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INFORMAL REPORT

USNDC-6

C.3

Compilation of Requests for Nuclear Data

los alamos
scientific laboratory
of the University of California
LOS ALAMOS, NEW MEXICO 87544

UNITED STATES
ATOMIC ENERGY COMMISSION
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Compiled and edited by

Leona Stewart, Michael S. Moore, and Henry T. Motz

for the

United States Nuclear Data Committee

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I. INTRODUCTION

This report is a working document of the U. S. Nuclear Data Committee. It contains a list of cross-section and related measurements important to the U. S. nuclear energy programs. These requests have originated from various Atomic Energy Commission agencies and contractors, Department of Defense laboratories and contractors, National Aeronautics and Space Administration laboratories and contractors, and other interested groups. Requests have also been received from the Advisory Committee on Reactor Physics (ACRP), the United States Nuclear Data Committee (USNDC), the Defense Nuclear Agency (DNA), and others.

Each request which appears in this compilation has been reviewed by subcommittees of the USNDC. In addition, those requests designated as DRDT and DNA have been reviewed by the ACRP; those designated as DCTR were reviewed by an ad-hoc Committee on Controlled Thermonuclear Research; those designated as DNA were reviewed by individuals designated by the DNA; etc.

Requesters' comments have often been edited to conserve space, hopefully without compromising the intended meaning. Status comments are the responsibility of the working subcommittees of the USNDC although editing was often required before inclusion in the final document. In compiling the status comments, the USNDC assumes that the requester has consulted the published literature and the National Neutron Cross Section Center files for available data listed in CINDA documents which are kept current and are available in all AEC depository libraries. Most references to such published literature have therefore been omitted.

This version* of the request list was produced by computer printout. The computer program was written by Myron L. Stein specifically for the MANIAC at Los Alamos. The present printout is unretouched and contains slight notation problems which may be confusing. The MANIAC printer allows only a few Greek characters but it does allow overprinting; therefore Roman letters with a bar over the top are chosen to denote many of the common Greek symbols; for example, $\bar{a}$ is Greek α, $\bar{b}$ is Greek β, $\bar{g}$ is Greek γ, etc. Throughout the tables, capital Ơ is used for σ due to the obvious similarity between the two.

It should be noted that this reaction list was originally set up to handle neutron interactions but, at a later date, the list was amended to include other incident particles. Therefore, a channel description such as "Elastic" and "Total" always refers to incident neutrons. If a particle other than a neutron is in the incident channel, the specific particle appears under "REACTION" for each request listed.

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*Future request compilations will be the responsibility of the National Neutron Cross Section Center at Brookhaven National Laboratory.

Reaction types are, for the most part, in standard notation. These requests are invariably for microscopic data, and dependence on the incident neutron energy is implied. If the request is for the measurement of a cross section as a function of angle or exit particle energy as well as incident energy, this information is given in the column labeled "REACTION TYPE-VARIABLE."

All requests are ordered by Z, A, and then by reaction type according to an ordering scheme which resembles that chosen for ENDF/B. For example, retrievals are easily made on cross sections, angular distributions, energy spectra, etc. The main body of the requests contains requests for nucleon induced reactions and scattering for energies up to 20 MeV (Table 1). Photon-induced requests are in Table 2 and medium energy requests in Table 3. All of the reaction indices are completely described and defined as prefixes to each of these tables.

ACKNOWLEDGMENTS

The editors of this compilation would like to acknowledge the work of Dr. Myron L. Stein who handled all of the computer programming and operations, and to Mrs. Jane Rasmussen, who keypunched the majority of the requests. Mrs. Juanita Gammel has conscientiously and patiently prepared the input and edited the output for this final version. To all of these people, we express our sincere appreciation.

II. PROCEDURES FOR SUBMITTING REQUESTS

Requests for measurements of nuclear data should be transmitted through the appropriate channels to the U. S. Nuclear Data Committee at which time they will be reviewed by the various USNDC subcommittees. All requests should be completely specified and transmitted in the appropriate format, including the requester's comments regarding the importance and application of the request. They should then be submitted in the following manner:

A. Fission reactor requests should be transmitted to the Advisory Committee on Reactor Physics which will review and set the priority for each such entry. The present chairman is:

Dr. W. H. Hannum, Chief
Division of Reactor Development & Technology
Reactor Physics Branch
U. S. Atomic Energy Commission
Washington, D. C. 20545

B. DOD requests should be transmitted to the Radiation Physics Division of the Defense Nuclear Agency. The present contact is:

Capt. Dean Kaul, Radiation Transport Project Officer
HQ, Defense Nuclear Agency, Attn: RARP
Department of Defense
Washington, D. C. 20305

C. Other requests should be transmitted to:

Dr. George A. Kolstad, Assistant Director for Physics & Mathematics Programs
Division of Physical Research
U. S. Atomic Energy Commission
Washington, D. C. 20545

III. PRIORITY ASSIGNMENTS

The exact meaning of "priority" is difficult to asses but the following definitions,* which closely resemble those used by both EANDC and the EACRP, have been adopted by the USNDC:

PRIORITY I. Nuclear data which satisfy the criteria of Priority II and which have been selected for maximum practicable attention taking into account the urgency of nuclear energy program requirements.**

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*The priority has been left blank on all requests for fusion reactor data. These fall under the organization listing of the Division of Controlled Thermonuclear Research (DCTR), AEC, Washington.

**For example, the EACRP 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:

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

information on an important reactor parameter is in principle attainable through mathematical calculations from nuclear data only; or

these data are needed for materials required in reactor physics measurements.

PRIORITY II. Nuclear data that will be required during the next few years in the applied nuclear energy programs (for example, in data needed to make the best use of reactor fuel and construction materials such as neutron moderators, absorbers, and radiation shields, space and bio-medical applications; data required for better understanding of some significant aspect of reactor behavior).

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

IV. SCREENING REQUESTS

All fission reactor requests in this report were reviewed by the ACRP; all fusion reactor requests were reviewed by an Ad Hoc Committee for CTR; and the entire list of requests was reviewed by the following members and Subcommittee members of the USNDC in the Fall of 1972:

Standards
R. S. Caswell, NBS, Chrm.
W. W. Havens, Jr., Col.
W. P. Poenitz, ANL
L. Stewart, LASL
B. R. Leonard, Jr., BNW

Elastic and Inelastic Scattering
A. B. Smith, ANL, Chrm.
J. C. Hopkins, LASL
H. Goldstein, Col.
F. G. J. Perey, ORNL

Gamma-ray Production
H. E. Jackson, ANL, Chrm.
H. T. Motz, LASL
R. E. Chrien, BNL
J. K. Dickens, ORNL
V. J. Orphan, IRT

Total Capture Cross Sections
R. L. Macklin, ORNL, Chrm.
R. C. Block, RPI
M. P. Fricke, SAI
W. P. Poenitz, ANL
J. B. Czirr, LLL

Fission
M. S. Moore, LASL, Chrm.
C. D. Bowman, NBS
G. De Saussure, ORNL
R. W. Hockenbury, RPI
E. Melkonian, Col.
J. A. Grundl, NBS

Resonance Parameters, Resonance Integrals, and Total Cross Sections
R. C. Block, RPI, Chrm.
A. D. Carlson, NBS
J. A. Farrell, LASL
W. W. Havens, Jr., Col.
M. H. Kalos, NYU
O. D. Simpson, ANC

Fast Neutron Reactions
H. Alter, AI, Chrm.
D. W. Barr, LASL
D. E. Gardner, LLL
J. L. Brownlee, LLL
G. W. Butler, LASL

V. TABLES WITH DESCRIPTIVE INFORMATION

Preceding Tables 1, 2, and 3 will be the dictionary describing the quantities in the table which follows. The entire request list is contained in these three tables which are described as:

Table 1 contains the measurement requests for low-energy incident particles, that is, neutrons, protons, deuterons, tritons, and ^{3}He, ^{4}He, and ^{6}Li particles;

Table 2 contains the measurement requests for photons incident; and

Table 3 contains the medium-energy measurement requests for incident charged particles.

The requests which have been deleted from the last publication of the request list (NCSAC 35) have been compiled by hand for inclusion in Table 4. One line retrievals sorted on organization are to be found in Table 5. Each organization comprises a subset of Table 5 with names and organizational addresses given on each title page. A word of explanation is necessary since the one-line computer printout may appear to include erroneous requests. In making a search of this nature, only the first line of the particular request is retrieved even though the first requester (A-1 card and request) may not belong to that particular organization. Therefore, when a request appears in Table 5 without the correct organizational listing, one should take that request number and refer back to the main document in order to determine the energy range, priority, and accuracy associated with that specific request.

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TABLE 1. LOW ENERGY REQUESTS FOR INCIDENT NUCLEONS

Reaction	Variables Allowed	Definition
A. NEUTRONS INCIDENT		
Total		Sum of all partial cross sections
Elastic	$\sigma(\theta_n)$	Cross section for the scattering of the incident particle with the center-of-mass energy unchanged
Elas + 1st	$\sigma(\theta_n)$	Elastic plus first excited state cross section
Elas + In	$\sigma(\theta_n)$	Elastic plus "some" inelastic cross section
Tot n Scat	$\sigma(\theta_n)$	All emitted neutrons including elastic
Emission	$\sigma(\theta_{n'})$ $\sigma(E_{n'})$ $\sigma(\theta_{n'},E_{n'})$ $\sigma(55°,E_{n'})$ $\sigma(90°,E_{n'})$	All emitted neutrons except elastic, that is: Emission = $\sigma_{n,n'} + 2\sigma_{n,2n} + 3\sigma_{n,3n} + \bar{\nu}\sigma_{n,f}$ + etc.
Inelastic	$\sigma(\theta_{n'})$ $\sigma(E_{n'})$ $\sigma(\theta_{n'},E_{n'})$	Total inelastic scattering cross section
$\sigma_{n,n'}$	Isom State	Inelastic scattering to an isomeric state
$\sigma_{n,n'}$	1st State	Inelastic scattering to the first excited state
$\sigma_{n,n'}$	2nd State	Inelastic scattering to the second excited state
$\sigma_{n,n'p}$		Reaction cross section for the emission of n and p

TABLE 1. (cont.)

Reaction	Variables Allowed	Definition
$\sigma_{n,n'd}$		Reaction cross section for the emission of n and d
$\sigma_{n,n't}$	$\sigma(\theta_{n'})$	Reaction cross section for the emission of n and t
$\sigma_{n,n'3\bar{a}}$		Cross section for the $^{12}C(n,n'3\alpha)$ reaction
$\sigma_{n,2n}$		Total cross section for the (n,2n) reaction
$\sigma_{n,2n}$	Isom State	Partial (n,2n) cross section to an isomeric state
$\sigma_{n,2n}$	Act	Activation cross section for the (n,2n) reaction
$\sigma_{n,3n}$		Total (n,3n) cross section
$\sigma_{n,3n}$	Act	Activation cross section for the (n,3n) reaction
$\sigma_{n,4n}$		Total (n,4n) cross section
$\sigma_{n,\bar{g}}$		($\sigma_{n,\gamma}$) Total radiative capture cross section
$\sigma_{n,\bar{g}}$	Act	Activation cross section for the (n,γ) reaction
$\sigma_{n,\bar{g}}$ wrt	$\sigma_{n,f}Pu^{239}$	Relative measurement with respect to Pu^{239} fission
$\sigma_{n,p}$		Total (n,p) cross section
$\sigma_{n,p}$	Act	Activation cross section for the (n,p) reaction
$(n,p)Li^9$	$\bar{b}^- \rightarrow Be^{9*} \rightarrow n$	The $Be^9(n,p)Li^9$ reaction which β decays to an excited state in Be^9, which then emits a neutron
$(n,p)N^{17}$	$\bar{b}^- \rightarrow O^{17*} \rightarrow n$	The $O^{17}(n,p)N^{17}$ reaction which β decays to an excited state in O^{17} which then emits a neutron
$\sigma_{n,d}$		Total (n,d) cross section
$\sigma_{n,t}$		Total (n,t) cross section

TABLE 1. (cont.)

Reaction	Variables Allowed	Definition
Tot $\bar{a}$ Prod		Total α production cross section; for example, for B^{10}, this would be $\sigma_{n,\alpha_0} + \sigma_{n,\alpha_1} + 2\sigma_{n,t2\alpha} + 2\sigma_{n,2n} + 2\sigma_{n,n'd}$
$\sigma_{n,\bar{a}}$		Total (n,α) cross section
$\sigma_{n,\bar{a}}$	Act	Activation cross section for the (n,α) reaction
$\sigma_{n,\bar{a}}$ Ratio	wrt B^{10}	Measurement of the Li^6(n,α) relative to B^{10}
$\sigma_{n,\bar{a}}$	1st	The $B^{10}(n,\alpha_1\gamma)$ cross section (separate α_0 and α_1)
$\sigma_{n,\overline{ag}}$	$E_{\bar{g}}$ = 480 keV	The $B^{10}(n,\alpha_1\gamma)$ cross section (detect the 480-keV γ)
Tot $\bar{g}$ Prod	$\sigma(\theta_{\bar{g}})$ $\sigma(E_{\bar{g}})$ $\sigma(\theta_{\bar{g}},E_{\bar{g}})$ $\sigma(55°,E_{\bar{g}})$ $\sigma(90°,E_{\bar{g}})$	Total γ-ray production cross section, including all processes such as inelastic, radiative capture, (n,p), (n,α), (n,2n), (n,f), etc.
$\sigma_{n,n'}(\bar{g}$'s)	$\sigma(\theta_{\bar{g}})$	A specific γ (or γ's) which is uniquely identified with inelastic scattering
$\sigma_{n,n'}(\bar{g}_1)$	$\sigma(\theta_{\bar{g}})$	A discrete γ-ray associated with the deexcitation of the first excited state of the target. In most cases of interest, the excitation and deexcitation cross sections are identical.

TABLE 1. (cont.)

Reaction	Variables Allowed	Definition
Absorption		Usually specified as $\sigma_{n,\gamma} + \sigma_{n,f}$ but here includes $\sigma_{n,p} + \sigma_{n,d}$
$\sigma_{abs} - \sigma_{n,f}$	no n exit	$\sigma_{n,p} + \sigma_{n,d}$ + etc.
Destruct	of target	All cross sections in which the target is comsumed
$\sigma_{n,f}$		Cross section for all processes accompanied by fission
$\sigma_{n,f}$ Ratio	wrt H, B^{10}	The fission cross section ratio to hydrogen scattering or B^{10} as the reference standard
Fis Ratio	wrt U^{235}	Ratio measurements of fission cross section relative to U^{235}
Fis Ratio	wrt Pu^{239}	Ratio measurements of fission cross section relative to Pu^{239}
$\sigma_{n,f} + \sigma_{n,\bar{g}}$	at 77° K	Absorption cross section averaged over a spectrum represented by a Maxwellian with temperature 77° K
Eta		Number of neutrons per nonelastic collision
Alpha		Ratio of the capture to fission cross section
Nu Bar		Average number of fission neutrons emitted per fission
Nu Bar	Prompt	Average number of prompt fission neutrons per fission
Nu Bar	Delayed	Average number of delayed fission neutrons per fission
Fis. Spect	$P(E_{n'})$	Energy spectrum of the fission neutrons produced by fission
Cap Spect	$P(E_{\bar{g}})$	Energy spectrum of the γ's produced in radiative capture
Prompt n Y	$P(E_{n'})$	Energy spectrum of the prompt neutrons
Delayd n Y	$P(E_{n'})$	Energy spectrum of the delayed neutrons

TABLE 1. (cont.)

Reaction	Variables Allowed	Definition
Fis n Y	$P(E_{n'})$	Energy spectrum of the fission neutrons (prompt plus delayed)
Tot f Y		Total fission yield
Prompt f Y		Prompt fission yield
Delayd f Y		Delayed fission yield
Fis $\bar{g}$ Y	$P(E_{\bar{g}})$	Fission gamma spectrum (total)
Prompt $\bar{g}$ Y	$P(E_{\bar{g}})$	Prompt gamma spectrum
Delayd $\bar{g}$ Y	$P(E_{\bar{g}})$	Delayed gamma spectrum
Delayd $\bar{g}$ Y	$P(E_{\bar{g}},T^{1/2})$	Time dependent delayed gamma spectrum
Fis Prod Y	of Xe^{135}	Average number of Xe^{135} produced per fission
Fis Prod Y	of Cs^{137}	Average number of Cs^{137} produced per fission
Fis Prod Y	of Nd^{147}	Average number of Nd^{147} produced per fission
Fis Prod Y	of Sm^{149}	Average number of Sm^{149} produced per fission
Polariz	$P(\theta_n)$	Vector polarization produced in neutron elastic scattering
Res Par		All resonance parameters
Res Int		Resonance Integral
Res Int	Capture	Resonance radiative capture integral
J,π		Spin and parity
$\bar{G}$		Total level width

TABLE 1. (cont.)

Reaction	Variables Allowed	Definition
$\bar{G}_n$		Neutron level width
$\bar{G}_f$		Fission level width
$\bar{G}_{\bar{g}}$		Radiative capture level width
$\bar{G}_p$		Proton level width
$\bar{G}_{\bar{a}}$		Alpha level width
$\bar{G}_n$ and $\bar{G}_{\bar{g}}$		Neutron and radiative capture widths
$\bar{G}_f$ and $\bar{G}_n$		Fission and neutron widths
$\bar{G}_{\bar{g}}$ and $\bar{G}_f$		Radiative capture and fission widths
B. PROTONS INCIDENT		
$\sigma_{p,n}$		Cross section for the (p,n) reaction
$\sigma_{p,\bar{a}}$		Cross section for the (p,α) reaction
$\sigma_{p,n'p}$		Cross section for the (p,n'p) reaction
$(p,p')Li^6$	$d + \bar{a}$	$Li^6(p,p')Li^{6*}$ reaction which decays via $(d + \alpha)$
$(p,d)Be^8$	$2\bar{a}$ decay	$Be^9(p,d)Be^8$ reaction which decays via 2α

TABLE 1. (cont.)

Reaction	Variables Allowed	Definition
C. DEUTERONS INCIDENT		
$\sigma_{d,n}$		Cross section for the (d,n) reaction
$\sigma_{d,n}$	$He^3 + \bar{a}$	$Li^6(d,n)Be^7$ reaction which decays via ($He^3 + \alpha$)
$\sigma_{d,p}$		Cross section for the (d,p) reaction
$\sigma_{d,p}$	$t + \bar{a}$	$Li^6(d,p)Li^7$ reaction which decays via ($t + \alpha$)
$\sigma_{d,n'p}$		Cross section for the (d,n'p) reaction
$\sigma_{d,a}$		Cross section for the (d,α) reaction
$(d,d')Li^{6*}$	$d + \bar{a}$	$Li^6(d,d')Li^{6*}$ reaction which decays via ($d + \alpha$)
D. TRITONS INCIDENT		
t,d		Cross section for the (t,d) reaction
t,2n		Cross section for the (t,2n) reaction
$(t,p)Li^8$	$\bar{b}^- \rightarrow 2\bar{a}$	$Li^6(t,p)Li^8$ reaction which β^- decays to Be^8 and then 2α's are emitted
$(t,n)Be^8$	$2\bar{a}$ decay	$Li^6(t,n)Be^8$ reaction where 2α's are emitted promptly

TABLE 1. (cont.)

