 MEV 3. % 1 PRC CAI DUNJIU AEP 923140R

Q: NO SATISFACTORY EXPERIMENTAL DATA UP TO NOW
A: ACCURACY 3 - 5 %
O: DOSIMETRY.
M: NEW REQUEST.

31 GALLIUM NEUTRON CHARGED PARTICLE EMISSION CROSS-SECTION

364 100. KEV 1.00 MEV 10 % 1 USA GRIFFIN SAN 921004F

O: NEED CHARGED PARTICLE PRODUCTION TO DETERMINE RADIATION DAMAGE IN SEMICONDUCTOR ELECTRONICS.
M: NEW REQUEST.

32 GERMANIUM NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

365 UP TO 10.0 MEV 10 % 2 USA ROUSSIN ORL 861034F

O: PHOTON PRODUCTION NEEDED TO PROPERLY INTERPRET
DETECTOR RESPONSE ABOVE THE INELASTIC THRESHOLD.
M: SUBSTANTIAL MODIFICATIONS.

33 ARSENIC NEUTRON CHARGED PARTICLE EMISSION CROSS-SECTION

366 100. KEV 1.00 MEV 10 % 1 USA GRIFFIN SAN 921005F

O: NEED CHARGED PARTICLE PRODUCTION TO DETERMINE
RADIATION DAMAGE IN SEMICONDUCTOR ELECTRONICS.
M: NEW REQUEST.

34 SELENIUM 74 NEUTRON CAPTURE CROSS SECTION

367 1.00 MV 100. KEV 2 USA SCHENTER WHC 921010M

A: ACCURACY RANGE 20 TO 40 PERCENT.
O: SE-75 HAS BEEN USED EXTENSIVELY FOR MEDICAL
RESEARCH (E.G., STUDIES IN CANCER RESEARCH AT
NIH). INTEGRAL DATA EXIST. SE-74(N,GAMMA) DATA
ARE IMPORTANT FOR MEDICAL ISOTOPE PRODUCTION OPTI-
MIZATION OF SE-75. NO EVALUATIONS OF THIS
REACTION EXIST ON ENDF/B.
M: NEW REQUEST.

36 KRYPTON 78 NEUTRON N,P

368 10.0 MEV 15.0 MEV 10 % 2 USA WHITE LLL 921133F

Q: ACTIVATION PRODUCT WITH SHORT HALF-LIFE.
O: FOR DIAGNOSING ICF IMPLOSIONS.
M: NEW REQUEST.

36 KRYPTON 80 NEUTRON N,2N

369 UP TO 15.0 MEV 10 % 1 USA WHITE LLL 921131F

Q: ACTIVATION PRODUCT WITH SHORT HALF-LIFE.
O: FOR DIAGNOSING ICF IMPLOSIONS.
M: NEW REQUEST.

36 KRYPTON 82 NEUTRON N,2N

370 11.0 MEV 15.0 MEV 20 % 2 USA CHENG TSI 861123F

Q: LONG-LIVED ACTIVATION PRODUCT, KR-81
(2.1+5 YR), PRODUCED.
M: SUBSTANTIAL MODIFICATIONS.

36 KRYPTON 82 NEUTRON N,ALPHA

371 100. KEV 15.0 MEV 20 % 2 USA CHENG TSI 861124F

Q: LONG-LIVED ACTIVATION PRODUCT, SE-79
(<65000 YR), PRODUCED.
M: SUBSTANTIAL MODIFICATIONS.

37 RUBIDIUM 85 NEUTRON N,2N

372 UP TO 20.0 MEV 5. % 1 PRC CAI DUNJIU AEP 923137R

Q: NO SATISFACTORY EXPERIMENTAL DATA UP TO NOW
A: ACCURACY 5 - 8 %
O: DOSIMETRY.
M: NEW REQUEST.

37 RUBIDIUM 85 NEUTRON N,P

373 UP TO 20.0 MEV 5. % 1 PRC CAI DUNJIU AEP 923148R

Q: NO SATISFACTORY EXPERIMENTAL DATA UP TO NOW
A: ACCURACY 5 - 10 %
O: DOSIMETRY.
M: NEW REQUEST.

38 STRONTIUM 90 NEUTRON CAPTURE CROSS SECTION

374 10.0 MV 1.00 MEV 2 USA MANN WHC 921105R

Q: RADIOACTIVE TARGET 29 YEARS
A: NEED 20 PERCENT ACCURACY IN THERMAL REGION AND
RESONANCE PARAMETERS. AVERAGE CROSS SECTIONS
ACCURATE TO 20 PERCENT OVER DECADE ENERGY REGIONS.
O: IMPORTANT FOR WASTE BURNING, CONFLICTING
THERMAL VALUES; NO OTHER DATA.
M: NEW REQUEST.

39 YTTRIUM NEUTRON TOTAL CROSS SECTION

375 14.0 MEV 20.0 MEV 1. % 3 USA SMITH ANL 861024R

A: INCIDENT ENERGY RESOLUTION: 500 KEV.
O: IMPORTANT FISSION PRODUCT.

39 YTTRIUM NEUTRON CAPTURE CROSS SECTION

376 100. KEV 500. KEV 10. % 2 USA SMITH ANL 861028R

A: ENERGY-AVERAGE VALUES TO 10 PERCENT.
O: NEEDED TO CHECK DISCREPANT VALUES.

39 YTTRIUM NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

377 5.00 MEV 20.0 MEV 10. % 3 USA SMITH ANL 861025R

A: DETERMINE ANGLE-ENERGY SPECTRA AT 2 MEV INCIDENT-
ENERGY INTERVALS.

378 100. MEV 1.50 GEV 30.0% 2 JAP T.NISHIDA JAE 922087G

O: CALCULATIONS AROUND TARGET OF SPALLATION
NEUTRON SOURCE
M: NEW REQUEST.

39 YTTRIUM NEUTRON N,P

379 UP TO 20.0 MEV 5. % 2 USA SMITH ANL 861026R

A: 10 PERCENT ACCURACY SHOULD BE SOUGHT TO THRESHOLD.

39 YTTRIUM NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

380 100. MEV 1.50 GEV 30.0% 2 JAP T.NISHIDA JAE 922088G

O: CALCULATIONS AROUND TARGET OF SPALLATION
NEUTRON SOURCE
M: NEW REQUEST.

39 YTTRIUM NEUTRON N,ALPHA

381 UP TO 20.0 MEV 10. % 3 USA SMITH ANL 861027R

40 ZIRCONIUM NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

382 25.3 MV 1.00 MEV 1 USA KNOX KAP 921112R

A: ACCURACY RANGE 1 TO 5 PERCENT.
INCIDENT ENERGY RESOLUTION: 0.1 MEV.
FROM 0 TO .1MEV, EVERY 40 DEGREES FROM 0 TO 180
DEGREES. FROM .1 TO 1 MEV, EVERY 20 DEGREES FROM
0 TO 180 DEGREES. THE ENERGY RESOLUTION SHOULD BE
AS GOOD AS POSSIBLE. THESE DATA ARE NEEDED FOR
O: BENCHMARK TESTING OF NUCLEAR DATA AND FOR USE IN
ACCURATE NUCLEAR DESIGN CALCULATIONS.
M: NEW REQUEST.

383 100. MEV 1.50 GEV 30.0% 2 JAP T.NISHIDA JAE 922089G

O: CALCULATIONS AROUND TARGET OF SPALLATION
NEUTRON SOURCE
M: NEW REQUEST.

40 ZIRCONIUM NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

384 100. MEV 1.50 GEV 30.0% 2 JAP T.NISHIDA JAE 922090G

O: CALCULATIONS AROUND TARGET OF SPALLATION
NEUTRON SOURCE
M: NEW REQUEST.

40 ZIRCONIUM 94 NEUTRON N,2N

385 7.00 MEV 15.0 MEV 20 % 2 USA CHENG TSI 861128F

O: LONG-LIVED ACTIVATION PRODUCT, ZR-93
(1.53+6 YR), PRODUCED.

40 ZIRCONIUM 94 NEUTRON N,NALPHA

386 4.00 MEV 15.0 MEV 20 % 2 USA CHENG TSI 861129F

O: LONG-LIVED ACTIVATION PRODUCT, SR-90, (28.6 YR),
PRODUCED.

41 NIOBIUM 93 NEUTRON TOTAL CROSS SECTION

387 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923099F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

41 NIOBIUM 93 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

388 10.0 MEV 20.0 MEV 5. % 3 USA SMITH ANL 861032F

A: INCIDENT ENERGY RESOLUTION: 5 PERCENT.
RESOLUTION CONSISTENT WITH OPTICAL MODEL.
SUFFICIENT ACCURACY TO PROVIDE NON-ELASTIC CROSS SECTION TO 5 PERCENT (I.E., TO ANGLE-INTEGRATED VALUES OF APROX.5 PERCENT).

41 NIOBIUM 93 NEUTRON INELASTIC CROSS SECTION

389 UP TO 20.0 MEV 10.0% 2 JAP M.SASAKI MAP 812029R
K.SAKURAI JAE

Q: PRODUCTION OF 13.6 YR ISOMER
O: FOR NEUTRON DOSIMETRY.

390 500. KEV 15.0 MEV 10 % 2 USA MCGARRY NIS 821056R

A: INCIDENT ENERGY RESOLUTION: 10. PERCENT.
O: REACTOR PRESSURE VESSEL DOSIMETRY.

391 1.00 MEV 20.0 MEV 7. % 1 PRC CAI DUNJIU AEP 873041R

Q: CROSS SECTION FOR 93NB(N,N')93(M)NB
NO DATA IN THE 6-20MEV NEUTRON ENERGY RANGE, EXCEPT 14MEV.
O: DOSIMETRY.

41 NIOBIUM 93 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

392 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923102F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

41 NIOBIUM 93 NEUTRON ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

393 25.3 MV 20.0 MEV 10. % 3 USA SMITH ANL 861030F

A: BROAD RESOLUTION GAMMA SPECTRUM MEASUREMENTS NEEDED.
ACCURACY SUFFICIENT TO CONFIRM ENERGY CONSERVATION TO 10 PERCENT.

394 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923106F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

41 NIOBIUM 93 NEUTRON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

395 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923110F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

41 NIOBIUM 93 NEUTRON N,2N

396 UP TO 15.0 MEV 5.0% 2 EUR NEUTRON DOSIMETRY GROUP GEL 742133R

O: FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS.
GREATER THAN 10 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.

41 NIOBIUM 93 NEUTRON ENERGY DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION

397 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923103F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

41 NIOBIUM 93 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

398 UP TO 15.0 MEV 10.0% 2 JAP K.MAKI HIT 832043F

Q: ENERGY-ANGLE DIFFERENTIAL CROSS SECTIONS FOR TOTAL NEUTRON EMISSION REQUIRED.
O: FOR CALCULATION OF THE NEUTRON MULTIPLICATION IN FUSION BLANKETS.
MET FOR 14 MEV REGION
M: SUBSTANTIAL MODIFICATIONS.

399 5.00 MEV 20.0 MEV 10. % 3 USA SMITH ANL 861029F

A: DETERMINE ANGLE-ENERGY SPECTRA AT 2 MEV INCIDENT-ENERGY INTERVALS.

400 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923107F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

41 NIOBIUM 93 NEUTRON TOTAL PROTON PRODUCTION CROSS SECTION

401 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923100F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

41 NIOBIUM 93 NEUTRON ENERGY DIFF. PROTON-PRODUCTION CROSS SECTION

402 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923104F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

41 NIOBIUM 93 NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

403 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923108F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

41 NIOBIUM 93 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

404 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923101F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

41 NIOBIUM 93 NEUTRON ENERGY DIFFERENTIAL ALPHA-PRODUCTION CROSS SECTION

405 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923105F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

41 NIOBIUM 93 NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

406 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923109F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

41 NIOBIUM 93 NEUTRON CAPTURE RESONANCE INTEGRAL

407 1.00 EV 10.0 KEV 3.0% 2 EUR NEUTRON DOSIMETRY GROUP GEL 792106R

Q: PRODUCTION OF NB-94 (20000 YEARS) WANTED.
O: POSSIBLE LONG TERM FLUENCE MONITOR.

42 MOLYBDENUM NEUTRON TOTAL CROSS SECTION

408 1.00 KEV 20.0 MEV 1 % 2 USA SMITH ANL 861042R

A: RESOLUTION SHOULD BE CONSISTENT WITH OPTICAL MODEL
O: FOR HIGH-TEMPERATURE AND SPACE SYSTEMS.

42 MOLYBDENUM NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

409 3.00 MEV 15.0 MEV 10.0% 1 RUS I.N.GOLOVIN KUR 724050F

O: NEUTRON TRANSMISSION CALCULATIONS.

410 250. KEV 20.0 MEV 10 % 2 USA SMITH ANL 861043R

A: ANGLE-INTEGRATED ACCURACY LT 10 PERCENT.
O: FOR HIGH-TEMPERATURE AND SPACE SYSTEMS.

42 MOLYBDENUM NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

411 UP TO 15.0 MEV 15.0% 1 RUS I.N.GOLOVIN KUR 724051F

O: NEUTRON CALCULATIONS FOR BLANKET AND SHIELDING.

42 MOLYBDENUM NEUTRON ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

412 250. KEV 20.0 MEV 10 % 2 USA SMITH ANL 861044R

A: INCLUDE DISCRETE NEUTRON GROUPS BELOW 3.0 MEV.
INCLUDE CONTINUUM SPECTRA ABOVE 3 MEV.
O: FOR HIGH-TEMPERATURE AND SPACE SYSTEMS.

42 MOLYBDENUM NEUTRON CAPTURE CROSS SECTION

413 10.0 MEV 15.0 MEV 15.0% 1 RUS I.N.GOLOVIN KUR 724052F

O: HEAVY ISOTOPE ACCUMULATION CALCULATIONS.

414 1.00 KEV 1.50 MEV 10 % 2 USA SMITH ANL 861045R

A: 10 PERCENT ACCURACY IN ENERGY-AVERAGED VALUES.
O: FOR HIGH-TEMPERATURE AND SPACE SYSTEMS.

42 MOLYBDENUM NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

415 25.3 MV 15.0 MEV 15.0% 1 RUS I.N.GOLOVIN KUR 724053F

O: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

42 MOLYBDENUM NEUTRON N,2N

416 UP TO 15.0 MEV 15.0% 1 RUS I.N.GOLOVIN KUR 724054F

Q: SECONDARY ENERGY SPECTRUM REQUIRED AT 14.0 MEV.
O: NEUTRON MULTIPLICATION CALCULATIONS.

42 MOLYBDENUM NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

417 1.00 MEV 15.0 MEV 10. % 2 JAP K.MAKI HIT 762126F

O: NEUTRON TRANSPORT CALCULATIONS

42 MOLYBDENUM NEUTRON N,P

418 UP TO 15.0 MEV 15.0% 1 RUS I.N.GOLOVIN KUR 724055F

O: HYDROGEN ACCUMULATION CALCULATIONS.

42 MOLYBDENUM NEUTRON N,ALPHA

419 UP TO 15.0 MEV 15.0% 1 RUS I.N.GOLOVIN KUR 724056F

O: HELIUM ACCUMULATION CALCULATIONS.

42 MOLYBDENUM 94 NEUTRON N,P

420 2.00 MEV 15.0 MEV 20 % 1 USA CHENG TSI 861182F

O: PRODUCTION OF LONG-LIVED RADIONUCLIDE, NB-94
(2.03+04 YR).

42 MOLYBDENUM 95 NEUTRON N,NP

421 9.00 MEV 15.0 MEV 20 % 2 USA CHENG TSI 861130F

Q: LONG-LIVED ACTIVATION PRODUCT, NB-94
(2.03+4 YR) PRODUCED.
O: THIS REACTION CROSS SECTION IS NEEDED TO ASSESS
THE ALLOWABLE LEVEL OF MO IN STRUCTURAL ALLOYS
TO QUALIFY IT AS A LOW ACTIVATION MATERIAL.

42 MOLYBDENUM 95 NEUTRON N,D

422 7.00 MEV 15.0 MEV 20 % 2 USA CHENG TSI 861181F

O: PRODUCTION OF LONG-LIVED RADIONUCLIDE, NB-94
(2.03+04 YR).

42 MOLYBDENUM 95 NEUTRON RESONANCE PARAMETERS

423 2.00 KEV 3.00 KEV 10.0% 2 JAP M.KAWAI NIG 832027R

Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH,
SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATIONS.

42 MOLYBDENUM 97 NEUTRON RESONANCE PARAMETERS

424 2.00 KEV 3.00 KEV 10.0% 2 JAP M.KAWAI NIG 832028R

Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH,
SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATIONS.

43 TECHNETIUM 99 NEUTRON SPALLATION PRODUCT MASS YIELD SPECTRUM

425 1.00 MEV 50.0 MEV 15.0% 2 RUS YU.M.SHUBIN FEI 924008R

Q: CROSS SECTION OF ISOTOPE PRODUCTION ARE NEEDED
O: FOR ANALYSIS OF WASTE TRANSMUTATION BY
ACCELERATORS
M: NEW REQUEST.

43 TECHNETIUM 99 PROTON SPALLATION PRODUCT MASS YIELD SPECTRUM

426 1.00 MEV 50.0 MEV 15.0% 2 RUS YU.M.SHUBIN FEI 924010R

Q: CROSS SECTION OF ISOTOPE PRODUCTION ARE NEEDED
O: FOR ANALYSIS OF WASTE TRANSMUTATION BY
ACCELERATORS
M: NEW REQUEST.

44 RUTHENIUM 101 NEUTRON RESONANCE PARAMETERS

427 1.00 KEV 3.00 KEV 10.0% 2 JAP M.KAWAI NIG 832030R

Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH,
SPIN AND ORBIATL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATION.

44 RUTHENIUM 102 NEUTRON RESONANCE PARAMETERS

428 UP TO 3.00 KEV 20.0% 2 JAP H.MATSUNOBU SAE 812033N

Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH,
SPIN AND ORBITAL MOMENTUM WANTED.
O: FOR FAST REACTOR BURN-UP CALCULATIONS

44 RUTHENIUM 103 NEUTRON ENERGY DIFFERENTIAL CAPTURE CROSS SECTION

429 100. EV 500. KEV 20.0% 2 JAP H.MATSUNOBU SAE 792079N

Q: EXPERIMENTAL DATA REQUIRED.
O: FOR FAST REACTOR BURNUP CALCULATION,40 DAYS T(1/2)
NO DIFFERENTIAL OR INTEGRAL DATA EXIST.
VERY LARGE DISCREPANCIES BETWEEN EVALUATIONS.
M: SUBSTANTIAL MODIFICATIONS.

44 RUTHENIUM 104 NEUTRON RESONANCE PARAMETERS

430 UP TO 3.00 KEV 20.0% 2 JAP H.MATSUNOBU SAE 812034N

Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH,
SPIN AND ORBITAL MOMENTUM WANTED.
O: FOR FAST REACTOR BURN-UP CALCULATIONS

45 RHODIUM NEUTRON INELASTIC CROSS SECTION

431 500. KEV 10.0 MEV 10 % 2 USA MCGARRY NIS 921026R

A: INCIDENT ENERGY RESOLUTION: 10 PERCENT.
O: NEEDED FOR REACTOR PRESSURE VESSEL DOSIMETRY.
M: NEW REQUEST.

46 PALLADIUM 104 NEUTRON RESONANCE PARAMETERS

432 UP TO 3.00 KEV 20.0% 2 JAP M.KAWAI NIG 832031R

Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATIONS.

46 PALLADIUM 106 NEUTRON RESONANCE PARAMETERS

433 UP TO 3.00 KEV 20.0% 2 JAP M.KAWAI NIG 832032R

Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
O: FOR BURN-UP CALCULATIONS.

47 SILVER 107 NEUTRON CAPTURE CROSS SECTION

434 1.00 MV 100. KEV 2 USA SCHENTER WHC 921011M

A: ACCURACY RANGE 10 TO 20 PERCENT.
O: INTEGRAL DATA EXISTS FOR THE PRODUCTION OF CD-109 IN FFTF AND HFIR FROM AG-107 TARGETS. AG-107 (N,GAMMA) DATA ARE IMPORTANT FOR THE MEDICAL ISOTOPE PRODUCTION OPTIMIZATION OF CD-109.
M: NEW REQUEST.

48 CADMIUM 108 NEUTRON CAPTURE CROSS SECTION

435 1.00 MV 100. KEV 1 USA SCHENTER WHC 921012M

A: ACCURACY RANGE 10 TO 20 PERCENT. NEEDS A "KEV" CAPTURE MEASUREMENT.
O: INTEGRAL DATA EXISTS FOR PRODUCTION IN FFTF, MURR AND HFIR. CD-109 EVALUATION USED IN ENDF/B-VI. CD-108 IS A VERY MINOR FISSION PRODUCT ISOTOPE SO THAT VERY LITTLE TIME WAS AVAILABLE IN THE PAST FOR ITS CAPTURE EVALUATION. DATA IMPORTANT FOR MEDICAL ISOTOPE PRODUCTION OF CD-109.
M: NEW REQUEST.

48 CADMIUM 109 NEUTRON CAPTURE CROSS SECTION

436 1.00 MV 100. KEV 2 USA SCHENTER WHC 921013M

A: ACCURACY RANGE 20 TO 40 PERCENT.
O: CD-109(N,GAMMA) DATA ARE IMPORTANT FOR MEDICAL ISOTOPE PRODUCTION OF CD-109. BURNOUT OF CD-109 NEEDS TO BE DETERMINED.
M: NEW REQUEST.

51 ANTIMONY NEUTRON CHARGED PARTICLE EMISSION CROSS-SECTION

437 100. KEV 1.00 MEV 10 % 2 USA GRIFFIN SAN 921007F

O: NEED CHARGED PARTICLE PRODUCTION TO DETERMINE RADIATION DAMAGE IN SEMICONDUCTOR ELECTRONICS.
M: NEW REQUEST.

52 TELLURIUM NEUTRON CHARGED PARTICLE EMISSION CROSS-SECTION

438 100. KEV 1.00 MEV 10 % 2 USA GRIFFIN SAN 921006F

O: NEED CHARGED PARTICLE PRODUCTION TO DETERMINE RADIATION DAMAGE IN SEMICONDUCTOR ELECTRONICS.
M: NEW REQUEST.

53 IODINE 127 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

439 25.3 MV 10.0 MEV 10 % 2 USA ROUSSIN ORL 861035R

O: PHOTON PRODUCTION NEEDED TO PROPERLY INTERPRET NAI DETECTOR RESPONSE.
M: SUBSTANTIAL MODIFICATIONS.

53 IODINE 129 NEUTRON CAPTURE CROSS SECTION

440 1.00 EV 100. EV 2 USA MANN WHC 921106R

Q: RADIOACTIVE TARGET 15.7+06 Y
A: RESONANCE PARAMETERS. IMPORTANT FOR WASTE BURN, NEED LOW-ENERGY RP.
M: NEW REQUEST.

54 XENON 131 NEUTRON ENERGY DIFFERENTIAL CAPTURE CROSS SECTION

441 4.00 KEV 500. KEV 20.0% 1 JAP H.MATSUNOBU SAE 752014N

O: FOR FAST REACTOR BURNUP CALCULATIONS.
RESONANCE PARAMETERS ARE KNOWN UP TO 4 KEV.
M: SUBSTANTIAL MODIFICATIONS.

54 XENON 132 NEUTRON ENERGY DIFFERENTIAL CAPTURE CROSS SECTION

442 100. EV 500. KEV 20.0% 2 ' JAP H.MATSUNOBU SAE 812038N

O: FOR FAST REACTOR BURN-UP CALCULATIONS
M: SUBSTANTIAL MODIFICATIONS.

54 XENON 132 NEUTRON RESONANCE PARAMETERS

443 UP TO 40.0 KEV 20.0% 2 JAP H.MATSUNOBU SAE 812039N

Q: ONLY 5 LEVELS BELOW 3.85 KEV ARE KNOWN
O: FOR FAST REACTOR BURN-UP CALCULATIONS

54 XENON 134 NEUTRON RESONANCE PARAMETERS

444 UP TO 40.0 KEV 20.0% 2 JAP M.KAWAI NIG 832033R

Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH,
SPIN AND ORBITAL ANGULAR MOMENTUM WANTED.
VERY FEW EXPERIMENTAL DATA.
O: FOR BURN-UP CALCULATIONS.

55 CESIUM 133 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

445 25.3 MV 10.0 MEV 10 % 2 USA ROUSSIN ORL 861033F

O: PHOTON PRODUCTION NEEDED TO PROPERLY INTERPRET CSI
DETECTOR RESPONSE.
M: SUBSTANTIAL MODIFICATIONS.

55 CESIUM 135 NEUTRON CAPTURE CROSS SECTION

446 100. EV 500. KEV 10.0% 1 JAP H.MATSUNOBU SAE 752016R

O: FOR FAST REACTOR BURNUP CALCULATIONS.
EVALUATIONS ARE VERY DISCREPANT.

447 10.0 MV 1.00 MEV 2 USA MANN WHC 921107R

Q: RADIOACTIVE TARGET 2.3+06 Y
A: NEED 10 PERCENT ACCURACY IN THERMAL REGION AND IN
CAPTURE AREA FROM RESONANCE PARAMETERS
(PARTICULARLY BELOW 40 EV). NEED 20 PERCENT
INTERVALS ABOVE RESONANCE REGION. IMPORTANT FOR
WASTE BURN; NEED TO FIND MISSING RESONANCES AND
RECONFIRM THERMAL MEASUREMENT.
M: NEW REQUEST.

55 CESIUM 135 NEUTRON RESONANCE PARAMETERS

448 10.0 MV 100. KEV 10.0% 1 JAP H.MATSUNOBU SAE 812040N

Q: RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH,
SPIN AND ORBITAL MOMENTUM WANTED.
O: FOR FAST REACTOR BURN-UP CALCULATIONS
M: SUBSTANTIAL MODIFICATIONS.

55 CESIUM 137 NEUTRON CAPTURE CROSS SECTION

449 10.0 MV 1.00 MEV 2 USA MANN WHC 921108R

Q: RADIOACTIVE TARGET 30.2 YEARS
A: NEED 10 PERCENT ACCURACY IN THERMAL REGION AND IN
CAPTURE AREA FROM RESONANCE PARAMETERS
(PARTICULARLY BELOW 40 EV). NEED 20 PERCENT
ACCURACY OVER DECADE ENERGY INTERVALS ABOVE
RESONANCE REGION. IMPORTANT FOR WASTE BURN;
CONFLICTING THERMAL VALUES; NO OTHER DATA.
M: NEW REQUEST.

56 BARIUM 137 NEUTRON N,P

450 400. KEV 15.0 MEV 20 % 2 USA CHENG TSI 861134F

Q: LONG-LIVED ACTIVATION PRODUCT CS-137 (30.17 YR),
PRODUCED.

56 BARIUM 138		**NEUTRON**		**N,NP**					
451	9.00 MEV	15.0 MEV	20 %	2	USA	CHENG	TSI		861135F

Q: LONG-LIVED ACTIVATION PRODUCT CS-137 (30.17 YR), PRODUCED.

57 LANTHANUM 139		**NEUTRON**		**CAPTURE CROSS SECTION**					
452	UP TO	20.0 MEV	5.0%	1	EUR	NEUTRON DOSIMETRY GROUP		GEL	922002R

Q: FOR APPLICATION IN LEAST SQUARES NEUTRON SPECTRUM ADJUSTMENTS
A: EVALUATION OF UNCERTAINTIES NEEDED
O: CROSS-SECTION DATA AVAILABLE IN ENDF/B-VI
M: NEW REQUEST.