Reaction	Variables Allowed	Definition
E. He's INCIDENT		
^{3}He,p		Cross section for the (^{3}He,p) reaction
(^{3}He,p)	2$\bar{a}$ decay	$Li^{6}(He^{3},p)$ reaction which leads to the emission of 2α's
(^{3}He,d)		Cross section for the (^{3}He,d) reaction
(^{3}He,n)B^{8}	$\bar{b}^{+}\rightarrow 2\bar{a}$	$Li^{6}(He^{3},n)B^{8}$ reaction which β^{+} decays to Be^{8} and then 2α's are emitted
F. α's INCIDENT		
$\sigma_{\bar{a},n}$		Cross section for the (α,n) reaction
$\sigma_{\bar{a},p}$		Cross section for the (α,p) reaction
($\bar{a}$,$\bar{a}$')Li^{6*}	d + $\bar{a}$	$Li^{6}(\alpha,\alpha')Li^{6*}$ reaction which decays by (d + α)
G. Li^{6} PARTICLES INCIDENT		
^{6}Li + ^{6}Li →	^{7}Be+^{4}He+n	Cross section for the production of Be^{7}, α, and n

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG.	YR
1	$_1H^1$	Elastic	$\sigma(\theta_n)$	I			*	2				NDC	Caswell	DPR	72
					REQ COM: For use as standard, 2 percent accuracy,										72
					* At three energies, 7,10, and 20 MeV suggested.										72
					STATUS: No active work.										72
2	$_1H^2$	Elastic		I	1-	1		<2				BET	Bayard	DNR	72
					REQ COM: None.										72
					STATUS: RPI data 1 keV and above.										72
3	$_1H^2$	$\sigma_{p,n'p}$					3.3-15				<25	ORNL	McNally	DCTR	72
					REQ COM: To estimate feasibility of fusion chain reactions.										72
					STATUS: No active work.										72
4	$_1H^3$	Elastic	$\sigma(\theta_n)$	II			14			10		LASL	Motz	DMA	65
					REQ COM: Absolute values required.										65
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
5	$_1H^3$	$\sigma_{n,2n}$		III			12.5			10		LASL	Motz	DMA	65
					REQ COM: Absolute cross section required.										65
					STATUS: No active work.										72
6	$_1H^3$	$\sigma_{p,n}$					1.5-15				<25	ORNL	McNally	DCTR	72
					REQ COM: To estimate feasibility of fusion chain reactions.										72
					STATUS: No active work.										72
7	$_1H^3$	$\sigma_{t,2n}$				10-	10				<25	ORNL	McNally	DCTR	72
					REQ COM: To estimate feasibility of fusion chain reactions.										72
					STATUS: No active work.										72
8	$_2He^3$	$\sigma_{n,p}$		II		10-	3	1				GGA	Nordheim	DRDT	69
				II		10-	3	1				LMFB	Hemmig-AEC	DRDT	69
				II		1-	3	3				NDC	Caswell	DPR	69
				II		100-	3	3				LASL	Diven	DMA	69
				II			3-10		5			LASL	Diven	DMA	69
					REQ COM: For use as secondary standard.										69
					Intermediate accuracy useful.										69
					Absolute values required.										69
					STATUS: GGA Costello+, 0.3-1.1 MeV; accuracy 10 percent.										72

REQ #	TARGET Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRIOR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
9	$_2He^3$	$\sigma_{t,d}$				100-	10				<25	ORNL	McNally	DCTR	72
					REQ COM: To estimate feasibility of fusion chain reactions.										72
					STATUS: No active work.										72
10	$_2He^4$	$\sigma_{d,n'p}$					3.3-15				<25	ORNL	McNally	DCTR	72
					REQ COM: To estimate feasibility of fusion chain reactions.										72
					STATUS: No active work.										72
11	$_3Li$	Tot $\bar{g}$ Prod	$\sigma(E_{\bar{g}})$	II		258±10				15*	1	SNPO	Fleishman	DSNS	69
				I			4-10			15*		SNPO	Fleishman	DSNS	69
					REQ COM: *Accuracy 15 percent or 5 mb whichever greater.										69
					Absolute $\sigma(E_{\bar{g}})$ required for all $E_{\bar{g}}$ > 200 keV.										69
					Neutron energy intervals required:										69
					Res. region: reproduce major variations in $\sigma(E_{\bar{g}})$										69
					>1MeV: 500-keV intervals.										69
					Gamma-energy resolution required:										69
					<2.5MeV, 10 percent; >2.5MeV, 250 keV.										69
					STATUS: Frankfurt, Presser+Bass, E_n=1-9 MeV,										72
					$^7Li(n,n')$ 480-keV $\bar{g}$.										72

REQ #	TARGET Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
12	$_3Li^6$	Elastic	$\sigma(\theta_n)$	I		1-100		1-	5			NDC	Caswell	DPR	69
					REQ COM: Accuracy 1 to 5 per, to obtain n,alpha to 2 per.										69
					σ(θ) may be required at upper end.										69
					STATUS: Asami+ EANDC(JAP)-13L, 1-10 keV, 4 percent.										70
13	$_3Li^6$	Elastic	$\sigma(\theta_n)$				~14			15		AEC	Gough	DCTR	71
					REQ COM: Need for shield, magnet cost estimates, CTR.										71
					STATUS: No data to required accuracy.										72
14	$_3Li^6$	Emission	$\sigma(\theta_{n'},E_{n'})$	I			6-14			≤10		LASL	Motz	DMA	65
					REQ COM: Absolute $\sigma(\theta_{n'},E_{n'})$ at several angles required.										67
					Include (n,2n) neutrons.										67
					STATUS: No active work.										72
15	$_3Li^6$	$\sigma_{n,2n}$		I			8-16		5			LASL	Motz	DMA	66
					REQ COM: Absolute σ'S, coincidence technique required.										66
					Needed to determine true energy dependence.										66
					Omit 14-MeV point.										72
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
16	$_3Li^6$	$\sigma_{n,n'd}$					Ths-14			10		AEC	Gough	DCTR	71
					REQ COM: Needed for CTR applications.										71
					STATUS: No data to required accuracy.										72
17	$_3Li^6$	$\sigma_{n,t}$					3-14		<10			AEC	Gough	DCTR	71
					REQ COM: Needed to determine breeding ratio, CTR.										71
					STATUS: No data to required accuracy.										72
18	$_3Li^6$	$\sigma_{n,\alpha}$		I		1-	3	1				ANL	Avery	DRDT	69
				I		1-	3	1				LMFB	Hemmig-AEC	DRDT	69
				I	500	to	3	1-3				LASL	Hansen	DMA	69
				I		100-	13		3-5			LASL	Motz	DMA	72
				I		10-	14	1-3				NDC	Caswell	DPR	72
				I		10	3		5			LLL	Howerton	DMA	70
					REQ COM: For use as standard below 3 MeV.										69
					Accuracy of 3 percent useful.										69
					Energy resolution must reproduce true shape.										69
					Absolute σ's required standard < 150 keV LASL.										72
					Accuracy 1 per below 100 keV, 3 per above NDC.										72
					STATUS: HAR Coates[+], recent measurements (2-500 keV).										72
					using 1mm dector agree with Diment[+] evaluation,										72
					but disagree with Fort. See AERE-PR/NP 18.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
19	${}_3Li^6$	Tot $\bar{a}$ Prod		II		1-	18			10		HEDL	McElroy	DRDT	69
					REQ COM: For use as fluence monitor.										69
					Total helium production for mass spectrometer.										69
					STATUS: No active work.										72
20	${}_3Li^6$	$(p,p')Li^{6*}$	$d + \bar{a}$				3-15				<25	ORNL	McNally	DCTR	72
					REQ COM: To estimate feasibility of fusion chain reactions.										72
					STATUS: No active work.										72
21	${}_3Li^6$	$\sigma_{p,\bar{a}}$				100-	15				<25	ORNL	McNally	DCTR	72
					REQ COM: To estimate feasibility of fusion chain reactions.										72
					STATUS: No active work.										72
22	${}_3Li^6$	$\sigma_{d,n}$				100-	5				<25	ORNL	McNally	DCTR	72
					REQ COM: To estimate feasibility of fusion chain reactions.										72
					STATUS: No active work.										72
23	${}_3Li^6$	$\sigma_{d,n}$	$He^3+\bar{a}$			100-	5				<25	ORNL	McNally	DCTR	72
					REQ COM: To estimate feasibility of fusion chain reactions.										72
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
24	$_3Li^6$	$\sigma_{d,p}$				100-	5				<25	ORNL	McNally	DCTR	72
					REQ COM: To estimate feasibility of fusion chain reactions.										72
					STATUS: No active work.										72
25	$_3Li^6$	$\sigma_{d,p}$	t + $\bar{a}$			100-	5				<25	ORNL	McNally	DCTR	72
					REQ COM: To estimate feasibility of fusion chain reactions.										72
					STATUS: No active work.										72
26	$_3Li^6$	(d,d')Li^{6*}	d + $\bar{a}$				3-6				<25	ORNL	McNally	DCTR	72
					REQ COM: To estimate feasibility of fusion chain reactions.										72
					STATUS: No active work.										72
27	$_3Li^6$	$\sigma_{d,\bar{a}}$				100-	5				<25	ORNL	McNally	DCTR	72
					REQ COM: To estimate feasibility of fusion chain reactions.										72
					STATUS: No active work.										72
28	$_3Li^6$	(t,n)Be^8	2$\bar{a}$ decay			10-	2				<25	ORNL	McNally	DCTR	72
					REQ COM: To estimate feasibility of fusion chain reactions.										72
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
29	$_3Li^6$	$(t,p)Li^8$	$\bar{\beta}^- \rightarrow 2\bar{\alpha}$			10-	2				<25	ORNL	McNally	DCTR	72
					REQ COM: To estimate feasibility of fusion chain reactions.										72
					STATUS: No active work.										72
30	$_3Li^6$	$\sigma_{t,d}$				10-	2				<25	ORNL	McNally	DCTR	72
					REQ COM: To estimate feasibility of fusion chain reactions.										72
					STATUS: No active work.										72
31	$_3Li^6$	$(^3He,n)B^8$	$\bar{\beta}^+ \rightarrow 2\bar{\alpha}$				2-8				<25	ORNL	McNally	DCTR	72
					REQ COM: To estimate feasibility of fusion chain reactions.										72
					STATUS: No active work.										72
32	$_3Li^6$	$(^3He.p)$	$2\bar{\alpha}$ decay			100-	8				<25	ORNL	McNally	DCTR	72
					REQ COM: To estimate feasibility of fusion chain reactions.										72
					STATUS: No active work.										72
33	$_3Li^6$	$(^3He,d)$				100-	8				<25	ORNL	McNally	DCTR	72
					REQ COM: To estimate feasibility of fusion chain reactions.										72
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
34	$_3Li^6$	$\sigma_{\bar{a},p}$					3-12				<25	ORNL	McNally	DCTR	72
					REQ COM: To estimate feasibility of fusion chain reactions.										72
					STATUS: No active work.										72
35	$_3Li^6$	$(\bar{a},\bar{a}')Li^{6*}$	$d + \bar{a}$				3-12				<25	ORNL	McNally	DCTR	72
					REQ COM: To estimate feasibility of fusion chain reactions.										72
					STATUS: No active work.										72
36	$_3Li^6$	$^6Li + {}^6Li \rightarrow$	$^7Be + {}^4He + n$			*	*				*	AEC	Gough	DCTR	71
					REQ COM: *Needed for CTR applications.										71
					Energy range, keV to a few MeV										71
					STATUS: No active work.										72
37	$_3Li^7$	Elastic	$\sigma(\theta_n)$				~14			15		AEC	Gough	DCTR	71
					REQ COM: Need for shield, magnet cost estimates, CTR.										71
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
38	$_3Li^7$	Inelastic	$\sigma(E_{n'})$			Thr-	14			15		AEC	Gough	DCTR	71
					REQ COM: Energy spectra needed to evaluate effect of neut. capture competition between ^6Li, and resonance absorbers in calculation of tritium breeding ratio, CTR. Also needed to evaluate neutron transport in blanket and shield.										71
					STATUS: No active work.										72
39	$_3Li^7$	Emission	$\sigma(\theta_{n'}, E_{n'})$	I			5-16			10		LASL	Motz	DMA	63
					REQ COM: Spectrum at several angles required.										63
					STATUS: No active work.										72
40	$_3Li^7$	$\sigma_{n,2n}$		I			8-16		5			LASL	Motz	DMA	65
					REQ COM: Absolute cross sections required. Omit 14-MeV point.										69
					STATUS: No active work.										72
41	$_3Li^7$	$\sigma_{n,n't}$					3-14		<10			AEC	Gough	DCTR	71
					REQ COM: Present accuracy leads to uncertainty of 0.1 in breeding ratio for CTR. Need <10 percent at 14MeV										71
					STATUS: Present accuracy is 25 percent at 8 MeV, 15 percent at 14 MeV.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
42	$_3Li^7$	$\sigma_{n,n't}$	$\sigma(\theta_{n'})$				~14			15		AEC	Gough	DCTR	71
					REQ COM: Need for shield, magnet cost estimates, CTR.										71
					STATUS: No active work.										72
43	$_3Li^7$	$\sigma_{\bar{a},n}$		II			4-6	2				NDC	Caswell	DPR	69
					REQ COM: Accuracy 2 percent for inverse reaction.										72
					Energy to correspond to 10 keV to 1 MeV,										69
					for inverse reaction: $B(n,\bar{a}_0)$.										69
					STATUS: No active work.										72
44	$_4Be$	Elastic	$\sigma(\theta_n)$	I			7-20			10		LLL	Howerton	DMA	62
					REQ COM: Resolution: $\Delta E = \pm 250$ keV; $\Delta\theta = 3.0^o$										62
					STATUS: NEL Bucher+ NCSAC-33, meas. planned, small angles.										70

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
45	$_4Be$	Emission	$\sigma(\theta_{n'}, E_{n'})$	II			1.8-5			15		LMFB	Hemmig-AEC	DRDT	62
					REQ COM: For Be moderated fast spectrum reactors and										62
					for thermal breeders or convertors and										62
					neutron economy calculations, DRDT										62
					Need secondary neutron energy and angular distrib.										62
					Energy resol. 5 per incident; 500 keV on $E_{n'}$, DRDT										69
					Accuracy 50 mb at 2-3 MeV, DRDT										69
					STATUS: No active work.										72
46	$_4Be$	$\sigma_{n,\gamma}$		II	1-	100				10		IRT	Preskitt	DRDT	69
					REQ COM: To resolve discrepancies in thermionic reactor										69
					worths.										69
					STATUS: ORNL Macklin+ NCSAC-33, no capture levels <600keV.										70
47	$_4Be$	$(n,p)Li^9$	$\beta^- \to Be^{9*} \to n$	II			14			10		LASL	Walton	DNMS	70
					REQ COM: Background in delayed neutron assays.										70
					STATUS: Measurements planned at LASL.										72
					**										
48	* $_4Be^7$	$\sigma_{n,p}$		II	Th-	to	15				50	LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation.										69
					* Radioactive target-53 day										69
					STATUS: No active work.										72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	KeV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
49	$_4Be^9$	$\sigma_{p,\bar{a}}$				10-	15				<25	ORNL	McNally	DCTR	72
					REQ COM: To estimate feasibility of fusion chain reactions.										72
					STATUS: No active work.										72
50	$_4Be^9$	$(p,d)Be^8$	$2\bar{a}$ decay			10-	15				<25	ORNL	McNally	DCTR	72
					REQ COM: To estimate feasibility of fusion chain reactions.										72
					STATUS: No active work.										72
51	$_5B^{10}$	Total		II		10-	1	1				NDC	Caswell	DPR	69
					REQ COM: Desired for assessing $B(n,\bar{a})$ standard.										72
					STATUS: No new measurements.										72
52	$_5B^{10}$	Elastic	$\sigma(\theta_n)$	II		1-100		1-	5			NDC	Caswell	DPR	69
				II		100-	1	1-3				NDC	Caswell	DPR	69
					REQ COM: Desired for assessing $B(n,\bar{a})$ standard.										72
					STATUS: No new measurements.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	KeV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
53	$_5B^{10}$	$\sigma_{n,\bar{a}}$		I		1-	10	1-	5			ANL	Avery	DRDT	69
				I		1-	10	1-	5			LMFB	Hemmig-AEC	DRDT	69
				I		1-	1		5			LLL	Howerton	DMA	70
				I		1-	10	1-	5			ORNL	Maienschein	DRDT	69
				I		1-	1	2				NDC	Caswell	DPR	69
					REQ COM: 1-100 keV, accuracy 1 percent; 3 percent useful,										69
					100-300 keV, accuracy 3 percent; 10 percent useful										69
					0.3-10 MeV, accuracy 5 percent; 10 percent useful,										69
					Needed as standard; absolute σ's required, DRDT										69
					$\bar{a}_0/\bar{a}_1$ ratio needed for both $\bar{a}$ and $\bar{g}$ detection,										69
					STATUS: GRT Fricke, New measurements,										72
54	$_5B^{10}$	$\sigma_{n,\bar{a}\bar{g}}$ ($\bar{g}_1$)	$E_{\bar{g}}$=480 keV	I		1-	10	1-	5			ANL	Avery	DRDT	69
				I		1-	10	1-	5			LMFB	Hemmig-AEC	DRDT	69
				I		1-	10	1-	5			ORNL	Maienschein	DRDT	69
				I		50-	1		2			NDC	Caswell	DPR	72
					REQ COM: 1-100 keV,accuracy 1 percent; 3 percent useful,										69
					100-300 keV, accuracy 3 percent; 10 percent useful										69
					0.3-10 Mev,accuracy 5 percent; 10 percent useful,										69
					Needed as standard; absolute σ's required,										69
					STATUS: GRT Friesenhahn+, Gulf-RT-A12210, 4 to 1000 keV,										72
					accuracy 1.5 to 4.5 percent,										72
					HAR Coates+ preliminary data from ~1-240 keV.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
55	$_5B^{10}$	Tot α Prod		I		1-	18			10		HEDL	McElroy	DRDT	69
					REQ COM: For use as a fluence monitor. Total helium production for mass spectrometer.										69
					STATUS: No active work.										72
56	$_6C$	Elastic	$\sigma(\theta_n)$	II			6-15		5			AFWL	Eng	DNA	69
				II			8-16		5			LASL	Biggers	DNA	66
				I			9-14			10		LLL	Howerton	DNA	62
				II			8-15			10		NEL	Eccleshall	DNA	69
					REQ COM: 250-keV intervals or as dictated by structure. Res: ΔE(incident and exit)=100 keV or 10 percent. Res: $\Delta\theta = \pm2.5^\circ(0-3^\circ)$, $\pm5^\circ(30-180^\circ)$.										69
					STATUS: ORNL Perey+ up to 8.5 MeV, ORNL-4441. U. Ky. Galati+ up to 7 MeV.										72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
57	6 C	Elastic	$\sigma(\theta_n)$	III			2-14			10		KAPL	Ehrlich	DNR	62
					REQ COM: 20 percent accuracy acceptable.										62
					Energy resolution 50 keV from 7 to 8.2MeV,100 keV										62
					from 8.2-10Mev, and larger from 10-14 Mev.										62
					Angular resolution 3 deg from 7 to 8.4 MeV;										62
					10 deg. from 8.4-14 MeV.										62
					For shielding and for resonance or optical										62
					model fitting.										62
					STATUS: ORNL Perey+ up to 8.5 MeV, ORNL-4441.										72
					U. Ky. Galati+ up to 7 MeV.										72
					YALE Firk, NIM 43, 312 1.6 MeV to 10 MeV.										66
					Knitter, EANDC Standards Conf. data 0.5-2.5 MeV.										70
					ANL Smith+ preliminary data to 3.8 MeV.										72
58	6 C	Emission	$\sigma(\theta_{n'},E_{n'})$	II			8-15			10		AFWL	Enz	DNA	69
				II			7-15		5			LASL	Biggers	DMA	66
				II			6-15			10		NEL	Eccleshall	DNA	66
					REQ COM: Every 250 keV; $\sigma(\theta)$ if significantly anisotropic.										66
					$\Delta\theta = \pm 5^\circ$ ($<30^\circ$) and $\pm 10^\circ$ ($>30^\circ$); $\Delta E = 250$ keV.										66
					All neutrons, including low energy needed.										66
					Must include absolute $\sigma(\theta_{n'},E_{n'})$ from $(n,n',3\bar{a})$.										66
					STATUS: ORNL Perey+ up to 8.5 MeV, ORNL-4441.										72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
59	$_6C$	Tot $\bar{g}$ Prod	$\sigma(\theta_{\bar{g}},E_{\bar{g}})$	III			6-16			<10		LASL	Biggers	DNA	65
												AFWL	Enz	DNA	70
					REQ COM: $\sigma(\theta_{\bar{g}})$ for $E_{\bar{g}}$ = 4,4 MeV required,										69
					Upper limit on other $\bar{g}$'s will suffice,										69
					STATUS: ORNL Morgan+ E_g = 4,43 MeV, E_n = 5-20 MeV,										72
					$\theta_{\bar{g}}$ = 90, 125 degrees, ORNL-TM-3702,										72
60	$_6C$	Absorption		II			10-15		5			AFWL	Enz	DNA	69
					REQ COM: Three points at 10,12,15 MeV might suffice,										72
					STATUS: No active work,										72
					**************************************										
61	$_6C^{12}$	$\sigma_{n,n'}$ 1st					4,8-14			10		AEC	Gough	DCTR	71
					REQ COM: Need 4,43-MeV $\bar{g}$-production, for CTR applications,										72
					STATUS: LASL Drake (6,5, 7,5, 14) MeV, NCSAC-31,										72
					ORNL Perey+ up to 8,5 MeV, ORNL-4441,										72
62	$_6C^{12}$	$\sigma_{n,n'3\bar{a}}$					14			10		AEC	Gough	DCTR	71
					REQ COM: Needed for CTR applications,										71
					STATUS: Grin, Helv, Phys, Act, 42, 990 (1969),										72
					$E_{n'}$ > 1 MeV at 14,1 MeV,										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
63	$_6C^{12}$	Polariz.	$P(\theta_n)$	II			4-5.5				15	KAPL	Ehrlich	DNR	69
					REQ COM: Energy Resolution ~ 50 keV.										69
					Needed to resolve discrepancy between theory and										69
					experiment.										69
					STATUS: No active work.										72
64	$_7N$	Elastic	$\sigma(\theta_n)$	I			7-15		5			AC	Greenhow	DNA	69
							7-15		5			AFWL	Enz	DNA	69
							8-15		5			LASL	Biggers	DMA	69
					REQ COM: Every 500 keV or as dictated by structure.										69
					$\Delta\theta = \pm 2.5^\circ(30^\circ)$ and $\pm 5^\circ(>30^\circ)$; include $\theta<20^\circ$.										69
					ΔE_n = 100 keV or 10 percent.										69
					More data needed to resolve discrepancies										69
					STATUS: No active work.										72
65	$_7N$	Elastic	$\sigma(\theta_n)$	I			7-15		5			NEL	Eccleshall	DNA	69
					REQ COM: Every 500 keV with 5 percent energy resolution										69
					$\Delta\theta = \pm 1^\circ$ every 5° for $\theta \leq 20^\circ$; needed to check										69
					importance of small angle data.										69
					$\Delta\theta = \pm 1.5^\circ$ every 10° for $\theta>20^\circ$										69
					Data needed to resolve discrepancies.										69
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
66	$_7N$	Emission	$\sigma(\theta_{n'},E_{n'})$	I			7-15			10		AC	Greenhow	DNA	69
				I			7-15			10		AFWL	Enz	DNA	69
				I			5-15			10		LASL	Biggers	DNA	69
				I			7-15			10		NEL	Eccleshall	DNA	69

REQ COM: 250-keV intervals or as dictated by structure, 69
Res: ΔE = 100 keV or 10 percent, LASL 69
Res: Δθ = ±2.5° (0-30°), ±5°(30-180°) or as dictated by the anisotropy. 69
Low-energy(<1 MeV) neutrons must be included. 69

STATUS: No active work. 72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
67	$_7N$	Absorption		I			1-15		5			AC	Greenhow	DNA	66
				I			1-15		5			AFWL	Enz	DNA	66
				I			2-16		5			LASL	Biggers	DNA	66

REQ COM: Large discrepancies must be resolved <7.5 MeV. 69
No data available above ~ 7.5 MeV. 69
Data on $(n,\bar{\alpha}_0)$, (n,p_0) and (n,d_0) may suffice. 69

STATUS: No active work. 72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	eV	keV	MeV	1-3	4-9	≤15	>15	LAB	PERSON	ORG	YR
68	$_7N$	Tot γ Prod	$\sigma(\theta_\gamma, E_\gamma)$	I			8-15			10		AC	Greenhow	DNA	69
				I			8-15			10		AFWL	Enz	DNA	69
				I			8-20			10		LASL	Biggers	DNA	69
				I			9-20			10		LLL	Howerton	DNA	69
				I			8-15			10		NEL	Ecclesh all	DNA	70

REQ COM: Must include contributions of continuum gammas 69
Resolution: $\Delta E_n \leq 250$ keV, $\Delta E_\gamma \leq 250$ keV, 69
$\Delta\theta = 5^\circ(5-30^\circ)$ and $10^\circ(>30^\circ)$ or as 69
dictated by anisotropy. 69