58 CERIUM 138		**NEUTRON**		**N,2N**					
453	UP TO	20.0 MEV	5. %	1	PRC	CAI DUNJIU	AEP		923147R

Q: NO SATISFACTORY EXPERIMENTAL DATA UP TO NOW
A: ACCURACY 5 - 10 %
O: DOSIMETRY.
M: NEW REQUEST.

60 NEODYMIUM 143		**NEUTRON**		**CAPTURE CROSS SECTION**					
454	0.50 EV	1.00 KEV	10 %	2	USA	DEI	BET		861002R

Q: RESONANCE INTEGRAL WANTED.
A: IMPROVED PRECISION NEEDED.
O: FOR CALCULATION OF FISSION PRODUCT POISONS.

60 NEODYMIUM 145		**NEUTRON**		**CAPTURE CROSS SECTION**					
455	0.50 EV	1.00 KEV	15 %	2	USA	DEI	BET		861003R

Q: RESONANCE INTEGRAL WANTED.
A: IMPROVED PRECISION NEEDED.
O: FOR CALCULATION OF FISSION PRODUCT POISONS.
M: SUBSTANTIAL MODIFICATIONS.

61 PROMETHIUM 147		**NEUTRON**		**CAPTURE CROSS SECTION**					
456	100. EV	500. KEV	10.0%	1	JAP	H.MATSUNOBU	SAE		752019N

O: FOR FAST REACTOR BURN-UP CALCULATIONS.

61 PROMETHIUM 148		**NEUTRON**		**CAPTURE CROSS SECTION**					
457	1.00 MV	1.00 KEV	10 %	2	USA	DEI	BET		861004R

Q: 41.3 DAY ISOMER
THERMAL CROSS SECTION AND RI WANTED.
A: IMPROVED PRECISION NEEDED.
O: FOR CALCULATION OF FISSION PRODUCT POISONS.

61 PROMETHIUM 149		**NEUTRON**		**CAPTURE CROSS SECTION**					
458	1.00 MV	1.00 KEV		2	USA	DEI	BET		861005R

Q: RADIOACTIVE TARGET 53.1 HR
THERMAL CROSS SECTION AND RI WANTED TO 10 PERCENT ACCURACY. RI WANTED TO 10 PERCENT IF > 10,000 BARNS, 20 PERCENT IF 1,000-10,000 BARNS.
A: ACCURACY RANGE 10 TO 20 PERCENT.

62 SAMARIUM 144		**NEUTRON**		**CAPTURE CROSS SECTION**					
459	1.00 MV	100. KEV		2	USA	SCHENTER	WHC		921014M

A: ACCURACY RANGE 10 TO 20 PERCENT.
O: SM-145 IS BEING USED FOR RESEARCH STUDIES AT BNL ON THE TREATMENT OF BRAIN CANCER.
INTEGRAL DATA EXIST FOR RESULTS IN MURR AND HFIR. SM-144(N,GAMMA) DATA ARE IMPORTANT FOR MEDICAL ISOTOPE PRODUCTION OPTIMIZATION OF SM-145.
ONLY INTEGRAL DATA EXIST FOR THERMAL REACTOR SYSTEM.
M: NEW REQUEST.

62 SAMARIUM 144		**NEUTRON**		**RESONANCE PARAMETERS**					
460	1.00 MV	500. KEV	2.0%	3	JAP	T.NAKAGAWA	JAE		872001R

Q: FOR SYSTEMATIC STUDY OF AVERAGE RESONANCE PARAMETERS, S SUBO AND D SUBO FOR SM ISOTOPES
O: NO DATA EXIST
M: SUBSTANTIAL MODIFICATIONS.

62 SAMARIUM 145 NEUTRON CAPTURE CROSS SECTION

461 1.00 MV 100. KEV 2 USA SCHENTER WHC 921015M

Q: RADIOACTIVE TARGET 340 D
A: ACCURACY RANGE 20 TO 40 PERCENT.
O: SM-145 IS BEING USED FOR RESEARCH STUDIES AT BNL ON THE TREATMENT OF BRAIN CANCER. INTEGRAL DATA EXIST FOR RESULTS IN MURR AND HFBR.
M: NEW REQUEST.

62 SAMARIUM 148 PROTON SPALLATION PRODUCT MASS YIELD SPECTRUM

462 1.00 MEV 50.0 MEV 15.0% 2 RUS YU.M.SHUBIN FEI 924009R

Q: CROSS SECTIONS OF ISOTOPE PRODUCTION ARE NEEDED
O: FOR ANALYSIS OF WASTE TRANSMUTATION BY ACCELERATORS
M: NEW REQUEST.

62 SAMARIUM 149 NEUTRON CAPTURE CROSS SECTION

463 25.0 KEV 25.0 KEV 5.0% 1 JAP H.MATSUNOBU SAE 752020N

O: FOR FAST REACTOR BURNUP CALCULATIONS. DISCREPANCY BETWEEN THE NETHERLANDS STEK FACILITY DATA AND RECENT DIFFERENTIAL DATA. ONE ABSOLUTE DATA POINT AT 25 KEV REQUIRED.

62 SAMARIUM 151 NEUTRON CAPTURE CROSS SECTION

464 100. EV 500. KEV 10.0% 1 JAP H.MATSUNOBU SAE 752021R

O: FOR FAST REACTOR BURNUP CALCULATIONS. NO KEV DATA.

63 EUROPIUM 152 NEUTRON CAPTURE CROSS SECTION

465 100. EV 500. KEV 10.0% 1 JAP H.MATSUNOBU SAE 812041N

Q: NO KEV DATA
O: FOR CONTROL ROD AND THERMAL REACTOR BURN UP CALCULATIONS.

63 EUROPIUM 152 NEUTRON RESONANCE PARAMETERS

466 100. EV 500. KEV 10.0% 1 JAP H.MATSUNOBU SAE 812042N

Q: NO DATA EXIST EXCEPT THOSE BY VERTENBNJE ET AL (1977) IN 0.88 TO 17 EV RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL MOMENTUM WANTED.
O: FOR CONTROL ROD AND THERMAL REACTOR BURN-UP CALCULATIONS.

63 EUROPIUM 154 NEUTRON CAPTURE CROSS SECTION

467 100. EV 500. KEV 10.0% 1 JAP H.MATSUNOBU SAE 812043N

Q: NO EXPERIMENTAL DATA.
O: FOR CONTROL ROD AND THERMAL REACTOR BURN-UP CALCULATIONS

63 EUROPIUM 154 NEUTRON RESONANCE PARAMETERS

468 100. EV 500. KEV 10.0% 1 JAP H.MATSUNOBU SAE 812044N

Q: INSUFFICIENT RESONANCE DATA. RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL MOMENTUM WANTED.
O: FOR CONTROL ROD AND THERMAL REACTOR BURN-UP CALCULATIONS

63 EUROPIUM 155 NEUTRON CAPTURE CROSS SECTION

469 100. EV 500. KEV 20.0% 2 JAP H.MATSUNOBU SAE 812045N

Q: NO EXPERIMENTAL DATA
O: FOR FAST REACTOR BURN-UP CALCULATIONS

63 EUROPIUM 155 NEUTRON RESONANCE PARAMETERS

470 100. EV 500. KEV 20.0% 2 JAP H.MATSUNOBU SAE 812046N

Q: INSUFFICIENT RESONANCE DATA. RESONANCE ENERGY, NEUTRON WIDTH, RADIATIVE WIDTH, SPIN AND ORBITAL MOMENTUM WANTED.
O: FOR FAST REACTOR BURN-UP CALCULATIONS

:::
64 GADOLINIUM 152 NEUTRON CAPTURE CROSS SECTION
:::

471 1.00 MV 100. KEV 2 USA SCHENTER WHC 921016M

A: ACCURACY RANGE 10 TO 20 PERCENT.
O: INTEGRAL DATA EXIST FOR RESULTS IN FFTF, HFIR, AND ATR. 152-GD(N,GAMMA) DATA ARE IMPORTANT FOR MEDICAL ISOTOPE PRODUCTION OPTIMIZATION OF GD-153. GD-153 IS USED AS A DUAL PHOTON SOURCE FOR THE DIAGNOSIS AND TREATMENT OF OSTEOPOROSIS.
M: NEW REQUEST.

:::
64 GADOLINIUM 153 NEUTRON CAPTURE CROSS SECTION
:::

472 1.00 MV 100. KEV 2 USA SCHENTER WHC 921017M

Q: RADIOACTIVE TARGET 241.6 D
A: ACCURACY RANGE 20 TO 30 PERCENT.
O: INTEGRAL DATA EXIST FOR RESULTS IN FFTF, HFIR, AND ATR. GD-153 HAS A VERY LARGE THERMAL CROSS SECTION (40,000 B). GD-153'S RESONANCE INTEGRAL HAS NOT BEEN DIRECTLY MEASURED. HIGH SPECIFIC ACTIVITY RESULTS CAN BE OBTAINED DEPENDING ON THE EPITHERMAL SPECTRUM TO THERMAL SPECTRUM ENHANCE-MENT. 153-GD(N,GAMMA) DATA ARE IMPORTANT FOR MEDICAL ISOTOPE PRODUCTION OPTIMIZATION OF GD-153. GD-153 IS USED AS A DUAL PHOTON SOURCE FOR THE DIAGNOSIS AND TREATMENT OF OSTEOPOROSIS.
M: NEW REQUEST.

:::
72 HAFNIUM 179 NEUTRON ACTIVATION CROSS SECTION
:::

473 1.00 MEV 20.0 MEV 10. % 3 PRC CAI DUNJIU AEP 873047R

Q: 179HF(N,N')179(M)HF REACTION EXCITATION FUNCTION NO DATA.
O: DOSIMETRY.
M: MODIFIED (PARTIALLY FULFILLED).

:::
72 HAFNIUM 180 NEUTRON N,2N
:::

474 UP TO 20.0 MEV 10. % 3 PRC CAI DUNJIU AEP 873046R

Q: 180HF(N,2N)179(M)HF REACTION EXCITATION FUNCTION NO DATA.
O: DOSIMETRY.
M: MODIFIED (PARTIALLY FULFILLED).

:::
73 TANTALUM 181 NEUTRON TOTAL CROSS SECTION
:::

475 1.00 KEV 20.0 MEV 1 % 2 USA SMITH ANL 861039R

A: RESOLUTION SHOULD BE CONSISTENT WITH OPTICAL MODEL
O: FOR HIGH-TEMPERATURE AND SPACE SYSTEMS.

:::
73 TANTALUM 181 NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION
:::

476 140. KEV 20.0 MEV 10 % 2 USA SMITH ANL 861040R

A: ANGLE-INTEGRATED ACCURACY <10 PERCENT.
O: FOR HIGH-TEMPERATURE AND SPACE SYSTEMS.

:::
73 TANTALUM 181 NEUTRON ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
:::

477 140. KEV 20.0 MEV 10 % 2 USA SMITH ANL 861041R

A: INCLUDE DISCRETE NEUTRON GROUPS BELOW 3.0 MEV.
O: FOR HIGH-TEMPERATURE AND SPACE SYSTEMS.

:::
74 TUNGSTEN NEUTRON TOTAL CROSS SECTION
:::

478 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923111F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

:::
74 TUNGSTEN NEUTRON INELASTIC CROSS SECTION
:::

479 UP TO 15.0 MEV 10 % 2 USA MCGARRY NIS 921027N

O: TRANSPORT OF NEUTRONS THROUGH CASING OF HIROSHIMA DEVICES SUGGEST UNCERTAINTIES IN TUNGSTEN INELASTIC SCATTERING CROSS SECTIONS AS AN EXPLANA-TION FOR C/E DISCREPANCIES IN OBSERVED CO-60 ACTIVATION.
M: NEW REQUEST.
:::

74 TUNGSTEN	NEUTRON	CAPTURE CROSS SECTION

480 6.00 MEV 16.0 MEV 8. % 3 PRC ZHANG BENAI IPM 873026R

Q: RADIATIVE CAPTURE CROSS-SECTION.
NO SATISFACTORY EXPERIMENTAL DATA AVAILABLE.
A: ACCURACY 8-10%.
O: RESEARCH ON REACTION MECHANISM AND NUCLEAR TECH-NOLOGY.

74 TUNGSTEN	NEUTRON	CAPTURE GAMMA RAY SPECTRUM

481 6.00 MEV 16.0 MEV 15. % 3 PRC ZHANG BENAI IPM 873035R

Q: GAMMA-RAY ENERGY REGION 10-22MEV.
GAMMA-RAY SPECTRUM.
NO SATISFACTORY EXPERIMENTAL DATA AVAILABLE.
A: ACCURACY 15-20%.
O: RESEARCH ON REACTION MECHANISM AND NUCLEAR TECH-NOLOGY.

74 TUNGSTEN	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION

482 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923114F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

74 TUNGSTEN	NEUTRON	ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

483 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923118F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

74 TUNGSTEN	NEUTRON	ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

484 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923122F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

74 TUNGSTEN	NEUTRON	ENERGY DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION

485 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923115F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

74 TUNGSTEN	NEUTRON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

486 6.00 MEV 12.0 MEV 10 % 1 USA CHENG TSI 861095F

Q: DOUBLE DIFFERENTIAL DATA NEEDED FOR NEUTRON TRANSPORT CALCULATIONS.
A: MEASUREMENTS RECOMMENDED AT 6, 8, 10 AND 12 MEV.

487 100. MEV 1.50 GEV 30.0% 2 JAP T.NISHIDA JAE 922094G

O: CALCULATIONS AROUND TARGET OF SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

488 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923119F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

74 TUNGSTEN	NEUTRON	TOTAL PROTON PRODUCTION CROSS SECTION

489 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923112F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

74 TUNGSTEN NEUTRON ENERGY DIFF. PROTON-PRODUCTION CROSS SECTION

490 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923116F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

74 TUNGSTEN NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

491 100. MEV 1.50 GEV 30.0% 2 JAP T.NISHIDA JAE 922095G

O: CALCULATIONS AROUND TARGET OF SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

492 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923120F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

74 TUNGSTEN NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

493 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923113F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

74 TUNGSTEN NEUTRON ENERGY DIFFERENTIAL ALPHA-PRODUCTION CROSS SECTION

494 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923117F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

74 TUNGSTEN NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

495 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923121F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

74 TUNGSTEN PROTON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

496 100. MEV 1.50 GEV 30.0% 2 JAP T.NISHIDA JAE 922093G

O: CALCULATIONS AROUND TARGET OF SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

74 TUNGSTEN PROTON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

497 100. MEV 1.50 GEV 30.0% 2 JAP T.NISHIDA JAE 922092G

O: CALCULATIONS AROUND TARGET OF SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

74 TUNGSTEN PROTON SPALLATION PRODUCT MASS YIELD SPECTRUM

498 100. MEV 1.50 GEV 30.0% 2 JAP T.NISHIDA JAE 922091G

O: CALCULATIONS AROUND TARGET OF SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

74 TUNGSTEN 182 NEUTRON N,NALPHA

499 100. KEV 15.0 MEV 20 % 1 USA CHENG TSI 861139F

Q: ACTIVATION DATA LEADING TO PRODUCTION OF META STABLE NUCLIDE, HF-178M(31 YR), ARE NEEDED.

74 TUNGSTEN 186 NEUTRON CAPTURE CROSS SECTION

500 1.00 MV 100. KEV 2 USA SCHENTER WHC 921018M

A: ACCURACY RANGE 10 TO 20 PERCENT.
O: W-188 HAS BEEN PRODUCED IN HFIR, MURR, OSTR, AND FFTF SO THAT INTEGRAL DATA ARE AVAILABLE TO TEST DIFFERENTIAL MEASUREMENTS. W-188 WILL BE THE PARENT NUCLEUS IN A W-188/RE-188 OPERATOR WHICH WILL BE USED FOR A MONOCLONAL ANTIBODY CANCER TREATMENT. W-186 DATA ARE IMPORTANT FOR MEDICAL ISOTOPE PRODUCTION OPTIMIZATION OF W-188.
M: NEW REQUEST.

501 UP TO 20.0 MEV 5.0% 1 EUR NEUTRON DOSIMETRY GROUP GEL 922003R

Q: FOR APPLICATION IN LEAST SQUARES NEUTRON SPECTRUM ADJUSTMENTS
A: EVALUATION OF UNCERTIANTIES NEEDED
O: CROSS-SECTION DATA AVAILABLE IN ENDF/B-VI
M: NEW REQUEST.

74 TUNGSTEN 186 NEUTRON N,NALPHA

502 100. KEV 15.0 MEV 20 % 1 USA CHENG TSI 861140F

Q: LONG-LIVED ACTIVATION PRODUCT, HF-182 (9.0+06 YR), PRODUCED.

74 TUNGSTEN 187 NEUTRON CAPTURE CROSS SECTION

503 1.00 MV 100. KEV 1 USA SCHENTER WHC 921019M

Q: RADIOACTIVE TARGET 23.9 H
A: ACCURACY RANGE 20 TO 50 PERCENT.
NEED A DIFFERENTIAL MEASUREMENT. EVEN THOUGH HALF LIFE IS SHORT, THE CAPTURE REACTION IS THE ONLY PATH TO MAKE W-188. W-188 HAS BEEN PRODUCED IN HFIR, ODTR, AND FFTF, SO THAT INTEGRAL DATA ARE AVAILABLE TO TEST DIFFERENTIAL MEASUREMENTS. W-188 WILL BE THE PARENT NUCLEUS IN A W-188/RE-188 GENERATOR WHICH WILL BE USED FOR MONOCLONAL ANTIBODY CANCER TREATMENT.
O: W-187 DATA ARE IMPORTANT FOR MEDICAL ISOTOPE PRODUCTION OPTIMIZATION OF W-188. ONLY ONE MEASUREMENT EXISTS (*1959, IGAMMA). RECENT INTEGRAL RESULTS IN FFTF AND OSU TRIGA SHOW LARGE (FACTOR OF 2-5) DISCREPANCY WITH 1959 VALUE.
M: NEW REQUEST.

74 TUNGSTEN 188 NEUTRON CAPTURE CROSS SECTION

504 1.00 MV 100. KEV 2 USA SCHENTER WHC 921020M

Q: RADIOACTIVE TARGET 69.4 D
A: ACCURACY RANGE 20 TO 50 PERCENT.
O: W-188 HAS BEEN PRODUCED IN HFIR, MURR, OSTR AND FFTF, SO THAT INTEGRAL DATA ARE AVAILABLE TO TEST DIFFERENTIAL MEASUREMENT. W-188 WILL BE THE PARENT NUCLEUS IN A W-188 / RE-188 GENERATOR WHICH WILL BE USED FOR MONOCLONAL ANTIBODIES CANCER TREATMENT. W-188 DATA ARE IMPORTANT FOR MEDICAL ISOTOPES PRODUCTION OPTIMIZATION OF W-188.
M: NEW REQUEST.

75 RHENIUM NEUTRON TOTAL CROSS SECTION

505 1.00 KEV 20.0 MEV 1 % 2 USA SMITH ANL 861048R

A: RESOLUTION CONSISTENT WITH OPTICAL MODEL.
O: FOR HIGH-TEMPERATURE AND SPACE SYSTEMS.

506 1.00 EV 100. EV 2 USA WESTON ORL 921094R

Q: TO DETERMINE SCATTERING RADIUS.
A: ACCURACY RANGE 1 TO 5 PERCENT.
INCIDENT ENERGY RESOLUTION: 0.1 PERCENT.
O: THE SCATTERING RADIUS DETERMINED FROM PREVIOUS LOW-ENERGY TRANSMISSION MEASUREMENTS ARE INCONSISTENT WITH PREVIOUS HIGH-ENERGY TRANSMISSION MEASUREMENTS.
M: NEW REQUEST.

75 RHENIUM NEUTRON DIFFERENTIAL ELASTIC CROSS SECTION

507 130. KEV 20.0 MEV 10 % 2 USA SMITH ANL 861036R

A: ANGLE-INTEGRATED ACCURACY < 10 PERCENT.
O: FOR HIGH-TEMPERATURE AND SPACE SYSTEMS.

75 RHENIUM NEUTRON ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

508 130. KEV 20.0 MEV 10 % 2 USA SMITH ANL 861037R

A: INCLUDE DISCRETE NEUTRON GROUPS BELOW 3.0 MEV.
INCLUDE CONTINUUM SPECTRA ABOVE 3 MEV.
O: FOR HIGH-TEMPERATURE AND SPACE SYSTEMS.

75 RHENIUM 185 NEUTRON CAPTURE CROSS SECTION

509 1.00 MV 100. KEV 2 USA SCHENTER WHC 921021M

A: ACCURACY RANGE 10 TO 20 PERCENT.
O: RE-186 REPRESENTS AN IMPORTANT ISOTOPE IN THE FUTURE TREATMENT OF CANCER USING MONOCLONAL ANTI BODIES. RE-186 HAS BEEN PRODUCED IN FFTF, HFIR, AND MURR AND THESE RESULTS CAN BE USED AS AN INTEGRAL TEST OF THE RE-185 AND RE-186 CAPTURE DATA. RE-185(N,GAMMA) DATA ARE IMPORTANT FOR MEDICAL ISOTOPES PRODUCTION OPTIMIZATION OF RE-186.
M: NEW REQUEST.

76 OSMIUM 190 NEUTRON CAPTURE CROSS SECTION

510 1.00 MV 100. KEV 2 USA SCHENTER WHC 921023M

A: ACCURACY RANGE 10 TO 20 PERCENT.
O: OS-191 HAS BEEN PRODUCED IN FFTF AND HFIR, SO THAT INTEGRAL DATA ARE AVAILABLE TO TEST DIFFERENTIAL MEASUREMENTS. OS-191 IS USED IN MEDICAL RESEARCH TO DETERMINE THE FLOW PATTERNS OF BLOOD THROUGH THE HEARTS OF PREMATURE BABIES AND ADULTS. USE OF OS-191 ALLOWS THE POSSIBLE ELIMINATION OF PER-FORMING OPEN HEART SURGERY ON PREMATURE BABIES. CHILDREN'S HOSPITAL OF BOSTON HAS EXTENSIVE RESEARCH STUDIES INVOLVED WITH OS-191. OS-190 DATA ARE IMPORTANT FOR MEDICAL ISOTOPE PRODUCTION OPTIMIZATION OF OS-191.
M: NEW REQUEST.

76 OSMIUM 191 NEUTRON CAPTURE CROSS SECTION

511 1.00 MV 100. KEV 2 USA SCHENTER WHC 921022M

Q: RADIOACTIVE TARGET 15.4 D
A: ACCURACY RANGE 20 TO 50 PERCENT.
O: OS-191 HAS BEEN PRODUCED IN FFTF AND HFIR, SO THAT INTEGRAL DATA ARE AVAILABLE TO TEST DIFFERENTIAL MEASUREMENTS. OS-191 IS USED IN MEDICAL RESEARCH TO DETERMINE THE FLOW PATTERNS OF BLOOD THROUGH THE HEARTS OF PREMATURE BABIES AND ADULTS. USE OF OS-191 ALLOWS THE POSSIBLE ELIMINATION OF PER-FORMING OPEN HEART SURGERY ON PREMATURE BABIES. CHILDREN'S HOSPITAL OF BOSTON HAS EXTENSIVE RESEARCH STUDIES INVOLVED WITH OS-191. OS-191 DATA ARE IMPORTANT FOR MEDICAL ISOTOPE PRODUCTION OPTIMIZATION OF OS-191.
M: NEW REQUEST.

78 PLATINUM NEUTRON ELASTIC CROSS SECTION

512 1.00 MV 10.0 EV 10 % 2 USA CARLSON NIS 921041R

O: EXTINCTION EFFECTS MUST BE DETERMINED. NEEDED FOR DETERMINING SCATTERING CORRECTIONS IN PT FISSION DEPOSIT BACKINGS.
M: NEW REQUEST.

78 PLATINUM 198 NEUTRON N,2N

513 UP TO 20.0 MEV 5. % 1 PRC CAI DUNJIU AEP 923139R

Q: NO SATISFACTORY EXPERIMENTAL DATA UP TO NOW
A: ACCURACY 5 - 10 %
O: DOSIMETRY.
M: NEW REQUEST.

79 GOLD 197 NEUTRON CAPTURE CROSS SECTION

514 200. KEV 2.50 MEV 2 % 1 USA CARLSON NIS 921042R

O: TO IMPROVE ACCURACY OF STANDARD CROSS SECTION.
M: NEW REQUEST.

79 GOLD 197 NEUTRON N,3N

515 UP TO 40.0 MEV 5.0% 2 EUR NEUTRON DOSIMETRY GROUP GEL 832054F

Q: (N,3N) CROSS SECTION.
O: FOR HIGH ENERGY ACCELERATOR-BASED NEUTRON SOURCES, FUSION.

80 MERCURY 199 NEUTRON ANGULAR DIFFERENTIAL INELASTIC CROSS SECTION

516 500. KEV 20.0 MEV 10.0% 3 JAP K.SAKURAI JAE 812030R

Q: PRODUCTION CROSS SECTION FOR 42.6 MIN ISOMER THROUGH INELASTIC SCATTERING.
O: FOR NEUTRON DOSIMETRY.
M: SUBSTANTIAL MODIFICATIONS.

82 LEAD NEUTRON TOTAL CROSS SECTION

517	10.0 KEV	3.00 MEV	3.0%	1	RUS	A.M.TSYBULJA	FEI	924004R

O: NEEDED FOR CRITICALITY CALCULATIONS OF LEAD COOLED FAST REACTORS
M: NEW REQUEST.

82 LEAD NEUTRON CAPTURE CROSS SECTION

518	6.00 MEV	16.0 MEV	8. %	3	PRC	ZHANG BENAI	IPM	873027R

Q: RADIATIVE CAPTURE CROSS-SECTION. NO SATISFACTORY EXPERIMENTAL DATA AVAILABLE.
A: ACCURACY 8-10%.
O: RESEARCH ON REACTION MECHANISM AND NUCLEAR TECHNOLOGY.

82 LEAD NEUTRON CAPTURE GAMMA RAY SPECTRUM

519	6.00 MEV	16.0 MEV	15. %	3	PRC	ZHANG BENAI	IPM	873036R

Q: GAMMA-RAY ENERGY REGION 10-22MEV. GAMMA-RAY SPECTRUM. NO SATISFACTORY EXPERIMENTAL DATA AVAILABLE.
A: ACCURACY 15-20%.
O: RESEARCH ON REACTION MECHANISM AND NUCLEAR TECHNOLOGY.

82 LEAD NEUTRON N,2N

520	14.0 MEV	15.0 MEV	3 %	1	USA	CHENG	TSI	861097F

A: IMPROVED ACCURACY DESIRED.

521	6.00 MEV	14.0 MEV	5.0 %	1	IND	V.R.NARGUNDKAR	TRM	923001F

A: ENERGY STEPS 0.5 MEV FOR LEAD
O: FUSION BLANKET STUDIES
M: NEW REQUEST.

82 LEAD NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

522	UP TO	15.0 MEV	5.0%	1	JAP	K.MAKI	HIT	832044F

Q: ENERGY-ANGLE DIFFERENTIAL CROSS SECTIONS FOR TOTAL NEUTRON EMISSION REQUIRED.
O: FOR CALCULATION OF THE NEUTRON MULTIPLICATION IN FUSION BLANKETS.

523	6.00 MEV	12.0 MEV	5 %	1	USA	CHENG	TSI	861161F

Q: MEASUREMENTS RECOMMENDED AT 6, 8, 10 AND 12 MEV.
O: NECESSARY TO CALCULATE NEUTRON MULTIPLICATION.