STATUS: ORNL, Dickens+, θ_γ = 125 deg, E_n = 2-20 MeV 72
in progress. 72
Lund, Nyberg+, E_n = 15 MeV, PS 4, 165 (1971). 72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
69	8 O	Elastic	$\sigma(\theta_n)$	II		10-	1		5			IRT	Preskitt	DRDT	69
				I			1-4		4-9			KAPL	Ehrlich	DNR	69
				I			4-16	3-	5			LMFB	Hemmig-AEC	DRDT	66
				I			4-16	3-	5			ORNL	Clifford	DRDT	66
				I			8-15		5			AFWL	Enz	DNA	69
							8-16		5			LASL	Biggers	DMA	62
							7-15		5			NEL	Eccleshall	DNA	69
					REQ COM: Needed for fast reactor reflector worths, DRDT.										69
					$\Delta\theta = \pm 2.5^\circ$ ($<30^\circ$), $\pm 5^\circ$ ($>30^\circ$), DASA.										69
					$\Delta\theta = \pm 1^\circ$ every 5° ($<20^\circ$), $\pm 1.5^\circ$ every 10° ($>20^\circ$).										69
					ΔE=100 keV or 10 percent (every 500 keV), DNA.										69
					STATUS: ORNL Kinney*, data in range 4.3-8.5 MeV, ORNL-4780										72
70	8 O	Emission	$\sigma(\theta_{n'}, E_{n'})$	I			8-15			10		AFWL	Enz	DNA	69
				III			14		5			IRT	Preskitt	DRDT	69
				I			7-15			10		NEL	Eccleshall	DNA	69
					REQ COM: Needed for fast reactor reflector worths, DRDT.										69
					250-keV intervals or as dictated by structure. DNA										69
					Res: ΔE = 100 keV or 10 percent, DNA.										69
					Low-energy (<1 MeV) neutrons must be included. DNA										69
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
71	8 O	Absorption		I			10-15		5			AFWL	Enz	DNA	66
				I			8-15		5			LASL	Biggers	DMA	66
					REQ COM: ΔE_n = 250 keV at 250-keV intervals.										69
					Filling the energy gap and supporting evidence										69
					for $(n,\bar{a}_0)$ likely to suffice; if so,										69
					integral of inverse will satisfy.										69
					STATUS: No active work.										72
72	8 O	Tot γ Prod	$\sigma(\theta_\gamma, E_\gamma)$	I			10-15			10		LASL	Biggers	DMA	62
												AFWL	Enz	DNA	70
					REQ COM: Absolute cross sections required.										62
					STATUS: Lund, Nyberg+, E_n = 15 MeV, PS 4, 165.										72
					ORNL, Dickens+, θ_γ=125 degrees, E_n=6-20 MeV,										72
					in progress, also NSE 40, 283, E_n=6.7-11 MeV.										72
					ORT, Orphan+, NSE 42, 352, E_n = 6.4-16.5 MeV.										72
73	8 O 17	$\sigma_{\alpha,n}$		II			Ths-7				20	KAPL	Ehrlich	DNR	72
					REQ COM: Alpha energy resolution 0.1 MeV.										66
					For calculation of neutron source strengths										66
					STATUS: Sample not readily available.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
74	$_8O^{18}$	$\sigma_{\alpha,n}$		III			Ths-7			10		BET	Bayard	DNR	66
					REQ COM: Alpha energy resolution 0.2 MeV.										66
					To resolve discrepancies between cross section										66
					and neutron yield data										66
					STATUS: Sample not readily avaiable.										72
75	$_9F$	Elastic	$\sigma(\theta_n)$	I			3-20			10		LLL	Howerton	DMA	69
					REQ COM: Energy dependence of σ_{ELAS} should be well defined										69
					STATUS: Chalk River: Clarke and Perrin have 14 MeV data.										72
76	$_9F$	Inelastic					10-14			10		AEC	Gough	DCTR	71
					REQ COM: Needed for CTR applications using LiF.										71
					STATUS: Chalk River: Clarke and Perrin have 14 MeV data.										72
77	$_9F$	Emission	$\sigma(E_{n'})$	I		500-	20			10		LLL	Howerton	DMA	69
					REQ COM: Absolute $\sigma(E_{n'})$ at a few angles may suffice.										69
					STATUS: Chalk River: Clarke and Perrin have 14 Mev data.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
78	$_{9}F$	$\sigma_{n,\bar{g}}$		II		1-	1			10		ORNL	Perry	DRDT	66
					REQ COM: To calculate neutron loss in Molten Salt Breeder.										66
					STATUS: ORNL Macklin has experiment in progress.										70
					FOA Nystroem+, PS 4 95, (1971), 20-80 keV.										72
79	$_{9}F$	Absorption			Th-	to	14			10		AEC	Gough	DCTR	71
					REQ COM: Needed for CTR applications using LiF.										71
					STATUS: No active work.										72
80	$_{9}F$	$\sigma_{n,\bar{a}}$		I			9-14			10		LLL	Howerton	DMA	69
					REQ COM: Absolute values at a few energies.										69
					STATUS: Crumpton, NIM 92, 533 (1971).										72
81	$_{11}Na$	Total		I		10-	5	3-	5			ORNL	Clifford	DRDT	69
					REQ COM: Fast reactor deep penetration; 1 percent in valley										69
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
82	$_{11}Na$	Elastic	$\sigma(\theta_n)$	II			8-15		5			NEL	Eccleshall	DNA	69
					REQ COM: Energy resolution 0.25 MeV, angular res. 3 deg.										69
					Energy intervals 0.5 MeV, angular int. 10 deg.										69
					STATUS: No active work.										72
83	$_{11}Na$	Inelastic	$\sigma(E_{n'})$	II			2-10			10		AI	Alter	DRDT	62
												ANL	Avery	DRDT	62
												LMFB	Hemmig-AEC	DRDT	69
												WARD	Pitterle	DRDT	72
					REQ COM: Total integral over 4π required.										62
					Spectra at several angles if signif. anisotropic										62
					ΔE_o and $\Delta E_{n'} \leq$ 10 percent.										62
					STATUS: ORNL Perey*, ORNL-4518, has results 5.4 to 8.5 MeV										72
84	$_{11}Na$	Emission	$\sigma(\theta_{n'},E_{n'})$	II			4-15			10		NEL	Eccleshall	DNA	69
					REQ COM: $\Delta\theta_{n'}$ = 3°; ΔE_n = 250 keV.										69
					Energy increments 500 keV, every 10 degrees										69
					STATUS: No active work.										72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
85	$_{11}$Na	Absorption		II		1-100					20	GE	Snyder	DRDT	69
												LMFB	Hemmig-AEC	DRDT	69
												WARD	Pitterle	DRDT	72
					REQ COM: Accuracy 20per or 0.5mb whichever is greater.										69
					Intermediate accuracy useful.										69
					STATUS: Measurements at Columbia and ORNL underway.										72
86	$_{11}$Na	Γ_n and Γ_γ		I		3				10		ANL	Avery	DRDT	62
												LMFB	Hemmig-AEC	DRDT	69
					REQ COM: Γ_n and Γ_γ desired for 3 keV resonance.										62
					STATUS: Yamamuro, NSE 41, 445 to 10 per, though										70
					discrepancies still exist.										70
87	$_{11}$Na	Cap Spect	$P(E_\gamma)$	I		3				10		ANL	Avery	DRDT	72
					REQ COM: Capture Spectrum at 3 KeV required.										72
					Sufficient accuracy in E_γ(3 KeV) to compare with										72
					E_γ(thermal).										72
					STATUS: No measurements to required accuracy.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
88	$_{13}Al$	Elastic	$\sigma(\theta_n)$	I			8-16		5			LASL	Biggers	DNA	66
				II			8 - 5		5			NEL	Eccleshall	DNA	69
					REQ COM: ΔE_n = 250 keV, 250-keV intervals or as dictated by										69
					structure.										69
					$\Delta\theta = \pm 2.5^\circ (<30^\circ)$ and $\pm 5^\circ (>30^\circ)$.										69
					Omit 14 MeV point.										69
					STATUS: U. of Ky. Brandenberger has data at 8 and 9 MeV.										72
89	$_{13}Al$	$\sigma_{n,2n}$					14			10		AEC	Gough	DCTR	71
					REQ COM: Accuracy needed to reduce uncertainty in										71
					neutron multiplication estimates for CTR.										71
					STATUS: No data to required accuracy.										72
90	$_{13}Al$	$\sigma_{n,2n}$	$\sigma(\theta_{n'}, E_{n'})$				14			15		AEC	Gough	DCTR	71
					REQ COM: Energy and angular dependence of secondary										71
					neutrons needed to calculate neutron										71
					transport in blanket and shield, CTR.										71
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
91	$_{13}Al$	Inelastic	$\sigma(E_{n'})$			Ths-	14			15		AEC	Gough	DCTR	72
					REQ COM: Needed to calculate neutron transport in blanket and shield, CTR.										71
					STATUS: ORNL Kinney+ data to 8.5 MeV, ORNL-4516. U. Ky. Brandenberger, data at 8 and 9 MeV.										72
92	$_{13}Al$	Emission	$\sigma(\theta_{n'}, E_{n'})$	I			8-15			10		AFWL	Enz	DNA	69
				II			8-15			10		NEL	Eccleshall	DNA	69
					REQ COM: ΔE_n=250 keV at 250 keV intervals, or as dictated by structure. $\Delta\theta = \pm 2.5^\circ$ ($0-30^\circ$), $\pm 5^\circ$($30-180^\circ$) or as dictated by anisotropy.										69
					STATUS: ORNL Kinney+ data to 8.5 MeV, ORNL-4516. U. Ky. Brandenberger, data at 8 and 9 MeV.										72
93	$_{13}Al$	$\sigma_{n,\bar{g}}$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed to calculate formation of higher mass isotopes, CTR.										71
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
94	$_{13}$Al	$\sigma_{n,p}$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed for radiation damage estimates, CTR.										71
					STATUS: Partington, Analyst 95, 257 (1970).										72
					Husain, PR C, 1233 (1970).										72
					Salaita, NP A170, 193 (1971).										72
95	$_{13}$Al	$\sigma_{n,\bar{a}}$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed for radiation damage estimates, CTR.										71
					STATUS: LASL Prestwood gets 122.6 ±3 mb at 14.1 MeV.										72
96	$_{13}$Al	$\sigma_{n,n'}(\bar{E}'S)$				Ths-	14			15		AEC	Gough	DCTR	72
					REQ COM: Needed are gamma ray spectra to calculate heat generation in blanket and shield, CTR.										71
					STATUS: GRT, Orphan+, Gulf-RT-A10743.										72
					ORNL, Linac+NaI E_n=1-20 MeV in progress.										72
					FOA Nyberg+ PS 4, 165 (1971), E_n=15 MeV.										72
					USSR Kravcov+, 72 Kiev, Gamma-Spectrum with Ge(Li)										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
97	$_{13}$Al	Cap Spect	$P(E_g)$	I	Th					10		SNPO	Fleishman	DSNS	69
					Th-	res.				15		AEC	Gough	DCTR	72
					REQ COM: For shielding calculations.										69
					Both line and continuum spectra are required.										69
					Needed to calculate heat generation,										72
					in blanket and shield, CTR.										72
					STATUS: Stecher-Rasmussen+, thermal NP A181, 225.										72
					Orphan+, GGA report GA-10248.										72
98	$_{13}$Al	Tot $\bar{g}$ Prod	$\sigma(E_g)$	II		5-200				15*		SNPO	Fleishman	DSNS	69
				I			1-10			15*		SNPO	Fleishman	DSNS	69
					REQ COM: (*) Accuracy 15 per or 5 mb whichever is greater.										69
					Absolute $\sigma(E_g)$ required for all E_g > 200 keV.										69
					Neutron energy intervals required:										69
					Res. region: reproduce major variations in $\sigma(E_g)$										69
					> 1 MeV: 500-keV intervals										69
					Gamma-energy resolution required:										69
					< 2.5 MeV, 10 percent; > 2.5 MeV, 250 keV.										69
					STATUS: GRT Orphan+, Gulf-RT-10743. Line + Continuum										72
					gamma rays, E_n=0.86-16.7 MeV.										72
					ORNL, Linac+NaI E_n=1-20 MeV in progress.										72
					Dickens, PR C5, 100 (1972), E_n = 3.53-9.0 MeV.										72
					USSR Kravcov+, 72 Kiev, Gamma-Spectrum with Ge(Li)										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
99	$_{13}Al$	$\sigma_{n,p}$	Act	III			5-11.9			10		NEL	Eccleshall	DNA	69
					REQ COM: Resolution in energy 5 per. 500-keV intervals										69
					STATUS: FRK Bass[+] Eur 119c have data 6-9 MeV.										72
100	$_{14}Si$	Elastic	$\sigma(\theta_n)$	II			8-15			10		NEL	Eccleshall	DNA	69
					REQ COM: Resolution: energy, 0.25 MeV; angular, 3°.										69
					Increments: energy, 0.5 MeV; angular, 10°.										69
					STATUS: No active work.										72
101	$_{14}Si$	Emission	$\sigma(\theta_{n'},E_{n'})$	II			8-15			10		NEL	Eccleshall	DNA	69
					REQ COM: ΔE_n=250 keV, 500 keV intervals or as dictated.										69
					$\Delta\theta = \pm 2.5^{\circ} (<30^{\circ})$ and $\pm 5^{\circ} (>30^{\circ})$										69
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
102	$_{14}Si^{30}$	$\sigma_{n,\gamma}$	Act	III	.025	to	15				30	LLL	Howerton	DMA	69
					REQ COM: Required is cross section for activation of Si^{31}, in naturally occurring element. Accuracy 30 per if σ > 100 mb, 50 per if 25 mb < σ < 100 mb. Accuracy to a factor of 2 if 1 mb < σ < 25 mb; to a factor of 10 if σ < 1 mb.										69
					STATUS: FOA Nystroem+, PS 4, 95 (1971), 20-80 keV.										72
103	$_{16}S^{34}$	$\sigma_{n,\gamma}$	Act	I	.025	to	15				30	LLL	Howerton	DMA	69
					REQ COM: Required is cross section for activation of S^{35} in naturally occurring element. Accuracy 30 per if σ > 100 mb, 50 per if 25 mb < σ < 100 mb. Accuracy to a factor of 2 if 1 mb < σ < 25 mb; to a factor of 10 if σ < 1 mb.										69
					STATUS: Kappe, Diss. Abstr. 27B 919 gives thermal value.										70
					FOA Nystroem+, PS 4, 95 (1971), 20-80 keV.										72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	PERCENT ACCURACY 4-9	PERCENT ACCURACY ≤15	PERCENT ACCURACY >15	REQUESTER LAB	REQUESTER PERSON	REQUESTER ORG	YR
104	$_{19}K^{41}$	$\sigma_{n,\gamma}$	Act	II	.025	to	15				30	LLL	Howerton	DMA	69
					REQ COM: Required is cross section for activation of K^{42}										69
					in naturally occurring element.										69
					Accuracy 30 per if σ > 100 mb, 50 per if										69
					25 mb < σ < 100 mb. Accuracy to a factor										69
					of 2 if 1 mb < σ < 25 mb; to a factor of 10										69
					if σ < 1 mb.										69
					STATUS: Kappe, Diss. Abstr. 27B 919 gives thermal value.										70
					Stupegia+ JNE 22, 267. O, 16-25 MeV, to 10 percent										72
					INC Schuman WASH-1127 gives 2keV value, 310±100mb.										69
105	$_{20}Ca$	Elastic	$\sigma(\theta_n)$	II			8-15			10		NEL	Eccleshall	DNA	69
					REQ COM: Resolution: Energy 0.25 MeV; angular 3 degrees										69
					Intervals: Energy 0.5 MeV; angular 10 degrees.										69
					STATUS: No active work.										72
106	$_{20}Ca$	Emission	$\sigma(\theta_{n'},E_{n'})$	II			8-15			10		NEL	Eccleshall	DNA	69
					REQ COM: Resolution: Energy 0.25 MeV; angular 3 degrees.										69
					Increments: Energy 0.5 MeV; angular 10 degrees.										69
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
107	$_{20}Ca$	Tot $\bar{g}$ Prod	$\sigma(\theta_{\bar{g}}, E_{\bar{g}})$	II			5-15			10		NEL	Eccleshall	DNA	69
					REQ COM: Need energy spectrum of all gammas,										69
					Resolution: 5 per in $E_{\bar{g}}$,5 degrees in θ,										69
					Increments of 0.5 MeV, 10 degrees.										69
					STATUS: ORNL Dickens, E_n = 4.8-8 MeV, θ_g=125 degrees.										72
108	$_{20}Ca^{44}$	$\sigma_{n,\bar{g}}$	Act	I	.025	to	15				30	LLL	Howerton	DMA	69
					REQ COM: Required is cross section for activation of Ca^{45}										69
					in naturally occurring element.										69
					Accuracy 30 per if σ > 100 mb, 50 per if										69
					25 mb < σ < 100 mb. Accuracy to a factor										69
					of 2 if 1 mb < σ < 25 mb.; to a factor of 10										69
					if σ < 1 mb.										69
					STATUS: No active work.										72
109	$_{21}Sc$	$\sigma_{n,\bar{g}}$	Act	II		1-	18			10		HEDL	McElroy	DRDT	69
					REQ COM: For use as fluence monitor.										69
					STATUS: No active work.										72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
110	$_{22}$Ti	Tot $\bar{g}$ Prod	$\sigma(E_{\bar{g}})$	II		1-100				15*		SNPO	Fleishman	DSNS	69
				I			1-10			15*		SNPO	Fleishman	DSNS	69
					REQ COM: (*) Accuracy 15 per or 5 mb whichever is greater.										69
					Absolute $\sigma(E_{\bar{g}})$ required for all $E_{\bar{g}}$ > 200 keV.										69
					Neutron Energy intervals required:										69
					Res. region: reproduce major variations in $(E_{\bar{g}})$										69
					> 1 Mev: 500-keV intervals										69
					Gamma-energy resolution required:										69
					<2.5MeV, 10 percent; >2.5MeV, 250keV.										69
					STATUS: ORNL Dickens, E_n=5-6 MeV in progress.										72
111	$_{22}$Ti	Tot $\bar{g}$ Prod	$\sigma(\theta_{\bar{g}},E_{\bar{g}})$	I		10-	16				20	ORNL	Clifford	DRDT	69
					REQ COM: Needed for space reactor shielding.										69
					STATUS: ORNL Dickens, E_n=5-6 MeV in progress.										72
112	$_{22}$Ti	Tot $\bar{g}$ Prod	$\sigma(\theta_{\bar{g}},E_{\bar{g}})$	III			4-14				20	GDFW	Western	DNA	63
					REQ COM: ΔE = ±250 keV at 500-keV intervals										63
					Δθ = ±5°; σ(θ) only if significantly anisotropic.										63
					STATUS: ORNL Dickens, E_n=5-6 MeV in progress.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
113	$_{22}Ti^{46}$	$\sigma_{n,p}$	Act	II			1-18			10		HEDL	McElroy	DRDT	69
				III			1-12.5			10		NEL	Eccleshall	DNA	69
					REQ COM: Resolution in energy 100 keV, 500-keV intervals										69
					For use as a fluence monitor.										69
					STATUS: Ghorai, JNE 25, 319 (1971).										72
					ANL Meadows has measurements 4-6 MeV.										72
114	$_{22}Ti^{47}$	$\sigma_{n,p}$	Act	II			>1			10		HEDL	McElroy	DRDT	69
				III			1-15			*		NEL	Eccleshall	DNA	69
					REQ COM: Resolution in energy 100 keV, 1-MeV intervals										69
					* For σ > 5 mb, Δσ = 2.5 mb.										69
					For use as fluence monitor.										69
					STATUS: ANL Meadows, NCSAC-42, 10 (1972).										72
					Ghorai, JNE 25, 319 (1971).										72
115	$_{22}Ti^{48}$	$\sigma_{n,p}$	Act	II			>1			10		HEDL	McElroy	DRDT	69
				II			3.2-10				20	KAPL	Ehrlich	DNR	69
				III			3-12.5			10		NEL	Eccleshall	DNA	69
					REQ COM: Resolution in energy 100 keV, 500-keV intervals.										69
					For use as fluence monitor, activation analysis.										69
					STATUS: Ghorai, JNE 25, 319 (1971).										72
					ANL Meadows+ has measurements 4.5-6 MeV.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
116	23 V	Elastic	$\sigma(\theta_n)$	III			1.4-10			10		ANL	Avery	DRDT	62
												LMFB	Hemmig-AEC	DRDT	62
					REQ COM: Resolution ΔE_n = 500 keV, $\Delta\theta$ = 10^o										62
					STATUS: ANL results to 3.8 MeV, PR C1, 581 (2/70).										72
					AE Holmquist data to 8.0 MeV, AE-430.										72
117	23 V	$\sigma_{n,2n}$					14			10		AEC	Gough	DCTR	71
					REQ COM: Accuracy needed to reduce uncertainty in										71
					neutron multiplication estimates for CTR.										71
					STATUS: No data to required accuracy.										72
118	23 V	$\sigma_{n,2n}$	$\sigma(\theta_{n'},E_{n'})$				14			15		AEC	Gough	DCTR	71
					REQ COM: Energy and angular dependence of secondary										71
					neutrons needed to calculate neutron										71
					transport in blanket and shield, CTR.										71
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
119	23 V	Inelastic	$\sigma(E_{n'})$	III			1.5-10				15	ANL	Avery	DRDT	62
												GE	Snyder	DRDT	62
												LMFB	Hemmig-AEC	DRDT	62
					REQ COM: Total integral over 4π required. Spectra at several angles if significantly anisotropic										62
					STATUS: AE Almen+, 2 to 4.5 MeV, Helsinki Conf. II, p. 349										72
120	23 V	Inelastic	$\sigma(E_{n'})$			Ths-	14			15		AEC	Gough	DCTR	72
					REQ COM: Needed to calculate neutron transport in blanket and shield, CTR.										71
					STATUS: AE Almen+, 2 to 4.5 MeV, Helsinki Conf. II, p. 349										72
121	23 V	$\sigma_{n,\gamma}$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed to calculate formation of higher mass isotopes, CTR.										71
					STATUS: No active work.										72
122	23 V	$\sigma_{n,\gamma}$	Act	II	Th				5			AFIT	Dooley	DNA	62
					REQ COM: Activation cross section desired at 0.025 eV										62
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
123	23 V	$\sigma_{n,p}$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed for radiation damage estimates, CTR.										71
					STATUS: No active work.										72
124	23 V	$\sigma_{n,\alpha}$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed for radiation damage estimates, CTR.										71
					STATUS: No active work.										72
125	23 V	Absorption		III		1-150				10		ANL	Avery	DRDT	62
												GE	Snyder	DRDT	62
												LMFB	Hemmig-AEC	DRDT	62
					REQ COM: Available data inconsistent.										62
					Energy resolution 10 percent.										62
					STATUS: RPI Stieglitz+, NP A163, 592 (3/71).										72
126	23 V	$\sigma_{n,n'}$(γ'S)				Ths-	14			15		AEC	Gough	DCTR	72
					REQ COM: Needed are gamma ray spectra to calculate										71
					heat generation in blanket and shield, CTR.										71
					STATUS: AWRE Porter+, E_n = 0.3-4 MeV, AWRE-O-78/70.										72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
127	23 V	Cap Spect	$P(E_g)$		Th-	res.				15		AEC	Gough	DCTR	71
					REQ COM: Needed to calculate heat generation in blanket and shield, CTR.										71
					STATUS: ORNL Bird+, ORNL-TM-3379 E_n=20-60 MeV.										72
128	24 Cr	Total		II		1-	20	3				LMFB	Hemmig-AEC	DRDT	72
					REQ COM: One percent accuracy in deep minima. Energy resolution sufficient to resolve major structure.										72
					STATUS: No active work.										72
129	24 Cr	Elastic	$\sigma(\theta_n)$	II			2-14		4-9			KAPL	Ehrlich	DNR	69
					REQ COM: Res: 100keV, $\Delta\theta = 5^\circ$										69
					STATUS: ANL measurements in progress.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
130	$_{24}Cr$	Inelastic	$\sigma(E_{n'})$	II		500	-10			10		GE	Snyder	DRDT	66
												LMFB	Hemmig-AEC	DRDT	66
					REQ COM: Total integral over 4π required.										66
					Spectra at several angles if significantly										66
					anisotropic.										66
					Required energy resolution has not been determined										66
					STATUS: No active work.										72
131	$_{24}Cr$	Inelastic	$\sigma(E_{n'})$			Ths-	14			15		AEC	Gough	DCTR	72
					REQ COM: Needed to calculate neutron transport										71
					in blanket and shield, CTR.										71
					STATUS: No active work.										72
132	$_{24}Cr$	$\sigma_{n,2n}$					14			10		AEC	Gough	DCTR	71
					REQ COM: Accuracy needed to reduce uncertainty in										71
					neutron multiplication estimates for CTR.										71
					STATUS: No active work.										72