82 LEAD PROTON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

524	100. MEV	1.50 GEV	30.0%	2	JAP	T.NISHIDA	JAE	922098G

O: CALCULATIONS AROUND TARGET OF SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

82 LEAD PROTON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

525	100. MEV	1.50 GEV	30.0%	2	JAP	T.NISHIDA	JAE	922096G

O: CALCULATIONS AROUND TARGET OF SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

82 LEAD PROTON SPALLATION PRODUCT MASS YIELD SPECTRUM

526	100. MEV	1.50 GEV	30.0%	2	JAP	T.NISHIDA	JAE	922097G

O: CALCULATIONS AROUND TARGET OF SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

82 LEAD 204 NEUTRON N,P

527	100. KEV	15.0 MEV	20 %	1	USA	CHENG	TSI	861142F

O: ACTIVATION DATA NEEDED FOR AFTERHEAT AND SAFETY ASSESSMENTS FOR LI-PB BASED FUSION REACTOR CONCEPTS.

82 LEAD 206 NEUTRON ENERGY DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION

528 10.0 MEV 2 USA FU ORL 921088F

A: ACCURACY RANGE 10 TO 20 PERCENT.
INCIDENT ENERGY RESOLUTION: 0.1 MEV.
O: ENDF/B-VI OF REQUESTED ITEM WAS BASED ON MODEL
CALCULATION FITTING 14-MEV DATA. NEED 10-MEV DATA
FOR CONFIRMATION. ISOTOPIC DATA ARE NEEDED
BECAUSE (N,2N) THRESHOLDS OF THE THREE MAJOR
ISOTOPES ARE SIGNIFICANTLY DIFFERENT.
M: NEW REQUEST.

82 LEAD 206 NEUTRON N,T

529 7.00 MEV 15.0 MEV 20 % 1 USA CHENG TSI 861143F

O: ACTIVATION DATA NEEDED FOR AFTERHEAT AND SAFETY
ASSESSMENTS FOR LI-PB BASED FUSION REACTOR
CONCEPTS.

82 LEAD 207 NEUTRON ENERGY DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION

530 10.0 MEV 2 USA FU ORL 921089F

A: ACCURACY RANGE 10 TO 20 PERCENT.
INCIDENT ENERGY RESOLUTION: 0.1 MEV.
O: ENDF/B-VI OF REQUESTED ITEM WAS BASED ON MODEL
CALCULATION FITTING 14-MEV DATA. NEED 10-MEV DATA
FOR CONFIRMATION. ISOTOPIC DATA ARE NEEDED
BECAUSE (N,2N) THRESHOLDS OF THE THREE MAJOR
ISOTOPES ARE SIGNIFICANTLY DIFFERENT.
M: NEW REQUEST.

82 LEAD 208 NEUTRON ENERGY DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION

531 10.0 MEV 2 USA FU ORL 921090F

A: ACCURACY RANGE 10 TO 20 PERCENT.
INCIDENT ENERGY RESOLUTION: 0.1 MEV.
O: ENDF/B-VI OF REQUESTED ITEM WAS BASED ON MODEL
CALCULATION FITTING 14-MEV DATA. NEED 10-MEV DATA
FOR CONFIRMATION. ISOTOPIC DATA ARE NEEDED
BECAUSE (N,2N) THRESHOLDS OF THE THREE MAJOR
ISOTOPES ARE SIGNIFICANTLY DIFFERENT.
M: NEW REQUEST.

83 BISMUTH 208 NEUTRON N,2N

532 7.00 MEV 15.0 MEV 20 % 2 USA CHENG TSI 921140F

Q: RADIOACTIVE TARGET 3.68+05 YR
LONG-LIVED ACTIVATION PRODUCT, BI-207 (32.2 YR),
PRODUCED.
M: NEW REQUEST.

83 BISMUTH 209 NEUTRON TOTAL CROSS SECTION

533 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923123F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING
CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE
UNCERTAINTIES
M: NEW REQUEST.

83 BISMUTH 209 NEUTRON TOTAL PHOTON PRODUCTION CROSS SECTION

534 25.3 MV 15.0 MEV 15.0% 2 RUS I.N.GOLOVIN KUR 724059F

Q: GAMMA RAY SPECTRA REQUIRED.
O: GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

535 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923126F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING
CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE
UNCERTAINTIES
M: NEW REQUEST.

83 BISMUTH 209 NEUTRON ENERGY DIFF. PHOTON-PRODUCTION CROSS SECTION

536 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923130F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING
CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE
UNCERTAINTIES
M: NEW REQUEST.

83 BISMUTH 209 NEUTRON ENERGY-ANGLE DIFF. PHOTON-PRODUCTION CROSS SECTION

537 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923134F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

83 BISMUTH 209 NEUTRON ENERGY DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION

538 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923127F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

83 BISMUTH 209 NEUTRON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

539 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923131F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

83 BISMUTH 209 NEUTRON TOTAL PROTON PRODUCTION CROSS SECTION

540 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923124F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

83 BISMUTH 209 NEUTRON ENERGY DIFF. PROTON-PRODUCTION CROSS SECTION

541 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923128F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

83 BISMUTH 209 NEUTRON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

542 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923132F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

83 BISMUTH 209 NEUTRON TOTAL ALPHA PRODUCTION CROSS SECTION

543 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923125F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

83 BISMUTH 209 NEUTRON ENERGY DIFFERENTIAL ALPHA-PRODUCTION CROSS SECTION

544 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923129F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

83 BISMUTH 209 NEUTRON ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION

545 UP TO 30.0 MEV 10.0% 1 IND S.B.GARG TRM 923133F

Q: NEUTRON TRANSPORT, RADIATION DAMAGE AND SHIELDING CALCULATIONS. TESTING OF NUCLEAR REACTION MODELS
O: AVAILABLE DATA IS VERY SPARSE AND HAVE LARGE UNCERTAINTIES
M: NEW REQUEST.

83 BISMUTH 209 PROTON ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

546 100. MEV 1.50 GEV 30.0% 2 JAP T.NISHIDA JAE 922101G

O: CALCULATIONS AROUND TARGET OF SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

83 BISMUTH 209 PROTON ENERGY-ANGLE DIFF. PROTON-PRODUCTION CROSS SECTION

547 100. MEV 1.50 GEV 30.0% 2 JAP T.NISHIDA JAE 922099G

O: CALCULATIONS AROUND TARGET OF SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

83 BISMUTH 209 PROTON SPALLATION PRODUCT MASS YIELD SPECTRUM

548 100. MEV 1.50 GEV 30.0% 2 JAP T.NISHIDA JAE 922100G

O: CALCULATIONS AROUND TARGET OF SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

83 BISMUTH 209 ALPHA ALPHA,2N

549 20.0 MEV 60.0 MEV 10. % 3 PRC CAI DUNJIU AEP 873042M

Q: NO EXPERIMENTAL DATA EXCEPT 14-16 MEV
O: MEDICAL RADIOISOTOPE PRODUCTION.
M: MODIFIED (PARTIALLY FULFILLED).

90 THORIUM 232 NEUTRON CAPTURE CROSS SECTION

550 25.3 MV 1.00 EV 5.0 % 1 IND P.MOHANAKRISHNAN KAL 923002R

O: FIRST DIRECT MEASUREMENT OF 232-TH CAPTURE CROSS SECTION BELOW 0.036 EV WAS REPORTED BY R.C.LITTLE ET.AL(1981) WHICH GAVE VALUES 12 % LOWER THAN THOSE OF ENDF/B V.2. MEASUREMENT OF R.T.JONES ET.AL(RELATIVE TO AU-197) IS CLOSE TO THAT OF ENDF/B V.2
M: NEW REQUEST.

90 THORIUM 232 NEUTRON N,3N

551 UP TO 15.0 MEV 15.0% 2 RUS I.N.GOLOVIN KUR 724062F

O: POSSIBLE USE AS NEUTRON MULTIPLIER.

90 THORIUM 232 NEUTRON FISSION CROSS SECTION

552 1.50 MEV 7.20 MEV 5.0% 2 EUR NEUTRON DOSIMETRY GROUP GEL 742135R

O: FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS.
GREATER THAN 10 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.

91 PROTACTINIUM 231 NEUTRON CAPTURE CROSS SECTION

553 100. EV 100. KEV 20.0% 2 RUS A.M.TSYBULJA FEI 924005R

O: NEEDED FOR ESTIMATION OF U-232 BURN-UP IN U-TH FUEL
M: NEW REQUEST.

92 URANIUM 233 NEUTRON ELASTIC CROSS SECTION

554 1.00 MV 1.00 EV 5 % 2 USA CARLSON NIS 921039R

Q: RADIOACTIVE TARGET 1.59+05 YR
A: SUITABLE MEASUREMENTS AT THERMAL MAY BE ACCEPTABLE
O: WELL-CHARACTERIZED SAMPLES MUST BE USED. EXTINCTION EFFECTS MUST BE DETERMINED. TO MORE ACCURATELY DETERMINE THE THERMAL CONSTANTS.
M: NEW REQUEST.

92 URANIUM 233 NEUTRON INELASTIC CROSS SECTION

555 100. KEV 20.0 MEV 10.0% 2 JAP H.MATSUNOBU SAE 922102R

O: CALCULATION FOR THORIUM CYCLE
M: NEW REQUEST.

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92 URANIUM 233          NEUTRON          N,2N
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 556   6.00 MEV   20.0 MEV   10.0%   2   JAP   H.MATSUNOBU     SAE           922103R

                                             O: CALCULATION FOR THORIUM CYCLE
                                             M: NEW REQUEST.

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92 URANIUM 233          NEUTRON          N,3N
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 557   13.0 MEV   20.0 MEV   10.0%   2   JAP   H.MATSUNOBU     SAE           922104R

                                             O: CALCULATION FOR THORIUM CYCLE
                                             M: NEW REQUEST.

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92 URANIUM 233          NEUTRON          FISSION CROSS SECTION
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 558   25.0 MV    200. KEV   10.0%   2   JAP   H.MATSUNOBU     SAE           922106R

                                             O: CALCULATION FOR THORIUM CYCLE
                                             M: NEW REQUEST.

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92 URANIUM 233          NEUTRON          CAPTURE TO FISSION RATIO  (ALPHA)
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 559   25.0 MV    1.00 MEV   20.0%   2   JAP   H.MATSUNOBU     SAE           922105R

                                             O: CALCULATION FOR THORIUM CYCLE
                                             M: NEW REQUEST.

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92 URANIUM 234          NEUTRON          CAPTURE CROSS SECTION
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 560   1.00 MV    1.00 MEV    3 %    2   USA   PEELLE          ORL           861092R

                                             Q: RADIOACTIVE TARGET 2.45+05 YR
                                                NEED 1.00-3 TO 2 EV TO 3 PERCENT
                                                NEED 2 EV TO 10 KEV TO 6 PERCENT.
                                                NEED 10 KEV TO 1 MEV TO 10 PERCENT.
                                             M: MODIFIED (PARTIALLY FULFILLED).

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92 URANIUM 235          NEUTRON          ELASTIC CROSS SECTION
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 561   1.00 MV    1.00 EV     5 %    2   USA   CARLSON         NIS           921037R

                                             Q: RADIOACTIVE TARGET 7.04+08 YR
                                             A: SUITABLE MEASUREMENTS AT THERMAL MAY BE ACCEPT-
                                             O: ABLE.  WELL-CHARACTERIZED SAMPLES MUST BE USED.
                                                EXTINCTION EFFECTS MUST BE DETERMINED.  TO
                                                MORE ACCURATELY DETERMINE THE THERMAL CONSTANTS.
                                             M: NEW REQUEST.

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92 URANIUM 235          NEUTRON          INELASTIC CROSS SECTION
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 562   800. KEV   5.00 MEV   15.0%   2   RUS   L.N.USACHEV     FEI           754024R

                                             A: FROM 0.8 - 5.0 MEV ACCURACY 15  PERCENT.
                                             O: NEEDED FOR FAST REACTOR CALCULATION.
                                             M: MODIFIED (PARTIALLY FULFILLED).

 563   100. KEV   20.0 MEV   10.0%   2   JAP   H.MATSUNOBU     SAE           922110R

                                             O: NO COMMENT
                                             M: NEW REQUEST.

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92 URANIUM 235          NEUTRON          ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
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 564        UP TO 15.0 MEV           2   RUS   M.N.NIKOLAEV    FEI           714006R

                                             Q: CROSS SECTION FOR INELASTIC REMOVAL BELOW FISSION
                                                  THRESHOLDS OF U-238 (7 PERCENT ACCURACY) AND OF
                                                  PU-240 OR NP-237 (10 PERCENT ACCURACY) WANTED.
                                                EXCITATION CROSS SECTION FOR LOW LYING LEVELS
                                                  REQUESTED WITH 15 PERCENT ACCURACY.
                                                TEMPERATURES OF THE INELASTIC SCATTERING SPECTRA
                                                  AS WELL AS DIRECT AND PRE-EQUILIBRIUM MECHANISM
                                                  CONTRIBUTIONS IN THE CONTINUUM ARE OF INTEREST.
                                             O: SEE GENERAL COMMENTS IN THE INTRODUCTION.

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92 URANIUM 235          NEUTRON          CAPTURE CROSS SECTION
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 565   5.00 KEV   10.0 MEV           2   RUS   L.N.USACHEV     FEI           754007R

                                             A: FROM 5.0 - 100 KEV ACCURACY 4.0 PERCENT.
                                                FROM 0.1 - 0.8 MEV ACCURACY 10  PERCENT.
                                                FROM 0.8 - 4.5 MEV ACCURACY 50  PERCENT.
                                                ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
                                             O: NEED FOR FAST REACTOR CALCULATIONS.
                                                FOR MORE DETAIL SEE INTRODUCTION.
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92 URANIUM 235 NEUTRON FISSION CROSS SECTION

566	150.	KEV	20.0	MEV	0.5 %	1	USA	CARLSON	NIS	921043R

Q: RADIOACTIVE TARGET 7.04+08 YR
O: TO IMPROVE ACCURACY OF STANDARD CROSS SECTION AND
EXTEND ITS USEFUL ENERGY RANGE.
M: NEW REQUEST.

567	20.0	MEV	200.	MEV		1	USA	CARLSON	NIS	921044R

Q: RADIOACTIVE TARGET 7.04+08 YR
A: ACCURACY RANGE 1 TO 2 PERCENT.
O: TO IMPROVE ACCURACY OF STANDARD CROSS SECTION AND
EXTEND ITS USEFUL ENERGY RANGE.
M: NEW REQUEST.

568	1.00	KEV	100.	KEV	3.0%	2	JAP	H.MATSUNOBU	SAE	922107R

O: NO COMMENT
M: NEW REQUEST.

92 URANIUM 235 NEUTRON CAPTURE TO FISSION RATIO (ALPHA)

569	1.00	KEV	1.00	MEV		2	USA	SMITH	ANL	861063R

Q: RADIOACTIVE TARGET 7.038+05YR
A: ACCURACY RANGE 5. TO 10. PERCENT.
DISCREPANCIES ARE TOO LARGE.

570	1.00	KEV	1.00	MEV	10.0%	2	JAP	H.MATSUNOBU	SAE	922108R

O: NO COMMENT
M: NEW REQUEST.

92 URANIUM 235 NEUTRON NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)

571	1.00	MV	10.0	EV		1	USA	WESTON	ORL	921093R

Q: 7.04+08 YR
A: ACCURACY RANGE 0.2 TO 0.5 PERCENT.
O: DETERMINATION OF THE SHAPE OF ETA AT VERY LOW
NEUTRON ENERGIES IS OF EXTREME IMPORTANCE FOR
REACTOR PHYSICS. N,ALF MEASUREMENT AN ALTERNATIVE
M: NEW REQUEST.

92 URANIUM 235 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

572	5.00	KEV	10.0	MEV		2	RUS	L.N.USACHEV	FEI	754010R

A: FROM 5.0 - 100 KEV ACCURACY 1.0 PERCENT.
FROM 0.1 - 0.8 MEV ACCURACY 1.0 PERCENT.
FROM 0.8 - 4.5 MEV ACCURACY 1.0 PERCENT.
ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
O: NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.

573	10.0	MV	1.00	MEV	1.0%	2	JAP	H.MATSUNOBU	SAE	922109R

O: ANALYSIS FOR TEMPERATURE COEFFICIENT OF
REACTIVITY
M: NEW REQUEST.

92 URANIUM 235 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

574	25.3	MV	5.00	MEV	1.0%	1	RUS	A.M.TSYBULJA	FEI	924002R

Q: AVERAGE ENERGY OF FISSION SPECTRUM IS NEEDED
WITH ACCURACY BETTER THAN 1 PERCENT
O: NEEDED FOR CRITICALITY CALCULATION OF LOW
ENRICHED FUEL REACTORS
M: NEW REQUEST.

92 URANIUM 235 NEUTRON SPECTRUM OF PROMPT GAMMA RAYS EMITTED IN FISSION

575	25.3	MV	14.0	MEV	2.0 %	3	RUS	S.S.KOVALENKO	RI	734001N

Q: YIELD AND SPECTRA WANTED FOR 5 TO 15 MEV GAMMAS.
A: 10.0 KEV GAMMA RESOLUTION WANTED.
O: FOR ASSAY OF U IN FUEL ELEMENTS FROM PROMPT
GAMMAS.

92 URANIUM 236 NEUTRON RESONANCE PARAMETERS

576	1.00	EV	10.0	KEV	5 %	1	USA	CARLSON	NIS	921124R

Q: 2.34+07 YR
O: THE RADIATION WIDTHS DERIVED BY MACKLIN ARE
APPRECIABLY LOWER THAN PREVIOUS MEASUREMENTS.
NEW IMPROVED MEASUREMENTS ARE NEEDED.
U-236 IS IMPORTANT IN CALCULATION OF HIGHER
ACTINIDE BUILD-UP.
M: NEW REQUEST.

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92 URANIUM 238 NEUTRON INELASTIC CROSS SECTION
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577 100. KEV 10.0 MEV 2 RUS L.N.USACHEV FEI 754021R

A: FROM BELOW 1.4 MEV ACCURACY 10.0 PERCENT.
FROM 1.4 - 5.0 MEV ACCURACY 5.0 PERCENT.
FROM 5.0 - 10.0 MEV ACCURACY 10.0 PERCENT.
O: NEEDED FOR FAST REACTOR CALCULATION.
M: MODIFIED (PARTIALLY FULFILLED).

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92 URANIUM 238 NEUTRON CAPTURE CROSS SECTION
:::

578 6.00 MEV 16.0 MEV 8. % 3 PRC ZHANG BENAI IPM 873028R

Q: RADIATIVE CAPTURE CROSS-SECTION.
NO SATISFACTORY EXPERIMENTAL DATA AVAILABLE.
A: ACCURACY 8-10%.
O: RESEARCH ON REACTION MECHANISM AND NUCLEAR TECH-
NOLOGY.

:::
92 URANIUM 238 NEUTRON CAPTURE GAMMA RAY SPECTRUM
:::

579 6.00 MEV 16.0 MEV 15. % 3 PRC ZHANG BENAI IPM 873037R

Q: GAMMA-RAY ENERGY REGION 10-22MEV.
GAMMA-RAY SPECTRUM.
NO SATISFACTORY EXPERIMENTAL DATA AVAILABLE.
A: ACCURACY 15-20%.
O: RESEARCH ON REACTION MECHANISM AND NUCLEAR TECH-
NOLOGY.

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92 URANIUM 238 NEUTRON ENERGY DISTRIBUTION OF PHOTON FROM INELASTIC SCAT
:::

580 100. KEV 10.0 MEV 10. % 3 PRC ZHANG BENAI IPM 873038R

Q: GAMMA-RAY MAIN ENERGY REGION 0.1-10 MEV.
ENERGY SPECTRUM OF GAMMA-RAYS FROM INELASTIC
SCATTERING.
NO SATISFACTORY EXPERIMENTAL DATA UP TO NOW.
A: ACCURACY 10-15%.
O: GAMMA-RAY SHIELDING RESEARCH.
M: MODIFIED (PARTIALLY FULFILLED).

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92 URANIUM 238 NEUTRON N,3N
:::

581 UP TO 15.0 MEV 15.0% 2 RUS I.N.GOLOVIN KUR 724064F

O: POSSIBLE USE AS NEUTRON MULTIPLIER.

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92 URANIUM 238 NEUTRON FISSION CROSS SECTION
:::

582 800. KEV 15.0 MEV 1 RUS M.N.NIKOLAEV FEI 714020R

Q: RATIO TO U-235 FISSION CS IS WANTED.
ABSOLUTE MEASUREMENTS AND MEASUREMENT OF THE RATIO
TO THE NP-237 FISSION CS WOULD BE VERY USEFUL.
AVERAGE CS IN FISSION-NEUTRON SPECTRUM OF CF-252
TIMES NU-BAR OF CF-252 IS OF GREAT INTEREST FOR
REDUCING THE DEPENDENCE OF THE ACCURACY OF
NEUTRON PRODUCTION CALCULATIONS UPON THE
ACCURACY OF THE CF-252 NU-BAR STANDARD
(REQUIRED ACCURACY 1 PERCENT).
A: REQUESTED ACCURACIES - 5 PERCENT BELOW 1.3 MEV,
AND ABOVE 6.5 MEV, AND 2 PERCENT BETWEEN
1.3 AND 6.5 MEV.
ABSOLUTE VALUES WITH 2 TO 3 PERCENT ACCURACY.
O: AT LEAST THREE DIFFERENT MEASUREMENTS WITH THESE
ACCURACIES WANTED.
THRESHOLD-REACTION MEASUREMENTS.

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92 URANIUM 238 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS
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583 1.00 MEV 5.00 MEV 3.0% 1 RUS A.M.TSYBULJA FEI 924001R

Q: AVERAGE ENERGY OF FISSION SPECTRUM IS NEEDED
WITH ACCURACY BETTER THAN 3 PERCENT
O: NEEDED FOR CRITICALITY CALCULATION OF LOW
ENRICHED FUEL REACTORS
M: NEW REQUEST.

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92 URANIUM 238 PROTON FISSION CROSS SECTION
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584 10.0 MEV 500. MEV 10.0% 2 JAP T.NISHIDA JAE 922111G

O: CALCULATIONS AROUND TARGET OF SPALLATION
NEUTRON SOURCE
M: NEW REQUEST.

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93 NEPTUNIUM 237 HALF LIFE
:::

585 0.5 % 2 USA GILLIAM NIS 921028R

Q: RADIOACTIVE TARGET 2.14+06 YR
O: FOR MASS DETERMINATION OF FISSIONABLE DEPOSITS.
M: NEW REQUEST.
:::

93 NEPTUNIUM 237 SPONTANEOUS FISSION HALF LIFE

586 5.0% 1 JAP T.MUKAIYAMA JAE 922116R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
ACTINIDE BURNING REACTOR
M: NEW REQUEST.

93 NEPTUNIUM 237 NEUTRON INELASTIC CROSS SECTION

587 25.0 MV 20.0 MEV 20.0% 1 JAP T.MUKAIYAMA JAE 922113R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
ACTINIDE BURNING REACTOR
M: NEW REQUEST.

588 200. KEV 5.00 MEV 15.0% 2 RUS A.M.TSYBULJA FEI 924003R

Q: CROSS SECTION WITH ACCURACY 15 PERCENT
O: NEEDED FOR INCINERATION IN REACTORS
M: NEW REQUEST.

93 NEPTUNIUM 237 NEUTRON CAPTURE CROSS SECTION

589 500. EV 5.00 MEV 15.0% 2 RUS L.N.USACHEV FEI 794006R

Q: AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM
REQUESTED.
O: FOR FAST-REACTOR BURN-UP CALCULATION.
SEE GENERAL COMMENTS.

590 25.0 MV 20.0 MEV 5.0% 1 JAP T.MUKAIYAMA JAE 922112R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
ACTINIDE BURNING REACTOR
M: NEW REQUEST.

93 NEPTUNIUM 237 NEUTRON N,2N

591 15.0% 2 RUS L.N.USACHEV FEI 794008R

Q: AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM
REQUESTED.
O: FOR FAST-REACTOR BURN-UP CALCULATION.
SEE GENERAL COMMENTS.

93 NEPTUNIUM 237 NEUTRON FISSION CROSS SECTION

592 8.00 MEV 15.0 MEV 5.0% 1 EUR NEUTRON DOSIMETRY GROUP GEL 812017R

O: FOR SURVEILLANCE OF DAMAGE IN PRESSURE VESSELS
USING CS-137 WITH LONG HALF LIFE
EVALUATION OF UNCERTAINTIES NEEDED

593 50.0 KEV 7.00 MEV 2 % 1 USA GILLIAM NIS 921029R

Q: RADIOACTIVE TARGET 2.14+06 YR
O: NEEDED FOR MATERIALS DOSIMETRY. IT IS AN
IMPORTANT DOSIMETRY STANDARD FOR MEASUREMENTS IN
BOTH FAST AND THERMAL REACTORS.
M: NEW REQUEST.

594 3.00 MEV 15.0 MEV 1 USA YOUNG LAS 921111R

Q: 2.14+06 YR
A: ACCURACY RANGE 2 TO 3 PERCENT.
O: PRECISE DATA AT FEW ENERGIES NEEDED FOR ENDF/B
EVALUATION TO SETTLE DISCREPANCY IN RECENT
MEASUREMENTS.
M: NEW REQUEST.

93 NEPTUNIUM 237 NEUTRON DELAYED NEUTRONS EMITTED PER FISSION

595 25.0 MV 20.0 MEV 5.0% 1 JAP T.MUKAIYAMA JAE 922115R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
ACTINIDE BURNING REACTOR
M: NEW REQUEST.

93 NEPTUNIUM 237 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

596 25.0 MV 20.0 MEV 5.0% 1 JAP T.MUKAIYAMA JAE 922114R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
ACTINIDE BURNING REACTOR
M: NEW REQUEST.

93 NEPTUNIUM 237 PROTON FISSION CROSS SECTION

597 10.0 MEV 500. MEV 30.0% 2 JAP T.MUKAIYAMA JAE 922117R

O: CALCULATIONS AROUND TARGET OF SPALLATION
NEUTRON SOURCE
M: NEW REQUEST.

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94 PLUTONIUM 238          SPONTANEOUS          FISSION HALF LIFE
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 598                              5.0%     1    JAP   T.MUKAIYAMA      JAE                 922123R

                                                   O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
                                                      ACTINIDE BURNING REACTOR
                                                   M: NEW REQUEST.
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
94 PLUTONIUM 238          GAMMA                TOTAL NEUTRON YIELD
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

 599        UP TO     10.0  MEV     10.0%     2    RUS   V.K.MARKOV       GAC                 714046N

                                                   O: PHOTONUCLEAR ASSAY OF PU.
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
94 PLUTONIUM 238          GAMMA                FISSION CROSS SECTION
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

 600        UP TO     10.0  MEV     10.0%     2    RUS   V.K.MARKOV       GAC                 714044N

                                                   O: FOR PHOTONUCLEAR ASSAY OF PU.
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
94 PLUTONIUM 238          GAMMA                FISSION PRODUCT MASS YIELD SPECTRUM
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

 601        UP TO     10.0  MEV     10.0%     2    RUS   V.K.MARKOV       GAC                 714045N

                                                   O: PHOTONUCLEAR ASSAY OF PU.
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
94 PLUTONIUM 238          NEUTRON              INELASTIC CROSS SECTION
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

 602   25.0  MV       20.0  MEV     20.0%     1    JAP   T.MUKAIYAMA      JAE                 922119R

                                                   O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
                                                      ACTINIDE BURNING REACTOR
                                                   M: NEW REQUEST.
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
94 PLUTONIUM 238          NEUTRON              CAPTURE CROSS SECTION
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

 603   25.0  MV       20.0  MEV      5.0%     1    JAP   T.MUKAIYAMA      JAE                 922118R

                                                   O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
                                                      ACTINIDE BURNING REACTOR
                                                   M: NEW REQUEST.
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
94 PLUTONIUM 238          NEUTRON              N,2N
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

 604        UP TO     16.0  MEV     10. %     2    PRC   CAI DUNJIU       AEP                 873048R

                                                   Q: NO SATISFACTORY EXPERIMENTAL DATA UP TO NOW
                                                      ACCURACY 10-15%
                                                   O: RESEARCH ON FISSION MECHANISM AND FISSION ENERGY
                                                      TECHNOLOGY.