REQ #	TARGET *	Z	A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
133		24 Cr		$\sigma_{n,2n}$	$\sigma(\theta_{n'},E_{n'})$				14			15		AEC	Gough	DCTR	71
							REQ COM: Energy and angular dependence of secondary neutrons needed to calculate neutron transport in blanket and shield, CTR,										71
							STATUS: No active work,										72
134		24 Cr		$\sigma_{n,\gamma}$		II		1-	1			15		GE	Snyder	DRDT	72
														LMFB	Hemmig-AEC	DRDT	65
														ORNL	Clifford	DRDT	65
							REQ COM: Incident resolution 20 percent, Resonance parameters needed, espec, gamma widths,										69
							STATUS: RPI Stieglitz+, NP A163, 592 (1971), To 200 keV, LLL Baglan+ NCSAC-33, from threshold photoneut,										72
135		24 Cr		$\sigma_{n,\gamma}$					14				20	AEC	Gough	DCTR	71
							REQ COM: Needed to calculate formation of higher mass isotopes, CTR,										71
							STATUS: No active work,										72
136		24 Cr		$\sigma_{n,p}$					14				20	AEC	Gough	DCTR	71
							REQ COM: Needed for radiation damage estimates, CTR,										71
							STATUS: No active work,										72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	KeV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
137	24 Cr	$\sigma_{n,\alpha}$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed for radiation damage estimates, CTR.										71
					STATUS: No active work.										72
138	24 Cr	$\sigma_{n,n'}(\gamma's)$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed are gamma ray spectra to calculate										71
					heat generation in blanket and shield, CTR.										71
					STATUS: No active work.										72
139	24 Cr	Cap Spect	$P(E_\gamma)$		Th-	res.				15		AEC	Gough	DCTR	71
					REQ COM: Needed to calculate heat generation										71
					in blanket and shield, CTR.										71
					STATUS: ANL Thomas+, USNDC-1, 18.										72
					GRT Orphan+, GA-10248.										72
140	24 Cr	Res Int	Capture	I	.5-	up				10-	15	KAPL	Ehrlich	DNR	69
					REQ COM: Remove or correct for (n,p) contribution.										69
					STATUS: RPI Stieglitz calculates 1.6±0.2b from res. param.										70

REQ #	TARGET Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
141	$_{24}Cr$	Tot $\bar{g}$ Prod	$\sigma(E_{\bar{g}})$	I	500-	20				15*		SNPO	Fleishman	DSNS	69
				I			1-10			15*		SNPO	Fleishman	DSNS	69
				II			1-14			15*		NEL	Eccleshall	DNA	70
					REQ COM: (*) Accuracy 15 per or 5 mb whichever is greater,										69
					Absolute $\sigma(E_{\bar{g}})$ required for all E_g> 200 keV,										69
					Neutron Energy intervals required:										69
					Res, region: reproduce major variations in $(E_{\bar{g}})$										69
					> 1 Mev: 500-keV intervals										69
					Gamma-energy resolution required:										69
					<2,5MeV, 10 percent; >2,5MeV, 250keV,										69
					STATUS: Degtjarev⁺, IZV 35 2341, E_n = 1,0-3,4 MeV,										72
142	$_{24}Cr$	Tot $\bar{g}$ Prod	$\sigma(E_{\bar{g}})$	II	up	to	10			10		BET	Bayard	DNR	69
												LMFB	Hemmig-AEC	DRDT	72
					REQ COM: The above accuracy (10 percent) is requested,										66
					in 0,5 MeV gamma-ray resolution intervals, for										66
					shielding calculations,										66
					STATUS: Degtjarev⁺, IZV 35 2341, E_n=1,0-3,4 MeV,										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB PERSON ORG	YR
143	$_{24}Cr^{53}$	$\bar{G}_{\bar{g}}$		II		1-600			4-9			KAPL Ehrlich DNR	69
					REQ COM: None.								69
					STATUS: KFK Moeller and Rohr, NP A164, 97 (1971), report J, $\bar{G}_n$ for 30 res. in ^{53}Cr from 17 to 250 keV. KFK Plan measurements on separated isotopes.								72
144	$_{25}Mn^{55}$	$\sigma_{n,\bar{g}}$		II	Th-	1				10		LLL Howerton DMA	66
					REQ COM: Energy dependence of $\sigma_{n,\bar{g}}$ should be well defined.								69
					STATUS: No active work.								72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
145	$_{25}$Mn	Tot $\bar{g}$ Prod	$\sigma(E_{\bar{g}})$	I	300-	120				15*		SNPO	Fleishman	DSNS	69
				I			1-10			15*		SNPO	Fleishman	DSNS	69
				II			1-14			15*		NEL	Eccleshall	DNA	70

REQ COM: (*) Accuracy 15 per or 5 mb whichever is greater. 69
Absolute $\sigma(E_{\bar{g}})$ required for all $E_{\bar{g}}$ > 200 keV. 69
Neutron Energy intervals required: 69
Res. region: reproduce major variations in ($E_{\bar{g}}$) 69
> 1 Mev: 500-keV intervals 69
Gamma-energy resolution required: 69
<2.5MeV, 10 percent; >2.5MeV, 250keV. 69

STATUS: BNL Chrien reports spectra for 4 res. WASH-1136. 69
BNL Chrien, 2 keV capture spectrum from MTR, 72
IN-1317, p. 116 (1970). 72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB PERSON ORG	YR
146	$_{26}$Fe	Total		I	.001	to	1		5			KAPL Ehrlich DNR	72

REQ COM: Accurate total cross sections in minima(<1 barn) needed for shielding applications. 72
Shape of resolution function important so meaning-ful broadening can be applied to theoretical cross sections to compare with experiment. 72
Sample composition should be known well enough to permit isotope synthesis of theoretical X-sect. 72

STATUS: GGL Rahn+, NSE 47, 372 (1972). 72
RPI Alfieri+, USNDC-1, 178 (1972). 72
ORNL Harvey+, NCSAC-42, 183(1971). 72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
147	$_{26}$Fe	Elastic	$\sigma(\theta_n)$	I			7-14		4-9			KAPL	Ehrlich	DNR	69
				I		500-	3		5			ORNL	Clifford	DRDT	69
				I		1-	10			10		ANL	Avery	DRDT	69
				I		1-	10			10		LMFB	Hemmig-AEC	DRDT	69
					REQ COM: Resolution: 100keV, $\Delta\theta = 5^\circ$, KAPL.										69
					Resolution: 1 percent energy at several peaks.										69
					and valleys: $\sigma(\theta_n)$ required in valleys										69
					for shielding, ORNL.										69
					Resolution to at least resolve intermediate										69
					structure, ANL.										69
					STATUS: ANL Smith+ data available satisfying intermediate										72
					requirements to 3.8 MeV.										72
					ORNL Perey+ data 4.19-8.56 MeV, ORNL-4515.										72
					AE Holmquist+, AE-337; Helsinki Conf., to 8 MeV.										72
148	$_{26}$Fe	Elastic	$\sigma(\theta_n)$	I			8-16		5			LASL	Biggers	DMA	66
					REQ COM: ΔE_n = 250keV, intervals dictated by structure.										66
					$\Delta\theta = \pm 2.5^\circ (\leq 30^\circ)$, $\pm 5^\circ (>30^\circ)$.										62
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
149	$_{26}Fe$	Inelastic	$\sigma(E_{n'})$	I		850-	2		5			GE	Snyder	DRDT	66
				I		850-	2		5			LMFB	Hemmig-AEC	DRDT	66
				II			2-10			10		GE	Snyder	DRDT	66
				II			2-10			10		LMFB	Hemmig-AEC	DRDT	66
					REQ COM: Resolution 20 keV for incident and scattering										72
					neutrons. Total integral over 4π required.										72
					Spectra at several angles if significantly										66
					anisotropic.										66
					STATUS: ANL Smith+, preliminary results to 3.8 MeV.										72
					Case Lindow+ NSCAC-31, have data 5.0-5.5 MeV.										72
					AE Almen+, Helsinki Conf. to 4.5 MeV.										72
					ORNL Perey+, 0.85-2, 4-8.5 MeV, Knoxville Conf.										72
					ORNL Dickens+, ORNL-4515.										72
					CEA Naouat+, Knoxville Conf. 2-14 MeV.										72
150	$_{26}Fe$	Inelastic	$\sigma(E_{n'})$			Ths-	14			15		AEC	Gough	DCTR	72
					REQ COM: Needed to calculate neutron transport										71
					in blanket and shield, CTR.										71
					STATUS: ANL Smith+, preliminary results to 3.8 MeV.										72
					CASE Lindow+ NCSAC-31, have data 5.0-5.5 MeV.										71
					Almen+, Helsinki Conf. to 4.5 MeV.										72
					ORNL Perey+, 0.85-2, 4-8.5 MeV, Knoxville Conf.										72
					ORNL Dickens, ORNL-4515.										72
					CEA Naouat+, Knoxville Conf. 2-14 MeV.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRIOR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
151	$_{26}Fe$	$\sigma_{n,2n}$					14			10		AEC	Gough	DCTR	71
					REQ COM: Accuracy needed to reduce uncertainty in										71
					neutron multiplication estimates for CTR.										71
					STATUS: No active work.										72
152	$_{26}Fe$	$\sigma_{n,2n}$	$\sigma(\theta_{n'},E_{n'})$				14			15		AEC	Gough	DCTR	71
					REQ COM: Energy and angular dependence of secondary										71
					neutrons needed to calculate neutron										71
					transport in blanket and shield, CTR.										71
					STATUS: No active work.										72
153	$_{26}Fe$	Emission	$\sigma(E_{n'})$	I			5-15				20	LLL	Howerton	DMA	70
					REQ COM: Energy range of interest 0.2 MeV $\leq E_{n'} \leq E_n$.										72
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
154	$_{26}$Fe	Emission	$\sigma(\theta_{n'}, E_{n'})$	I			7-15			10		AFWL	Enz	DNA	69
				III			8-16			10		GDFW	Western	DNA	66
				I			8-16			10		LASL	Biggers	DNA	66
				II			7-15			10		NEL	Eccleshall	DNA	69
					REQ COM: ΔE = 500 keV, 500 keV intervals as dictated by										72
					structure,										72
					Δθ = ± 5 degrees, σ(θ) as dictated by anisotropy,										69
					STATUS: No active work,										72
155	$_{26}$Fe	$\sigma_{n,g}$		II	.001	to	1			10		KAPL	Ehrlich	DNR	72
					REQ COM: Capture cross sections needed in minima(<1 barn)										72
					for shielding applications,										72
					Shape of resolution function important so meaning-										72
					ful broadening can be applied in theoretical										72
					cross section to compare with experiment,										72
					Sample composition should be known well enough to										72
					permit isotopic synthesis of theoretical X-sect,										72
					STATUS: Kenny AUJ 24, 805 (1972),										72
156	$_{26}$Fe	$\sigma_{n,g}$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed to calculate formation of higher										71
					mass isotopes, CTR,										71
					STATUS: No active work,										72