 605   25.0  MV       20.0  MEV     20.0%     1    JAP   T.MUKAIYAMA      JAE                 922120R

                                                   O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
                                                      ACTINIDE BURNING REACTOR
                                                   M: NEW REQUEST.
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
94 PLUTONIUM 238          NEUTRON              N,3N
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

 606        UP TO     16.0  MEV     10. %     2    PRC   CAI DUNJIU       AEP                 873052R

                                                   Q: NO SATISFACTORY EXPERIMENTAL DATA UP TO NOW
                                                      ACCURACY 10-15%
                                                   O: RESEARCH ON FISSION MECHANISM AND FISSION ENERGY
                                                      TECHNOLOGY.
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
94 PLUTONIUM 238          NEUTRON              DELAYED NEUTRONS EMITTED PER FISSION
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

 607   25.0  MV       20.0  MEV      5.0%     1    JAP   T.MUKAIYAMA      JAE                 922122R

                                                   O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
                                                      ACTINIDE BURNING REACTOR
                                                   M: NEW REQUEST.
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
94 PLUTONIUM 238          NEUTRON              ENERGY SPECTRUM OF FISSION NEUTRONS
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

 608   25.0  MV       20.0  MEV      5.0%     1    JAP   T.MUKAIYAMA      JAE                 922121R

                                                   O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
                                                      ACTINIDE BURNING REACTOR
                                                   M: NEW REQUEST.
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
94 PLUTONIUM 238          PROTON               SPALLATION PRODUCT MASS YIELD SPECTRUM
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

 609   10.0  MEV     500.   MEV     30.0%     2    JAP   T.NISHIDA        JAE                 922124G

                                                   O: CALCULATIONS AROUND TARGET OF SPALLATION
                                                      NEUTRON SOURCE
                                                   M: NEW REQUEST.
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
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94 PLUTONIUM 239 NEUTRON ELASTIC CROSS SECTION

610 1.00 MV 1.00 EV 5 % 2 USA CARLSON NIS 921035R

Q: RADIOACTIVE TARGET 2.41+04 YR
A: SUITABLE MEASUREMENTS AT THERMAL MAY BE ACCEPT-
O: ABLE. WELL-CHARACTERIZED SAMPLES MUST BE USED.
EXTINCTION EFFECTS MUST BE DETERMINED. FOR
DETERMINATION OF THE THERMAL CONSTANTS.
M: NEW REQUEST.

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94 PLUTONIUM 239 NEUTRON INELASTIC CROSS SECTION

611 800. KEV 5.00 MEV 2 RUS L.N.USACHEV FEI 754023R

A: FROM 0.8 - 1.4 MEV ACCURACY 15 PERCENT.
FROM 1.4 - 2.5 MEV ACCURACY 17 PERCENT.
FROM 2.5 - 5.0 MEV ACCURACY 30 PERCENT.
O: NEED FOR FAST REACTOR CALCULATION.
FOR MORE DETAIL SEE INTRODUCTION.

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94 PLUTONIUM 239 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

612 UP TO 15.0 MEV 2 RUS M.N.NIKOLAEV FEI 714023R

A: CROSS SECTION FOR INELASTIC REMOVAL BELOW FISSION
THRESHOLDS OF U-238 AND OF PU-240 OR NP-237
DESIRED WITH 10 PERCENT ACCURACY.
EXCITATION CROSS SECTION FOR LOW LYING LEVELS
REQUIRED WITH 15 PERCENT ACCURACY.
O: FOR FAST REACTOR CALCULATIONS

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94 PLUTONIUM 239 NEUTRON N,2N

613 UP TO 16.0 MEV 10. % 2 PRC CAI DUNJIU AEP 873049R

Q: NO SATISFACTORY EXPERIMENTAL DATA UP TO NOW
ACCURACY 10-15%
O: RESEARCH ON FISSION MECHANISM AND FISSION ENERGY
TECHNOLOGY.

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94 PLUTONIUM 239 NEUTRON N,3N

614 UP TO 16.0 MEV 10. % 2 PRC CAI DUNJIU AEP 873053R

Q: NO SATISFACTORY EXPERIMENTAL DATA UP TO NOW
ACCURACY 10-15%
O: RESEARCH ON FISSION MECHANISM AND FISSION ENERGY
TECHNOLOGY.

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94 PLUTONIUM 239 NEUTRON FISSION CROSS SECTION

615 5.00 KEV 10.0 MEV 2 RUS L.N.USACHEV FEI 754009R

A: FROM 5.0 KEV - 1.00 MEV ACCURACY 15.0 PERCENT.
FROM 1.0 MEV - 10.0 MEV ACCURACY 3.0 PERCENT.
O: NEEDED FOR FAST REACTOR CALCULATIONS.
M: MODIFIED (PARTIALLY FULFILLED).

616 10.0 EV 1.50 MEV 0.5 % 1 USA WESTON ORL 921092R

Q: 24119 YR
A: INCIDENT ENERGY RESOLUTION: 0.1 PERCENT.
NEED GOOD RESOLUTION IN THE RESONANCE REGION TO
DETERMINE BACKGROUND LEVEL AND WANT ACCURATE
FISSION CROSS SECTION IN THE 1 TO 500 KEV NEUTRON
ENERGY RANGE.
M: NEW REQUEST.

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94 PLUTONIUM 239 NEUTRON CAPTURE TO FISSION RATIO (ALPHA)

617 10.0 MV 1.00 EV 2. % 2 USA WESTON ORL 861172R

Q: RADIOACTIVE TARGET 24119 YR

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94 PLUTONIUM 239 NEUTRON NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)

618 1.00 MV 10.0 EV 1 USA WESTON ORL 921091R

Q: 24119 YR
A: ACCURACY RANGE 0.2 TO 0.5 PERCENT.
O: DETERMINATION OF THE SHAPE OF ETA AT VERY LOW
NEUTRON ENERGIES IS IMPORTANT FOR REACTOR PHYSICS.
N,ALF MEASUREMENT AN ALTERNATIVE
M: NEW REQUEST.

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94 PLUTONIUM 239 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

619 25.3 MV 2.50 MEV 0.5% 2 RUS M.N.NIKOLAEV FEI 714026R

Q: RATIO TO CF-252 NU REQUIRED.
ABSOLUTE MEASUREMENTS OF NU-BAR AND ETA FOR THERMAL NEUTRONS WITH ACCURACY OF AT LEAST 0.5 PERCENT WOULD BE VERY USEFUL FOR LOWERING THE DEPENDENCE OF PU-239 NU-BAR RESULTS FROM THE CF-252 NU-BAR STANDARD.
A: ENERGY DEPENDENCE OF NU IS WANTED WITH 0.7 PERCENT ACCURACY.
ENERGY RESOLUTION OF 10. PERCENT REQUIRED BELOW 2.5 MEV.
C: NEEDED FOR FAST REACTOR CALCULATIONS

94 PLUTONIUM 239 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

620 25.3 MV 5.00 MEV 1.0% 1 RUS A.M.TSYBULJA FEI 924006R

Q: AVERAGE ENERGY OF FISSION SPECTRUM IS NEEDED WITH ACCURACY BETTER THAN 1 PERCENT
C: NEEDED FOR CRITICALITY CALCULATION OF LOW ENRICHED FUEL REACTORS
M: NEW REQUEST.

94 PLUTONIUM 239 NEUTRON SPECTRUM OF PROMPT GAMMA RAYS EMITTED IN FISSION

621 25.3 MV 14.0 MEV 2.0 % 3 RUS S.S.KOVALENKO RI 734002N

Q: YIELD AND SPECTRA WANTED FOR 5 TO 15 MEV GAMMAS.
A: 10.0 KEV GAMMA RESOLUTION WANTED.
C: FOR ASSAY OF PU IN FUEL ELEMENTS FROM PROMPT GAMMAS.

94 PLUTONIUM 239 PROTON SPALLATION PRODUCT MASS YIELD SPECTRUM

622 10.0 MEV 500. MEV 30.0% 2 JAP T.NISHIDA JAE 922125G

C: CALCULATIONS AROUND TARGET OF SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

94 PLUTONIUM 240 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

623 UP TO 5.00 MEV 20.0% 2 RUS M.N.NIKOLAEV FEI 714029R

A: CROSS SECTION FOR INELASTIC REMOVAL BELOW FISSION THRESHOLDS OF U-238 AND PU-240 OR NP-237 WANTED WITH 10 PERCENT ACCURACY.
EXCITATION CS FOR LOW-LYING LEVELS REQUIRED WITH ACCURACY OF 15 PERCENT.
C: SEE GENERAL COMMENTS IN THE INTRODUCTION.
NEEDED FOR FAST REACTOR CALCULATIONS .
M: SUBSTANTIAL MODIFICATIONS.

94 PLUTONIUM 240 NEUTRON CAPTURE CROSS SECTION

624 500. EV 1.40 MEV 7.0% 2 RUS M.N.NIKOLAEV FEI 714032R

Q: RATIO TO U-235 FISSION CS WANTED BUT RATIOS TO B-10, LI-6, HE-3 AND OTHER STANDARDS WOULD BE VERY USEFUL.
C: NEEDED FOR FAST REACTOR CALCULATIONS

94 PLUTONIUM 240 NEUTRON N,2N

625 UP TO 16.0 MEV 10. % 2 PRC CAI DUNJIU AEP 873050R

Q: NO SATISFACTORY EXPERIMENTAL DATA UP TO NOW ACCURACY 10-15%
C: RESEARCH ON FISSION MECHANISM AND FISSION ENERGY TECHNOLOGY.

94 PLUTONIUM 240 NEUTRON N,3N

626 UP TO 16.0 MEV 10. % 2 PRC CAI DUNJIU AEP 873054R

Q: NO SATISFACTORY EXPERIMENTAL DATA UP TO NOW ACCURACY 10-15%
C: RESEARCH ON FISSION MECHANISM AND FISSION ENERGY TECHNOLOGY.

94 PLUTONIUM 240 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

627 UP TO 5.00 MEV 1.0% 2 RUS M.N.NIKOLAEV FEI 714031R

Q: RATIO TO CF-252 NU-BAR WANTED.
C: SEE GENERAL COMMENTS IN THE INTRODUCTION.

94 PLUTONIUM 240 NEUTRON RESONANCE PARAMETERS

628 1.00 EV 0.5 % 2 USA HEMMIG DOE 821021R

Q: RADIOACTIVE TARGET 6570 YR
O: *RESONANCE STRONGLY INFLUENCES THERMAL CROSS SECTION EVALUATION. THERE IS DISCREPANCY BETWEEN DIFFERENTIAL AND INTEGRAL DATA.*

94 PLUTONIUM 241 GAMMA TOTAL NEUTRON YIELD

629 UP TO 10.0 MEV 10.0% 2 RUS V.K.MARKOV GAC 714049N

O: FOR PHOTONUCLEAR ASSAY OF PU.

94 PLUTONIUM 241 GAMMA FISSION CROSS SECTION

630 UP TO 10.0 MEV 10.0% 2 RUS V.K.MARKOV GAC 714047N

O: FOR PHOTONUCLEAR ASSAY OF PU.

94 PLUTONIUM 241 GAMMA FISSION PRODUCT MASS YIELD SPECTRUM

631 UP TO 10.0 MEV 10.0% 2 RUS V.K.MARKOV GAC 714048N

O: FOR PHOTONUCLEAR ASSAY OF PU.

94 PLUTONIUM 241 NEUTRON ELASTIC CROSS SECTION

632 1.00 MV 1.00 EV 5 % 2 USA CARLSON NIS 921038R

Q: RADIOACTIVE TARGET 14.35 YR
A: SUITABLE MEASUREMENTS AT THERMAL MAY BE ACCEPT-
O: ABLE. WELL-CHARACTERIZED SAMPLES MUST BE USED. EXTINCTION EFFECTS MUST BE DETERMINED. TO MORE ACCURATELY DETERMINE THE THERMAL CONSTANTS.
M: *NEW REQUEST.*

94 PLUTONIUM 241 NEUTRON CAPTURE CROSS SECTION

633 500. EV 5.00 MEV 7.0% 2 RUS L.N.USACHEV FEI 794002R

Q: AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
O: FOR FAST-REACTOR BURN-UP CALCULATION. SEE GENERAL COMMENTS.

94 PLUTONIUM 241 NEUTRON N,2N

634 UP TO 16.0 MEV 10. % 2 PRC CAI DUNJIU AEP 873051R

Q: NO SATISFACTORY EXPERIMENTAL DATA UP TO NOW ACCURACY 10-15%
O: RESEARCH ON FISSION MECHANISM AND FISSION ENERGY TECHNOLOGY.

94 PLUTONIUM 241 NEUTRON N,3N

635 UP TO 16.0 MEV 10. % 2 PRC CAI DUNJIU AEP 873055R

Q: NO SATISFACTORY EXPERIMENTAL DATA UP TO NOW ACCURACY 10-15%
O: RESEARCH ON FISSION MECHANISM AND FISSION ENERGY TECHNOLOGY.

94 PLUTONIUM 241 NEUTRON CAPTURE TO FISSION RATIO (ALPHA)

636 10.0 MV 1.00 KEV 2 USA WESTON ORL 861173R

Q: RADIOACTIVE TARGET 14.4 YR
A: *ACCURACY RANGE 4. TO 8 PERCENT.* 2 PERCENT ACCURACY DESIRED FROM .01 EV TO 1.0 EV.

95 AMERICIUM 241 GAMMA TOTAL NEUTRON YIELD

637 UP TO 10.0 MEV 10.0% 2 RUS V.K.MARKOV GAC 714052N

O: FOR PHOTONUCLEAR ASSAY OF PU.

95 AMERICIUM 241 GAMMA FISSION CROSS SECTION

638 UP TO 10.0 MEV 10.0% 2 RUS V.K.MARKOV GAC 714051N

O: *FOR PHOTONUCLEAR ASSAY OF PU.*

95 AMERICIUM 241 GAMMA FISSION PRODUCT MASS YIELD SPECTRUM

639 UP TO 10.0 MEV 10.0% 2 RUS V.K.MARKOV GAC 714050N

O: FOR PHOTONUCLEAR ASSAY OF PU.

95 AMERICIUM 241 NEUTRON INELASTIC CROSS SECTION

640 25.0 MV 20.0 MEV 20.0% 1 JAP T.MUKAIYAMA JAE 922127R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
ACTINIDE BURNING REACTOR
M: NEW REQUEST.

641 100. KEV 5.00 MEV 25.0% 2 RUS A.M.TSYBULJA FEI 924007R

O: NEEDED FOR INCINERATION IN REACTORS
M: NEW REQUEST.

95 AMERICIUM 241 NEUTRON CAPTURE CROSS SECTION

642 500. KEV 1.00 MEV 10.0% 1 JAP R.YUMOTO PNC 752033R
H.MATSUNOBU SAE
T.HOJUYAMA MAP

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

643 25.0 MV 20.0 MEV 5.0% 1 JAP T.MUKAIYAMA JAE 922126R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
ACTINIDE BURNING REACTOR
M: NEW REQUEST.

95 AMERICIUM 241 NEUTRON N,2N

644 25.0 MV 20.0 MEV 20.0% 1 JAP T.MUKAIYAMA JAE 922128R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
ACTINIDE BURNING REACTOR
M: NEW REQUEST.

95 AMERICIUM 241 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

645 25.0 MV 20.0 MEV 15.0% 1 JAP T.MUKAIYAMA JAE 922129R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
ACTINIDE BURNING REACTOR
M: NEW REQUEST.

95 AMERICIUM 241 PROTON FISSION CROSS SECTION

646 10.0 MEV 500. MEV 30.0% 2 JAP T.NISHIDA JAE 922130G

O: CALCULATIONS AROUND TARGET OF SPALLATION
NEUTRON SOURCE
M: NEW REQUEST.

95 AMERICIUM 242 NEUTRON CAPTURE CROSS SECTION

647 25.3 MV 100. KEV 1 JAP R.YUMOTO PNC 752036R
H.MATSUNOBU SAE

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

648 500. EV 5.00 MEV 20.0% 2 RUS L.N.USACHEV FEI 794004R

Q: TARGET IN METASTABLE STATE.
AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM
REQUESTED.
O: FOR FAST-REACTOR BURN-UP CALCULATION.
SEE GENERAL COMMENTS.

649 25.0 MV 20.0 MEV 20.0% 2 JAP T.MUKAIYAMA JAE 922131R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
ACTINIDE BURNING REACTOR
M: NEW REQUEST.

650 25.0 MV 20.0 MEV 10.0% 2 JAP T.MUKAIYAMA JAE 922132R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
ACTINIDE BURNING REACTOR FOR META-STABLE
STATE OF AM-242
M: NEW REQUEST.

95 AMERICIUM 242 NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

651 1.00E-05 EV 20.0 MEV 2 USA MANN WHC 921099R

Q: 152 YR ISOMER
A: EVALUATION NEEDED TO INCORPORATE NEW MEASUREMENTS SINCE ENDF/B-V. IMPORTANT FOR ACTINIDE BURNING, OLD EVALUATION (1978) IN ENDF/B-VI.
M: NEW REQUEST.

95 AMERICIUM 242 NEUTRON FISSION CROSS SECTION

652 500. . EV 5.00 MEV 20.0% 2 RUS L.N.USACHEV FEI 794010R

Q: TARGET IN METASTABLE STATE.
AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
O: FOR FAST-REACTOR BURN-UP CALCULATION.
SEE GENERAL COMMENTS.

653 25.0 MV 20.0 MEV 20.0% 2 JAP T.MUKAIYAMA JAE 922133R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

95 AMERICIUM 242 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

654 25.0 MV 20.0 MEV 20.0% 2 JAP T.MUKAIYAMA JAE 922134R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR FOR META-STABLE STATE OF AM-242
M: NEW REQUEST.

95 AMERICIUM 242 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

655 25.0 MV 20.0 MEV 30.0% 2 JAP T.MUKAIYAMA JAE 922135R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

656 25.0 MV 20.0 MEV 20.0% 2 JAP T.MUKAIYAMA JAE 922136R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR FOR META-STABLE STATE OF AM-242
M: NEW REQUEST.

95 AMERICIUM 242 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

657 25.0 MV 20.0 MEV 30.0% 2 JAP T.MUKAIYAMA JAE 922137R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

658 25.0 MV 20.0 MEV 20.0% 2 JAP T.MUKAIYAMA JAE 922138R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR FOR META-STABLE STATE OF AM-242
M: NEW REQUEST.

95 AMERICIUM 242 NEUTRON RESONANCE PARAMETERS

659 10.0 EV 10.0 KEV 10.0% 1 ITY C.ARTIOLI BOL 922001R

Q: CALCULATION OF DOPPLER COEFFICIENT IN FAST REACTORS CONTAINING HIGHLY CONCENTRATED MINOR ACTINIDES FOR TRANSMUTATION.
A: ALL RESONANCE PARAMETERS, INCLUDING SPIN AND PARITY SHOULD BE MEASURED FOR A NUMBER OF RESONANCES ENOUGH TO DEDUCE RELIABLE INFORMATION ON AVERAGE VALUES.
O: THE DISTRIBUTION OF FISSION WIDTHS AND THE P-WAVE STRENGTH-FUNCTION SHOULD BE OBTAINED FROM THE RESONANCE PARAMETERS.
GAMMA WIDTHS UNKNOWN; ONLY FEW PARAMETERS KNOWN WITH GOOD ACCURACY.
M: NEW REQUEST.

95 AMERICIUM 243 NEUTRON TOTAL CROSS SECTION

660 25.0 MV 20.0 MEV 10.0% 1 JAP T.MUKAIYAMA JAE 922143R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

95 AMERICIUM 243 NEUTRON INELASTIC CROSS SECTION

661 25.0 MV 20.0 MEV 20.0% 1 JAP T.MUKAIYAMA JAE 922141R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

95 AMERICIUM 243 NEUTRON CAPTURE CROSS SECTION

662 500. EV 5.00 MEV 20.0% 2 RUS L.N.USACHEV FEI 794005R

Q: AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
O: FOR FAST-REACTOR BURN-UP CALCULATION. SEE GENERAL COMMENTS.

663 25.0 MV 20.0 MEV 20.0% 1 JAP T.MUKAIYAMA JAE 922139R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

95 AMERICIUM 243 NEUTRON N,2N

664 25.0 MV 20.0 MEV 20.0% 1 JAP T.MUKAIYAMA JAE 922142R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

95 AMERICIUM 243 NEUTRON FISSION CROSS SECTION

665 25.3 MV 14.0 MEV 3 USA CARLSON NIS 921046R

Q: RADIOACTIVE TARGET 7380 YR
A: ACCURACY RANGE 10 TO 15 PERCENT.
O: PREVIOUS MEASUREMENTS ARE NOT CONSISTENT. FOR FAST REACTOR DESIGN.
M: NEW REQUEST.

666 25.0 MV 20.0 MEV 5.0% 1 JAP T.MUKAIYAMA JAE 922140R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

667 10.0 MEV 500. MEV 30.0% 2 JAP T.NISHIDA JAE 922145G

O: CALCULATIONS AROUND TARGET OF SPALLATION NEUTRON SOURCE
M: NEW REQUEST.

95 AMERICIUM 243 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

668 25.0 MV 20.0 MEV 15.0% 1 JAP T.MUKAIYAMA JAE 922144R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

96 CURIUM 242 NEUTRON CAPTURE CROSS SECTION

669 25.3 MV 100. KEV 2 JAP R.YUMOTO PNC 752042R
H.MATSUNOBU SAE
T.HOJUYAMA MAP

A: ACCURACY REQUIRED 10 TO 20 PERCENT.
O: REACTOR BURN-UP CALCULATIONS AND ESTIMATION OF TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL. NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.

670 10.0 KEV 1.00 MEV 2 USA SMITH ANL 861067R

Q: RADIOACTIVE TARGET 163 DAY
A: ACCURACY RANGE 10. TO 20. PERCENT.
O: NEEDED FOR FUEL CYCLE CALCULATIONS.

671 25.0 MV 20.0 MEV 10.0% 2 JAP T.MUKAIYAMA JAE 922146R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

96 CURIUM 242 NEUTRON FISSION CROSS SECTION

672 1.50 MEV 20.0 MEV 2 JAP R.YUMOTO PNC 752041R
H.MATSUNOBU SAE
T.HOJUYAMA MAP

A: ACCURACY REQUIRED 10 TO 20 PERCENT.
ACCURACY REQUIRED 10 TO 20 PERCENT.
O: REACTOR BURN-UP CALCULATIONS AND ESTIMATION OF TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL. NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.

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  673    25.0  MV      20.0  MEV    10.0%     2     JAP   T.MUKAIYAMA      JAE                       922147R

                                               O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
                                                  ACTINIDE BURNING REACTOR
                                               M: NEW REQUEST.
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96 CURIUM 242 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

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  674    25.0  MV      20.0  MEV    20.0%     2     JAP   T.MUKAIYAMA      JAE                       922148R

                                               O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
                                                  ACTINIDE BURNING REACTOR
                                               M: NEW REQUEST.
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96 CURIUM 243 NEUTRON CAPTURE CROSS SECTION

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  675    20.0  EV      100.  KEV              2     JAP   R.YUMOTO         PNC                       752047R
                                                          H.MATSUNOBU      SAE

                                               A: ACCURACY REQUIRED 10 TO 20 PERCENT.
                                               O: REACTOR BURN-UP CALCULATIONS AND ESTIMATION OF
                                                    TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL.
                                                  NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.

  676    25.0  MV      20.0  MEV    20.0%     2     JAP   T.MUKAIYAMA      JAE                       922149R

                                               O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
                                                  ACTINIDE BURNING REACTOR
                                               M: NEW REQUEST.
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96 CURIUM 243 NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

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  677    1.00E-05 EV  20.0  MEV               2     USA   MANN             WHC                       921100R

                                               Q: RADIOACTIVE TARGET 30 YR
                                               A: EVALUATION NEEDED TO INCORPORATE NEW MEASUREMENTS
                                                  SINCE ENDF/B-V.  IMPORTANT FOR ACTINIDE BURNING,
                                                  OLD EVALUATION (1978) FOR ENDF/B-VI.
                                               M: NEW REQUEST.
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96 CURIUM 243 NEUTRON FISSION CROSS SECTION

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  678    3.00  MEV     20.0  MEV              2     JAP   R.YUMOTO         PNC                       752045R
                                                          H.MATSUNOBU      SAE

                                               A: ACCURACY REQUIRED 10 TO 20 PERCENT.
                                               O: REACTOR BURN-UP CALCULATIONS AND ESTIMATION OF
                                                    TRANS-URANIUM NUCLIDE BUILD-UP IN SPENT FUEL.
                                                  NEUTRON SHIELDING OF SPENT-FUEL TRANSPORT CASK.
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96 CURIUM 243 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

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  679    25.0  MV      20.0  MEV    30.0%     2     JAP   T.MUKAIYAMA      JAE                       922150R

                                               O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
                                                  ACTINIDE BURNING REACTOR
                                               M: NEW REQUEST.
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96 CURIUM 243 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

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  680    25.0  MV      20.0  MEV    30.0%     2     JAP   T.MUKAIYAMA      JAE                       922151R

                                               O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
                                                  ACTINIDE BURNING REACTOR
                                               M: NEW REQUEST.
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96 CURIUM 244 NEUTRON CAPTURE CROSS SECTION

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  681    10.0  KEV     1.00  MEV              2     USA   SMITH            ANL                       861068R

                                               Q: RADIOACTIVE TARGET 18.1 YR
                                               A: ACCURACY RANGE 10. TO 20. PERCENT.
                                               O: NEEDED FOR FUEL CYCLE CALCULATIONS.

  682    25.0  MV      20.0  MEV    30.0%     2     JAP   T.MUKAIYAMA      JAE                       922152R

                                               O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
                                                  ACTINIDE BURNING REACTOR
                                               M: NEW REQUEST.
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96 CURIUM 244 NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

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  683    1.00E-05 EV  20.0  MEV               2     USA   MANN             WHC                       921101R

                                               Q: RADIOACTIVE TARGET 18 YR
                                               A: EVALUATION NEEDED TO INCORPORATE NEW MEASUREMENTS
                                                  SINCE ENDF/B-V.  IMPORTANT FOR ACTINIDE BURNING,
                                                  OLD EVALUATION (1978) FOR ENDF/B-VI.
                                               M: NEW REQUEST.
```

96 CURIUM 244 NEUTRON ENERGY SPECTRUM OF FISSION NEUTRONS

684 25.0 MV 20.0 MEV 20.0% 1 JAP T.MUKAIYAMA JAE 922153R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

96 CURIUM 244 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

685 25.0 MV 20.0 MEV 20.0% 1 JAP T.MUKAIYAMA JAE 922154R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

96 CURIUM 244 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

686 25.0 MV 20.0 MEV 20.0% 1 JAP T.MUKAIYAMA JAE 922155R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

96 CURIUM 245 NEUTRON CAPTURE CROSS SECTION

687 25.0 MV 20.0 MEV 10.0% 2 JAP T.MUKAIYAMA JAE 922156R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

96 CURIUM 245 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

688 25.0 MV 20.0 MEV 30.0% 2 JAP T.MUKAIYAMA JAE 922157R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

96 CURIUM 245 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

689 25.0 MV 20.0 MEV 30.0% 2 JAP T.MUKAIYAMA JAE 922158R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

96 CURIUM 246 NEUTRON CAPTURE CROSS SECTION

690 25.0 MV 20.0 MEV 20.0% 3 JAP T.MUKAIYAMA JAE 922159R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

96 CURIUM 246 NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

691 1.00E-05 EV 20.0 MEV 2 USA MANN WHC 921102R

Q: RADIOACTIVE TARGET 5000 YR
A: EVALUATION NEEDED TO INCORPORATE NEW MEASUREMENTS SINCE ENDF/B-V. IMPORTANT FOR ACTINIDE BURNING, OLD EVALUATION (1978) FOR ENDF/B-VI.
M: NEW REQUEST.

96 CURIUM 246 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

692 25.0 MV 20.0 MEV 30.0% 3 JAP T.MUKAIYAMA JAE 922160R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

96 CURIUM 246 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

693 25.0 MV 20.0 MEV 40.0% 3 JAP T.MUKAIYAMA JAE 922161R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

96 CURIUM 247 NEUTRON CAPTURE CROSS SECTION

694 25.0 MV 20.0 MEV 20.0% 3 JAP T.MUKAIYAMA JAE 922162R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

96 CURIUM 247 NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

695 1.00E-05 EV 20.0 MEV 2 USA MANN WHC 921103R

Q: RADIOACTIVE TARGET 1.6+07 YR
A: EVALUATION NEEDED TO INCORPORATE NEW MEASUREMENTS
SINCE ENDF/B-V. IMPORTANT FOR ACTINIDE BURNING,
OLD EVALUATION (1978) FOR ENDF/B-VI.
M: NEW REQUEST.

96 CURIUM 247 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

696 25.0 MV 20.0 MEV 30.0% 3 JAP T.MUKAIYAMA JAE 922163R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
ACTINIDE BURNING REACTOR
M: NEW REQUEST.

96 CURIUM 247 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

697 25.0 MV 20.0 MEV 30.0% 3 JAP T.MUKAIYAMA JAE 922164R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
ACTINIDE BURNING REACTOR
M: NEW REQUEST.

96 CURIUM 248 NEUTRON CAPTURE CROSS SECTION

698 25.0 MV 20.0 MEV 20.0% 3 JAP T.MUKAIYAMA JAE 922165R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
ACTINIDE BURNING REACTOR
M: NEW REQUEST.

96 CURIUM 248 NEUTRON SPECIAL QUANTITY (DESCRIPTION BELOW)

699 1.00E-05 EV 20.0 MEV 2 USA MANN WHC 921104R

Q: RADIOACTIVE TARGET 3.7+05 YR
A: EVALUATION NEEDED TO INCORPORATE NEW MEASUREMENTS
SINCE ENDF/B-V. IMPORTANT FOR ACTINIDE BURNING,
OLD EVALUATION (1978) FOR ENDF/B-VI.
M: NEW REQUEST.

96 CURIUM 248 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

700 25.0 MV 20.0 MEV 30.0% 3 JAP T.MUKAIYAMA JAE 922166R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
ACTINIDE BURNING REACTOR
M: NEW REQUEST.

96 CURIUM 248 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

701 25.0 MV 20.0 MEV 30.0% 3 JAP T.MUKAIYAMA JAE 922167R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
ACTINIDE BURNING REACTOR
M: NEW REQUEST.

97 BERKELIUM 249 NEUTRON CAPTURE CROSS SECTION

702 25.0 MV 20.0 MEV 30.0% 3 JAP T.MUKAIYAMA JAE 922168R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
ACTINIDE BURNING REACTOR
M: NEW REQUEST.

97 BERKELIUM 249 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

703 25.0 MV 20.0 MEV 30.0% 3 JAP T.MUKAIYAMA JAE 922169R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
ACTINIDE BURNING REACTOR
M: NEW REQUEST.

97 BERKELIUM 249 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

704 25.0 MV 20.0 MEV 30.0% 3 JAP T.MUKAIYAMA JAE 922170R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR
ACTINIDE BURNING REACTOR
M: NEW REQUEST.

98 CALIFORNIUM 249 NEUTRON CAPTURE CROSS SECTION

705 25.0 MV 20.0 MEV 20.0% 3 JAP T.MUKAIYAMA JAE 922171R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

98 CALIFORNIUM 249 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

706 25.0 MV 20.0 MEV 30.0% 3 JAP T.MUKAIYAMA JAE 922172R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

98 CALIFORNIUM 249 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

707 25.0 MV 20.0 MEV 30.0% 3 JAP T.MUKAIYAMA JAE 922173R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

98 CALIFORNIUM 250 NEUTRON CAPTURE CROSS SECTION

708 25.0 MV 20.0 MEV 20.0% 3 JAP T.MUKAIYAMA JAE 922174R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

98 CALIFORNIUM 250 NEUTRON FISSION CROSS SECTION

709 25.0 MV 20.0 MEV 20.0% 3 JAP T.MUKAIYAMA JAE 922175R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

98 CALIFORNIUM 250 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

710 25.0 MV 20.0 MEV 30.0% 3 JAP T.MUKAIYAMA JAE 922176R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

98 CALIFORNIUM 250 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

711 25.0 MV 20.0 MEV 30.0% 3 JAP T.MUKAIYAMA JAE 922177R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

98 CALIFORNIUM 251 NEUTRON CAPTURE CROSS SECTION

712 25.0 MV 20.0 MEV 20.0% 3 JAP T.MUKAIYAMA JAE 922178R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

98 CALIFORNIUM 251 NEUTRON FISSION CROSS SECTION

713 25.0 MV 20.0 MEV 30.0% 3 JAP T.MUKAIYAMA JAE 922179R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

98 CALIFORNIUM 251 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

714 25.0 MV 20.0 MEV 30.0% 3 JAP T.MUKAIYAMA JAE 922180R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

98 CALIFORNIUM 251 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

715 25.0 MV 20.0 MEV 30.0% 3 JAP T.MUKAIYAMA JAE 922181R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

98 CALIFORNIUM 252 NEUTRON CAPTURE CROSS SECTION

716	25.0 MV	20.0 MEV	30.0%	3	JAP	T.MUKAIYAMA	JAE	922182R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

98 CALIFORNIUM 252 NEUTRON FISSION CROSS SECTION

717	25.0 MV	20.0 MEV	20.0%	3	JAP	T.MUKAIYAMA	JAE	922183R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

98 CALIFORNIUM 252 NEUTRON ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS

718	25.0 MV	20.0 MEV	30.0%	3	JAP	T.MUKAIYAMA	JAE	922184R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

98 CALIFORNIUM 252 NEUTRON FISSION PRODUCT MASS YIELD SPECTRUM

719	25.0 MV	20.0 MEV	30.0%	3	JAP	T.MUKAIYAMA	JAE	922185R

O: CALCULATIONS OF WASTE MANAGEMENT FOR MINOR ACTINIDE BURNING REACTOR
M: NEW REQUEST.

FISSION PRODUCTS NEUTRON INELASTIC CROSS SECTION

720	800. KEV	5.00 MEV		2	RUS	L.N.USACHEV	FEI	754022R

A: FROM 0.8 - 1.4 MEV ACCURACY 13 PERCENT.
FROM 1.4 - 2.5 MEV ACCURACY 15 PERCENT.
FROM 2.5 - 5.0 MEV ACCURACY 30 PERCENT.
O: NEED FOR FAST REACTOR CALCULATION.
FOR MORE DETAIL SEE INTRODUCTION.

LIST OF SATISFIED REQUESTS

4 BERYLLIUM 9		NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION					
(68)	2.00 MEV	15.0 MEV	10.0%	2	RUS	I.N.GOLOVIN KUR FOR NEUTRON TRANSMISSION CALCULATIONS.		724011F
4 BERYLLIUM 9		NEUTRON	INELASTIC CROSS SECTION					
(70)	UP TO	15.0 MEV	15.0%	2	RUS	I.N.GOLOVIN KUR NEUTRONICS CALCULATIONS FOR BLANKET AND SHIELD.		724012F
4 BERYLLIUM 9		NEUTRON	N,2N					
(76)	UP TO	15.0 MEV	15.0%	2	RUS	I.N.GOLOVIN KUR ENERGY AND ANGULAR DISTRIBUTION OF SECONDARY NEUTRONS REQUIRED. USE FOR NEUTRON MULTIPLICATION AND TRANSMISSION CALCULATIONS.		724013F
4 BERYLLIUM 9		NEUTRON	N,ALPHA					
(87)	8.00 MEV	15.0 MEV	15.0%	2	RUS	I.N.GOLOVIN KUR FOR HELIUM ACCUMULATION CALCULATIONS.		724014F
11 SODIUM 23		NEUTRON	CAPTURE CROSS SECTION					
(146)	25.3 MV	4.00 KEV		2	RUS	M.N.NIKOLAEV FEI CAPTURE WIDTH OF 2.9 KEV RESONANCE SHOULD BE MEASURED IN THREE DIFFERENT EXPERIMENTS, RESULTS SHOULD COINCIDE WITHIN LIMITS OF 5-7 PERCENT. IF HIGH RPI CAPTURE WIDTH CONFIRMED, ENERGY DEPENDENCE OF CAPTURE CROSS SECTION SHOULD BE MEASURED FROM THERMAL TO RESONANCE REGION TO INVESTIGATE INTERFERENCE BETWEEN DIRECT AND RESONANCE CAPTURE. MEASUREMENTS OF GAMMA RAY SPECTRA IN THERMAL AND 2.95 KEV REGIONS DESIRABLE FOR DECISION ABOUT EXISTENCE OF INTERFERENCE EFFECTS. DIRECT MEASUREMENT OF THE EFFECTIVE RESONANCE INTEGRAL IN THE SODIUM MEDIUM FROM 24 KEV NEUTRON SOURCE SEEMS TO BE USEFUL FOR DECIDING THE QUESTION ABOUT THE 2.9 KEV RESONANCE CAPTURE WIDTH. ACCURACY REQUIRED TO BETTER THAN 10. PERCENT. FOR CALCULATION OF NA ACTIVATION IN LMFBR. SEE ALSO GENERAL COMMENTS IN THE INTRODUCTION.		714002R
11 SODIUM 23		NEUTRON	RESONANCE PARAMETERS					
(153)	2.90 KEV	100. KEV		2	RUS	M.N.NIKOLAEV FEI NEUTRON AND CAPTURE WIDTHS WANTED. NEUTRON WIDTH FOR 2.95 KEV LEVEL WANTED WITH 5 PERCENT ACCURACY. ALL OTHER WIDTHS REQUIRED WITH 10 PERCENT ACCURACY. FOR FAST REACTOR CALCULATION.		714001R

LIST OF SATISFIED REQUESTS

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22 TITANIUM 47 NEUTRON N,P

(185) 2.10 MEV 7.00 MEV 5.0% 2 EUR NEUTRON DOSIMETRY GROUP GEL 742127R
FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS.
GREATER THAN 10 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.

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25 MANGANESE 55 NEUTRON N,2N

(245) UP TO 16.0 MEV 5.0% 2 EUR NEUTRON DOSIMETRY GROUP GEL 742129R
FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS.
GREATER THAN 10 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.

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26 IRON NEUTRON TOTAL CROSS SECTION

(249) 10.0 KEV 1.00 MEV 5.0% 2 RUS M.N.NIKOLAEV FEI 714003R
CAREFUL MEASUREMENTS OF INTERFERENCE MINIMA NEEDED.
OBSERVATION OF P-WAVE RESONANCES IS WANTED.
TRANSMISSION MEASUREMENTS WITH POOR RESOLUTION BUT STRONG ATTENUATION OF THE PRIMARY BEAM ARE WANT-ED FOR MINIMA CS MEASUREMENTS.
HIGH RESOLUTION MEASUREMENTS ARE DESIRED FOR P-WAVE RESONANCE OBSERVATION AND RESONANCE PARAMETER DERIVATION.
FOR SHIELDING CALCULATION NEEDS AND EVALUATION OF THE TOTAL AND CAPTURE CROSS SECTIONS FOR FAST REACTOR CALCULATIONS.
COMPARISON OF THE S AND P-WAVE LEVEL DENSITIES IS VERY INTERESTING FROM THE POINT OF VIEW OF LEVEL DENSITY PARITY DEPENDENCE CONFIRMATION.

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26 IRON NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

(256) 900. KEV 15.0 MEV 5.0% 2 RUS M.N.NIKOLAEV FEI 714004R
IN CONTINUUM REGION ENERGY DEPENDENCE OF NUCLEAR TEMPERATURE WANTED.
IN THE REGION BELOW 3 MEV AVERAGE CHARACTERISTICS OF STRUCTURE IN THE CROSS SECTION ARE WANTED FOR EVALUATION OF SELF SHIELDING.
TRANSMISSION MEASUREMENTS USING THE SELF-INDICATION METHOD WITH DETECTION OF GAMMA RAYS FROM INELASTIC SCATTERING ARE DESIRED.
MEASUREMENTS SHOULD EXTEND TO PRIMARY-BEAM ATTENUATION DOWN TO 1/100 OR 1/1000.
CROSS SECTION FOR INELASTIC REMOVAL BELOW FISSION THRESHOLD OF U-238 WANTED WITH 5.0 PERCENT ACCURACY.
LEVEL EXCITATION CROSS SECTION DESIRED WITH 10 PERCENT ACCURACY.
SEE GENERAL COMMENTS IN THE INTRODUCTION.

LIST OF SATISFIED REQUESTS

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26 IRON                    NEUTRON          CAPTURE CROSS SECTION

( 263)   500.  EV     800.  KEV    10.0%     1    RUS   M.N.NIKOLAEV     FEI                    714005R
                                                        DESIRABLE TO USE EXPERIMENTAL METHODS WHICH ARE
                                                          NOT VERY SENSITIVE TO SELF-SHIELDING AND TO
                                                          CAPTURE-AFTER-SCATTERING EFFECTS.
                                                        20 PERCENT ABOVE 100 KEV WOULD BE VERY USEFUL.
                                                        SEE GENERAL COMMENTS IN THE INTRODUCTION.
                                                        FIRST PRIORITY BECAUSE IT IS DIFFICULT TO EVALUATE
                                                          THE IRON CAPTURE CROSS SECTION TO REQUESTED
                                                          ACCURACY FROM MACROSCOPIC EXPERIMENTS ONLY.

26 IRON 54                 NEUTRON          N,ALPHA

( 283)       UP TO    15.0  MEV     5.0%     2    EUR   NEUTRON DOSIMETRY GROUP           GEL   812008R
                                                        FEW EXPERIMENTAL DATA EXIST AND CURRENT
                                                        EVALUATIONS ARE HEAVILY BASED ON CALCULATIONS.
                                                        NEW AND SUPPLEMENTARY MEASUREMENTS ARE REQUESTED

27 COBALT 59               NEUTRON          N,P

( 297)       UP TO    25.0  MEV     5.0%     2    EUR   NEUTRON DOSIMETRY GROUP           GEL   812009R
                                                        FOR HIGH ENERGY ACCELERATOR BASED NEUTRON SOURCES

30 ZINC 64                 NEUTRON          N,P

( 364)   2.30  MEV    7.80  MEV     5.0%     2    EUR   NEUTRON DOSIMETRY GROUP           GEL   742131R
                                                        FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING
                                                          METHODS.
                                                        ABOUT 20 PERCENT DISCREPANCY BETWEEN INTEGRAL
                                                          AND DIFFERENTIAL MEASUREMENTS.

40 ZIRCONIUM               NEUTRON          ELASTIC CROSS SECTION

( 379)   5.00  MEV    15.0  MEV    10.0%     2    RUS   I.N.GOLOVIN      KUR                    724037F
                                                        NEUTRON TRANSMISSION CALCULATIONS.

40 ZIRCONIUM               NEUTRON          ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

( 380)       UP TO    15.0  MEV    15.0%     2    RUS   I.N.GOLOVIN      KUR                    724038F
                                                        NEUTRONICS CALCULATIONS FOR BLANKET AND SHIELD.

40 ZIRCONIUM               NEUTRON          TOTAL PHOTON PRODUCTION CROSS SECTION

( 383)       UP TO    15.0  MEV    15.0%     2    RUS   I.N.GOLOVIN      KUR                    724039F
                                                        GAMMA RAY HEATING AND SHIELDING CALCULATIONS.

40 ZIRCONIUM               NEUTRON          N,2N

( 385)       UP TO    15.0  MEV    15.0%     2    RUS   I.N.GOLOVIN      KUR                    724040F
                                                        FOR NEUTRON MULTIPLICATION CALCULATIONS.
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LIST OF SATISFIED REQUESTS

40 ZIRCONIUM		NEUTRON		N,P				
(388)	UP TO	15.0 MEV	15.0%	2	RUS	I.N.GOLOVIN KUR HYDROGEN ACCUMULATION CALCULATIONS.		724041F
40 ZIRCONIUM		NEUTRON		N,ALPHA				
(389)	UP TO	15.0 MEV	15.0%	2	RUS	I.N.GOLOVIN KUR HELIUM ACCUMULATION CALCULATIONS.		724042F
41 NIOBIUM 93		NEUTRON		DIFFERENTIAL ELASTIC CROSS SECTION				
(402)	3.00 MEV	15.0 MEV	10.0%	1	RUS	I.N.GOLOVIN KUR NEUTRON TRANSMISSION CALCULATIONS.		724043F
41 NIOBIUM 93		NEUTRON		INELASTIC CROSS SECTION				
(406)	UP TO	8.00 MEV	5.0%	1	EUR	NEUTRON DOSIMETRY GROUP PRODUCTION OF 3.7 YEAR ISOMER NEEDED. PROMISING FAST NEUTRON FLUENCE MONITOR DUE TO LOW THRESHOLD ENERGY.	GEL	742121R
41 NIOBIUM 93		NEUTRON		ENERGY DIFFERENTIAL INELASTIC CROSS SECTION				
(416)	UP TO	15.0 MEV	15.0%	1	RUS	I.N.GOLOVIN KUR NEUTRON CALCULATIONS FOR BLANKET AND SHIELD.		724044F
41 NIOBIUM 93		NEUTRON		CAPTURE CROSS SECTION				
(418)	10.0 MEV	15.0 MEV	15.0%	1	RUS	I.N.GOLOVIN KUR HEAVIER ISOTOPE ACCUMULATION CALCULATIONS.		724045F
41 NIOBIUM 93		NEUTRON		TOTAL PHOTON PRODUCTION CROSS SECTION				
(426)	UP TO	15.0 MEV	15.0%	1	RUS	I.N.GOLOVIN KUR GAMMA RAY HEATING AND SHIELDING CALCULATIONS.		724046F
41 NIOBIUM 93		NEUTRON		N,2N				
(428)	UP TO	15.0 MEV	10.0%	1	RUS	I.N.GOLOVIN KUR ENERGY AND ANGULAR DEPENDENCE OF SECONDARY NEUTRONS REQUIRED. FOR NEUTRON MULTIPLICATION AND RADIATION DAMAGE ESTIMATES.		724047F
41 NIOBIUM 93		NEUTRON		N,P				
(433)	UP TO	15.0 MEV	15.0%	1	RUS	I.N.GOLOVIN KUR HYDROGEN ACCUMULATION CALCULATIONS.		724048F

LIST OF SATISFIED REQUESTS

41 NIOBIUM 93 — NEUTRON — N,ALPHA

(434)	UP TO	15.0 MEV	15.0%	1	RUS	I.N.GOLOVIN KUR HELIUM ACCUMULATION CALCULATIONS.	724049F

49 INDIUM 115 — NEUTRON — INELASTIC CROSS SECTION

(482)			2.0%	1	EUR	NEUTRON DOSIMETRY GROUP GEL PRODUCTION OF IN-115 (4.5 HOUR) ISOMER. AVERAGE CROSS SECTION IN A U-235 FISSION SPECTRUM DESIRED. FOR NORMALIZATION OF AVERAGE CROSS SECTIONS FOR DOSIMETRY PURPOSES.	742116R

53 IODINE 127 — NEUTRON — N,2N

(500)	10.0 MEV	14.6 MEV	5.0%	2	EUR	NEUTRON DOSIMETRY GROUP GEL FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS. MORE THAN 25 PERCENT DISCREPANCY BETWEEN INTEGRAL AND DIFFERENTIAL MEASUREMENTS.	742134R

82 LEAD — NEUTRON — TOTAL PHOTON PRODUCTION CROSS SECTION

(606)	25.3 MV	15.0 MEV	15.0%	2	RUS	I.N.GOLOVIN KUR GAMMA RAY SPECTRA REQUIRED. GAMMA RAY HEATING AND SHIELDING CALCULATIONS.	724057F

82 LEAD — NEUTRON — N,2N

(608)	UP TO	15.0 MEV	15.0%	2	RUS	I.N.GOLOVIN KUR POSSIBLE USE AS NEUTRON MULTIPLIER.	724058F

83 BISMUTH 209 — NEUTRON — N,2N

(620)	UP TO	15.0 MEV	15.0%	2	RUS	I.N.GOLOVIN KUR POSSIBLE USE AS NEUTRON MULTIPLIER.	724060F

90 THORIUM 232 — NEUTRON — N,2N

(627)	UP TO	15.0 MEV	15.0%	2	RUS	I.N.GOLOVIN KUR POSSIBLE USE AS NEUTRON MULTIPLIER.	724061F

LIST OF SATISFIED REQUESTS

92 URANIUM 235		NEUTRON		FISSION CROSS SECTION			
(678)	5.00 KEV	7.00 MEV	2.0%	2	RUS	M.N.NIKOLAEV FEI	714007R

BELOW 20 KEV MEASUREMENTS OF TRANSMISSION CURVES BY FLAT RESPONSE DETECTOR AND BY SELF DETECTION METHOD WITH FISSION DETECTOR WANTED FOR SELFSHIELDING EVALUATION.
THESE CURVES MUST BE MEASURED WITH ATTENUATIONS OF THE PRIMARY BEAM DOWN TO 1. PERCENT.
AVERAGE CS IN FISSION NEUTRON SPECTRUM OF CF-252 TIMES NU-BAR OF CF-252 IS OF GREAT INTEREST FOR REDUCING THE DEPENDENCE OF THE ACCURACY OF NEUTRON PRODUCTION CALCULATIONS UPON THE ACCURACY OF THE CF-252 NU-BAR STANDARD (REQUIRED ACCURACY 1 PERCENT).