REQ #	TARGET Z	A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
157	$_{26}$Fe		$\sigma_{n,p}$					14				20	AEC	Gough	DCTR	71
						REQ COM: Needed for radiation damage estimates, CTR.										71
						STATUS: No active work.										72
158	$_{26}$Fe	56	$\sigma_{n,\alpha}$		II	Th	to	10			15		GE	Hutchins	DRDT	72
						REQ COM: To determine He production in fast reactors.										72
						STATUS: No active work.										72
159	$_{26}$Fe		$\sigma_{n,\alpha}$					14				20	AEC	Gough	DCTR	71
						REQ COM: Needed for radiation damage estimates, CTR.										71
						STATUS: No active work.										72
160	$_{26}$Fe		$\sigma_{n,n'}(\gamma'S)$				Thr-	14			15		AEC	Gough	DCTR	72
						REQ COM: Needed are gamma ray spectra to calculate heat generation in blanket and shield, CTR.										71
						STATUS: ORNL Dickens+, E_n = 0.85-20 MeV, ORNL-4798.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
161	$_{26}Fe$	Cap Spect	$P(E_g)$		Th-	res.				15		AEC	Gough	DCTR	71
					REQ COM: Needed to calculate heat generation in blanket and shield, CTR.										71
					STATUS: Kenny, Aust. J. Phys. 24, 805 (1961).										72
162	$_{26}Fe$	Absorption		I		1-	1.5		5	to	20	ANL	Avery	DRDT	69
												GE	Snyder	DRDT	69
												LMFB	Hemmig-AEC	DRDT	69
					REQ COM: Capture in 1-5 keV range of particular interest. Accuracy 5 per below 175 keV, 20 per above. Resolution 20 percent.										69 69 72
					STATUS: No active work.										72
163	$_{26}Fe$	Tot $\bar{g}$ Prod	$\sigma(E_g)$	II		1-650				15*		SNPO	Fleishman	DSNS	69
				I			1-10			15*		SNPO	Fleishman	DSNS	69
					REQ COM: *Accuracy 15 per or 5 mb whichever is greater. Absolute $\sigma(E_g)$ required for all E_g > 200 keV. Neutron energy intervals required: Res. region: reproduce major variations in (E_g). > 1 MeV: 500-keV intervals. Gamma-energy resolution required: <2.5 MeV, 10 percent; >2.5 MeV, 250 keV.										69 69 69 69 69 69 69
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
164	$_{26}$Fe	Tot $\bar{\gamma}$ Prod	$\sigma(E_\gamma)$	I	Th	to	10				<15	LMFB	Hemmig-AEC	DRDT	66
					REQ COM: All gamma energies of interest for fast reactor										66
					shielding.										66
					STATUS: No active work.										72
165	$_{26}$Fe	Tot $\bar{\gamma}$ Prod	$\sigma(\theta_\gamma,E_\gamma)$	II			8-15			10		GDFW	Western	DNA	69
				I			8-16			10		LASL	Biggers	DMA	69
				II			7-15			10		NEL	Eccleshall	DNA	69
												AFWL	Enz	DNA	70
					REQ COM: ΔE = 250 keV at 500-keV intervals										69
					$\Delta\theta = \pm 5^\circ (<30^\circ)$, $\pm 10^\circ (>30^\circ)$										69
					$\sigma(55^\circ)$ only unless significantly anisotropic.										69
					STATUS: GRT Orphan+, Gulf-RT-A10743, E_n = 0.86-16.7 MeV.										72
					ORNL Dickens+, E_n = 0.85-20 MeV, ORNL-4798.										72
					USSR Kravcov+, 72 Kiev, E_n = 14 MeV.										72
166	$_{26}$Fe	Res Int	Capture	I	.5-	up				10-	15	KAPL	Ehrlich	DNR	69
					REQ COM: Remove or correct for n,p contribution.										69
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB PERSON ORG	YR
167	$_{26}Fe$	$\bar{\sigma}_n$ and $\bar{\sigma}_\gamma$		II		to	1			10		KAPL Ehrlich DNR	72
					REQ COM: Need $\bar{\sigma}_n$ and $\bar{\sigma}_\gamma$ for peaks near various minima for								72
					theoretical construction of scattering and cap-								72
					ture cross sections. A "minimum" is roughly any								72
					total cross section below 1 barn.								72
					Sample composition should be known well enough to								72
					permit isotopic synthesis of the theoretical								72
					cross section.								72
					Potential scattering for resonance analysis is								72
					also needed.								72
					STATUS: COL Rahn+, NSE 47, 372: $Sigma_{TOT}$ minima.								72
					RPI Block+, USNDC-1: $Sigma_{TOT}$ minima.								72
					ORNL Harvey+, USNDC-1: $Sigma_{TOT}$ minima.								72
					ORNL Harvey+, experiments on separated isotopes								72
					underway.								72
168	$_{26}Fe$	J,π		III		to	1					KAPL Ehrlich DNR	72
					REQ COM: Needed to remove ambiguities in multilevel								72
					resonance analyses. The largest resonances, and								72
					ones near deep minima, are the most important.								72
					STATUS: No active work.								72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
169	$_{26}Fe^{54}$	$\sigma_{n,\gamma}$	Act	II	.025-	to	15				30	LLL	Howerton	DNA	69
					REQ COM: Required is cross section for activation of Fe^{55}										69
					in naturally occurring element.										69
					Accuracy 30 per if σ > 100 mb, 50 per if										69
					25 mb < σ < 100 mb; Accuracy to a factor										69
					of 2 if 1 mb < σ < 25 mb; to a factor of 10										69
					if σ < 1 mb.										69
					STATUS: RPI Hockenbury+, USNDC-1: 0.1-200 keV, separated										72
					isotopes.										72
170	$_{26}Fe^{54}$	$\sigma_{n,p}$	Act	III			1-18			15		BET	Bayard	DNR	72
				II			1-18			10		HEDL	McElroy	DRDT	69
				III			6.2-13			10		NEL	Eccleshall	DNA	69
					REQ COM: Energy resolution 250 keV, 500-keV intervals										69
					For use as fluence monitor.										69
					STATUS: GEEL Paulsen, experiments underway, 1.5-6 MeV										72
					and from 12-20 MeV.										72
					ANL Meadows+ has measurements underway.										72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
171	$_{26}Fe^{56}$	$\sigma_{n,2n}$	Act.	II			Ths-15				30	LLL	Howerton	DMA	69
					REQ COM: Required is cross section for activation of Fe^{55} in naturally occurring element. Accuracy 30 per if σ > 100 mb, 50 per if 25 mb < σ < 100 mb. Accuracy to a factor of 2 if 1 mb < σ < 25 mb; to a factor of 10 if σ < 1 mb.										69
					STATUS: No active work.										72
172	$_{26}Fe^{57}$	$\bar{G}_n$		I		1-600			4-9			KAPL	Ehrlich	DNR	69
					REQ COM: Needed for evaluations										69
					STATUS: ORNL Harvey, experiments underway.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
173	$_{26}Fe^{58}$	$\sigma_{n,\gamma}$	Act	II	.025	to	15				30	LLL	Howerton	DMA	69
				II		1-	18			10		HEDL	McElroy	DRDT	69
					REQ COM: Required is cross section for activation of Fe^{59}										69
					in naturally occuring element. (LLL)										69
					Accuracy 30 per if σ > 100 mb, 50 per if										69
					25 mb < σ < 100 mb. Accuracy to a factor										69
					of 2 if 1 mb < σ < 25 mb; to a facotr of 10										69
					if σ < 1 mb. (LLL)										69
					For use as fluence monitor (PNWL)										69
					STATUS: RPI Hockenbury+, USNDC-1, 0.1-200 keV underway.										72
					KFK Beer, measurements planned.										72
174	$_{27}Co$	Res Par		II	132			1				ANC	Brugger	DRDT	62
					REQ COM: 1 percent in parameters of this resonance.										62
					Needed as flux monitor.										62
					STATUS: Lucas HTS, Bird+, AAEC/PR33, p. 14(1970): Γ_γ.										72
175	$_{27}Co$	$\sigma_{n,\gamma}$		II	132			1				ANC	Brugger	DRDT	62
					REQ COM: 1 percent in Γ_γ for this resonance.										62
					Needed as flux monitor.										62
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
176	$_{27}Co$	$\sigma_{n,\gamma}$	Act	I	.025	to	15				30	LLL	Howerton	DMA	69
				II		1-	18			10		HEDL	McElroy	DRDT	69
					REQ COM: Required is cross section for activation of Co^{60}										69
					in ground plus isomeric states.										69
					Accuracy 30 per if > 100 mb, 50 per if										69
					25 mb < σ < 100 mb. Accuracy to a factor										69
					of 2 if 1 mb < σ < 25 mb; to a factor of 10										69
					if σ < 1 mb. (LLL)										69
					For use as fluence monitors. (PNWL)										69
					STATUS: KFK Beer, measurements planned.										72
177	$_{27}Co$	Tot γ Prod	$\sigma(E_\gamma)$	I	100-	100				15*		SNPO	Fleishman	DSNS	69
				I			1-10			15*		SNPO	Fleishman	DSNS	69
				II			1-14			15*		NEL	Eccleshall	DNA	70
					REQ COM: (*) Accuracy 15 per or 5 mb whichever is greater.										69
					Absolute $\sigma(E_\gamma)$ required for all E_γ > 200 keV.										69
					Neutron Energy intervals required:										69
					Res. region: reproduce major variations in (E_γ)										69
					> 1 Mev: 500-keV intervals										69
					Gamma-energy resolution required:										69
					<2.5MeV, 10 percent; >2.5MeV, 250keV.										69
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
178	* $_{27}Co^{58}$	$\sigma_{n,\gamma}$		II	Th	to	10			10		BET	Bayard	DNR	72
					REQ COM: Thermal cross section most important; RI also needed for interpretation of Ni^{58}(n,p) fluence monitor data. *Radioactive target, 9 hour isomer.										72
					STATUS: No active work.										72
179	* $_{27}Co^{58}$	$\sigma_{n,\gamma}$		II	Th	to	10			10		BET	Bayard	DNR	72
					REQ COM: Thermal cross section most important; RI also needed for interpretation of Ni^{58}(n,p) fluence monitor data. *Radioactive target, 71.4 d half-life.										72
					STATUS: No active work.										72
180	* $_{27}Co^{58}$	J,π		III		25-	3					KAPL	Ehrlich	DNR	66
					REQ COM: Need spins and parities of excited states for Calculation of threshold reaction Ni^{58}(n,p).										66
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
181	$_{28}Ni$	Total		II		1-	20	3				ORNL	Clifford	DRDT	72
					REQ COM: One percent in deep minima for fast reactor shielding, energy resolution sufficient to resolve major structure.										72
					STATUS: No active work.										72
182	$_{28}Ni$	Elastic	$\sigma(\theta_n)$	II			1.5-3		5-	10		ANL	Avery	DRDT	72
				I			1.5-14		4-9			KAPL	Ehrlich	DNR	69
				II			1.5-3		5-	10		LMFB	Hemmig-AEC	DRDT	72
					REQ COM: Resolution: 100 keV, $\Delta\theta = 5^{\circ}$, KAPL.										65
					Energy resolution not determined, ANL, LMFB										69
					Res. of inter. structure prob. adequate, ANL, LMFB										69
					STATUS: ANL Smith+, preliminary data to 3.0 MeV.										72
					ORNL Perey+, ORNL-4523, 6.5-8.5 MeV.										72
					AE Holmquist+ Helsinki Conf. 1.8-8 MeV.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	PERCENT ACCURACY 4-9	PERCENT ACCURACY ≤15	PERCENT ACCURACY >15	REQUESTER LAB	REQUESTER PERSON	REQUESTER ORG	YR
183	$_{28}$Ni	Inelastic	$\sigma(E_{n'})$	II			1-10			10		GE	Snyder	DRDT	66
												LMFB	Hemmig-AEC	DRDT	66
					REQ COM: ΔE_0 and $\Delta E_{n'}$ = 10 percent, Energy resolution										72
					required to determine major structure,										72
					Total integral over 4π required, Spectra										69
					at several angles if significantly anisotropic,										69
					STATUS: ORNL Perey+, ORNL-4523, 6.5-8.5 MeV,										72
					ANL Smith+, preliminary data to 3.0 MeV,										72
184	$_{28}$Ni	Inelastic	$\sigma(E_{n'})$			Ths-	14			15		AEC	Gough	DCTR	72
					REQ COM: Needed to calculate neutron transport										71
					in blanket and shield, CTR,										71
					STATUS: ANL Smith+ preliminary data to 3.0 MeV,										72
					ORNL Perey+, ORNL-4523, 6.5-8.5 MeV,										72
185	$_{28}$Ni	$\sigma_{n,2n}$					14			10		AEC	Gough	DCTR	71
					REQ COM: Accuracy needed to reduce uncertainty in										71
					neutron multiplication estimates for CTR,										71
					STATUS: No active work,										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
186	$_{28}Ni$	$\sigma_{n,2n}$	$\sigma(\theta_{n'},E_{n'})$				14			15		AEC	Gough	DCTR	71
					REQ COM: Energy and angular dependence of secondary neutrons needed to calculate neutron transport in blanket and shield, CTR.										71
					STATUS: No active work.										72
187	$_{28}Ni$	Absorption		II		1-	1			10		ANL	Avery	DRDT	72
												LMFB	Hemmig-AEC	DRDT	66
					REQ COM: Energy resolution 10 percent.										66
					STATUS: AAEC Measurements underway in keV region.										72
188	$_{28}Ni$	$\sigma_{n,\bar{x}}$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed to calculate formation of higher mass isotopes, CTR.										71
					STATUS: No active work.										72
189	$_{28}Ni$	$\sigma_{n,p}$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed for radiation damage estimates, CTR.										71
					STATUS: GEEL Paulsen, measurements in progress, 12-20 MeV.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
190	$_{28}$Ni	$\sigma_{n,\alpha}$		II	Th	to	10			15		GE	Hutchins	DRDT	72
					REQ COM: To determine He production in fast reactors.										72
					STATUS: No active work.										72
191	$_{28}$Ni	$\sigma_{n,\alpha}$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed for radiation damage estimates, CTR.										71
					STATUS: No active work.										72
192	$_{28}$Ni	$\sigma_{n,n'}$(γ'S)				Ths-	14			15		AEC	Gough	DCTR	72
					REQ COM: Needed are gamma ray spectra to calculate heat generation in blanket and shield, CTR.										71 71
					STATUS: ORNL Dickens+, NaI data, E_n 7 keV to 20 MeV, not yet reduced.										72 72
193	$_{28}$Ni	Cap Spect	P(E_γ)		Th-	res.				15		AEC	Gough	DCTR	71
					REQ COM: Needed to calculate heat generation in blanket and shield, CTR.										71 71
					STATUS: ORNL Dickens+, NaI data, E_n 7 keV to 20 MeV, not yet reduced.										72 72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
194	$_{28}$Ni	Res Int	Capture	I	.5-	up				10-	15	KAPL	Ehrlich	DNR	69
					REQ COM: Remove or correct for n,p contribution.										69
					STATUS: KFK Beer+, KFK 1271/3 some separated isotope data.										72
195	$_{28}$Ni	Tot $\bar{g}$ Prod	$\sigma(E_{\bar{g}})$	II	Th	to	10			10		BET	Bayard	DNR	66
				II	Th	to	10				20	LMFB	Hemmig-AEC	DRDT	72
				I	Th-	300					20	ORNL	Clifford	DRDT	62
		Tot $\bar{g}$ Prod	$\sigma(\theta_{\bar{g}},E_{\bar{g}})$	II			2-14				20	ORNL	Clifford	DRDT	63
					REQ COM: All gammas are of interest, resolution 0.5 MeV.										66
					For shielding and gamma heating calculations.										66
					STATUS: ORNL Dickens+, E_n 7 keV-20 MeV, not yet reduced.										72
196	$_{28}$Ni	Tot $\bar{g}$ Prod	$\sigma(E_{\bar{g}})$	II		12-340				15*		SNPO	Fleishman	DSNS	69
				I			1-10			15*		SNPO	Fleishman	DSNS	69
				II			1-14			15*		NEL	Eccleshall	DNA	70
					REQ COM: (*) Accuracy 15 per or 5 mb whichever is greater.										69
					Absolute $\sigma(E_{\bar{g}})$ required for all $E_{\bar{g}}$ > 200 keV.										69
					Neutron Energy intervals required:										69
					Res. region: reproduce major variations in $(E_{\bar{g}})$										69
					> 1 Mev: 500-keV intervals										69
					Gamma-energy resolution required:										69
					<2.5MeV, 10 percent; >2.5MeV, 250keV.										69
					STATUS: ORNL Dickens+, E_n 7 keV-20 MeV, not yet reduced.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
197	$_{28}Ni^{58}$	$\sigma_{n,p}$		II			<10		5			BET	Bayard	DNR	72
					REQ COM: For use as fast fluence monitor.										72
					STATUS: Geel Paulsen+, has measurements 1-6 MeV.										72
					ANL Meadows+, has measurements to 6 MeV.										72
198	$_{28}Ni^{58}$	$\sigma_{n,p}$	Act	III			9.4-14			10		NEL	Eccleshall	DNA	69
					REQ COM: Resolution in energy 5 per. 500-keV intervals										69
					STATUS: Geel Paulsen+, measurements in progress .02-20 MeV										72
					ANL Meadows+, measurements to 6 MeV.										72
199	$_{28}Ni^{60}$	$\sigma_{n,p}$	Act	III			2-12.5			10		NEL	Eccleshall	DNA	69
					REQ COM: Resolution in energy 5 per. 500-keV intervals										69
					STATUS: RPI Hockenbury+, USNDC-1, plan measurements.										72
200	$_{28}Ni^{61}$	$\bar{\sigma}_n$		I		1-600			4-9			KAPL	Ehrlich	DNR	69
					REQ COM: None.										69
					STATUS: RPI Hockenbury+, USNDC-1, plans measurements.										72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
201	$_{29}Cu$	Inelastic	$\sigma(E_{n'})$			Thr-	14			15		AEC	Gough	DCTR	72
					REQ COM: Needed to calculate neutron transport in blanket and shield, CTR.										71
					STATUS: ANL Smith, preliminary data 0.3-3.0 MeV.										72
202	$_{29}Cu$	$\sigma_{n,2n}$					14			10		AEC	Gough	DCTR	71
					REQ COM: Accuracy needed to reduce uncertainty in neutron multiplication estimates for CTR.										71
					STATUS: No active work.										72
203	$_{29}Cu$	$\sigma_{n,2n}$	$\sigma(\theta_{n'},E_{n'})$				14			15		AEC	Gough	DCTR	71
					REQ COM: Energy and angular dependence of secondary neutrons needed to calculate neutron transport in blanket and shield, CTR.										71
					STATUS: No active work.										72
204	$_{29}Cu$	$\sigma_{n,\bar{\gamma}}$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed to calculate formation of higher mass isotopes, CTR.										71
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	PERCENT ACCURACY 4-9	PERCENT ACCURACY ≤15	PERCENT ACCURACY >15	REQUESTER LAB	REQUESTER PERSON	REQUESTER ORG	YR
205	$_{29}$Cu	$\sigma_{n,p}$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed for radiation damage estimates, CTR.										71
					STATUS: No active work.										72
206	$_{29}$Cu	$\sigma_{n,\alpha}$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed for radiation damage estimates, CTR.										71
					STATUS: No active work.										72
207	$_{29}$Cu	$\sigma_{n,n'}(\gamma$'S)				Ths-	14			15		AEC	Gough	DCTR	72
					REQ COM: Needed are gamma ray spectra to calculate heat generation in blanket and shield, CTR.										71
					STATUS: ORNL Dickens+, E_n = 0.7-20 MeV in progress.										72
208	$_{29}$Cu	Cap Spect	$P(E_\gamma)$		Th-	res.				15		AEC	Gough	DCTR	71
					REQ COM: Needed to calculate heat generation in blanket and shield, CTR.										71
					STATUS: ANC Greenwood+, E_n=2 keV, TID-4500(IN-1407) UC-80, ORNL Bird+, ORNL-TM-3379 E_n = 20-50 keV, ORNL Macklin+, E_n = 3-500 keV in progress.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
209	$_{29}$Cu	Tot $\bar{g}$ Prod	$\sigma(E_{\bar{g}})$	II	200-	50				15*		SNPO	Fleishman	DSNS	69
				I			1-10			15*		SNPO	Fleishman	DSNS	69
				II			1-14			15*		NEL	Eccleshall	DNA	70
					REQ COM: (*) Accuracy 15 per or 5 mb whichever is greater.										69
					Absolute $\sigma(E_{\bar{g}})$ required for all $E_{\bar{g}}$ > 200 keV.										69
					Neutron Energy intervals required:										69
					Res. region: reproduce major variations in $(E_{\bar{g}})$										69
					> 1 Mev: 500-keV intervals										69
					Gamma-energy resolution required:										69
					<2.5MeV, 10 percent; >2.5MeV, 250keV.										69
					STATUS: ORNL Dickens+, E_n = 0.7-20 MeV in progress.										72
210	$_{29}$Cu^{63}	$\sigma_{n,\bar{g}}$		II	Th-	1		2-	5			ACRP	Hannum	DRDT	67
					REQ COM: Accuracy 2 per near thermal.										67
					Accuracy 5 per above thermal.										67
					For detector applications.										67
					STATUS: HAR Moxon has data 5eV-100keV in progress.										70

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
211	$_{29}Cu^{63}$	$\sigma_{n,\gamma}$	Act	III	.025	to	15				30	LLL	Howerton	DMA	69
				II		1-	18			10		HEDL	McElroy	DRDT	69

REQ COM: Required is cross section for activation of Cu^{64} in naturally occurring elements. (LLL) — 69
Accuracy 30 per if σ > 100 mb, 50 per if 25 mb < σ < 100 mb. Accuracy to a factor of 2 if 1 mb < σ < 25 mb; to a factor of 10 if σ < 1 mb. (LLL) — 69
For use as fluence monitor (PNWL) — 69

STATUS: No active work. — 72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
212	$_{29}Cu^{63}$	$\sigma_{n,\alpha}$	Act	II			>6			10		HEDL	McElroy	DRDT	69

REQ COM: For use as fluence monitor. — 69

STATUS: Hamburg, Bormann, to be published. — 72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
213	$_{29}Cu^{65}$	$\sigma_{n,2n}$	Act.	III			Ths-15				30	LLL	Howerton	DMA	69
					REQ COM: Required is cross section for activation of Cu^{64} in naturally occurring element. Accuracy of 30 per if σ > 100 mb, 50 per if 25 mb < σ < 100 mb. Accuracy to a factor of 2 if 1 mb < σ < 25 mb; to a factor of 10 if σ < 1 mb.										69
					STATUS: Kanda, At. Energy Research Inst. Tokyo p. 1207. Qaim, NP A185, 164 (1972). Mogharrab, Atomkernenergie 19, 107 (1972).										72
214	$_{29}Cu^{65}$	$\sigma_{n,\bar{g}}$		II	Th-	1		2-	5			ACRP	Hannum	DRDT	67
					REQ COM: Accuracy 2 per near thermal. Accuracy 5 per near above thermal. For detector applications										67
					STATUS: HAR Moxon has data 5eV-100keV in progress.										72
215	$_{30}Zn$	Cap Spect	$P(E_{\bar{g}})$	I	Th					10		SNPO	Fleishman	DSNS	69
					REQ COM: For shielding calculations. Both line and continuum spectra are required. Bartholomew's spectrum does not give correct B.E.										69
					STATUS: ORNL Maerker+ ORNL-4382.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
216	$_{30}Zn$	Tot γ Prod	$\sigma(E_\gamma)$	I	200-	25				15*		SNPO	Fleishman	DSNS	69
				I			1-10			15*		SNPO	Fleishman	DSNS	69
				II			1-14			15*		NEL	Eccleshall	DNA	70

REQ COM: (*) Accuracy 15 per or 5 mb whichever is greater. 69
Absolute $\sigma(E_\gamma)$ required for all E_γ > 200 keV. 69
Neutron Energy intervals required: 69
Res. region: reproduce major variations in (E_γ) 69
> 1 Mev: 500-keV intervals 69
Gamma-energy resolution required: 69
< 2.5 MeV, 10 percent; > 2.5 MeV, 250 keV. 69

STATUS: ORNL Dickens, E_n = 5-6 MeV in progress. 72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
217	$_{30}Zn^{64}$	$\sigma_{n,\gamma}$	Act	I	.025	to	15				30	LLL	Howerton	DMA	69

REQ COM: Required is cross section for activation of Zn^{65} 69
in naturally occurring element. 69
Accuracy of 30 per if σ > 100 mb, 50 per if 69
25 mb < σ < 100 mb. Accuracy to a factor 69
of 2 if 1 mb < σ < 25 mb; to a factor of 10 69
if σ < 1 mb. 69

STATUS: No active work. 72

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REQ #	TARGET # Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	PERCENT ACCURACY 4-9	PERCENT ACCURACY ≤15	PERCENT ACCURACY >15	REQUESTER LAB	REQUESTER PERSON	REQUESTER ORG	YR
218	$_{30}Zn^{66}$	$\sigma_{n,2n}$	Act.	I			Ths-15				30	LLL	Howerton	DMA	72
					REQ COM: Required is cross section for activation of Zn^{65}										69
					in naturally occurring element.										69
					Accuracy of 30 per if σ > 100 mb, 50 per if										69
					25 mb < σ < 100 mb. Accuracy to a factor										69
					of 2 if 1 mb < σ < 25 mb; to a factor of 10										69
					if σ < 1 mb.										69
					STATUS: No active work.										72
219	$_{32}Ge$	Emission	$\sigma(\theta_{n'},E_{n'})$	II			1-15			10		NEL	Eccleshall	DNA	69
					REQ COM: Resolution: .25 MeV in energy, 5^{o} in angle.										69
					Energy intervals 2 MeV; angular intervals 20^{o}.										69
					STATUS: No active work.										72
220	$_{32}Ge$	Tot $\bar{g}$ Prod	$\sigma(\theta_{\bar{g}},E_{\bar{g}})$	II			1-15			10		NEL	Eccleshall	DNA	69
					REQ COM: Need energy spectrum of gammas										69
					Resolution: 5 per in energy; 5^{o} in angle.										69
					Energy intervals 2 MeV; angular intervals 20^{o}										69
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
221	$_{33}As$	Elastic	$\sigma(\theta_n)$	II	Th	to	14			15		IRT	Russell	DNA	69
					REQ COM: For radiation effects.										69
					STATUS: No active work.										72
222	$_{33}As$	Emission	$\sigma(\theta_{n'})$	II		Ths-	14			15		IRT	Russell	DNA	69
					REQ COM: For radiation effects.										69
					STATUS: No active work.										72
223	$_{36}Kr^{83}$	Total		II	.001-	1				10		BET KAPL	Bayard Ehrlich	DNR DNR	67 67
					REQ COM: Accuracy 10 per thermal Accuracy 10 percent in RI above 1 eV. For fission product absorption calculation										67 67 67
					STATUS: No active work.										72
224	$_{36}Kr^{83}$	$\sigma_{n,\bar{g}}$		II	.001-	1				10		BET KAPL	Bayard Ehrlich	DNR DNR	67 67
					REQ COM: Accuracy 10 per thermal Accuracy 10 percent in RI above 1 eV. For fission product absorption calculation										67 67 67
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
225	* $_{37}Rb^{83}$	$\sigma_{n,g}$		I		.1-300					50	LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation.										69
					* Radioactive target-83 day(neutron deficient)										69
					STATUS: No active work.										72
226	* $_{37}Rb^{84}$	$\sigma_{n,g}$		I		.1-300					50	LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation.										69
					* Radioactive target-33 day(neutron deficient)										69
					STATUS: No active work.										72
227	$_{40}Zr$	Elastic	$\sigma(\theta_n)$	II		200-	1.5			10		KAPL	Ehrlich	DNR	69
				II			7-14				20	KAPL	Ehrlich	DNR	69
					REQ COM: <1.5 MeV: Resolution ±5 per cent; systematic diff										69
					exist in available data.										69
					>7 MeV: Resolution ±2.5 percent; no data.										69
					STATUS: ANL work reported < 1.5 MeV.										72
					ANL working > 1.5 MeV.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
228	$_{40}Zr$	Inelastic	$\sigma(E_{n'})$			Ths-	14			15		AEC	Gough	DCTR	72
					REQ COM: Needed to calculate neutron transport										71
					in blanket and shield, CTR.										71
					STATUS: ANL Smith+, even isotopes 90-92-94 to ~5.0 MeV.										72
					U. Ky. McEllistrem+, even isotopes 90-94 to 6 MeV.										72
229	$_{40}Zr$	$\sigma_{n,2n}$					14			10		AEC	Gough	DCTR	71
					REQ COM: Accuracy needed to reduce uncertainty in										71
					neutron multiplication estimates for CTR.										71
					STATUS: U. of Ark. Bari, activation X-section at 14.8 MeV.										72
230	$_{40}Zr$	$\sigma_{n,2n}$	$\sigma(\theta_{n'},E_{n'})$				14			15		AEC	Gough	DCTR	71
					REQ COM: Energy and angular dependence of secondary										71
					neutrons needed to calculate neutron										71
					transport in blanket and shield, CTR.										71
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
231	$_{40}Zr$	Emission	$\sigma(\theta_{n'},E_{n'})$	I			2-14			10		KAPL	Ehrlich	DNR	67
				I			2-14			10		ANL	Avery	DRDT	67
				I			1.5-15			10		LASL	Streetman	DSNS	69

REQ COM: For design of pressurized water reactors using Zr 67
Incident and exit energy resolution 10 per 67
Low energy neutrons must be included. LASL. 69
Absolute spectra at 30° and 70° may suffice. LASL. 69
Time scale not yet established for 69
requiring associated gamma-production data. 69

STATUS: ANL Smith+, even isotopes 90-92-94 to ~5.0 MeV. 72
U. Ky. McEllistrem+, even isotopes 90-94 to 6 MeV. 72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
232	$_{40}Zr$	$\sigma_{n,\gamma}$		II	Th-	1			5			BNW	Leonard	DPMM	67
				II		3-	10			15		KAPL	Ehrlich	DNR	69

REQ COM: For reactor modernization and reactivity effects 67
Need verification for energies <25 keV. 69
Discrepancies exist 25 keV-1 MeV 69
No data > 1 MeV available 69