ACCURACY DETERMINED BY USE OF THIS CROSS SECTION AS STANDARD IN FISSION AND CAPTURE MEASUREMENTS FOR OTHER ISOTOPES.
IF MEASUREMENT IS ABSOLUTE AND PU-239 AND U-238 FISSION CROSS SECTIONS ARE MEASURED RELATIVE TO U-235 FISSION, THEN 2.0 PERCENT ACCURACY IS REQUIRED.
BEST ACCURACY OF 1.5 PERCENT DESIRABLE IN 1.2 TO 2.5 MEV REGION BECAUSE OF U-238 FISSION CROSS SECTION NORMALIZATION.
SEE GENERAL COMMENTS IN THE INTRODUCTION.
REQUEST CONSIDERED FULFILLED, WHEN AT LEAST THREE MEASUREMENTS WITH DIFFERENT METHODS AGREE WITHIN REQUESTED ACCURACY.

92 URANIUM 235		NEUTRON		FISSION CROSS SECTION			
(680)	5.00 KEV	10.0 MEV		2	RUS	L.N.USACHEV FEI	754008R

FROM 5.0 - 100 KEV ACCURACY 1.0 PERCENT.
FROM 0.1 - 0.8 MEV ACCURACY 1.0 PERCENT.
FROM 0.8 - 4.5 MEV ACCURACY 1.0 PERCENT.
ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
NEED FOR FAST REACTOR CALCULATIONS.
STANDARD CS ABOVE 100 KEV.
FOR MORE DETAIL SEE INTRODUCTION.

92 URANIUM 235		NEUTRON		CAPTURE TO FISSION RATIO (ALPHA)			
(686)	100. EV	800. KEV	7.0%	1	RUS	M.N.NIKOLAEV FEI	714008R

FOR EVALUATION OF THE DIFFERENCES IN THE CAPTURE- AND FISSION-RESONANCE SELF SHIEDING.
MEASUREMENTS OF TRANSMISSION CURVES WITH FLAT-RESPONSE DETECTOR AND BY SELF-INDICATION METHOD WITH CAPTURE AND FISSION DETECTORS IN THE TEMPERATURE RANGE 70-2500 DEGREES K ARE WANTED.
IN REGION 1-100 KEV BETTER ACCURACY DESIRABLE (ABOUT 5 PERCENT).
IN THE TRANSMISSION MEASUREMENTS ATTENUATION OF AT LEAST 1/100 WANTED.
SEE GENERAL COMMENTS IN THE INTRODUCTION.
ALSO NEEDED FOR COMPARISON WITH ALPHA PU-239 FOR TEST OF MEASUREMENT METHODS.
AT LEAST THREE DIFFERENT RESULTS MUST COINCIDE WITHIN REQUESTED ACCURACY.

LIST OF SATISFIED REQUESTS

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92 URANIUM 235 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

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(692) 25.3 MV 2.50 MEV 0.5% 2 RUS M.N.NIKOLAEV FEI 714009R
RATIO TO CF-252 NU REQUIRED.
ABSOLUTE MEASUREMENTS OF U-235 NU-BAR FOR THERMAL NEUTRONS WITH ACCURACY NOT WORSE THAN 0.5 PER-CENT AS WELL AS ETA MEASUREMENTS WOULD BE USEFUL FOR LOWERING THE DEPENDENCE ON THE CF-252 STANDARD.
ENERGY DEPENDENCE OF NU IS WANTED WITH 0.7 LETHARGY RESOLUTION IN THE REGION BELOW 2.5 MEV.
SEE GENERAL COMMENTS IN THE INTRODUCTION.

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92 URANIUM 236 NEUTRON ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

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(706) UP TO 5.00 MEV 10.0% 2 RUS M.N.NIKOLAEV FEI 714012R
CROSS SECTION FOR INELASTIC REMOVAL BELOW FISSION THRESHOLDS OF U-236 AND U-238 WANTED.
THIN SPHERE TRANSMISSION MEASUREMENTS WITH CF-252 SOURCE AND FISSION THRESHOLD DETECTORS WOULD BE USEFUL.
SEE GENERAL COMMENTS IN THE INTRODUCTION.

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92 URANIUM 236 NEUTRON CAPTURE CROSS SECTION

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(708) 500. EV 1.40 MEV 7.0% 2 RUS M.N.NIKOLAEV FEI 714015R
RATIO WANTED RELATIVE TO U-235 FISSION.
SEE GENERAL COMMENTS IN THE INTRODUCTION.

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92 URANIUM 236 NEUTRON FISSION CROSS SECTION

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(709) 100. KEV 5.00 MEV 5.0% 2 RUS M.N.NIKOLAEV FEI 714013R
RATIO WANTED RELATIVE TO U-235.
AVERAGE CS IN FISSION NEUTRON SPECTRUM OF CF-252 TIMES NU-BAR OF CF-252 WOULD BE VERY USEFUL (REQUIRED ACCURACY 1 PERCENT).
SEE GENERAL COMMENTS IN THE INTRODUCTION.

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92 URANIUM 236 NEUTRON RESONANCE PARAMETERS

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(710) 10.0 EV 5.00 KEV 2 RUS M.N.NIKOLAEV FEI 714011R
NEUTRON AND CAPTURE WIDTHS WANTED FOR EVALUATION OF SELFSHIELDING IN RESOLVED RESONANCE REGION.
OBSERVATION OF AT LEAST 50 PERCENT OF P-WAVE RESONANCES IN THE ENERGY INTERVAL TO 1 KEV IS DESIRED.
SEE GENERAL COMMENTS IN THE INTRODUCTION.
STATISTICAL ANALYSIS OF MEASURED RESONANCE PARAMETERS WANTED.
AVERAGE S AND P WAVE RESONANCE PARAMETERS SHOULD BE DERIVED.

LIST OF SATISFIED REQUESTS

92 URANIUM 238	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION

(719)	50.0 KEV	15.0 MEV		1	RUS	M.N.NIKOLAEV FEI 714018R

DECISION ABOUT TOTAL INELASTIC CROSS SECTION AT 1.0 TO 2.5 MEV WANTED.
TEMPERATURE FOR INELASTIC NEUTRONS WANTED AT THE HIGHER ENERGIES.
SPECTRA AND CROSS SECTION FOR DIRECT INELASTIC SCATTERING PROCESSES TO BE INVESTIGATED IN THE MEV REGION AS WELL AS DIRECT MECHANISM CONTRIB-UTIONS.
CROSS SECTION FOR INELASTIC REMOVAL BELOW FISSION THRESHOLD OF U-238 WANTED TO 1.5 - 2.0 PERCENT.
CROSS SECTION FOR INELASTIC REMOVAL BELOW FISSION THRESHOLD OF PU-240 OR NP-237 WANTED TO 3 - 5 PERCENT.
EXCITATION CS FOR FIRST LEVEL ABOVE THRESHOLD TO 2 MEV SHOULD BE MEASURED WITH 5 PERCENT ACCURACY.
NEUTRON SPECTRA TO BE MEASURED WITH 5 PERCENT ACCURACY AT 2.515 MEV.
SEE GENERAL COMMENTS IN THE INTRODUCTION.
PRECISION MEASUREMENTS OF MENTIONED INTEGRAL PARAMETERS IN SHELL TRANSMISSION EXPERIMENTS WITH CF-252 NEUTRON SOURCE AND U-238 AND NP-237 FISSION THRESHOLD DETECTORS AS WELL AS BY NEUTRON SPECTROMETER SEEMS VERY USEFUL.

92 URANIUM 238	NEUTRON	NON-ELASTIC CROSS SECTION

(723)	10.0 KEV	15.0 MEV		2	RUS	M.N.NIKOLAEV FEI 714017R

DIRECT MEASUREMENTS BY SHELL TRANSMISSION DESIRABLE WITH 3-5 PERCENT ACCURACY.
FOR EVALUATION OF INELASTIC SCATTERING CROSS SECTION FOR FAST REACTORS.

92 URANIUM 238	NEUTRON	CAPTURE CROSS SECTION

(730)	500. EV	1.40 MEV	3.0%	1	RUS	M.N.NIKOLAEV FEI 714022R

RATIO TO U-235 FISSION CS IS WANTED.
ABSOLUTE MEASUREMENTS OR RATIOS TO B-10(N,ALPHA) AND LI-6(N,ALPHA) CROSS SECTIONS WOULD ALSO BE USEFUL, AND AT HIGHER ENERGIES THE RATIO TO THE NP-237 FISSION CS.
TRANSMISSION MEASUREMENTS WITH FLAT-RESPONSE DETECTOR AND BY THE SELF-INDICATION METHOD WITH CAPTURE GAMMA-RAY DETECTOR IN THE TEMPERATURE RANGE 70-2500 DEGREES K ARE DESIRED FOR EVAL-UATION OF SELF-SHIELDING AND DOPPLER EFFECTS.
SPHERICAL TRANSMISSION TIME-OF-FLIGHT MEASURE-MENTS SEEM TO BE A USEFUL INDEPENDENT METHOD FOR DETERMINING THE RELIABILITY OF CAPTURE CROSS-SECTION DATA.
BETWEEN 1 AND 100 KEV INFORMATION ON RESONANCE SELFSHIELDING FACTORS (SEE BOOK BY ABAGYAN ET AL., CONSULTANTS BUREAU, NEW YORK,1964) WITH 2 PERCENT ACCURACY AND AVERAGED OVER 0.2 LETHARGY INTERVALS DESIRED.
TEMPERATURE DIFFERENCES OF SELFSHIELDING FACTORS MUST BE KNOWN WITH 7 PERCENT ACCURACY.
SEE GENERAL COMMENTS IN THE INTRODUCTION.
FIRST PRIORITY BECAUSE IT IS DIFFICULT TO INTERPRET THE DOPPLER-EFFECT AND SELF-SHIELDING FACTORS FROM MACROSCOPIC DATA ONLY.

LIST OF SATISFIED REQUESTS

92 URANIUM 238		NEUTRON		CAPTURE CROSS SECTION			
(731)	5.00 KEV	10.0 MEV		2	RUS	L.N.USACHEV FEI FROM 5.0 - 100 KEV ACCURACY 2.0 PERCENT. FROM 0.1 - 0.8 MEV ACCURACY 3.0 PERCENT. FROM 0.8 - 4.5 MEV ACCURACY 9.0 PERCENT. ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER. NEED FOR FAST REACTOR CALCULATIONS. FOR MORE DETAIL SEE INTRODUCTION.	754005R
92 URANIUM 238		NEUTRON		N,2N			
(743)	UP TO	20.0 MEV		2	RUS	M.N.NIKOLAEV FEI SECONDARY ENERGY DISTRIBUTION REQUIRED. ACCURACY 5 TO 10 PERCENT WANTED. ENERGY SPECTRA OF SECONDARY NEUTRONS DESIRABLE WITH 5 PERCENT ACCURACY AND 0.2 RESOLUTION IN LETHARGY. FOR FAST REACTORS.	714019R
92 URANIUM 238		NEUTRON		N,2N			
(744)	UP TO	15.0 MEV	15.0%	2	RUS	I.N.GOLOVIN KUR POSSIBLE USE AS NEUTRON MULTIPLIER.	724063F
92 URANIUM 238		NEUTRON		RESONANCE PARAMETERS			
(758)	UP TO	5.00 KEV		1	RUS	M.N.NIKOLAEV FEI OBSERVATION OF VERY WEAK P-WAVE RESONANCES IS DESIRED. RESOLUTION OF 90 PERCENT OF P-WAVE RESONANCES CONTROLLED BY PORTER-THOMAS DISTRIBUTION AND LEVEL SPACING DISTRIBUTION AND ALL S-WAVE RESONANCES BELOW 5 KEV IS DESIRED. CAREFUL IDENTIFICATION OF S AND P WAVE RESONANCES NEEDED FOR DETERMINATION OF P WAVE STRENGTH FUNCTION. REQUEST CONNECTED WITH PROBLEM OF SELFSHIELDING EVALUATION IN UNRESOLVED RESONANCE REGION. ATTENTION TO BE PAID TO THE PROBABLE DIFFERENCE BETWEEN THE 1/2 (+) AND 1/2 (-) LEVEL DENSITIES. FIRST PRIORITY BECAUSE INVESTIGATION OF THE PARITY DEPENDENCE OF LEVEL DENSITY IS OF INTEREST FROM A SCIENTIFIC AS WELL AS FROM A PRACTICAL POINT OF VIEW.	714016R
93 NEPTUNIUM 237		NEUTRON		CAPTURE CROSS SECTION			
(763)	UP TO	15.0 MEV	10.0%	2	EUR	NEUTRON DOSIMETRY GROUP GEL TO BE INCLUDED IN IRDF FILE FOR NEUTRON DOSIMETRY USING SPECTRUM UNFOLDING METHODS.	812015R

LIST OF SATISFIED REQUESTS

94 PLUTONIUM 239 NEUTRON CAPTURE CROSS SECTION

(794) 5.00 KEV 10.0 MEV 2 RUS L.N.USACHEV FEI 754012R
FROM 5.0 - 100 KEV ACCURACY 4.0 PERCENT.
FROM 0.1 - 0.8 MEV ACCURACY 10 PERCENT.
FROM 0.8 - 4.5 MEV ACCURACY 50 PERCENT.
ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.

94 PLUTONIUM 239 NEUTRON FISSION CROSS SECTION

(807) 1.00 KEV 4.00 MEV 1 RUS M.N.NIKOLAEV FEI 714024R
RATIO TO U-235 FISSION CS IS WANTED BUT ABSOLUTE MEASUREMENT AND MEASUREMENT OF RATIOS TO B-10 (N,ALPHA), LI-6(N,ALPHA) CROSS SECTIONS AND OTHER STANDARDS WOULD BE VERY USEFUL.
BELOW 30 KEV MEASUREMENTS OF TRANSMISSION CURVES BY FLAT RESPONSE DETECTOR AND BY SELF DETECTION METHOD WITH FISSION DETECTOR WANTED FOR SELFSHIELDING EVALUATION.
THESE CURVES MUST BE MEASURED WITH ATTENUATIONS OF THE PRIMARY BEAM DOWN TO 1 PERCENT.
ACCURACY REQUIRED TO BETTER THAN 2.0 PERCENT.
OPTIMUM PRECISION OF 1.5 PERCENT DESIRED IN REGION 20 KEV TO 1 MEV.
LETHARGY RESOLUTION OF ABOUT 0.2 CONSIDERED SUFFICIENT FOR SUCH MEASUREMENTS.
SEE GENERAL COMMENTS IN THE INTRODUCTION.
REQUEST CONSIDERED FULFILLED, WHEN AT LEAST THREE MEASUREMENTS WITH DIFFERENT METHODS AGREE WITHIN REQUESTED ACCURACY.
FIRST PRIORITY BECAUSE IT IS DIFFICULT TO INTERPRET THE SELF-SHIELDING FACTORS FROM MACROSCOPIC DATA ONLY.

94 PLUTONIUM 239 NEUTRON CAPTURE TO FISSION RATIO (ALPHA)

(817) 100. EV 800. KEV 7.0% 1 RUS M.N.NIKOLAEV FEI 714025R
FOR EVALUATION OF DIFFERENCES IN CAPTURE AND FISSION-RESONANCE SELF SHIELDING.
MEASUREMENTS OF TRANSMISSION CURVES WITH FLAT-RESPONSE DETECTOR AND BY SELF-INDICATION METHOD WITH CAPTURE AND FISSION DETECTORS ARE WANTED.
BEAM ATTENUATION DOWN TO 1 PERCENT WANTED.
IN REGION 1 TO 100 KEV, 4 TO 5 PERCENT ACCURACY DESIRABLE.
LETHARGY RESOLUTION OF 0.2 SUFFICIENT FOR REGION 0.1 TO 30 KEV.
AT LEAST THREE DIFFERENT REQUESTS MUST COINCIDE WITHIN REQUESTED ACCURACY.
SEE GENERAL COMMENTS IN THE INTRODUCTION.
FIRST PRIORITY BECAUSE IT IS DIFFICULT TO INTERPRET THE SELF-SHIELDING FACTORS FROM MACROSCOPIC DATA ONLY.

94 PLUTONIUM 239 NEUTRON NEUTRONS EMITTED PER FISSION (NU BAR)

(823) 5.00 KEV 10.0 MEV 2 RUS L.N.USACHEV FEI 754011R
FROM 5.0 - 100 KEV ACCURACY 1.0 PERCENT.
FROM 0.1 - 0.8 MEV ACCURACY 1.0 PERCENT.
FROM 0.8 - 4.5 MEV ACCURACY 1.0 PERCENT.
ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.

LIST OF SATISFIED REQUESTS

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94 PLUTONIUM 240 NEUTRON CAPTURE CROSS SECTION

(841) 500. EV 5.00 MEV 4.0% 2 RUS L.N.USACHEV FEI 794001R
AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
FOR FAST-REACTOR BURN-UP CALCULATION.
SEE GENERAL COMMENTS.

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94 PLUTONIUM 240 NEUTRON FISSION CROSS SECTION

(847) 100. KEV 5.00 MEV 5.0% 2 RUS M.N.NIKOLAEV FEI 714030R
RATIO TO U-235 OR NP-237 FISSION CS WANTED.
MEASUREMENT OF AVERAGE CS IN FISSION-NEUTRON SPECTRUM OF CF-252 TIMES NU-BAR OF CF-252 WITH ACCURACY OF 2 PERCENT IS DESIRED.
SEE GENERAL COMMENTS IN THE INTRODUCTION.

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94 PLUTONIUM 240 NEUTRON FISSION CROSS SECTION

(850) 5.00 KEV 10.0 MEV 2 RUS L.N.USACHEV FEI 754003R
FROM 0.1 - 0.8 MEV ACCURACY 5.0 PERCENT.
FROM 0.8 - 4.5 MEV ACCURACY 4.0 PERCENT.
ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER.
NEED FOR FAST REACTOR CALCULATIONS.
FOR MORE DETAIL SEE INTRODUCTION.

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94 PLUTONIUM 240 NEUTRON RESONANCE PARAMETERS

(855) 10.0 EV 5.00 KEV 2 RUS M.N.NIKOLAEV FEI 714028R
NEUTRON AND CAPTURE WIDTHS WANTED FOR EVALUATION OF SELF SHIELDING IN RESOLVED RESONANCE REGIONS AND EVALUATION OF AVERAGE RESONANCE PARAMETERS.
SELF-INDICATION CAPTURE MEASUREMENTS ARE DESIRED FOR P-WAVE RESONANCE OBSERVATION.
AVERAGE S AND P WAVE RESONANCE PARAMETERS SHOULD BE DERIVED.
STATISTICAL ANALYSIS OF MEASURED RESONANCE PARAMETERS WANTED.
SEE ALSO GENERAL COMMENTS IN THE INTRODUCTION.

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94 PLUTONIUM 241 NEUTRON FISSION CROSS SECTION

(871) 500. EV 5.00 MEV 5.0% 2 RUS L.N.USACHEV FEI 794009R
AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
FOR FAST-REACTOR BURN-UP CALCULATION.
SEE GENERAL COMMENTS.

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94 PLUTONIUM 242 NEUTRON CAPTURE CROSS SECTION

(888) 500. EV 5.00 MEV 15.0% 2 RUS L.N.USACHEV FEI 794003R
AVERAGE CROSS SECTION IN A FAST-REACTOR SPECTRUM REQUESTED.
FOR FAST-REACTOR BURN-UP CALCULATION.
SEE GENERAL COMMENTS.

LIST OF SATISFIED REQUESTS

98 CALIFORNIUM 252		SPONTANEOUS	NEUTRONS EMITTED PER FISSION (NU BAR)			
(932)			1	RUS	M.N.NIKOLAEV FEI ACCURACY NOT WORSE THAN 0.3 PERCENT. MUST BE GUARANTEED BY AGREEMENT WITHIN 0.5 PERCENT OF AT LEAST FOUR EXPERIMENTS CARRIED OUT BY NOT LESS THAN TWO DIFFERENT METHODS. SEE GENERAL COMMENTS IN THE INTRODUCTION. FIRST PRIORITY BECAUSE IT IS DIFFICULT TO RECONCILE THIS STANDARD WITH MACROSCOPIC EXPERIMENTS.	714033R
FISSION PRODUCTS		NEUTRON	CAPTURE CROSS SECTION			
(935)	5.00 KEV	10.0 MEV	2	RUS	L.N.USACHEV FEI FROM 5.0 - 100 KEV ACCURACY 7 PERCENT. FROM 0.1 - 0.8 MEV ACCURACY 14 PERCENT. FROM 0.8 - 4.5 MEV ACCURACY 48 PERCENT. ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER. NEED FOR FAST REACTOR CALCULATIONS. FOR MORE DETAIL SEE INTRODUCTION.	754015R
STEEL		NEUTRON	CAPTURE CROSS SECTION			
(936)	500. EV	800. KEV	1	RUS	M.N.NIKOLAEV FEI RATIOS WANTED RELATIVE TO U-235 FISSION, B-10, LI-6, HE-3 AND H-1 STANDARDS. 10 PERCENT BELOW, 20 PERCENT ABOVE 100 KEV WANTED. SEE GENERAL COMMENTS IN THE INTRODUCTION. ANALYSIS OF FAST CRITICAL ASSEMBLIES INDICATES THAT THE CAPTURE CROSS SECTION OF STAINLESS STEEL IS MUCH GREATER THAN CALCULATED FROM MICROSCOPIC DATA. FIRST PRIORITY BECAUSE IT IS DIFFICULT TO EVALUATE STEEL CAPTURE CROSS SECTION TO REQUESTED ACCURACY FROM MACROSCOPIC EXPERIMENTS ONLY.	714035R
STEEL		NEUTRON	CAPTURE CROSS SECTION			
(937)	5.00 KEV	10.0 MEV	2	RUS	L.N.USACHEV FEI FROM 5.0 - 100 KEV ACCURACY 11 PERCENT. FROM 0.1 - 0.8 MEV ACCURACY 15 PERCENT. FROM 0.8 - 4.5 MEV ACCURACY 20 PERCENT. ABOVE 4.5 MEV REQUIREMENTS 2 TIMES WEAKER. NEED FOR FAST REACTOR CALCULATIONS. FOR MORE DETAIL SEE INTRODUCTION.	754018R

LIST OF WITHDRAWN REQUESTS

(1)	781175R	USA	1 HYDROGEN 1	NEUTRON	TOTAL CROSS SECTION
(2)	801289R	USA	1 HYDROGEN 1	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(3)	821050R	USA	1 HYDROGEN 1	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
(4)	873039F	PRC	1 HYDROGEN 2	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(6)	873059F	PRC	1 HYDROGEN 2	NEUTRON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(7)	752095F	FR	1 HYDROGEN 3	NEUTRON	N,2N
(8)	812019F	JAP	1 HYDROGEN 3	NEUTRON	ENERGY-ANGLE DIFF.2 NEUTRON-PRODUCTION CROSS SECT.
(9)	873040F	PRC	1 HYDROGEN 3	NEUTRON	(N,2N) + (N,3N) NEUTRON SPECTRUM
(11)	692003R	UK	2 HELIUM 3	NEUTRON	N,P
(12)	861147R	USA	2 HELIUM 3	NEUTRON	N,P
(13)	781167N	USA	3 LITHIUM	ALPHA	ALPHA,N
(15)	722060F	GER	3 LITHIUM 6	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(16)	722061F	UK	3 LITHIUM 6	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(18)	792094F	ITY	3 LITHIUM 6	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(20)	792095F	ITY	3 LITHIUM 6	NEUTRON	ANGULAR DIFFERENTIAL INELASTIC CROSS SECTION
(22)	792096F	ITY	3 LITHIUM 6	NEUTRON	N,2N
(23)	861013F	USA	3 LITHIUM 6	NEUTRON	N,2N
(24)	722064F	GER	3 LITHIUM 6	NEUTRON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(27)	792097F	ITY	3 LITHIUM 6	NEUTRON	N,P
(28)	722151F	GER	3 LITHIUM 6	NEUTRON	N,ND
(30)	792098F	ITY	3 LITHIUM 6	NEUTRON	N,ND
(31)	691011R	USA	3 LITHIUM 6	NEUTRON	N,T
(32)	721009R	USA	3 LITHIUM 6	NEUTRON	N,T
(34)	762245F	UK	3 LITHIUM 6	NEUTRON	N,T
(35)	801291R	USA	3 LITHIUM 6	NEUTRON	ANGULAR DISTRIBUTION OF TRITONS
(36)	792099F	ITY	3 LITHIUM 6	NEUTRON	N,NT
(38)	812063F	FR	3 LITHIUM 6	DEUTERON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(39)	832001F	FR	3 LITHIUM 6	TRITON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(42)	792100F	ITY	3 LITHIUM 7	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(44)	833045F	IND	3 LITHIUM 7	NEUTRON	INELASTIC CROSS SECTION
(47)	792101F	ITY	3 LITHIUM 7	NEUTRON	ANGULAR DIFFERENTIAL INELASTIC CROSS SECTION
(48)	732119F	UK	3 LITHIUM 7	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(50)	722071F	GER	3 LITHIUM 7	NEUTRON	N,2N
(52)	792102F	ITY	3 LITHIUM 7	NEUTRON	N,2N
(55)	792103F	ITY	3 LITHIUM 7	NEUTRON	N,NP
(56)	832048F	ITY	3 LITHIUM 7	NEUTRON	N,D
(57)	792104F	ITY	3 LITHIUM 7	NEUTRON	N,ND
(60)	762246F	UK	3 LITHIUM 7	NEUTRON	N,NT
(62)	861079R	USA	3 LITHIUM 7	NEUTRON	N,NT
(64)	812062F	FR	3 LITHIUM 7	PROTON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(65)	812064F	FR	3 LITHIUM 7	DEUTERON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

LIST OF WITHDRAWN REQUESTS

(66)	832002F	FR	3 LITHIUM 7	TRITON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(71)	832050F	ITY	4 BERYLLIUM 9	NEUTRON	INELASTIC CROSS SECTION
(73)	722075F	GER	4 BERYLLIUM 9	NEUTRON	PHOTON PRODUCTION CROSS SECTION IN INELASTIC SCAT.
(75)	722077F	GER	4 BERYLLIUM 9	NEUTRON	N,2N
(77)	832049F	ITY	4 BERYLLIUM 9	NEUTRON	N,2N
(80)	872022F	FR	4 BERYLLIUM 9	NEUTRON	N,2N
(83)	832046F	ITY	4 BERYLLIUM 9	NEUTRON	N,P
(85)	832045F	ITY	4 BERYLLIUM 9	NEUTRON	N,T
(86)	722078F	GER	4 BERYLLIUM 9	NEUTRON	N,ALPHA
(88)	832047F	ITY	4 BERYLLIUM 9	NEUTRON	N,ALPHA
(89)	781168N	USA	4 BERYLLIUM 9	ALPHA	ALPHA,N
(90)	861060R	USA	5 BORON 10	NEUTRON	TOTAL CROSS SECTION
(91)	832052R	UK	5 BORON 10	NEUTRON	CAPTURE CROSS SECTION
(92)	642001R	UK	5 BORON 10	NEUTRON	N,ALPHA
(93)	682004R	BLG	5 BORON 10	NEUTRON	N,ALPHA
(94)	691364R	USA	5 BORON 10	NEUTRON	N,ALPHA
(95)	691365R	USA	5 BORON 10	NEUTRON	N,ALPHA
(96)	691366R	USA	5 BORON 10	NEUTRON	N,ALPHA
(99)	873003R	DDR	5 BORON 10	NEUTRON	N,ALPHA
(100)	741177R	USA	6 CARBON	NEUTRON	ANGULAR DISTRIBUTION OF PHOTON FROM INELASTIC SCAT
(101)	781169N	USA	6 CARBON	ALPHA	ALPHA,N
(103)	832039F	JAP	6 CARBON 12	NEUTRON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(105)	761111G	USA	6 CARBON 12	NEUTRON	N,ALPHA
(107)	761112G	USA	6 CARBON 12	NEUTRON	N,N3ALPHA
(109)	872046R	UK	7 NITROGEN	NEUTRON	INELASTIC CROSS SECTION
(110)	872045R	UK	7 NITROGEN	NEUTRON	ABSORPTION CROSS SECTION
(111)	692015R	FR	7 NITROGEN 14	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(112)	692017R	FR	7 NITROGEN 14	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(113)	792002R	FR	7 NITROGEN 14	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(115)	872023R	FR	7 NITROGEN 14	NEUTRON	N,P
(116)	761051R	USA	8 OXYGEN	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(117)	742028R	FR	8 OXYGEN	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(118)	861150F	USA	8 OXYGEN	NEUTRON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(119)	781170N	USA	8 OXYGEN	ALPHA	ALPHA,N
(120)	792254R	GER	8 OXYGEN	ALPHA	ALPHA,N
(121)	761113G	USA	8 OXYGEN 16	NEUTRON	N,ALPHA
(122)	761114G	USA	8 OXYGEN 16	NEUTRON	N,NALPHA
(123)	761115G	USA	8 OXYGEN 16	NEUTRON	N,N4ALPHA
(125)	872024R	FR	8 OXYGEN 17	NEUTRON	N,ALPHA
(127)	792093R	SWD	8 OXYGEN 18	NEUTRON	N,ALPHA
(128)	873005R	HUN	8 OXYGEN 18	PROTON	P,N
(129)	661010R	USA	8 OXYGEN 18	ALPHA	ALPHA,N

LIST OF WITHDRAWN REQUESTS

(137)	732039R FR	9 FLUORINE 19	ALPHA	ALPHA,N
(138)	781171N USA	9 FLUORINE 19	ALPHA	ALPHA,N
(139)	792194R GER	11 SODIUM 22	NEUTRON	CAPTURE CROSS SECTION
(140)	792120R UK	11 SODIUM 23	NEUTRON	TOTAL CROSS SECTION
(141)	741012R USA	11 SODIUM 23	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(142)	621006R USA	11 SODIUM 23	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(143)	741014R USA	11 SODIUM 23	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(144)	741015R USA	11 SODIUM 23	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(145)	642002R UK	11 SODIUM 23	NEUTRON	CAPTURE CROSS SECTION
(147)	741020R USA	11 SODIUM 23	NEUTRON	N,2N
(148)	872026R FR	11 SODIUM 23	NEUTRON	N,2N
(149)	801262R USA	11 SODIUM 23	NEUTRON	N,P
(150)	872025R FR	11 SODIUM 23	NEUTRON	N,P
(151)	801263R USA	11 SODIUM 23	NEUTRON	N,ALPHA
(152)	821052R USA	11 SODIUM 23	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
(157)	781172N USA	13 ALUMINUM 27	ALPHA	ALPHA,N
(159)	861100F USA	14 SILICON 29	NEUTRON	N,2P
(160)	861101F USA	14 SILICON 30	NEUTRON	CAPTURE CROSS SECTION
(161)	861069R USA	16 SULFUR	NEUTRON	ABSORPTION CROSS SECTION
(162)	872027R FR	18 ARGON 36	NEUTRON	CAPTURE CROSS SECTION
(164)	792195R GER	18 ARGON 40	NEUTRON	CAPTURE CROSS SECTION
(168)	861105F USA	19 POTASSIUM 41	NEUTRON	CAPTURE CROSS SECTION
(169)	741029R USA	20 CALCIUM	NEUTRON	CAPTURE CROSS SECTION
(170)	832018F JAP	20 CALCIUM	NEUTRON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(171)	781173N USA	20 CALCIUM	ALPHA	ALPHA,N
(172)	861106F USA	20 CALCIUM 40	NEUTRON	N,2P
(175)	861109F USA	20 CALCIUM 43	NEUTRON	N,2P
(176)	861110F USA	20 CALCIUM 43	NEUTRON	N,NALPHA
(177)	861111F USA	20 CALCIUM 45	NEUTRON	N,ALPHA
(178)	692065R UK	22 TITANIUM	NEUTRON	CAPTURE CROSS SECTION
(179)	832004R FR	22 TITANIUM	NEUTRON	CAPTURE CROSS SECTION
(181)	873034R PRC	22 TITANIUM	NEUTRON	CAPTURE GAMMA RAY SPECTRUM
(184)	861112F USA	22 TITANIUM 46	NEUTRON	N,2P
(186)	873007R HUN	22 TITANIUM 47	NEUTRON	N,P
(187)	861113F USA	22 TITANIUM 48	NEUTRON	N,2P
(190)	753040R IND	23 VANADIUM	NEUTRON	ELASTIC CROSS SECTION
(191)	753041R IND	23 VANADIUM	NEUTRON	INELASTIC CROSS SECTION
(193)	692073R UK	23 VANADIUM	NEUTRON	CAPTURE CROSS SECTION
(196)	753042R IND	23 VANADIUM	NEUTRON	CAPTURE CROSS SECTION
(197)	832005R FR	23 VANADIUM	NEUTRON	CAPTURE CROSS SECTION
(204)	621011R USA	23 VANADIUM 51	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(206)	721035R USA	24 CHROMIUM	NEUTRON	TOTAL CROSS SECTION

LIST OF WITHDRAWN REQUESTS

(207)	753031R	IND	24 CHROMIUM	NEUTRON	ELASTIC CROSS SECTION
(208)	741032R	USA	24 CHROMIUM	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(209)	753032R	IND	24 CHROMIUM	NEUTRON	INELASTIC CROSS SECTION
(210)	762238F	UK	24 CHROMIUM	NEUTRON	INELASTIC CROSS SECTION
(212)	732040R	FR	24 CHROMIUM	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(213)	692082R	UK	24 CHROMIUM	NEUTRON	CAPTURE CROSS SECTION
(214)	692083R	GER	24 CHROMIUM	NEUTRON	CAPTURE CROSS SECTION
(215)	692084R	FR	24 CHROMIUM	NEUTRON	CAPTURE CROSS SECTION
(216)	721036R	USA	24 CHROMIUM	NEUTRON	CAPTURE CROSS SECTION
(217)	753033R	IND	24 CHROMIUM	NEUTRON	CAPTURE CROSS SECTION
(218)	762247F	UK	24 CHROMIUM	NEUTRON	CAPTURE CROSS SECTION
(219)	873024R	PRC	24 CHROMIUM	NEUTRON	CAPTURE CROSS SECTION
(220)	873033R	PRC	24 CHROMIUM	NEUTRON	CAPTURE GAMMA RAY SPECTRUM
(221)	692080R	FR	24 CHROMIUM	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(222)	832013R	FR	24 CHROMIUM	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(223)	792162F	UK	24 CHROMIUM	NEUTRON	N,2N
(225)	861153F	USA	24 CHROMIUM	NEUTRON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(226)	692086R	UK	24 CHROMIUM	NEUTRON	N,P
(227)	712016R	FR	24 CHROMIUM	NEUTRON	N,P
(228)	762241F	UK	24 CHROMIUM	NEUTRON	N,P
(229)	792199R	GER	24 CHROMIUM	NEUTRON	N,P
(230)	732041R	FR	24 CHROMIUM	NEUTRON	N,ALPHA
(231)	762243F	UK	24 CHROMIUM	NEUTRON	N,ALPHA
(232)	792200R	GER	24 CHROMIUM	NEUTRON	N,ALPHA
(234)	792193R	GER	24 CHROMIUM 50	NEUTRON	CAPTURE CROSS SECTION
(235)	792252R	FR	24 CHROMIUM 50	NEUTRON	CAPTURE CROSS SECTION
(237)	861176F	USA	24 CHROMIUM 50	NEUTRON	CAPTURE CROSS SECTION
(238)	861082F	USA	24 CHROMIUM 50	NEUTRON	N,2N
(239)	861083F	USA	24 CHROMIUM 52	NEUTRON	N,2N
(240)	861084F	USA	24 CHROMIUM 52	NEUTRON	N,P
(241)	861020F	USA	24 CHROMIUM 52	NEUTRON	N,ALPHA
(242)	682010R	UK	25 MANGANESE 55	NEUTRON	CAPTURE CROSS SECTION
(243)	832007R	FR	25 MANGANESE 55	NEUTRON	CAPTURE CROSS SECTION
(244)	873012R	HUN	25 MANGANESE 55	NEUTRON	CAPTURE CROSS SECTION
(246)	861154F	USA	25 MANGANESE 55	NEUTRON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(247)	861184F	USA	25 MANGANESE 55	NEUTRON	ENERGY-ANGLE DIFF. ALPHA-PRODUCTION CROSS SECTION
(248)	861155F	USA	26 IRON	GAMMA	GAMMA,N
(250)	753034R	IND	26 IRON	NEUTRON	ELASTIC CROSS SECTION
(251)	691086R	USA	26 IRON	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(252)	832009R	FR	26 IRON	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(253)	722102F	UK	26 IRON	NEUTRON	INELASTIC CROSS SECTION
(254)	753035R	IND	26 IRON	NEUTRON	INELASTIC CROSS SECTION

LIST OF WITHDRAWN REQUESTS

(255)	702007R	FR	26 IRON	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(257)	761075R	USA	26 IRON	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(258)	692098R	UK	26 IRON	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(259)	792205R	GER	26 IRON	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(260)	792206R	GER	26 IRON	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(261)	692101R	UK	26 IRON	NEUTRON	CAPTURE CROSS SECTION
(262)	692104R	FR	26 IRON	NEUTRON	CAPTURE CROSS SECTION
(264)	753036R	IND	26 IRON	NEUTRON	CAPTURE CROSS SECTION
(265)	762248F	UK	26 IRON	NEUTRON	CAPTURE CROSS SECTION
(266)	873021R	PRC	26 IRON	NEUTRON	CAPTURE CROSS SECTION
(267)	873030R	PRC	26 IRON	NEUTRON	CAPTURE GAMMA RAY SPECTRUM
(268)	692096R	FR	26 IRON	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(269)	832011R	FR	26 IRON	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(271)	722106F	UK	26 IRON	NEUTRON	N,2N
(272)	832025F	JAP	26 IRON	NEUTRON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(274)	861185F	USA	26 IRON	NEUTRON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(275)	712026R	FR	26 IRON	NEUTRON	N,P
(276)	722107F	UK	26 IRON	NEUTRON	N,P
(277)	792203R	GER	26 IRON	NEUTRON	N,P
(278)	722108F	UK	26 IRON	NEUTRON	N,ALPHA
(279)	732042R	FR	26 IRON	NEUTRON	N,ALPHA
(280)	792204R	GER	26 IRON	NEUTRON	N,ALPHA
(281)	792007R	FR	26 IRON 54	NEUTRON	CAPTURE CROSS SECTION
(282)	792008R	FR	26 IRON 54	NEUTRON	N,P
(284)	872028R	FR	26 IRON 54	NEUTRON	N,ALPHA
(285)	821033R	USA	26 IRON 56	NEUTRON	CAPTURE CROSS SECTION
(286)	821053R	USA	26 IRON 56	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
(287)	861086R	USA	26 IRON 56	NEUTRON	RESONANCE PARAMETERS
(288)	832003R	FR	26 IRON 58	NEUTRON	CAPTURE CROSS SECTION
(290)	873008R	HUN	26 IRON 58	NEUTRON	CAPTURE CROSS SECTION
(292)	721045R	USA	27 COBALT 58	NEUTRON	CAPTURE CROSS SECTION
(293)	861087R	USA	27 COBALT 59	NEUTRON	CAPTURE CROSS SECTION
(294)	861170R	USA	27 COBALT 59	NEUTRON	CAPTURE CROSS SECTION
(295)	872029R	FR	27 COBALT 59	NEUTRON	CAPTURE CROSS SECTION
(299)	753037R	IND	28 NICKEL	NEUTRON	ELASTIC CROSS SECTION
(300)	721048R	USA	28 NICKEL	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(301)	832010R	FR	28 NICKEL	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(302)	753038R	IND	28 NICKEL	NEUTRON	INELASTIC CROSS SECTION
(303)	661024R	USA	28 NICKEL	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(304)	702008R	FR	28 NICKEL	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(305)	642004R	UK	28 NICKEL	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(306)	792211R	GER	28 NICKEL	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION

LIST OF WITHDRAWN REQUESTS

(307)	792251R GER	28 NICKEL	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(308)	692128R UK	28 NICKEL	NEUTRON	CAPTURE CROSS SECTION
(309)	692131R GER	28 NICKEL	NEUTRON	CAPTURE CROSS SECTION
(310)	702009R FR	28 NICKEL	NEUTRON	CAPTURE CROSS SECTION
(311)	753039R IND	28 NICKEL	NEUTRON	CAPTURE CROSS SECTION
(312)	762249F UK	28 NICKEL	NEUTRON	CAPTURE CROSS SECTION
(315)	721052R USA	28 NICKEL	NEUTRON	CAPTURE GAMMA RAY SPECTRUM
(316)	873031R PRC	28 NICKEL	NEUTRON	CAPTURE GAMMA RAY SPECTRUM
(317)	692125R FR	28 NICKEL	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(318)	832012R FR	28 NICKEL	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(319)	762240F UK	28 NICKEL	NEUTRON	N,2N
(322)	702010R FR	28 NICKEL	NEUTRON	N,P
(323)	762242F UK	28 NICKEL	NEUTRON	N,P
(324)	732044R FR	28 NICKEL	NEUTRON	N,ALPHA
(325)	762244F UK	28 NICKEL	NEUTRON	N,ALPHA
(327)	792010R FR	28 NICKEL 58	NEUTRON	CAPTURE CROSS SECTION
(329)	792121R UK	28 NICKEL 58	NEUTRON	N,2N
(331)	721055R USA	28 NICKEL 58	NEUTRON	N,P
(332)	742115R EUR	28 NICKEL 58	NEUTRON	N,P
(333)	792011R FR	28 NICKEL 58	NEUTRON	N,P
(335)	762251R GER	28 NICKEL 59	NEUTRON	N,ALPHA
(336)	861090F USA	28 NICKEL 59	NEUTRON	N,ALPHA
(337)	861091R USA	28 NICKEL 59	NEUTRON	RESONANCE PARAMETERS
(338)	861022F USA	28 NICKEL 60	NEUTRON	N,2N
(341)	872030R FR	28 NICKEL 60	NEUTRON	N,P
(342)	861021F USA	28 NICKEL 60	NEUTRON	N,ALPHA
(343)	861117F USA	28 NICKEL 61	NEUTRON	N,2P
(344)	762139R FR	28 NICKEL 62	NEUTRON	CAPTURE CROSS SECTION
(346)	761053R USA	28 NICKEL 63	NEUTRON	CAPTURE CROSS SECTION
(349)	861156F USA	29 COPPER	GAMMA	GAMMA,N
(350)	861157F USA	29 COPPER	NEUTRON	TOTAL CROSS SECTION
(351)	861158F USA	29 COPPER	NEUTRON	TOTAL CROSS SECTION
(353)	861159F USA	29 COPPER	NEUTRON	ELASTIC CROSS SECTION
(354)	873023R PRC	29 COPPER	NEUTRON	CAPTURE CROSS SECTION
(355)	873032R PRC	29 COPPER	NEUTRON	CAPTURE GAMMA RAY SPECTRUM
(360)	761055R USA	29 COPPER 63	NEUTRON	N,P
(362)	833049R IND	30 ZINC	NEUTRON	TOTAL CROSS SECTION
(363)	833050R IND	30 ZINC	NEUTRON	CAPTURE CROSS SECTION
(365)	861121F USA	30 ZINC 64	NEUTRON	N,2P
(366)	861122F USA	30 ZINC 66	NEUTRON	N,ALPHA
(370)	861125F USA	36 KRYPTON 83	NEUTRON	N,NALPHA
(371)	671190R USA	36 KRYPTON 83	NEUTRON	RESONANCE PARAMETERS

LIST OF WITHDRAWN REQUESTS

(372)	861126F	USA	36 KRYPTON 86	NEUTRON	N,2N
(373)	873043R	PRC	37 RUBIDIUM 84	NEUTRON	N,2N
(381)	762137R	FR	40 ZIRCONIUM	NEUTRON	CAPTURE CROSS SECTION
(382)	792017R	FR	40 ZIRCONIUM	NEUTRON	CAPTURE CROSS SECTION
(384)	792016R	FR	40 ZIRCONIUM	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(386)	671003R	USA	40 ZIRCONIUM	NEUTRON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(387)	671004R	USA	40 ZIRCONIUM	NEUTRON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION
(390)	691143R	USA	40 ZIRCONIUM	NEUTRON	CAPTURE RESONANCE INTEGRAL
(391)	762136R	FR	40 ZIRCONIUM	NEUTRON	CAPTURE RESONANCE INTEGRAL
(392)	861127F	USA	40 ZIRCONIUM 93	NEUTRON	N,ALPHA
(395)	671010R	USA	40 ZIRCONIUM 95	NEUTRON	CAPTURE CROSS SECTION
(396)	671011R	USA	40 ZIRCONIUM 95	NEUTRON	CAPTURE CROSS SECTION
(397)	691802R	CAN	40 ZIRCONIUM 95	NEUTRON	CAPTURE CROSS SECTION
(398)	704003N	RUS	40 ZIRCONIUM 95	NEUTRON	CAPTURE CROSS SECTION
(399)	873044R	PRC	41 NIOBIUM 92	NEUTRON	N,2N
(400)	753043R	IND	41 NIOBIUM 93	NEUTRON	ELASTIC CROSS SECTION
(401)	722125F	GER	41 NIOBIUM 93	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(404)	692155R	SWT	41 NIOBIUM 93	NEUTRON	INELASTIC CROSS SECTION
(405)	722126F	GER	41 NIOBIUM 93	NEUTRON	INELASTIC CROSS SECTION
(407)	753044R	IND	41 NIOBIUM 93	NEUTRON	INELASTIC CROSS SECTION
(408)	792122R	UK	41 NIOBIUM 93	NEUTRON	INELASTIC CROSS SECTION
(411)	832016R	FR	41 NIOBIUM 93	NEUTRON	INELASTIC CROSS SECTION
(412)	861031F	USA	41 NIOBIUM 93	NEUTRON	INELASTIC CROSS SECTION
(413)	873004R	HUN	41 NIOBIUM 93	NEUTRON	INELASTIC CROSS SECTION
(414)	873006R	HUN	41 NIOBIUM 93	NEUTRON	INELASTIC CROSS SECTION
(417)	682020R	UK	41 NIOBIUM 93	NEUTRON	CAPTURE CROSS SECTION
(419)	753045R	IND	41 NIOBIUM 93	NEUTRON	CAPTURE CROSS SECTION
(420)	832006R	FR	41 NIOBIUM 93	NEUTRON	CAPTURE CROSS SECTION
(421)	861180F	USA	41 NIOBIUM 93	NEUTRON	CAPTURE CROSS SECTION
(422)	873002R	DDR	41 NIOBIUM 93	NEUTRON	CAPTURE CROSS SECTION
(423)	873009R	HUN	41 NIOBIUM 93	NEUTRON	CAPTURE CROSS SECTION
(424)	722130F	GER	41 NIOBIUM 93	NEUTRON	PHOTON PRODUCTION CROSS SECTION IN INELASTIC SCAT.
(425)	873001R	DDR	41 NIOBIUM 93	NEUTRON	PHOTON PRODUCTION CROSS SECTION IN INELASTIC SCAT.
(432)	722136F	GER	41 NIOBIUM 93	NEUTRON	N,P
(436)	671012R	USA	41 NIOBIUM 95	NEUTRON	CAPTURE CROSS SECTION
(438)	722140F	GER	42 MOLYBDENUM	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(443)	692157R	UK	42 MOLYBDENUM	NEUTRON	CAPTURE CROSS SECTION
(445)	832008R	FR	42 MOLYBDENUM	NEUTRON	CAPTURE CROSS SECTION
(448)	722146F	GER	42 MOLYBDENUM	NEUTRON	N,2N
(451)	722148F	GER	42 MOLYBDENUM	NEUTRON	N,P
(458)	861131F	USA	42 MOLYBDENUM 97	NEUTRON	N,NALPHA
(460)	873013R	HUN	42 MOLYBDENUM 98	NEUTRON	CAPTURE CROSS SECTION

LIST OF WITHDRAWN REQUESTS

(461)	671013R	USA	42 MOLYBDENUM 99	NEUTRON	CAPTURE CROSS SECTION
(462)	691803R	CAN	42 MOLYBDENUM 99	NEUTRON	CAPTURE CROSS SECTION
(464)	872047R	UK	44 RUTHENIUM 102	NEUTRON	INELASTIC CROSS SECTION
(466)	671015R	USA	44 RUTHENIUM 103	NEUTRON	CAPTURE CROSS SECTION
(467)	691804R	CAN	44 RUTHENIUM 103	NEUTRON	CAPTURE CROSS SECTION
(469)	861132F	USA	44 RUTHENIUM 104	NEUTRON	N,P
(471)	704006N	RUS	44 RUTHENIUM 106	NEUTRON	CAPTURE CROSS SECTION
(472)	821057R	USA	45 RHODIUM 103	NEUTRON	INELASTIC CROSS SECTION
(473)	691805R	CAN	45 RHODIUM 105	NEUTRON	CAPTURE CROSS SECTION
(476)	691806R	CAN	46 PALLADIUM 107	NEUTRON	CAPTURE CROSS SECTION
(477)	861133F	USA	47 SILVER 109	NEUTRON	N,2N
(478)	861011F	USA	47 SILVER 109	NEUTRON	N,P
(479)	873010R	HUN	47 SILVER 110	NEUTRON	CAPTURE CROSS SECTION
(480)	832017R	FR	48 CADMIUM 113	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(481)	792080R	JAP	49 INDIUM 115	GAMMA	SPECIAL QUANTITY (DESCRIPTION BELOW)
(483)	833047R	IND	50 TIN	NEUTRON	TOTAL CROSS SECTION
(484)	833048R	IND	50 TIN	NEUTRON	CAPTURE CROSS SECTION
(485)	872002R	JAP	50 TIN 116	NEUTRON	ELASTIC CROSS SECTION
(486)	872003R	JAP	50 TIN 116	NEUTRON	INELASTIC CROSS SECTION
(487)	872004R	JAP	50 TIN 118	NEUTRON	ELASTIC CROSS SECTION
(488)	872005R	JAP	50 TIN 118	NEUTRON	INELASTIC CROSS SECTION
(489)	872006R	JAP	50 TIN 120	NEUTRON	ELASTIC CROSS SECTION
(490)	872007R	JAP	50 TIN 120	NEUTRON	INELASTIC CROSS SECTION
(491)	872008R	JAP	50 TIN 124	NEUTRON	ELASTIC CROSS SECTION
(492)	872009R	JAP	50 TIN 124	NEUTRON	INELASTIC CROSS SECTION
(493)	691807R	CAN	50 TIN 126	NEUTRON	CAPTURE CROSS SECTION
(494)	691808R	CAN	51 ANTIMONY 125	NEUTRON	CAPTURE CROSS SECTION
(495)	691809R	CAN	51 ANTIMONY 127	NEUTRON	CAPTURE CROSS SECTION
(496)	671022R	USA	52 TELLURIUM 127	NEUTRON	CAPTURE CROSS SECTION
(497)	691810R	CAN	52 TELLURIUM 127	NEUTRON	CAPTURE CROSS SECTION
(498)	691811R	CAN	52 TELLURIUM 129	NEUTRON	CAPTURE CROSS SECTION
(501)	671024R	USA	53 IODINE 133	NEUTRON	CAPTURE CROSS SECTION
(505)	741088R	USA	54 XENON 133	NEUTRON	CAPTURE CROSS SECTION
(507)	741089R	USA	54 XENON 135	NEUTRON	CAPTURE CROSS SECTION
(508)	741224R	USA	54 XENON 135	NEUTRON	CAPTURE CROSS SECTION
(509)	761070R	USA	54 XENON 135	NEUTRON	CAPTURE CROSS SECTION
(510)	812059R	FR	54 XENON 135	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(511)	704007N	RUS	55 CESIUM 133	NEUTRON	CAPTURE CROSS SECTION
(513)	704008N	RUS	55 CESIUM 134	NEUTRON	CAPTURE CROSS SECTION
(514)	722022N	JAP	55 CESIUM 134	NEUTRON	CAPTURE CROSS SECTION
(517)	704013N	RUS	55 CESIUM 137	NEUTRON	CAPTURE CROSS SECTION
(520)	704015N	RUS	56 BARIUM 140	NEUTRON	CAPTURE CROSS SECTION

LIST OF WITHDRAWN REQUESTS

(521)	873014R	HUN	57 LANTHANUM 139	NEUTRON	CAPTURE CROSS SECTION
(522)	704016N	RUS	57 LANTHANUM 140		GAMMA RAY YIELD
(523)	704018N	RUS	58 CERIUM 144		GAMMA RAY YIELD
(526)	671039R	USA	60 NEODYMIUM 147	NEUTRON	CAPTURE CROSS SECTION
(527)	671040R	USA	60 NEODYMIUM 147	NEUTRON	CAPTURE CROSS SECTION
(528)	691812R	CAN	60 NEODYMIUM 147	NEUTRON	CAPTURE CROSS SECTION
(529)	732076R	FR	60 NEODYMIUM 147	NEUTRON	CAPTURE CROSS SECTION
(531)	671046R	USA	61 PROMETHIUM 148	NEUTRON	CAPTURE CROSS SECTION
(532)	671048R	USA	61 PROMETHIUM 148	NEUTRON	CAPTURE CROSS SECTION
(535)	671057R	USA	61 PROMETHIUM 151	NEUTRON	CAPTURE CROSS SECTION
(538)	812060R	FR	62 SAMARIUM 149	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(539)	671054R	USA	62 SAMARIUM 151	NEUTRON	CAPTURE CROSS SECTION
(541)	792225R	GER	62 SAMARIUM 151	NEUTRON	CAPTURE CROSS SECTION
(542)	812061R	FR	62 SAMARIUM 151	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(543)	671061R	USA	62 SAMARIUM 153	NEUTRON	CAPTURE CROSS SECTION
(544)	691814R	CAN	62 SAMARIUM 153	NEUTRON	CAPTURE CROSS SECTION
(545)	741099R	USA	63 EUROPIUM 151	NEUTRON	CAPTURE CROSS SECTION
(548)	812065N	BLG	63 EUROPIUM 153	NEUTRON	CAPTURE CROSS SECTION
(549)	741106R	USA	63 EUROPIUM 153	NEUTRON	CAPTURE GAMMA RAY SPECTRUM
(550)	812066N	BLG	63 EUROPIUM 153	NEUTRON	CAPTURE RESONANCE INTEGRAL
(552)	812067N	BLG	63 EUROPIUM 154	NEUTRON	CAPTURE CROSS SECTION
(554)	812068N	BLG	63 EUROPIUM 154	NEUTRON	CAPTURE RESONANCE INTEGRAL
(557)	691815R	CAN	63 EUROPIUM 156	NEUTRON	CAPTURE CROSS SECTION
(558)	861075R	USA	64 GADOLINIUM 152	NEUTRON	CAPTURE CROSS SECTION
(559)	861076R	USA	64 GADOLINIUM 153	NEUTRON	CAPTURE CROSS SECTION
(560)	861077R	USA	68 ERBIUM 166	NEUTRON	CAPTURE CROSS SECTION
(561)	861078R	USA	68 ERBIUM 167	NEUTRON	CAPTURE CROSS SECTION
(562)	873045R	PRC	69 THULIUM 168	NEUTRON	N,2N
(563)	872049F	UK	72 HAFNIUM	NEUTRON	ACTIVATION CROSS SECTION
(564)	621026R	USA	72 HAFNIUM 176	NEUTRON	CAPTURE CROSS SECTION
(565)	732088R	FR	72 HAFNIUM 176	NEUTRON	CAPTURE CROSS SECTION
(566)	621028R	USA	72 HAFNIUM 177	NEUTRON	CAPTURE CROSS SECTION
(567)	692302R	FR	72 HAFNIUM 177	NEUTRON	CAPTURE CROSS SECTION
(568)	621030R	USA	72 HAFNIUM 178	NEUTRON	CAPTURE CROSS SECTION
(569)	692304R	FR	72 HAFNIUM 178	NEUTRON	CAPTURE CROSS SECTION
(570)	621032R	USA	72 HAFNIUM 179	NEUTRON	CAPTURE CROSS SECTION
(571)	692305R	FR	72 HAFNIUM 179	NEUTRON	CAPTURE CROSS SECTION
(573)	671080R	USA	72 HAFNIUM 180	NEUTRON	CAPTURE CROSS SECTION
(574)	732089R	FR	72 HAFNIUM 180	NEUTRON	CAPTURE CROSS SECTION
(576)	872048F	UK	73 TANTALUM	NEUTRON	N,P
(580)	872031R	FR	73 TANTALUM 181	NEUTRON	CAPTURE CROSS SECTION
(584)	872050F	UK	74 TUNGSTEN	NEUTRON	ACTIVATION CROSS SECTION

LIST OF WITHDRAWN REQUESTS

(585)	861137F	USA	74 TUNGSTEN 180	NEUTRON	N,NP
(586)	861138F	USA	74 TUNGSTEN 180	NEUTRON	N,D
(587)	861136F	USA	74 TUNGSTEN 180	NEUTRON	N,ALPHA
(589)	861012F	USA	74 TUNGSTEN 183	NEUTRON	N,P
(590)	873011R	HUN	74 TUNGSTEN 186	NEUTRON	CAPTURE CROSS SECTION
(595)	861038S	USA	75 RHENIUM	NEUTRON	CAPTURE CROSS SECTION
(596)	872032R	FR	75 RHENIUM 185	NEUTRON	CAPTURE CROSS SECTION
(597)	872033R	FR	75 RHENIUM 187	NEUTRON	CAPTURE CROSS SECTION
(598)	781177R	USA	78 PLATINUM	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(599)	861146R	USA	79 GOLD 197	NEUTRON	CAPTURE CROSS SECTION
(602)	861160F	USA	82 LEAD	GAMMA	GAMMA,N
(605)	692319R	FR	82 LEAD	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(607)	792022R	FR	82 LEAD	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(610)	861098F	USA	82 LEAD	NEUTRON	N,3N
(611)	692318R	FR	82 LEAD	NEUTRON	NEUTRON EMISSION CROSS SECTION
(614)	861141F	USA	82 LEAD 204	NEUTRON	N,2N
(616)	861144F	USA	82 LEAD 206	NEUTRON	N,ND
(618)	861014F	USA	83 BISMUTH 208	NEUTRON	N,2N
(622)	781196R	USA	90 THORIUM 230	NEUTRON	CAPTURE CROSS SECTION
(623)	861164F	USA	90 THORIUM 232	SPONTANEOUS	ENERGY SPECTRUM OF FISSION NEUTRONS