STATUS: ANL Poenitz, measurements 400-1500 keV started. 72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
233	$_{40}Zr$	$\sigma_{n,\bar{g}}$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed to calculate formation of higher mass isotopes, CTR.										71 71
					STATUS: No active work.										72
234	$_{40}Zr$	Res Int	Capture	I	.5-	up			5			KAPL	Ehrlich	DNR	69
					REQ COM: Discrepancies in existing measurements.										69
					STATUS: No active work.										72
235	$_{40}Zr$	$\sigma_{n,p}$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed for radiation damage estimates, CTR.										71
					STATUS: U. of Ark, Bari, activation X-section at 14.8 MeV.										72
236	$_{40}Zr$	$\sigma_{n,\bar{a}}$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed for radiation damage estimates, CTR.										71
					STATUS: U. of Ark, Bari, activation X-section at 14.8 MeV.										72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	PERCENT ACCURACY 4-9	PERCENT ACCURACY ≤15	PERCENT ACCURACY >15	REQUESTER LAB	REQUESTER PERSON	REQUESTER ORG	YR
237	40 Zr	Cap Spect	$P(E_\gamma)$	I	Th					10		SNPO	Fleishman	DSNS	69
					REQ COM: For shielding calculations.										69
					Both line and continuum spectra are required.										69
					Bartholomew's spectrum does not give correct B.E.										69
					STATUS: MIT Rasmussen+, GA-10248/DASA-2570, thermal										72
					neutron capture spectrum.										72
238	40 Zr	$\sigma_{n,n'}(\bar{\gamma}'S)$				Ths-	14			15		AEC	Gougn	DCTR	72
					REQ COM: Needed are gamma ray spectra to calculate										71
					heat generation in blanket and shield, CTR.										71
					STATUS: BET Glickstein+, E_n = 1.2-2.4 MeV ^{91}Zr, Knoxville										72
					Conf.-710301, p. 241.										72
239	40 Zr	Cap Spect	$P(E_\gamma)$		Th-	res.				15		AEC	Gough	DCTR	71
					REQ COM: Needed to calculate heat generation										71
					in blanket and shield, CTR.										71
					STATUS: MIT Rasmussen+, GA-10248/DASA-2570, thermal										72
					neutron capture spectrum.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	PERCENT ACCURACY 4-9	PERCENT ACCURACY ≤15	PERCENT ACCURACY >15	REQUESTER LAB	REQUESTER PERSON	REQUESTER ORG	YR
240	40 Zr	Tot $\bar{g}$ Prod	$\sigma(E_{\bar{g}})$	II	100-	20				15*		SNPO	Fleishman	DSNS	69
				I			1-10			15*		SNPO	Fleishman	DSNS	69
				II			1-14			15*		NEL	Eccleshall	DNA	70
					REQ COM: (*) Accuracy 15 per or 5 mb whichever is greater.										69
					Absolute $\sigma(E_{\bar{g}})$ required for all $E_{\bar{g}}$ > 200 keV.										69
					Neutron Energy intervals required:										69
					Res. region: reproduce major variations in $(E_{\bar{g}})$										69
					> 1 Mev: 500-keV intervals										69
					Gamma-energy resolution required:										69
					<2.5MeV, 10 percent; >2.5MeV, 250keV.										69
					STATUS: None which satisfy criteria.										72
241	* 40 Zr 88	$\sigma_{n,\bar{g}}$		I		.1-300					50	LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation.										69
					* Radioactive target-85 day(neutron deficient)										69
					STATUS: No active work.										72
242	* 40 Zr 89	$\sigma_{n,\bar{g}}$		I		.1-300					50	LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation.										69
					* Radioactive target-78 hour(neutron deficient)										69
					STATUS: No active work.										72

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REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
243	$_{40}Zr^{90}$	Total		I			2-10	3				GE	Snyder	DRDT	72
												BET	Bayard	DNR	67
					REQ COM: To resolve discrepancies in recent measurements.										72
					STATUS: No active work.										72
244	$_{40}Zr^{90}$	Elastic	$\sigma(\theta_n)$	I		100-	10			10		BET	Bayard	DNR	72
					REQ COM: Scattering from the separated isotopes 90-91 92-94 and 96 is desired to check the shell effect on the optical potential and derive useful parameters										67
					STATUS: U. Ky. McEllistrem+ preliminary results 1.5-6 MeV. ANL Smith preliminary results 1.5-3.0 MeV.										72
245	$_{40}Zr^{90}$	Inelastic	$\sigma(\theta_{n'})$	II			14				15	KAPL	Ehrlich	DNR	69
					REQ COM: Resolve discrete levels up to 3 MeV excitation. To compute direct inelastic scattering and investigate isotopic spin-dependent coupling between ground and excited states.										69
					STATUS: No active work.										72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
246	$_{40}Zr^{90}$	Inelastic	$\sigma(E_{n'})$	I			5-15			10		BET	Bayard	DNR	72
					REQ COM: To determine the split of the total Zr										72
					cross section between nonelastic and elastic.										72
					STATUS: U. Ky. McEllistrem+ preliminary data to 6 MeV.										72
					ANL Smith preliminary results 1.5-3.0 MeV.										72
247	$_{40}Zr^{90}$	Emission	$\sigma(\theta_{n'},E_{n'})$	I			1-15			10		BET	Bayard	DNR	67
					REQ COM: Individual excitation cross sections										67
					desired to 20 per accuracy										67
					Needed for the design of pressurized										67
					water reactors with Zr										67
					Wanted from threshold up										67
					STATUS: U. Ky. McEllistrem+ preliminary results 1.5-6 MeV.										72
					ANL Smith+, preliminary results 1.5-3.0 MeV.										72
248	$_{40}Zr^{90}$	Res Int	Capture	II	.5-	up					20	KAPL	Ehrlich	DNR	69
					REQ COM: Needed for evaluating meas. resonance parameters.										69
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
249	$_{40}Zr^{90}$	$\bar{G}_n$ and $\bar{G}_\gamma$		II	*	-15				10		KAPL	Ehrlich	DNR	69
												BET	Bayard	DNR	72
					REQ COM: Needed to verify existing measurements.										69
					(*): energy to include lowest resolved resonance.										69
					Discrepancies still exist, incl. recent RPI work.										70
					STATUS: No active work.										72
250	*$_{40}Zr^{90}$	J,π		II			1.8-5					KAPL	Ehrlich	DNR	69
					REQ COM: J,π of all Zr^{90} levels <5 MeV desired										69
					for calculating compound elastic and inelastic										69
					and n,p.										69
					STATUS: No active work.										72
251	$_{40}Zr^{91}$	Elastic	$\sigma(\theta_n)$	I		100-	10			10		BET	Bayard	DNR	72
					REQ COM: Scattering from the separated isotopes 90-91										67
					92-94 and 96 is desired to check the										67
					shell effect on the optical potential										67
					and derive useful parameters										67
					STATUS: ANL work in progress.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
252	$_{40}Zr^{91}$	Inelastic	$\sigma(\theta_{n'})$	II			2.5-10			10		BET	Bayard	DNR	72
				II			14				15	KAPL	Ehrlich	DNR	69
					REQ COM: Resolve discrete levels up to 2 MeV excitation,										69
					To compute direct inelastic scattering and investigate isotopic spin-dependent coupling between ground and excited states,										69
					To determine the split of the total Zr cross section beween nonelastic and elastic,										72
					STATUS: U, Ky, McEllistrem+ preliminary results 1,5-6 MeV,										72
					ANL Smith+, preliminary results 1,5-3,0 MeV,										72
253	$_{40}Zr^{91}$	$\sigma_{n,\bar{a}}$		III			14				30	KAPL	Ehrlich	DNR	69
					REQ COM: No data available,										69
					STATUS: No active work,										72
254	$_{40}Zr^{91}$	Res Int	Capture	I	,5	up			5			KAPL	Ehrlich	DNR	69
					REQ COM: Verification of existing data required,										69
					STATUS: No active work,										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
255	$_{40}Zr^{91}$	$\bar{G}_n$ and $\bar{G}_g$		I	*	-10				10		KAPL	Ehrlich	DNR	69
												BET	Bayard	DNR	72
					REQ COM: Needed to resolve serious discrepencies <4 keV										69
					and extend resolved resonance data to 10 keV.										69
					(*): energy to include lowest resolved resonance.										69
					Discrepancies still exist, incl. RPI, GGA work.										70
					STATUS: ORNL Macklin, measurements underway.										72
256	$_{40}Zr^{91}$	J,π		II			1-4					KAPL	Ehrlich	DNR	69
					REQ COM: J,π of all Zr^{91} levels <4 MeV desired										69
					for calculating compound elastic and inelastic.										69
					STATUS: No active work.										72
					********	********	********	********	********	********	********				
257	$_{40}Zr^{92}$	Elastic	$\sigma(\theta_n)$	I		100-	10			10		BET	Bayard	DNR	72
					REQ COM: Scattering from the separated isotopes										67
					90-91, 92-94 and 96 is desired to										67
					check the shell effect on optical										67
					potential and derive useful parameters										67
					STATUS: U. Ky. McEllistrem+ preliminary results 1.5-6 MeV.										72
					ANL Smith+, preliminary results 1.5-3.0 MeV.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB PERSON ORG	YR
258	$_{40}Zr^{92}$	Inelastic	$\sigma(\theta_{n'})$	II			14				15	KAPL Ehrlich DNR	69
					REQ COM: Resolve discrete levels up to 2 MeV excitation.								69
					To compute direct inelastic scattering and								69
					investigate isotopic spin-dependent coupling								69
					between ground and excited states.								69
					STATUS: No active work.								72
259	$_{40}Zr^{92}$	Inelastic	$\sigma(E_{n'})$	I			2.5-10			10		BET Bayard DNR	72
					REQ COM: To determine split of total Zr cross section								72
					between nonelastic and elastic								72
					STATUS: U. Ky. McEllistrem+ preliminary results 1.5-6 MeV.								72
					ANL Smith preliminary results 1.5-3.0 MeV.								72
260	$_{40}Zr^{92}$	Res Int	Capture	II	.5-	up					20	KAPL Ehrlich DNR	69
					REQ COM: Needed for evaluating meas. resonance parameters.								69
					STATUS: No active work.								72

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REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
261	$_{40}Zr^{92}$	$\bar{\Gamma}_n$ and $\bar{\Gamma}_\gamma$		I	*-	15				10		KAPL	Ehrlich	DNR	69
												BET	Bayard	DNR	72
					REQ COM: (*): Energy to include lowest resolved resonance,										69
					Needed for verification of existing data, incl,										70
					recent RPI results,										70
					STATUS: ORNL Macklin measurements underway,										72
262	$_{40}Zr^{92}$	J,π		II			1-4					KAPL	Ehrlich	DNR	69
					REQ COM: J,π of all Zr^{92} levels <4 MeV desired										69
					for calculating compound elastic and inelastic,										69
					STATUS: No active work,										72
263	$_{40}Zr^{94}$	Elastic	$\sigma(\theta_n)$	I	.5	to	10			10		BET	Bayard	DNR	67
					REQ COM: Scattering from the separated isotopes 90-91										67
					92-94 and 96 is desired to check the										67
					shell effect on the optical potential										67
					and derive useful parameters,										67
					STATUS: U, Ky, underway,										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB PERSON ORG	YR
264	$_{40}Zr^{94}$	Inelastic	$\sigma(\theta_{n'})$	II			14			15		KAPL Ehrlich DNR	67
					REQ COM: Resolve discrete levels up to 2 MeV excitation,								69
					To compute direct inelastic scattering and								69
					investigate isotopic spin-dependent coupling								69
					between ground and excited states,								69
					STATUS: No active work,								72
265	$_{40}Zr^{94}$	$\bar{G}_n$ and $\bar{G}_g$		II	*	-15				10		KAPL Ehrlich DNR	69
					REQ COM: (*): Energy to include lowest resolved resonance,								69
					Needed for verification of existing data, incl,								70
					recent RPI results,								70
					STATUS: ORNL Macklin, measurements underway,								72
266	$_{40}Zr^{94}$	J,π		II		950-	4					KAPL Ehrlich DNR	69
					REQ COM: J,π of all Zr^{94} levels <4 MeV desired								69
					for calculating compound elastic and inelastic,								69
					STATUS: No active work,								72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
267	* $_{40}Zr^{95}$	$\sigma_{n,\bar{g}}$		II	.5-	10				10-	20	BET	Bayard	DNR	67
												KAPL	Ehrlich	DNR	67
					REQ COM: Accuracy: 10 percent in σ_{ABS}, if > 100 barns;										69
					20 percent in σ_{ABS}, if from 10-100 barns										69
					Above 1 eV:										69
					10 percent in RI, if > 1000 barns;										69
					20 percent in RI, if from 100-1000 barns										69
					The decay is to an important fission product.										69
					*Radioactive target, 65 day.										69
					STATUS: No active work.										72
268	$_{40}Zr^{96}$	Elastic	$\sigma(\theta_n)$	I		100-	10			10		BET	Bayard	DNR	72
					REQ COM: Scattering from the separated isotopes 90-91										67
					92-94 and 96 is desired to check the										67
					shell effect on optical potential and										67
					derive useful parameters										67
					STATUS: ANL no adequate sample available.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
269	$_{40}Zr^{96}$	$\sigma_{n,\bar{g}}$		II	Th				5			KAPL	Ehrlich	DNR	69
					REQ COM: Need to resolve discrepancies in σ's and res. par.										69
					Preferably meas. with natural target or other										69
					isotopes. Note: Zr^{97} half-life is 16.8 hours.										69
					STATUS: No active work.										72
270	$_{41}Nb$	Inelastic	$\sigma(E_{n'})$			Ths-	14			15		AEC	Gough	DCTR	72
					REQ COM: Needed to calculate neutron transport										71
					in blanket and shield. CTR.										71
					STATUS: ANL Smith+ data to 4.0 MeV in detail.										72
					AWRE Coles. 1.5-5 MeV. AWRE-O-66-71.										72
					AE Almen+, 2 to 4.5 MeV Helsinki Conf. II, p. 349.										72
271	$_{41}Nb$	$\sigma_{n,n'}$	Isom State	I		Ths-	15				20	LLL	Howerton	DMA	69
					REQ COM: Needed is inelastic cross section to 13.6y isomer										69
					of Nb^{93}.										69
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
272	$_{41}$Nb	Emission	$\sigma(\theta_{n'},E_{n'})$	I			1.5-15			10		LASL	Streetman	DSNS	69
					REQ COM: Low-energy neutrons must be included.										69
					Absolute spectra at 30° and 75° may suffice.										69
					Time scale requiring associated γ-production data										69
					not yet established.										69
					Incident and exit energy resol. 10 per										67
					STATUS: ANL Smith* data to 4.0 MeV in detail.										72
					AWRE Coles, 1.5-5 MeV, AWRE-O-66-71.										72
					AE Almen*, 2 to 4.5 MeV Helsinki Conf. II, p. 349.										72
273	$_{41}$Nb	$\sigma_{n,2n}$					14			10		AEC	Gough	DCTR	71
					REQ COM: Accuracy needed to reduce uncertainty in										71
					neutron multiplication estimates for CTR.										71
					STATUS: No active work.										72
274	$_{41}$Nb	$\sigma_{n,2n}$	$\sigma(\theta_{n'},E_{n'})$				14			15		AEC	Gough	DCTR	71
					REQ COM: Energy and angular dependence of secondary										71
					neutrons needed to calculate neutron										71
					transport in blanket and shield, CTR.										71
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
275	41 Nb	$\sigma_{n,2n}$	Act.	I			Ths-15		≤5			LLL	Howerton	DMA	70
					REQ COM: Measurements with less accuracy not helpful.										70
					STATUS: No data to required accuracy.										72
276	41 Nb	$\sigma_{n,\bar{g}}$		II		1-100				10		AI	Alter	DRDT	62
				II		1-100				10		ANL	Avery	DRDT	62
				II		1-100				10		IRT	Preskitt	DRDT	62
					REQ COM: Look for non-1/v below 1 eV.										69
					For fast reactor calculations, to resolve										69
					discrepancies in thermionic reactor worths.										69
					Accuracy: 5 per in calculated dilute and self-										67
					shielded resonance integral										67
					STATUS: ORNL Macklin plans.										72
277	41 Nb	$\sigma_{n,\bar{g}}$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed to calculate formation of higher										71
					mass isotopes, CTR.										71
					STATUS: No active work.										72
278	41 Nb	$\sigma_{n,p}$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed for radiation damage estimates, CTR.										71
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
279	$_{41}Nb$	$\sigma_{n,\bar{a}}$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed for radiation damage estimates, CTR.										71
					STATUS: U. of Ark. Bari at 14.8 MeV.										72
280	$_{41}Nb$	Cap Spect	$P(E_{\bar{g}})$	I	Th					10		SNPO	Fleishman	DSNS	69
					REQ COM: For shielding calculations.										69
					Both line and continuum spectra are required.										69
					Bartholomew's spectrum does not give correct B.E.										69
					STATUS: MIT Rasmussen+, GA-10248/DASA-2570, thermal										72
					neutron capture spectrum.										72
281	$_{41}Nb$	$\sigma_{n,n'}(\bar{g}'S)$				Ths-	14			15		AEC	Gough	DCTR	72
					REQ COM: Needed are gamma ray spectra to calculate										71
					heat generation in blanket and shield, CTR.										71
					STATUS: ORNL Dickens+, NCSAC-42, p. 195 6 MeV.										72
282	$_{41}Nb$	Cap Spect	$P(E_{\bar{g}})$		Th-	res.				15		AEC	Gough	DCTR	71
					REQ COM: Needed to calculate heat generation										71
					in blanket and shield, CTR.										71
					STATUS: MIT Rasmussen+, GA-10248/DASA-2570, thermal										72
					neutron capture spectrum.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
283	$_{41}$Nb	Tot γ Prod	$\sigma(E_\gamma)$	II	30-	75				15*		SNPO	Fleishman	DSNS	69
				I			1-10			15*		SNPO	Fleishman	DSNS	69
				II			1-14			15*		NEL	Eccleshall	DNA	70
					REQ COM: (*) Accuracy 15 per or 5 mb whichever is greater,										69
					Absolute $\sigma(E_\gamma)$ required for all E_γ > 200 keV,										69
					Neutron Energy intervals required:										69
					Res, region: reproduce major variations in $\sigma(E_\gamma)$										69
					> 1 Mev: 500-keV intervals										69
					Gamma-energy resolution required:										69
					<2.5MeV, 10 percent; >2.5MeV, 250keV,										69
					STATUS: ORNL Dickens+, NCSAC-42, p. 195 6 MeV,										72
284	$_{41}$Nb	Tot γ Prod	$\sigma(E_\gamma)$		Th-	to	14			15		AEC	Gough	DCTR	71
					REQ COM: Needed for CTR applications,										71
					STATUS: ORNL Dickens+, NCSAC-42, p. 195, 6 MeV,										72
285	* $_{41}$Nb^{91}	$\sigma_{n,\gamma}$		I		.1-300					50	LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation,										69
					* Radioactive target-neutron deficient,										69
					STATUS: No active work,										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
286	* $_{41}Nb^{92}$	$\sigma_{n,\gamma}$		I		.1-300					50	LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation.										69
					* Radioactive target-10^7 year (neutron deficient)										69
					STATUS: No active work.										72
287	* $_{41}Nb^{93}$	$\sigma_{n,\gamma}$		I		.1-300					50	LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation.										69
					* Radioactive target-required is the cross										69
					section for capture by the 13.6 year Nb^{93} isomer										69
					STATUS: No active work.										72
288	* $_{41}Nb^{95}$	$\sigma_{n,\gamma}$		I	Th						20	KAPL	Ehrlich	DNR	67
					REQ COM: Thermal average will be useful										67
					Want 20 per accuracy if absorption										67
					cross section is 10-100 barns										67
					10 per if greater										67
					Decays to an important fission product poison.										67
					*Radioactive target = 35d.										69
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
289	$_{42}Mo$	Inelastic	$\sigma(E_{n'})$	III			1.5-3				20	ANL	Avery	DRDT	72
												LMFB	Hemmig-AEC	DRDT	62
					REQ COM: ΔE_o and $\Delta E_{n'}$ = 20 percent. Total integral over 4π required. Spectra at several angles if significantly anisotropic.										62
					STATUS: AWRE Coles, AWRE-89/70, data to 5.0 MeV. ANL Smith+, all even isotopes to 1.6 MeV, extending to > 5 MeV. U. Ky. McEllistrem+ even isotope data, 1.5-6 MeV.										72
290	$_{42}Mo$	Inelastic	$\sigma(E_{n'})$			Ths-	14			15		AEC	Gough	DCTR	72
					REQ COM: Needed to calculate neutron transport in blanket and shield, CTR.										71
					STATUS: AWRE Coles, AWRE-89/70, data to 5.0 MeV. ANL Smith+, all even isotopes to 1.6 MeV, extending to > 5 MeV. U. Ky. McEllistrem+ even isotope data, 1.5-6 MeV.										72
291	$_{42}Mo$	$\sigma_{n,2n}$					14			10		AEC	Gough	DCTR	71
					REQ COM: Accuracy needed to reduce uncertainty in neutron multiplication estimates for CTR.										71
					STATUS: No data to required accuracy.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
292	$_{42}Mo$	$\sigma_{n,2n}$	$\sigma(\theta_{n'},E_{n'})$				14			15		AEC	Gough	DCTR	71
					REQ COM: Energy and angular dependence of secondary										71
					neutrons needed to calculate neutron										71
					transport in blanket and shield, CTR.										71
					STATUS: No active work										72
293	$_{42}Mo$	Emission	$\sigma(\theta_{n'},E_{n'})$	II			1.5-15			10		LASL	Streetman	DSNS	69
					REQ COM: Low-energy neutrons must be included.										69
					Absolute spectra at 30° and 75° may suffice.										69
					Time scale requiring associated γ-production data										69
					not yet established.										69
					STATUS: AWRE Coles, AWRE-89/70, data to 5.0 MeV.										72
					ANL Smith+, all even isotopes to 1.6 MeV,										72
					extending to > 5 MeV.										72
					U. Ky. McEllistrem+ even isotope data, 1.5-6 MeV.										72
294	$_{42}Mo$	$\sigma_{n,\gamma}$		III		1-	1			10		ACRP	Hannum	DRDT	72
					REQ COM: To resolve discrepancy in reactivity										72
					worth measurements.										72
					STATUS: ANL Poenitz measurements started 400-1500 keV.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
295	42 Mo	$\sigma_{n,\bar{g}}$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed to calculate formation of higher mass isotopes, CTR.										71 71
					STATUS: None.										72
296	42 Mo	$\sigma_{n,p}$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed for radiation damage estimates, CTR.										71
					STATUS: No active work.										72
297	42 Mo	$\sigma_{n,\bar{a}}$					14				20	AEC	Gough	DCTR	71
					REQ COM: Needed for radiation damage estimates, CTR.										71
					STATUS: No active work.										72
298	42 Mo	Cap Spect	$P(E_{\bar{g}})$	I	Th					10		SNPO	Fleishman	DSNS	69
					REQ COM: None which satisfy criteria. Both line and continuum spectra are required. Bartholomew's spectrum does not give correct B.E.										69 69 69
					STATUS: USSR Barchuk+, 72 Kiev, Ge(Li) data for Mo-94,96, 98, 100.										72 72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
299	42 Mo	$\sigma_{n,n'}(\bar{g}'S)$				Thr-	14			15		AEC	Gough	DCTR	71
					REQ COM: Needed are gamma ray spectra to calculate heat generation in blanket and shield, CTR.										71
					STATUS: No active work.										72
300	42 Mo	Cap Spect	$P(E_g)$		Th-	res.				15		AEC	Gough	DCTR	71
					REQ COM: Needed to calculate heat generation in blanket and shield, CTR.										71
					STATUS: Wasson+, USNDC-1, pp. 27 and 134, 6-100 keV. Cole+, NCSAC-42, 185, 10-100 keV. Chrien+, NCSAC-42, 40, 12-48 keV.										72
301	42 Mo	Tot $\bar{g}$ Prod	$\sigma(E_g)$		Th-	to	14			15		AEC	Gough	DCTR	71
					REQ COM: Needed for CTR applications.										71
					STATUS: No active work except n, Gamma below 100 keV.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
302	$_{42}Mo$	Tot γ Prod	$\sigma(E_\gamma)$	I	10-	9				15*		SNPO	Fleishman	DSNS	69
				I			1-10			15*		SNPO	Fleishman	DSNS	69
				II			1-14			15*		NEL	Eccleshall	DNA	70
					REQ COM: (*) Accuracy 15 per or 5 mb whichever is greater.										69
					Absolute $\sigma(E_\gamma)$ required for all E_γ > 200 keV.										69
					Neutron Energy intervals required:										69
					Res. region: reproduce major variations in $\sigma(E_\gamma)$										69
					> 1 Mev: 500-keV intervals										69
					Gamma-energy resolution required:										69
					<2.5MeV, 10 percent; >2.5MeV, 250keV.										69
					STATUS: ORNL Wasson+ some data on 92 and 98.										72
303	* $_{42}Mo^{99}$	$\sigma_{n,\gamma}$		II	.001-	1					20	BET	Bayard	DNR	67
												KAPL	Ehrlich	DNR	67
					REQ COM: Accuracy 20 per if absorption X-section in										67
					range 10-100 barns, 10 per if larger.										67
					Above 1eV want 20 per in RI if in range 100-1000										69
					barns, 10 per if larger.										67
					Decays to an important fission product.										67
					*Radioactive target-67h.										67
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
304	* $_{44}Ru^{103}$	$\sigma_{n,\bar{g}}$		II	.001-	1					20	BET	Bayard	DNR	67
												KAPL	Ehrlich	DNR	67
					REQ COM: 20 percent accuracy desired if cross section in range 10-1000 barns, 10 per if larger. Above 1eV want 20 per in RI if in range 100-1000 barns, 10 per if larger. Wanted for fission product poison calculations in thermal reactors. *Radioactive target-40d.										67
					STATUS: No active work.										72
305	$_{45}Rh$	$\sigma_{n,\bar{g}}$		II	.5-	1				10		KAPL	Ehrlich	DNR	67
				II	.001-1					10		GE	Snyder	DRDT	67
					REQ COM: Accuracy 10 per in RI. KAPL. Energies above 1eV of interest. Want to calculate fission product poisons.										67
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
306	* $_{45}Rh^{105}$	$\sigma_{n,\bar{E}}$		II	.001-1					10		GE	Snyder	DRDT	67
					REQ COM: For calculation of fission product poisons.										67
					*Radioactive target - 36h.										69
					STATUS: No active work.										72
307	* $_{46}Pd^{107}$	$\sigma_{n,\bar{E}}$		II	.001-	10				10		BET	Bayard	DNR	67
					REQ COM: For calculation of fission product poisons										67
					Above 1eV want RI to 10 per										67
					*Radioactive target - 7 × 10^6 y.										69
					STATUS: No active work.										72
308	$_{47}Ag^{109}$	$\sigma_{n,\bar{E}}$		II	.001-1					10		GE	Snyder	DRDT	67
					REQ COM: Fission product poison										67
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
309	* $_{52}Te^{127}$	$\sigma_{n,\bar{g}}$		II	.001-1						20	KAPL	Ehrlich	DNR	67
					REQ COM: 0.025eV value or thermal average useful										67
					Request pertains to the metastable state										67
					Needed for calculation of fission product poisons										67
					*Radioactive target - 105d isomer										69
					STATUS: No active work.										72
310	* $_{52}Te^{132}$	$\sigma_{n,\bar{g}}$		II	.001-1						20	BET	Bayard	DNR	67
					REQ COM: Accuracy 10 per if X-sec larger than 2500 barns										67
					For calculation of fission product poison										67
					Above 1eV RI wanted to 20 per if in range										67
					2500-25000 barns, 10 per if larger.										67
					*Radioactive target-78h.										67
					STATUS: No active work.										72
311	* $_{53}I^{133}$	$\sigma_{n,\bar{g}}$		II	.001-	1					20	BET	Bayard	DNR	67
					REQ COM: Accuracy 10 per if X-sec larger than 9000 barns										67
					Wanted for fission product poison calculations										67
					Above 1eV RI wanted to 20 per if in range										67
					9000-90000 barns, 10 per if larger.										67
					*Radioactive target-21h.										67
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
312	$_{54}Xe^{131}$	$\sigma_{n,\gamma}$		II	.001-	1				10		BET	Bayard	DNR	67
												GE	Snyder	DRDT	67
					REQ COM: Fission product.										67
					Above 1eV want RI to 10 per										67
					STATUS: No active work.										72
313	* $_{54}Xe^{133}$	$\sigma_{n,\gamma}$		II	Th					10		GE	Snyder	DRDT	67
					REQ COM: Thermal average or 0.025eV value wanted										67
					Wanted for fission product poison calculations										67
					*Radioactive target - 5.3d.										67
					STATUS: No active work.										72
314	* $_{54}Xe^{135}$	$\sigma_{n,\gamma}$		II	.001-2				5			GGA	Nordheim	DRDT	67
					REQ COM: For design of thorium cycle reactors.										67
					*Radioactive target - 9.3h.										67
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
315	* $_{54}Xe^{135}$	Tot γ Prod	$\sigma(E_\gamma)$	II	Th					10-	20	KAPL	Ehrlich	DNR	67
					REQ COM: Accuracy 10-20 per in spectrum										67
					Spectral distribution of γ rays is wanted for										67
					energies 1-8 MeV.										67
					Incident energy of neutron should be thermal										67
					Needed for γ shielding and heating calculations										67
					γ resolution 10-20 per										67
					*Radioactive target - 9.2h.										67
					STATUS: No active work.										72
316	$_{55}Cs$	$\sigma_{n,\gamma}$		I	.001-1					10		GE	Snyder	DRDT	67
												BET	Bayard	DNR	67
					REQ COM: Thermal average, 0.025eV, and interval										67
					0-1eV useful										67
					For fission product poison calculations.										67
					STATUS: No active work.										72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
317	$_{55}Cs$	$\sigma_{n,\gamma}$		I	.5-	1				10		GE	Snyder	DRDT	67
												BET	Bayard	DNR	67
					REQ COM: Accuracy 10 per in RI										67
					Energies above 1eV of interest										67
					For fission product poison calculations										67
					STATUS: No active work.										72
318	$_{60}Nd^{143}$	$\sigma_{n,\gamma}$		I	.001-	1				10		BET	Bayard	DNR	67
												GE	Snyder	DRDT	67
					REQ COM: Accuracy 10 per in RI										67
					Energies above 1eV of interest										67
					Needed for fission product poison calculations										67
					Energy 0-1eV, 10 per in cross section										67
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
319	$_{60}Nd^{145}$	$\sigma_{n,\bar{\gamma}}$		I	.001-	1				10		BET	Bayard	DNR	67
												GE	Snyder	DRDT	67
												KAPL	Ehrlich	DNR	67
					REQ COM: Accuracy 10 per in RI										67
					Wanted for fission product poison calculations.										67
					Energies above 1eV of interest										67
					Energy 0-1eV, 10 per in cross section										67
					STATUS: No active work.										72
320	* $_{60}Nd^{147}$	$\sigma_{n,\bar{\gamma}}$		I	.001-	1			5	to	20	KAPL	Ehrlich	DNR	67
												BET	Bayard	DNR	67
												GE	Snyder	DRDT	67
					REQ COM: Thermal average or 0.025 eV value wanted										67
					Accuracy 20 per if absorption X-sec in range										67
					10-100 barns										67
					10 per in range 100-1000 barns, 5 per if larger.										67
					Above 1eV want RI to 20 per in range 100-1000b.										67
					10 per in range 1000-10000 barns, 5 per if larger.										67
					Decays to important fission product.										67
					*Radioactive target-11d.										67
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
321	* $_{61}Pm^{147}$	$\sigma_{n,\bar{\gamma}}$		I	.001-	1				10		BET	Bayard	DNR	67
												GE	Snyder	DRDT	67
					REQ COM: Needed for calculation of fission poison.										67
					Want interval 0-1eV to 10 per.										67
					Above 1eV to 10 per in RI.										67
					Want total and $n,\bar{\gamma}$ for formation of										67
					Pm-148 and Pm-148M.										67
					*Radioactive target - 2.6y.										67
					STATUS: Codding, NSE 43, 58 has total (0.01-1000 eV); RI.										72
322	* $_{61}Pm^{148}$	$\sigma_{n,\bar{\gamma}}$		I	.001-	1				10		BET	Bayard	DNR	67
												GE	Snyder	DRDT	67
					REQ COM: Calculation of fission product poisons										67
					Cross section is wanted for the 41d isomer.										67
					*Radioactive target - 41d.										67
					< 1 eV 10 percent in σ; > 10 eV, 10 percent in RI										67
					STATUS: No active work.										72

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REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
323	* $_{61}Pm^{148}$	$\sigma_{n,\gamma}$		I	,001-1					10		BET	Bayard	DNR	67
												GE	Snyder	DRDT	67
												KAPL	Ehrlich	DNR	67
					REQ COM: Cross section for 5,4d isotope,										67
					Value at 0,025 or thermal wanted										67
					Interval ,001-1eV of interest										67
					For fission product poison calculations										67
					Is X-sec 1/V, above 1 eV										67
					*Radioactive target - 5,4d,										67
					STATUS: No active work,										72
324	* $_{61}Pm^{149}$	$\sigma_{n,\gamma}$		I	,001-	1					20	BET	Bayard	DNR	67
												GE	Snyder	DRDT	67
												KAPL	Ehrlich	DNR	67
					REQ COM: 0,025 eV value or thermal average wanted										67
					For 0-1 eV want 20 per if X-Sec in range										67
					10-1000 barns, 10 per if larger,										67
					Above 1 eV want RI to 20 per in range 1000-10000b,										67
					to 10 percent for larger X-section,										67
					*Radioactive target-53h,										67
					STATUS: No active work,										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	PERCENT ACCURACY 4-9	PERCENT ACCURACY ≤15	PERCENT ACCURACY >15	REQUESTER LAB	REQUESTER PERSON	REQUESTER ORG	YR
325	* $_{61}Pm^{151}$	$\sigma_{n,\gamma}$		II	.001-	1				10		BET	Bayard	DNR	67
												GE	Snyder	DRDT	67
					REQ COM: Needed for calculation of fission product poisons										67
					0.025eV or thermal average wanted										67
					Interval 0-1eV of interest										67
					Above 1eV want RI to 10 per										67
					Radioactive target - 28h.										67
					STATUS: No active work.										72
326	$_{62}Sm^{150}$	$\sigma_{n,\gamma}$		I	.001-	1		2-	5			BET	Bayard	DNR	67
												GE	Snyder	DRDT	67
					REQ COM: For calculation of fission product poisons										67
					Above 1eV want RI to 2-5 per										67
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
327	* $_{62}Sm^{151}$	$\sigma_{n,\gamma}$		I	.001-	1			5			BET	Bayard	DNR	67
												GE	Snyder	DRDT	67
												KAPL	Ehrlich	DNR	67
					REQ COM: Desired energy resolution 5 per										67
					Wanted for calculation of fission product poisons										67
					Energies above 2eV of interest										67
					Want RI to 10 per										67
					*Radioactive target - 90y.										67
					STATUS: No active work.										72
328	$_{62}Sm^{152}$	$\sigma_{n,\gamma}$		II	.001-	1				10		BET	Bayard	DNR	67
												GE	Snyder	DRDT	67
					REQ COM: Fission product poison										67
					Above 1eV want RI to 10 per										67
					Below 1eV, want σ to 10 per										67
					STATUS: Harker, USNDC-1, page 1.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
329	* $_{62}Sm^{153}$	$\sigma_{n,\gamma}$		II	.001-	1					20	BET	Bayard	DNR	67
												KAPL	Ehrlich	DNR	67
					REQ COM: For calculation of fission product poison										67
					10 per error if X-sec is above 30000 barns										67
					Above 1eV want RI to 20 per if in range										67
					30-300 barns, 10 per if larger.										67
					*Radioactive target-47h.										67
					STATUS: No active work.										72
330	$_{63}Eu$	$\sigma_{n,\gamma}$		II	100-	200				10		LASL	Motz	DMA	66
					REQ COM: Capture spectrum also desired to 40 per accuracy.										66
					STATUS: No active work.										72
331	$_{63}Eu$	Tot $\bar{\gamma}$ Prod	$\sigma(E_{\gamma})$	III		1-	15				*	LASL	Motz	DMA	66
					REQ COM: (*): An upper limit on $\sigma(E_{\gamma})$ spectrum as a										66
					function of neutron energy will suffice.										66
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
332	* $_{63}Eu^{148}$	$\sigma_{n,\bar{g}}$		I		.1-300					50	LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation.										69
					* Radioactive target=54 day(neutron deficient)										69
					STATUS: No active work.										72
333	* $_{63}Eu^{149}$	$\sigma_{n,\bar{g}}$		I		.1-300					50	LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation.										69
					*Radioactive target=97day(neutron deficient).										70
					STATUS: No active work.										72
334	* $_{63}Eu^{150}$	$\sigma_{n,\bar{g}}$		I		.1-300					50	LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation.										69
					*Radioactive target=35 year(neutron deficient).										70
					STATUS: No active work.										72
335	$_{63}Eu^{151}$	$\sigma_{n,2n}$	Act.	I			14			15		LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation. Required is the n, 2n										69
					cross section to each isomer of Eu^{150}.										69
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
336	$_{63}Eu^{151}$	$\sigma_{n,\gamma}$		II	.001-	1		2-	5			SRL	Dessauer	DPMM	67
					REQ COM: Accuracy 2 per near thermal										67
					Accuracy 5 per in resonance region										67
					For calculation of fission product poison										67
					Energies greater than 1eV of interest to										67
					give RI to 10 per.										67
					STATUS: No active work.										72
337	$_{63}Eu^{151}$	$\sigma_{n,\gamma}$		I		.1-300					20	LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation.										69
					STATUS: No active work.										72
338	* $_{63}Eu^{152}$	$\sigma_{n,\gamma}$		I		.1-300					30	LASL	Bell	DMA	70
					REQ COM: Needed for evaluation.										70
					*Radioactive target, 12.4y.										70
					STATUS: LASL Harlow+ WASH-1127, prelim. data to 6keV.										70

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY kev	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
339	$_{63}Eu^{153}$	$\sigma_{n,\bar{E}}$		II	.001-	1		2-	5			GE	Snyder	DRDT	67
												SRL	Dessauer	DPMM	67
					REQ COM: 2 per near thermal										67
					5 percent accuracy in resonance region										67
					For calculation of fission product poison										67
					Energies above 1eV of interest to give										67
					RI to 10 per										67
					STATUS: No active work.										72
340	* $_{63}Eu^{154}$	$\sigma_{n,\bar{E}}$		II	.001-	1				10		BET	Bayard	DNR	67
												GE	Snyder	DRDT	67
					REQ COM: Resonance parameters wanted for the calculation										67
					of fission product poisons										67
					RI wanted to 10 per										67
					Interval above 1eV of interest										67
					*Radioactive target - 16y.										67
					STATUS: No active work.										72
341	* $_{63}Eu^{154}$	$\sigma_{n,\bar{E}}$		I		.1-300					30	LASL	Bell	DMA	70
					REQ COM: Needed for evaluation.										70
					*Radioactive target-16y.										70
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
342	* $_{63}Eu^{155}$	$\sigma_{n,\bar{\epsilon}}$		II	.001-	1				10		HET	Bavard	DNR	67
												GE	Snyder	DRDT	67
					REQ COM: Res. param needed to calculate fission product poisons										67
					Resonance integral wanted to 10 per.										67
					*Radioactive target - 1.8y.										67
					STATUS: Can. Jour. Physics 48, 1933 gives eff. sigma thermal = 4040 ± 125 barns.										72
343	$_{64}Gd$	Elastic	$\sigma(\theta_n)$	I			1.5-10			10		GE	Snyder	DRDT	67
					REQ COM: Desired error in (1-Cosθ)										67
					STATUS: No active work.										72
344	$_{64}Gd$	Emission	$\sigma(\theta_{n'},E_{n'})$	I			1.5-10			15		GE	Snyder	DRDT	67
					REQ COM: For design of thermal reactors having appreciable quantities of Gd.										67
					Incident and exit resolution 15 per										67
					STATUS: No active work.										72

REQ #	TARGET * Z	A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
345	64 Gd		$\sigma_{n,g}$		II	100-	200				10		LASL	Motz	DMA	66
						REQ COM: Capture spectrum also desired to 40 per accuracy.										66
						STATUS: No active work.										72
346	64 Gd		Tot g Prod	$\sigma(E_g)$	III		1-	15				*	LASL	Motz	DMA	66
						REQ COM: (*): An upper limit on $\sigma(E_g)$ spectrum as a function of neutron energy will suffice.										66
						STATUS: No active work.										72
347	64 Gd		Res Int	Capture	I	.5-	up			5			GE	Snyder	DRDT	69
						REQ COM: For evaluating resonance parameters.										69
						STATUS: No active work with natural samples.										72
						**********	**********	**********	*****	*****	*****	*****				
348	64 Gd	155	$\sigma_{n,g}$		I	.5-	1			5			GE	Snyder	DRDT	67
						REQ COM: Accuracy 5 per in RI Energies above 1eV of interest										67
						STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
349	$_{64}Gd^{155}$	Res Int	Capture	I	.5-	up			5			GE	Snyder	DRDT	69
					REQ COM: For evaluating resonance parameters.										69
					STATUS: No active work.										72
350	$_{64}Gd^{155}$	$\bar{G}_n$ and $\bar{G}_g$		I	*-	.5				10		GE	Snyder	DRDT	69
					REQ COM: Required to verify existing measurements.										69
					* energy to include lowest resolved resonance.										69
					STATUS: No active work.										72
351	$_{64}Gd^{156}$	$\bar{\sigma}_{n,g}$		I	.001-	1			5			GE	Snyder	DRDT	67
					REQ COM: In range .001-1eV 5 per accuracy is wanted										67
					Above 1eV want to calculate RI to 5 per										67
					For calculation of burn up in thermal reactors										67
					STATUS: No active work.										72
352	$_{64}Gd^{156}$	Res Int	Capture	I	.5-	up			5			GE	Snyder	DRDT	69
					REQ COM: For evaluating resonance parameters.										69
					STATUS: No active work.										72