(624)	692329R	UK	90 THORIUM 232	NEUTRON	CAPTURE CROSS SECTION
(625)	692330R	GER	90 THORIUM 232	NEUTRON	CAPTURE CROSS SECTION
(626)	762140R	FR	90 THORIUM 232	NEUTRON	CAPTURE CROSS SECTION
(628)	761065R	USA	90 THORIUM 232	NEUTRON	N,2N
(629)	861162F	USA	90 THORIUM 232	NEUTRON	N,2N
(631)	861163F	USA	90 THORIUM 232	NEUTRON	N,3N
(633)	781182R	USA	90 THORIUM 232	NEUTRON	ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS
(634)	692323R	GER	90 THORIUM 232	NEUTRON	RESONANCE PARAMETERS
(635)	692333R	GER	91 PROTACTINIUM 233	NEUTRON	ABSORPTION CROSS SECTION
(636)	762142R	FR	91 PROTACTINIUM 233	NEUTRON	CAPTURE CROSS SECTION
(637)	762141R	FR	91 PROTACTINIUM 233	NEUTRON	FISSION CROSS SECTION
(638)	692334R	GER	91 PROTACTINIUM 233	NEUTRON	ABSORPTION RESONANCE INTEGRAL
(639)	791001R	USA	92 URANIUM 233	NEUTRON	TOTAL CROSS SECTION
(640)	861070R	USA	92 URANIUM 233	NEUTRON	ELASTIC CROSS SECTION
(641)	671086R	USA	92 URANIUM 233	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(642)	692339R	UK	92 URANIUM 233	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(643)	761081R	USA	92 URANIUM 233	NEUTRON	CAPTURE CROSS SECTION
(644)	762143R	FR	92 URANIUM 233	NEUTRON	CAPTURE CROSS SECTION
(645)	791002R	USA	92 URANIUM 233	NEUTRON	CAPTURE CROSS SECTION
(646)	692341R	FR	92 URANIUM 233	NEUTRON	N,2N
(647)	792030R	FR	92 URANIUM 233	NEUTRON	N,2N
(648)	791004R	USA	92 URANIUM 233	NEUTRON	ENERGY-ANGLE DIFF. NEUTRON-EMISSION CROSS SECTION

LIST OF WITHDRAWN REQUESTS

(649)	791003R	USA	92 URANIUM 233	NEUTRON	FISSION CROSS SECTION
(650)	692346R	UK	92 URANIUM 233	NEUTRON	CAPTURE TO FISSION RATIO (ALPHA)
(651)	692345R	UK	92 URANIUM 233	NEUTRON	NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)
(652)	741116R	USA	92 URANIUM 233	NEUTRON	DELAYED NEUTRONS EMITTED PER FISSION
(653)	792123R	UK	92 URANIUM 233	NEUTRON	ENERGY SPECTRUM OF FISSION NEUTRONS
(654)	861062R	USA	92 URANIUM 233	NEUTRON	ENERGY SPECTRUM OF FISSION NEUTRONS
(655)	711801R	CAN	92 URANIUM 233	NEUTRON	FISSION PRODUCT MASS YIELD SPECTRUM
(656)	732094R	FR	92 URANIUM 234	NEUTRON	CAPTURE CROSS SECTION
(658)	861165R	USA	92 URANIUM 234	NEUTRON	CAPTURE CROSS SECTION
(659)	861166R	USA	92 URANIUM 234	NEUTRON	CAPTURE CROSS SECTION
(660)	682050R	FR	92 URANIUM 234	NEUTRON	N,2N
(661)	682051R	FR	92 URANIUM 234	NEUTRON	N,3N
(662)	781187R	USA	92 URANIUM 234	NEUTRON	ENERGY SPECTRUM OF DELAYED FISSION NEUTRONS
(663)	821004R	USA	92 URANIUM 235	NEUTRON	TOTAL CROSS SECTION
(664)	692360R	UK	92 URANIUM 235	NEUTRON	ELASTIC CROSS SECTION
(665)	861071R	USA	92 URANIUM 235	NEUTRON	ELASTIC CROSS SECTION
(666)	742070R	FR	92 URANIUM 235	NEUTRON	INELASTIC CROSS SECTION
(669)	742071R	FR	92 URANIUM 235	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(670)	742078R	FR	92 URANIUM 235	NEUTRON	CAPTURE CROSS SECTION
(672)	821006R	USA	92 URANIUM 235	NEUTRON	CAPTURE CROSS SECTION
(673)	742069R	FR	92 URANIUM 235	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(674)	742072R	FR	92 URANIUM 235	NEUTRON	N,3N
(675)	872034R	FR	92 URANIUM 235	NEUTRON	N,4N
(676)	821028R	USA	92 URANIUM 235	NEUTRON	ENERGY DIFFERENTIAL NEUTRON-EMISSION CROSS SECTION
(677)	692368R	UK	92 URANIUM 235	NEUTRON	FISSION CROSS SECTION
(679)	742073R	FR	92 URANIUM 235	NEUTRON	FISSION CROSS SECTION
(681)	801294R	USA	92 URANIUM 235	NEUTRON	FISSION CROSS SECTION
(682)	821003R	USA	92 URANIUM 235	NEUTRON	FISSION CROSS SECTION
(683)	821005R	USA	92 URANIUM 235	NEUTRON	FISSION CROSS SECTION
(684)	861149R	USA	92 URANIUM 235	NEUTRON	FISSION CROSS SECTION
(685)	692373R	UK	92 URANIUM 235	NEUTRON	CAPTURE TO FISSION RATIO (ALPHA)
(687)	721077R	USA	92 URANIUM 235	NEUTRON	CAPTURE TO FISSION RATIO (ALPHA)
(689)	692370R	UK	92 URANIUM 235	NEUTRON	NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)
(690)	741119R	USA	92 URANIUM 235	NEUTRON	NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)
(691)	872036R	FR	92 URANIUM 235	NEUTRON	NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)
(694)	781189R	USA	92 URANIUM 235	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(695)	872035R	FR	92 URANIUM 235	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(696)	741120R	USA	92 URANIUM 235	NEUTRON	DELAYED NEUTRONS EMITTED PER FISSION
(697)	691256R	USA	92 URANIUM 235	NEUTRON	ENERGY SPECTRUM OF FISSION NEUTRONS
(698)	692376R	UK	92 URANIUM 235	NEUTRON	ENERGY SPECTRUM OF FISSION NEUTRONS
(699)	721080R	USA	92 URANIUM 235	NEUTRON	ENERGY SPECTRUM OF FISSION NEUTRONS
(700)	742077R	FR	92 URANIUM 235	NEUTRON	ENERGY SPECTRUM OF FISSION NEUTRONS

LIST OF WITHDRAWN REQUESTS

(702)	704022N	RUS	92 URANIUM 235	NEUTRON	FISSION PRODUCT MASS YIELD SPECTRUM
(703)	711802R	CAN	92 URANIUM 235	NEUTRON	FISSION PRODUCT MASS YIELD SPECTRUM
(704)	781192R	USA	92 URANIUM 235	NEUTRON	FISSION PRODUCT MASS YIELD SPECTRUM
(705)	691263R	USA	92 URANIUM 235	NEUTRON	RESONANCE PARAMETERS
(707)	682060R	FR	92 URANIUM 236	NEUTRON	CAPTURE CROSS SECTION
(711)	691408R	USA	92 URANIUM 238	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(712)	742082R	FR	92 URANIUM 238	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(713)	692387R	FR	92 URANIUM 238	NEUTRON	INELASTIC CROSS SECTION
(714)	692393R	GER	92 URANIUM 238	NEUTRON	INELASTIC CROSS SECTION
(715)	742083R	FR	92 URANIUM 238	NEUTRON	INELASTIC CROSS SECTION
(717)	821029R	USA	92 URANIUM 238	NEUTRON	INELASTIC CROSS SECTION
(718)	692391R	FR	92 URANIUM 238	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(720)	692392R	UK	92 URANIUM 238	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(721)	742084R	FR	92 URANIUM 238	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(722)	792219R	GER	92 URANIUM 238	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(724)	691419R	USA	92 URANIUM 238	NEUTRON	CAPTURE CROSS SECTION
(725)	691420R	USA	92 URANIUM 238	NEUTRON	CAPTURE CROSS SECTION
(726)	691423R	USA	92 URANIUM 238	NEUTRON	CAPTURE CROSS SECTION
(727)	691426R	USA	92 URANIUM 238	NEUTRON	CAPTURE CROSS SECTION
(728)	692401R	UK	92 URANIUM 238	NEUTRON	CAPTURE CROSS SECTION
(729)	692405R	UK	92 URANIUM 238	NEUTRON	CAPTURE CROSS SECTION
(732)	792036R	FR	92 URANIUM 238	NEUTRON	CAPTURE CROSS SECTION
(733)	792220R	GER	92 URANIUM 238	NEUTRON	CAPTURE CROSS SECTION
(734)	861064R	USA	92 URANIUM 238	NEUTRON	CAPTURE CROSS SECTION
(735)	861167R	USA	92 URANIUM 238	NEUTRON	CAPTURE CROSS SECTION
(736)	861168R	USA	92 URANIUM 238	NEUTRON	CAPTURE CROSS SECTION
(737)	861169R	USA	92 URANIUM 238	NEUTRON	CAPTURE CROSS SECTION
(741)	712066R	UK	92 URANIUM 238	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(742)	832014R	FR	92 URANIUM 238	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(746)	801002R	USA	92 URANIUM 238	NEUTRON	N,3N
(747)	872037R	FR	92 URANIUM 238	NEUTRON	N,3N
(748)	872038R	FR	92 URANIUM 238	NEUTRON	N,4N
(749)	712067R	UK	92 URANIUM 238	NEUTRON	FISSION CROSS SECTION
(751)	742086R	FR	92 URANIUM 238	NEUTRON	FISSION CROSS SECTION
(752)	833002R	BAN	92 URANIUM 238	NEUTRON	FISSION CROSS SECTION
(753)	742088R	FR	92 URANIUM 238	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(754)	821014R	USA	92 URANIUM 238	NEUTRON	DELAYED NEUTRONS EMITTED PER FISSION
(755)	692400R	UK	92 URANIUM 238	NEUTRON	ENERGY SPECTRUM OF FISSION NEUTRONS
(756)	742089R	FR	92 URANIUM 238	NEUTRON	ENERGY SPECTRUM OF FISSION NEUTRONS
(757)	821031R	USA	92 URANIUM 238	NEUTRON	ENERGY SPECTRUM OF FISSION NEUTRONS
(759)	732113R	UK	92 URANIUM 238	NEUTRON	RESONANCE PARAMETERS
(760)	821013R	USA	92 URANIUM 238	NEUTRON	RESONANCE PARAMETERS

LIST OF WITHDRAWN REQUESTS

(761)	761123R USA	93 NEPTUNIUM 237	SPONTANEOUS	ALPHA HALF LIFE
(765)	812050R UK	93 NEPTUNIUM 237	NEUTRON	SPECIAL QUANTITY (DESCRIPTION BELOW)
(766)	781178R USA	93 NEPTUNIUM 237	NEUTRON	FISSION CROSS SECTION
(768)	833001R BAN	93 NEPTUNIUM 237	NEUTRON	FISSION CROSS SECTION
(769)	792040R FR	93 NEPTUNIUM 238	NEUTRON	CAPTURE CROSS SECTION
(770)	792042R FR	93 NEPTUNIUM 239	NEUTRON	N,2N
(771)	792253R FR	94 PLUTONIUM 236	NEUTRON	CAPTURE CROSS SECTION
(772)	792045R FR	94 PLUTONIUM 236	NEUTRON	FISSION CROSS SECTION
(773)	792046R FR	94 PLUTONIUM 237	NEUTRON	CAPTURE CROSS SECTION
(774)	792047R FR	94 PLUTONIUM 237	NEUTRON	FISSION CROSS SECTION
(778)	742093R FR	94 PLUTONIUM 238	NEUTRON	CAPTURE CROSS SECTION
(779)	682062R FR	94 PLUTONIUM 238	NEUTRON	N,2N
(780)	792048R FR	94 PLUTONIUM 238	NEUTRON	N,2N
(783)	732095R FR	94 PLUTONIUM 238	NEUTRON	FISSION CROSS SECTION
(784)	762210R JAP	94 PLUTONIUM 239	NEUTRON	TOTAL CROSS SECTION
(785)	821007R USA	94 PLUTONIUM 239	NEUTRON	TOTAL CROSS SECTION
(786)	692416R UK	94 PLUTONIUM 239	NEUTRON	ELASTIC CROSS SECTION
(787)	861072R USA	94 PLUTONIUM 239	NEUTRON	ELASTIC CROSS SECTION
(788)	742095R FR	94 PLUTONIUM 239	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(789)	742097R FR	94 PLUTONIUM 239	NEUTRON	INELASTIC CROSS SECTION
(792)	742098R FR	94 PLUTONIUM 239	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(793)	742104R FR	94 PLUTONIUM 239	NEUTRON	CAPTURE CROSS SECTION
(795)	692418R UK	94 PLUTONIUM 239	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(796)	742096R FR	94 PLUTONIUM 239	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(797)	792049R FR	94 PLUTONIUM 239	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(798)	832015R FR	94 PLUTONIUM 239	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(799)	682067R FR	94 PLUTONIUM 239	NEUTRON	N,2N
(800)	762152R FR	94 PLUTONIUM 239	NEUTRON	N,2N
(801)	872039R FR	94 PLUTONIUM 239	NEUTRON	N,2N
(803)	682068R FR	94 PLUTONIUM 239	NEUTRON	N,3N
(805)	872043R FR	94 PLUTONIUM 239	NEUTRON	N,4N
(806)	692426R UK	94 PLUTONIUM 239	NEUTRON	FISSION CROSS SECTION
(808)	742099R FR	94 PLUTONIUM 239	NEUTRON	FISSION CROSS SECTION
(810)	762211R JAP	94 PLUTONIUM 239	NEUTRON	FISSION CROSS SECTION
(811)	792221R GER	94 PLUTONIUM 239	NEUTRON	FISSION CROSS SECTION
(812)	861171R USA	94 PLUTONIUM 239	NEUTRON	FISSION CROSS SECTION
(813)	872041R FR	94 PLUTONIUM 239	NEUTRON	FISSION CROSS SECTION
(814)	873056R PRC	94 PLUTONIUM 239	NEUTRON	FISSION CROSS SECTION
(815)	691315R USA	94 PLUTONIUM 239	NEUTRON	CAPTURE TO FISSION RATIO (ALPHA)
(816)	691317R USA	94 PLUTONIUM 239	NEUTRON	CAPTURE TO FISSION RATIO (ALPHA)
(819)	642006R UK	94 PLUTONIUM 239	NEUTRON	NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)
(820)	872042R FR	94 PLUTONIUM 239	NEUTRON	NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)

LIST OF WITHDRAWN REQUESTS

(821)	702037R JAP	94 PLUTONIUM 239	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(824)	872040R FR	94 PLUTONIUM 239	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(825)	761090R USA	94 PLUTONIUM 239	NEUTRON	DELAYED NEUTRONS EMITTED PER FISSION
(826)	762048N JAP	94 PLUTONIUM 239	NEUTRON	DELAYED NEUTRONS EMITTED PER FISSION
(827)	692433R UK	94 PLUTONIUM 239	NEUTRON	ENERGY SPECTRUM OF FISSION NEUTRONS
(828)	742103R FR	94 PLUTONIUM 239	NEUTRON	ENERGY SPECTRUM OF FISSION NEUTRONS
(830)	704020N RUS	94 PLUTONIUM 239	NEUTRON	FISSION PRODUCT MASS YIELD SPECTRUM
(831)	704023N RUS	94 PLUTONIUM 239	NEUTRON	FISSION PRODUCT MASS YIELD SPECTRUM
(832)	711803R CAN	94 PLUTONIUM 239	NEUTRON	FISSION PRODUCT MASS YIELD SPECTRUM
(833)	821035R USA	94 PLUTONIUM 240	NEUTRON	TOTAL CROSS SECTION
(834)	861065R USA	94 PLUTONIUM 240	NEUTRON	DIFFERENTIAL ELASTIC CROSS SECTION
(836)	861066R USA	94 PLUTONIUM 240	NEUTRON	ENERGY DIFFERENTIAL INELASTIC CROSS SECTION
(837)	692443R UK	94 PLUTONIUM 240	NEUTRON	ENERGY-ANGLE DIFFERENTIAL INELASTIC CROSS SECTION
(838)	691389R USA	94 PLUTONIUM 240	NEUTRON	CAPTURE CROSS SECTION
(839)	692451R FR	94 PLUTONIUM 240	NEUTRON	CAPTURE CROSS SECTION
(842)	821020R USA	94 PLUTONIUM 240	NEUTRON	CAPTURE CROSS SECTION
(843)	692442R UK	94 PLUTONIUM 240	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(844)	792050R FR	94 PLUTONIUM 240	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(848)	721090R USA	94 PLUTONIUM 240	NEUTRON	FISSION CROSS SECTION
(849)	742105R FR	94 PLUTONIUM 240	NEUTRON	FISSION CROSS SECTION
(852)	742106R FR	94 PLUTONIUM 240	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(853)	762049N JAP	94 PLUTONIUM 240	NEUTRON	DELAYED NEUTRONS EMITTED PER FISSION
(854)	732098R FR	94 PLUTONIUM 240	NEUTRON	ENERGY SPECTRUM OF FISSION NEUTRONS
(857)	702079N GER	94 PLUTONIUM 240		MISC
(861)	821010R USA	94 PLUTONIUM 241	NEUTRON	TOTAL CROSS SECTION
(862)	861073R USA	94 PLUTONIUM 241	NEUTRON	ELASTIC CROSS SECTION
(864)	692460R UK	94 PLUTONIUM 241	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(865)	792051R FR	94 PLUTONIUM 241	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(868)	732099R FR	94 PLUTONIUM 241	NEUTRON	FISSION CROSS SECTION
(869)	761042R USA	94 PLUTONIUM 241	NEUTRON	FISSION CROSS SECTION
(870)	763007R RUM	94 PLUTONIUM 241	NEUTRON	FISSION CROSS SECTION
(872)	821022R USA	94 PLUTONIUM 241	NEUTRON	FISSION CROSS SECTION
(873)	821023R USA	94 PLUTONIUM 241	NEUTRON	FISSION CROSS SECTION
(874)	691332R USA	94 PLUTONIUM 241	NEUTRON	CAPTURE TO FISSION RATIO (ALPHA)
(875)	702043R FR	94 PLUTONIUM 241	NEUTRON	CAPTURE TO FISSION RATIO (ALPHA)
(877)	642007R UK	94 PLUTONIUM 241	NEUTRON	NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)
(878)	692464R FR	94 PLUTONIUM 241	NEUTRON	NEUTRONS EMITTED PER NEUTRON ABSORPTION (ETA)
(879)	762050N JAP	94 PLUTONIUM 241	NEUTRON	DELAYED NEUTRONS EMITTED PER FISSION
(880)	704021N RUS	94 PLUTONIUM 241	NEUTRON	FISSION PRODUCT MASS YIELD SPECTRUM
(881)	711804R CAN	94 PLUTONIUM 241	NEUTRON	FISSION PRODUCT MASS YIELD SPECTRUM
(882)	702073N GER	94 PLUTONIUM 241		MISC
(883)	792255R GER	94 PLUTONIUM 242	NEUTRON	TOTAL CROSS SECTION

LIST OF WITHDRAWN REQUESTS

(884)	702047R	FR	94 PLUTONIUM 242	NEUTRON	CAPTURE CROSS SECTION
(885)	702048R	FR	94 PLUTONIUM 242	NEUTRON	CAPTURE CROSS SECTION
(886)	712102R	FR	94 PLUTONIUM 242	NEUTRON	CAPTURE CROSS SECTION
(887)	792168R	UK	94 PLUTONIUM 242	NEUTRON	CAPTURE CROSS SECTION
(889)	792052R	FR	94 PLUTONIUM 242	NEUTRON	TOTAL PHOTON PRODUCTION CROSS SECTION
(890)	763008R	RUM	94 PLUTONIUM 242	NEUTRON	FISSION CROSS SECTION
(891)	872044R	FR	94 PLUTONIUM 242	NEUTRON	RESONANCE PARAMETERS
(892)	792054R	FR	94 PLUTONIUM 243	NEUTRON	CAPTURE CROSS SECTION
(896)	792256R	GER	95 AMERICIUM 241	NEUTRON	TOTAL CROSS SECTION
(897)	873058R	PRC	95 AMERICIUM 241	NEUTRON	TOTAL CROSS SECTION
(898)	712109R	UK	95 AMERICIUM 241	NEUTRON	CAPTURE CROSS SECTION
(900)	873057R	PRC	95 AMERICIUM 241	NEUTRON	CAPTURE CROSS SECTION
(901)	712104R	GER	95 AMERICIUM 241	NEUTRON	NEUTRONS EMITTED PER FISSION (NU BAR)
(902)	792142R	UK	95 AMERICIUM 241		MISC
(903)	792257R	GER	95 AMERICIUM 242	NEUTRON	TOTAL CROSS SECTION
(904)	711805R	CAN	95 AMERICIUM 242	NEUTRON	CAPTURE CROSS SECTION
(905)	732101R	FR	95 AMERICIUM 242	NEUTRON	CAPTURE CROSS SECTION
(909)	792258R	GER	95 AMERICIUM 243	NEUTRON	TOTAL CROSS SECTION
(910)	712113R	FR	95 AMERICIUM 243	NEUTRON	ABSORPTION CROSS SECTION
(912)	832051R	UK	95 AMERICIUM 243	NEUTRON	CAPTURE CROSS SECTION
(913)	861074R	USA	95 AMERICIUM 243	NEUTRON	FISSION CROSS SECTION
(914)	712114R	FR	95 AMERICIUM 243	NEUTRON	ABSORPTION RESONANCE INTEGRAL
(915)	732107R	FR	96 CURIUM 242	NEUTRON	CAPTURE CROSS SECTION
(917)	762154R	FR	96 CURIUM 242	NEUTRON	CAPTURE CROSS SECTION
(922)	792259R	GER	96 CURIUM 244	NEUTRON	TOTAL CROSS SECTION
(923)	732109R	FR	96 CURIUM 244	NEUTRON	CAPTURE CROSS SECTION
(924)	762157R	FR	96 CURIUM 244	NEUTRON	CAPTURE CROSS SECTION
(926)	732108R	FR	96 CURIUM 244	NEUTRON	FISSION CROSS SECTION
(927)	792058R	FR	96 CURIUM 246	NEUTRON	CAPTURE CROSS SECTION
(928)	792060R	FR	96 CURIUM 247	NEUTRON	CAPTURE CROSS SECTION
(929)	792062R	FR	96 CURIUM 248	NEUTRON	CAPTURE CROSS SECTION
(930)	792064R	FR	97 BERKELIUM 249	NEUTRON	CAPTURE CROSS SECTION
(931)	712119R	FR	98 CALIFORNIUM 252	SPONTANEOUS	NEUTRONS EMITTED PER FISSION (NU BAR)
(933)	732117R	UK	98 CALIFORNIUM 252	SPONTANEOUS	ENERGY SPECTRUM OF FISSION NEUTRONS

APPENDICES

APPENDIX A

List of Country Codes

EUR	COMMISSION OF THE EUROPEAN COMMUNITIES
IND	INDIA
ITY	ITALY
JAP	JAPAN
PRC	PEOPLES REPUBLIC OF CHINA
RUS	RUSSIA
USA	UNITED STATES

APPENDIX B

List of Laboratory Codes

AEP	(CNDC) ATOMIC ENERGY INSTITUTE, P.O.BOX275(41) BEIJING	PRC
ANL	ARGONNE NATIONAL LABORATORY, LEMONT, ILLINOIS	USA
BET	WESTINGHOUSE, BETTIS ATOMIC POWER LAB., PITTSBURGH, PA.	USA
BOL	COMISION NACIONAL DE ENERGIA ATOMICA, BOLOGNA	ITY
DOE	US DEPARTMENT OF ENERGY, WASHINGTON, D.C.	USA
FEI	FIZIKO-ENERGETICHESKIJ INSTITUT, OBNINSK	RUS
GAC	INSTITUTE FOR GEO- AND ANALYTIC CHEMISTRY, MOSCOW	RUS
GEL	B.C.M.N. EURATOM, GEEL	EUR
HIT	ENERGY RESEARCH LABORATORY, HITACHI LTD. JAPAN	JAP
IPM	INST. OF APP.PHYSICS AND COMP.MATH. P.O.BOX 8009 BEIJING	PRC
JAE	JAPAN ATOMIC ENERGY RESEARCH INSTITUTE, TOKAI	JAP
KAL	KALPAKKUM REACTOR RESEARCH CENTRE, KALPAKKAM, TAMILNADU	IND
KAP	KNOLLS ATOMIC POWER LABORATORY, SCHENECTADY, NEW YORK	USA
KUR	I.V. KURCHATOV ATOMIC ENERGY INST., MOSCOW	RUS
LAS	LOS ALAMOS SCIENTIFIC LABORATORY, NEW MEXICO	USA
LLL	LAWRENCE LIVERMORE LABORATORY, CALIFORNIA	USA
MAP	MITSUBISHI A.P.I., INC.	JAP
NIG	NIPPON ATOMIC INDUSTRY GROUP	JAP
NIS	NATIONAL BUREAU OF STANDARDS, WASHINGTON, D.C.	USA
ORL	OAK RIDGE NATIONAL LABORATORY, TENNESSEE	USA
OSA	OSAKA UNIV.,OSAKA	JAP
PNC	POWER REACTOR AND NUCLEAR FUEL DEV. CORP.	JAP
RI	KHLOPIN RADIUM INSTITUTE, ST.PETERSBURG	RUS
SAE	SUMITOMO ATOMIC ENERGY INDUSTRIES, LTD., TOKYO	JAP
SAN	SANDIA, ALBURQUERQUE, NEW MEXICO	USA
TRM	BHABHA ATOMIC RESEARCH CENTRE, TROMBAY	IND
TSI	TSI RESEARCH INC., SOLANA BEACH, CALIFORNIA	USA
WHC	WESTINGHOUSE HANFORD CORPORATION, RICHLAND, WASH.	USA

APPENDIX C

NAMES AND ADDRESSES OF REQUESTORS

ARTIOLI C.
CENTRO DI CALCOLO DEL C.N.E.N.
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I-40135 BOLOGNA
ITALY

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JAPAN

KAWAI, M.
NIPPON ATOMIC INDUSTRY GROUP
SUEHIRO-CHO
KAWASAKI-SHI, KANAGAWA-KEN 210
JAPAN

KAWAKITA, T.
MITSUBISHI A.P.I., INC.
1-297 KITABUKURO-CHO
OMIYA-SHI, SAITAMA-KEN 330
JAPAN

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LIST OF ELEMENTS

ACTINIUM	AC	89	HAFNIUM	HF	72	POTASSIUM	K	19
ALUMINUM	AL	13	HAHNIUM	HA	105	PRASEODYMIUM	PR	59
AMERICIUM	AM	95	HELIUM	HE	2	PROMETHIUM	PM	61
ANTIMONY	SB	51	HOLMIUM	HO	67	PROTACTINIUM	PA	91
ARGON	AR	18	HYDROGEN	H	1	RADIUM	RA	88
ARSENIC	AS	33	INDIUM	IN	49	RADON	RN	86
ASTATINE	AT	85	IODINE	I	53	RHENIUM	RE	75
BARIUM	BA	56	IRIDIUM	IR	77	RHODIUM	RH	45
BERKELIUM	BK	97	IRON	FE	26	RUBIDIUM	RB	37
BERYLLIUM	BE	4	KRYPTON	KR	36	RUTHENIUM	RU	44
BISMUTH	BI	83	KURCHATOVIUM	KU	104	SAMARIUM	SM	62
BORON	B	5	LANTHANUM	LA	57	SCANDIUM	SC	21
BROMINE	BR	35	LAWRENCIUM	LR	103	SELENIUM	SE	34
CADMIUM	CD	48	LEAD	PB	82	SILICON	SI	14
CALCIUM	CA	20	LITHIUM	LI	3	SILVER	AG	47
CALIFORNIUM	CF	98	LUTETIUM	LU	71	SODIUM	NA	11
CARBON	C	6	MAGNESIUM	MG	12	STRONTIUM	SR	38
CERIUM	CE	58	MANGANESE	MN	25	SULFUR	S	16
CESIUM	CS	55	MENDELEVIUM	MD	101	TANTALUM	TA	73
CHLORINE	CL	17	MERCURY	HG	80	TECHNETIUM	TC	43
CHROMIUM	CR	24	MOLYBDENUM	MO	42	TELLURIUM	TE	52
COBALT	CO	27	NEODYMIUM	ND	60	TERBIUM	TB	65
COPPER	CU	29	NEON	NE	10	THALLIUM	TL	81
CURIUM	CM	96	NEPTUNIUM	NP	93	THORIUM	TH	90
DYSPROSIUM	DY	66	NICKEL	NI	28	THULIUM	TM	69
EINSTEINIUM	ES	99	NIOBIUM	NB	41	TIN	SN	50
ERBIUM	ER	68	NITROGEN	N	7	TITANIUM	TI	22
EUROPIUM	EU	63	NOBELIUM	NO	102	TUNGSTEN	W	74
FERMIUM	FM	100	OSMIUM	OS	76	URANIUM	U	92
FLUORINE	F	9	OXYGEN	O	8	VANADIUM	V	23
FRANCIUM	FR	87	PALLADIUM	PD	46	XENON	XE	54
GADOLINIUM	GD	64	PHOSPHORUS	P	15	YTTERBIUM	YB	70
GALLIUM	GA	31	PLATINUM	PT	78	YTTRIUM	Y	39
GERMANIUM	GE	32	PLUTONIUM	PU	94	ZINC	ZN	30
GOLD	AU	79	POLONIUM	PO	84	ZIRCONIUM	ZR	40