REQ #	TARGET * Z	A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
353	64	Gd 156	$\bar{\Gamma}_n$ and $\bar{\Gamma}_\gamma$		I	*-	2			5			GE	Snyder	DRDT	69
						REQ COM: Required to verify existing measurements.										69
						* energy to include lowest resolved resonance.										69
						STATUS: No active work.										72
354	64	Gd 157	$\sigma_{n,\bar{\gamma}}$		I	.5-	1			5			GE	Snyder	DRDT	67
						REQ COM: To yield 5 per in calculated al										67
						For calculation of burn up in thermal reactors										67
						Energies above 1eV of interest										67
						STATUS: No active work.										72
355	64	Gd 157	Res Int	Capture	I	.5-	up			5			GE	Snyder	DRDT	69
						REQ COM: For evaluating resonance parameters.										69
						STATUS: No active work.										72
356	64	Gd 157	$\bar{\Gamma}_n$ and $\bar{\Gamma}_\gamma$		I	*-	1				10		GE	Snyder	DRDT	69
						REQ COM: Required to verify existing measurements.										69
						* energy to include lowest resolved resonance.										69
						STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
357	$_{66}$Dy	$\sigma_{n,g}$		II	100-	200				10		LASL	Motz	DMA	66
					REQ COM: Capture spectrum also desired to 40 per accuracy.										66
					STATUS: No active work.										72
358	$_{66}$Dy	Tot g Prod	$\sigma(E_g)$	III		1-	15				*	LASL	Motz	DMA	66
					REQ COM: (*): An upper limit on $\sigma(E_g)$ spectrum as a										66
					function of neutron energy will suffice.										66
					STATUS: No active work.										72
359	* $_{69}$Tm^{167}	$\sigma_{n,g}$		I		.1-300					50	LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation.										69
					*Radioactive target-9.3day(neutron deficient).										70
					STATUS: No active work.										72
					******	******	******	******	******	******	******				
360	* $_{69}$Tm^{168}	$\sigma_{n,g}$		I		.1-300					50	LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation.										69
					*Radioactive target-93day(neutron deficient).										70
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
361	$_{69}Tm$	$\sigma_{n,2n}$	Act.	I			Ths-15		≤5			LLL	Howerton	DMA	70
					REQ COM: Measurements with less accuracy not helpful.										70
					STATUS: Druzhinin, Yad. Fiz. 14, 682.										72
362	$_{69}Tm$	$\sigma_{n,\gamma}$		I	Th-	1			5			BNW	Leonard	DPMM	67
					REQ COM: For production and burnup of Thulium.										67
					STATUS: SACLAY Julien CEA-R-3385 gives										69
					res. param. to 760 eV.										69
					COL Rahn+ have new data, NCSAC-33.										70
					SAC Tellier+, Knoxville Conf. analysis of σ_T.										71
					**										
363	* $_{69}Tm^{170}$	$\sigma_{n,\gamma}$		I	Th-	1				10		BNW	Leonard	DPMM	67
												SRL	Dessauer	DPMM	67
					REQ COM: For production and burnup of thulium.										66
					*Radioactive target - 125 day.										69
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
364	* $_{69}Tm^{171}$	$\sigma_{n,\gamma}$		I	Th-	1				10		BNW	Leonard	DPMM	67
												SRL	Dessauer	DPMM	67
					REQ COM: For production and burn up of thulium.										66
					*Radioactive target - 1.9 year.										69
					STATUS: No active work.										72
365	* $_{71}Lu^{173}$	$\sigma_{n,\gamma}$		I		.1-300					50	LLL	Howerton	DNA	69
					REQ COM: Needed for evaluation.										69
					* Radioactive target-1.4 year(neutron deficient)										69
					STATUS: No active work.										72
366	* $_{71}Lu^{174}$	$\sigma_{n,\gamma}$		I		.1-300					50	LLL	Howerton	DNA	69
					REQ COM: Needed for evaluation.										69
					*Radioactive target-isomeric pair, L^{174m} 140 d,										70
					Lu^{174g} 1200 d.										70
					STATUS: No active work.										72
367	$_{71}Lu^{175}$	$\sigma_{n,2n}$	Act.	I			Ths-15		≤5			LLL	Howerton	DNA	70
					REQ COM: Measurements with less accuracy not helpful.										70
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
368	$_{71}Lu^{175}$	$\sigma_{n,\bar{g}}$		I		1,-300					20	LLL	Hoverton	DMA	69
					REQ COM: Needed for evaluation.										69
					STATUS: Hacken+ (NCSAC-42, 61).										72
369	$_{72}Hf$	Elastic	$\sigma(\theta_n)$	II			1,5-10			10		BET	Bayard	DNR	66
					REQ COM: Accuracy 10 per in avg, (1-cos),										66
					Wanted for thermal reactor design,										66
					Energy resolution 10 percent,										66
					STATUS: AE Holmquist+, at 8MeV, Helsinki Conf, II, p. 341										72
370	$_{72}Hf$	Emission	$\sigma(E_{n'})$	II			1,5-10			15		BET	Bayard	DNR	66
					REQ COM: For design of thermal reactors having										66
					appreciable quantities of Hf,										66
					Incident and exit energy resolution 15 per,										66
					STATUS: No active work,										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
371	$_{72}Hf$	$\sigma_{n,\gamma}$		II	200-	50					20	BET	Bayard	DNR	62
				I	.001-1			2				BET	Bavard	DNR	62
				I	.001-1			2				KAPL	Ehrlich	DNR	62
					REQ COM: Needed for Monte Carlo calculations of burn up										62
					in thermal reactors, <1eV.										62
					S-wave strength functions are wanted										62
					to 20 per at energies > 1eV.										62
					For fast reactor calc. incl. burn up, > 200 eV.										62
					STATUS: No active work on natural sample.										72
372	$_{72}Hf^{174}$	$\sigma_{n,\gamma}$		I	.001-	5				10-	20	KAPL	Ehrlich	DNR	66
					REQ COM: Thermal value wanted to 20 percent.										66
					10-100 eV, $\bar{\Gamma}_{tot}$, $\bar{\Gamma}_n$, and $\bar{\Gamma}_\gamma$ to 10 percent.										66
					0.1- 5 keV, $\bar{\Gamma}_{tot}$, $\bar{\Gamma}_n$, and $\bar{\Gamma}_\gamma$ to 20 percent.										66
					Needed for Monte Carlo burn up calculations.										66
					Need average p-wave capture width to 20 per.										66
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
373	$_{72}Hf^{176}$	$\sigma_{n,\bar{g}}$		I	.001-	5				10-	40	BET	Bayard	DNR	62
												KAPL	Ehrlich	DNR	62
					REQ COM: Detailed accuracies as stated below:										66
					Thermal value wanted to 20 percent.										66
					Less than 1 eV to 40 percent.										66
					10-100 eV, $\bar{G}_{tot}$, $\bar{G}_n$, and $\bar{G}_{\bar{g}}$ to 10 percent.										66
					0.1- 5 keV, $\bar{G}_{tot}$, $\bar{G}_n$, and $\bar{G}_{\bar{g}}$ to 20 percent.										66
					P-wave $\bar{G}_{\bar{g}}$ avg. to 20 percent.										66
					S-wave strength function to 40 percent.										66
					Needed for Monte Carlo burn up calculations.										66
					STATUS: No active work.										72
374	$_{72}Hf^{177}$	$\sigma_{n,\bar{g}}$		I	.001-	5			4	to	20	BET	Bayard	DNR	62
												KAPL	Ehrlich	DNR	62
					REQ COM: Detailed accuracies as stated below:										66
					Less than 1 eV to 4 percent.										66
					10-100 eV, $\bar{G}_{tot}$, $\bar{G}_n$, and $\bar{G}_{\bar{g}}$ to 10 percent.										66
					0.1- 5 keV, $\bar{G}_{tot}$, $\bar{G}_n$, and $\bar{G}_{\bar{g}}$ to 20 percent.										66
					5.89, 6.57, and 8.87 eV res. widths to 5 per.										66
					1.099 and 2.385 eV res. widths to 3 percent.										66
					S-wave strength function to 20 percent.										66
					Needed for Monte Carlo burn up calculations.										66
					Need average p-wave capture width to 20 per.										66
					STATUS: BCNN Rohr, Budapest Conf.										72

REQ #	TARGET Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	PERCENT ACCURACY 4-9	PERCENT ACCURACY ≤15	PERCENT ACCURACY >15	REQUESTER LAB	REQUESTER PERSON	REQUESTER ORG	YR
375	$_{72}Hf^{178}$	$\sigma_{n,\gamma}$		I	.001-	5		3-	-	to	20	BET	Bayard	DNR	62
												KAPL	Ehrlich	DNR	62
376	$_{72}Hf^{179}$	$\sigma_{n,\gamma}$		I	.001-	5			5	to	20	BET	Bayard	DNR	62
												KAPL	Ehrlich	DNR	62

REQ 375

REQ COM: Detailed accuracies as stated below: 66
Less than 1 eV to 5 percent. 66
10-100 eV, $\bar{\Gamma}_{tot}$, $\bar{\Gamma}_n$, and $\bar{\Gamma}_\gamma$ to 10 percent. 66
0.1- 5 keV, $\bar{\Gamma}_{tot}$, $\bar{\Gamma}_n$, and $\bar{\Gamma}_\gamma$ to 20 percent. 66
P-wave $\bar{\Gamma}_\gamma$ avg. to 20 percent. 66
7.78 - eV res. width to 3 percent. 66
S-wave strength function to 20 percent. 66
Needed for Monte Carlo burn up calculations. 66

STATUS: No active work. 72

REQ 376

REQ COM: Detailed accuracies as stated below: 66
Less than 1 eV to 5 percent. 66
10-100 eV, $\bar{\Gamma}_{tot}$, $\bar{\Gamma}_n$, and $\bar{\Gamma}_\gamma$ to 10 percent. 66
0.1- 5 keV, $\bar{\Gamma}_{tot}$, $\bar{\Gamma}_n$, and $\bar{\Gamma}_\gamma$ to 20 percent. 66
P-wave $\bar{\Gamma}_\gamma$ wanted to 20 percent. 66
5.68 - eV res. widths to 5 per. 66
S-wave strength function to 20 percent. 66
Needed for Monte Carlo burn up calculations. 66

STATUS: No active work. 72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
377	$_{72}Hf^{180}$	$\sigma_{n,\gamma}$		I	.001-	5			4	to	20	BET	Bayard	DNR	67
												KAPL	Ehrlich	DNR	67
					REQ COM: Detailed accuracies as stated below:										66
					Less than 1 eV to 4 percent.										66
					10-100 eV, Γ_{tot}, Γ_n, and Γ_γ to 10 percent.										66
					0.1- 5 keV, Γ_{tot}, Γ_n, and Γ_γ to 20 percent.										66
					P-wave Γ_γ wanted to 20 percent.										66
					S-wave strength function to 20 percent.										66
					Needed for Monte Carlo burn up calculations.										66
					STATUS: No active work.										72
378	$_{73}Ta$	Emission	$\sigma(\theta_{n'},E_{n'})$	III			1.5-15			10		LASL	Streetman	DSNS	69
					REQ COM: Low-energy neutrons must be included.										69
					Absolute spectra at 30° and 75° may suffice.										69
					Time scale requiring associated γ-production data										69
					not yet established.										69
					STATUS: None which satisfy criteria.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
379	73 Ta	$\sigma_{n,\gamma}$		I		1-	10		5-	10		AI	Alter	DRDT	69
				II	1-	500			5-	10		KAPL	Ehrlich	DNR	69
				II	1-	500			5-	10		LMFB	Hemmig-AEC	DRDT	69
					REQ COM: -1 eV-1keV, accuracy 10 percent, 20 useful,										69
					1-150 keV, accuracy 5 percent, 10 useful,										69
					150-500 keV, accuracy 10 percent, 20 useful,										69
					For fast breeder control and burnup calculation,										69
					STATUS: LLL Czirr+, USNDC-1,										72
					RPI Block+, USNDC-1, plan measurements to 80 keV,										72
380	73 Ta	Tot γ Prod	$\sigma(E_\gamma)$	I	4-	1.4				15*		SNPO	Fleishman	DSNS	69
				I			1-10			15*		SNPO	Fleishman	DSNS	69
					REQ COM: (*) Accuracy 15 per or 5 mb whichever is greater,										69
					Absolute $\sigma(E_\gamma)$ required for all E_γ > 200 keV,										69
					Neutron Energy intervals required:										69
					Res. region: reproduce major variations in $\sigma(E_\gamma)$										69
					> 1 Mev: 500-keV intervals										69
					Gamma-energy resolution required:										69
					<2.5MeV, 10 percent; >2.5MeV, 250keV,										69
					STATUS: ORNL Morgan+, X-sections and spectra from E_γ = 1										72
					to 10.5 MeV, E_n=7 keV to 20 MeV observed at 90										72
					and 125 degrees, ORNL-TM-3702,										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
381	74 W	Emission	$\sigma(\theta_{n'}, E_{n'})$	I			4-14			10		AFWL	Enz	DNA	69
				II			4-14			10		GDFW	Western	DNA	66
				III			1.5-15			10		LASL	Streetman	DSNS	69
				II			2-15			10		NEL	Eccleshall	DNA	69
				I			4-16		5			ORNL	Clifford	DRDT	66

	YR
REQ COM: $\Delta\theta$ = 10°; spectra at a few angles may suffice,	69
ΔE (Inc. and Exit) = 500 keV; 500-keV increments	69
or as required by structure. DASA, DSNS	69
ΔE (Inc.) ≤ 5 per; $\Delta E_{n'}$ < 500 keV. DRDT	69
Low-energy neutrons must be included.	69
Absolute σ's for shielding required.	69
Time scale requiring associated gamma production	69
data not yet established. DSNS	69
STATUS: ANL work planned.	72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
382	74 W	Tot $\bar{g}$ Prod	$\sigma(E_{\bar{g}})$	I	2-	2.5				15*		SNPO	Fleishman	DSNS	69
				I			1-10			15*		SNPO	Fleishman	DSNS	69
				II			1-14			15*		NEL	Eccleshall	DNA	70
					REQ COM: (*) Accuracy 15 per or 5 mb whichever is greater.										69
					Absolute $\sigma(E_{\bar{g}})$ required for all $E_{\bar{g}}$ > 200 keV.										69
					Neutron Energy intervals required:										69
					Res. region: reproduce major variations in $\sigma(E_{\bar{g}})$										69
					> 1 MeV: 500-keV intervals										69
					Gamma-energy resolution required.										69
					<2.5 MeV, 10 percent; >2.5 MeV, 250 keV.										69
					STATUS: TNC Tucker+, 5-11 MeV, DASA-2333.										72
					GRT Orphan+, 2 eV-100 keV, GA-9121.										72
383	74 W	Tot $\bar{g}$ Prod	$\sigma(\theta_{\bar{g}},E_{\bar{g}})$	I		100-	16				20	ORNL	Clifford	DRDT	63
					REQ COM: For space reactor shielding.										69
					All gamma energies of interest.										69
					STATUS: ANL work planned.										72
					TNC Tucker+, DASA-2333, 5-11 MeV.										72
					ORNL Morgan+, E_n = 1-20 MeV, in progress.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
384	74 W^{180}	$\sigma_{n,\bar{\gamma}}$	Act	I	.025-	to	15				30	LLL	Howerton	DMA	69
					REQ COM: Required is cross section for activation of W^{181},										69
					in naturally occurring element.										69
					Accuracy of 30 per if σ > 100 mb, 50 per if										69
					25 mb < σ < 100 mb. Accuracy to a factor										69
					of 2 if 1 mb < σ < 25 mb; to a factor of 10										69
					if σ < 1 mb.										69
					STATUS: No active work.										72
385	74 W^{182}	$\sigma_{n,2n}$	Act.	I			Ths-15				30	LLL	Howerton	DMA	69
					REQ COM: Required is cross section for activation of W^{181},										69
					in naturally occurring element.										69
					Accuracy of 30 per if σ > 100 mb, 50 per if										69
					25 mb < σ < 100 mb. Accuracy to a factor										69
					of 2 if 1 mb < σ < 25 mb; to a factor of 10										69
					if σ < 1 mb.										69
					STATUS: No active work.										72
386	74 W^{182}	$\sigma_{n,\bar{\gamma}}$		I		1-	10			10		AI	Alter	DRDT	69
					REQ COM: Fast breeder control and burn up calculations.										69
					STATUS: ANL work planned.										72
					CGL Camarda+ to be published in PR/C.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
387	74 W^{183}	$\sigma_{n,\bar{E}}$		I		1-	10			10		AI	Alter	DRDT	69
					REQ COM: Fast breeder control and burn up calculations.										69
					STATUS: ANL work planned (Sample not available).										72
					COL Camarda+ to be published in PR/C.										72
388	74 W^{184}	$\sigma_{n,\bar{E}}$		I		10-	10			10		AI	Alter	DRDT	69
					REQ COM: Fast breeder control and burn up calculations.										69
					STATUS: ANL work planned.										72
					COL Camarda+ to be published in PR/C.										72
389	74 W^{184}	$\sigma_{n,\bar{E}}$	Act	I	.025-	100					30	LLL	Howerton	DMA	69
					REQ COM: Required is cross section for activation of W^{185}, in naturally occurring element.										69
					STATUS: No active work.										72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
390	$_{74}W^{186}$	$\sigma_{n,2n}$	Act.	I			Ths-15				30	LLL	Howerton	DMA	69
					REQ COM: Required is cross section for activation of W^{185}, in naturally occurring element. Accuracy of 30 per if $\sigma > 100$ mb, 50 per if 25 mb $< \sigma <$ 100 mb. Accuracy to a factor of 2 if 1 mb $< \sigma <$ 25 mb; to a factor of 10 if $\sigma <$ 1 mb.										69
					STATUS: No active work.										72
391	$_{74}W^{186}$	$\sigma_{n,\bar{\gamma}}$		I		10-	10			10		AI	Alter	DRDT	69
					REQ COM: Fast breeder control and burn up calculations.										69
					STATUS: CGL Camarda+ to be published in PR/C. ANL work planned.										72
392	$_{76}Os^{186}$	$\sigma_{n,\bar{\gamma}}$		III		1-100			4-9			ORNL	Macklin	DPR	70
					REQ COM: Need avg. capture for Maxwellian spectrum with kT = 30 keV. for nucleosynthesis studies.										70
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
393	$_{76}Os^{187}$	$\sigma_{n,\bar{g}}$		III		1-100			4-9			ORNL	Macklin	DPR	70
					REQ COM: Need avg. capture for Maxwellian spectrum with										70
					kT=30keV, for nucleosynthesis studies.										70
					STATUS: No active work.										72
394	$_{79}Au$	$\sigma_{n,\bar{g}}$		II	.5	1*		1				BET	Bayard	DNR	67
				I		1-	1		5			LRL	Grayson	DMA	70
				I		10-	1	2				NDC	Caswell	DPR	72
					REQ COM: *Energies above 0.5 eV wanted so as to										67
					give infinite dilution RI to 1 per										67
					Individual and average resonance parameters										67
					required as primary standard.										67
					STATUS: LLL Czirr+, USND=1.										72
					RPI Block+, USND=1, plan measurements to 80 keV.										72
395	* $_{81}Tl^{204}$	$\sigma_{n,\bar{g}}$		II	Th					10		BNW	Leonard	DPMM	65
					REQ COM: Wanted to test feasibility of Tl^{204} production.										65
					*Radioactive target = 3.8y.										69
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
396	$_{82}Pb$	Emission	$\sigma(\theta_{n'},E_{n'})$	II			3-15			10		NEL	Eccleshall	DNA	69
				II			2-16		5			ORNL	Clifford	DRDT	63
					REQ COM: Energy intervals 500 keV; ΔE (res.)=250 keV,										69
					$\sigma(\theta)$ only if significantly anisotropic; then										69
					$\Delta\theta = \pm 3^{\circ}$ at 10-degree intervals.										69
					STATUS: No active work.										72
397	$_{82}Pb$	Tot γ Prod	$\sigma(E_{\gamma})$	II			8-15			10		NEL	Eccleshall	DNA	69
					REQ COM: Spectra at a few energies would suffice.										69
					ΔE_n = 1 MeV, ΔE_{γ} = 500 keV										69
					Omit 14.8 MeV point.										69
					STATUS: ORNL Dickens+, NCSAC-42, 194, 4.9-8.0 MeV.										72
					TNC Buchanan+, ORO-2791-32, Pb-206, 207, 208;										72
					(1-5 MeV, 14.8 MeV).										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
398	$_{82}Pb$	Tot γ Prod	$\sigma(E_\gamma)$	II	80-	800				15*		SNPO	Fleishman	DSNS	69
				I			1-10			15*		SNPO	Fleishman	DSNS	69
					REQ COM: (*) Accuracy 15 per or 5 mb whichever is greater.										69
					Absolute $\sigma(E_\gamma)$ required for all E_γ > 200 keV.										69
					Res. region: reproduce major variations in $\sigma(E_\gamma)$										69
					> 1 Mev: 500-keV intervals										69
					Gamma-energy resolution required:										69
					<2.5MeV, 10 percent; >2.5MeV, 250keV.										69
					STATUS: ORNL Dickens+, NCSAC-42 194, 4.9-8.0 MeV.										72
					USSR Degtjarev+, IZV 35 2341, 0.1-3.4 MeV.										72
					TNC Buchanan+, ORO-2791-32, Pb-206, 207, 208;										72
					(1-5 MeV, 14.8 MeV).										72
399	$_{82}Pb^{204}$	$\sigma_{n,n'}$	Isom State	I			Ths-15				30	LLL	Howerton	DMA	69
					REQ COM: Required is $\sigma_{n,n'}$ to 2.2 MeV isomer (67 min.)										69
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
400	$_{82}Pb^{208}$	$\sigma_{n,\bar{E}}$	Act	II	.025	to	15				30	LLL	Howerton	DMA	69
					REQ COM: Required is cross section for activation of Pb^{209},										69
					in naturally occurring element.										69
					Accuracy of 30 per if σ > 100 mb, 50 per if										69
					25 mb < σ < 100 mb. Accuracy to a factor										69
					of 2 if 1 mb < σ < 25 mb; to a factor of 10										69
					if σ < 1 mb.										69
					STATUS: ORNL Allen*, to be published.										72
401	$_{90}Th$	Elastic	$\sigma(\theta_n)$	III			1-5			10		ANL	Avery	DRDT	72
					REQ COM: None										69
					STATUS: No active work.										72
402	$_{90}Th$	Inelastic	$\sigma(E_{n'})$	III			1-4		5			ANL	Avery	DRDT	72
					REQ COM: Accuracy 20 percent in (1-cosθ) if anisotropic.										69
					Incident and exit energy resolution 20 per.										69
					STATUS: No active work.										72
403	$_{90}Th$	$\sigma_{n,2n}$		I			Ths-10			10		GE	Snyder	DRDT	67
					REQ COM: Needed for control of U^{232} production.										69
					STATUS: No active data.										72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
404	$_{90}$Th	$\sigma_{n,\gamma}$		I	.5-	2			5-	10		BET	Bayard	DNR	62
					REQ COM: Need < 5 per in res, integ.; 10 per useful										62
					For thermal breeder calculations.										62
					STATUS: CGL, Rahn+, data to be published, should give at										72
					least 10 per in RI; see NCSAC-42.										72
405	$_{90}$Th	Absorption		II	100	to	1	3-	5			BET	Bayard	DNR	69
					REQ COM: Accuracy 5 per below 10 keV, 3 per above.										69
					Intermediate accuracy would be useful.										69
					STATUS: CGL, Rahn+, data to be published, see NCSAC-42.										72
406	$_{90}$Th	Tot γ Prod	$\sigma(E_\gamma)$	II		500	-15			10		AFWL	Enz	DNA	69
					REQ COM: Spectra at a few energies may suffice.										69
					ΔE_n = 10 percent; ΔE_γ = 250 keV.										69
					STATUS: No active data.										72
407	$_{90}$Th	Tot γ Prod	$\sigma(\theta_\gamma, E_\gamma)$	II	.5	to	10			10		BET	Bayard	DNR	67
					REQ COM: Need gamma spectrum at intervals of 0.5 MeV. DRDT										67
					Gammas of all energies of interest. DRDT										67
					Data needed for shielding and gamma heating calc.										67
					STATUS: BNL von Egidy+, fast chopper. Resonance spectra										72
					for first 4 resonances + thermal.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
408	$_{90}Th$	Delayd $\bar{g}$ Y	$P(E_{\bar{g}}, T^{1/2})$	II			2,14				35	BNL	Kouts	DNMS	69
					REQ COM: Accuracy refers to rel, intensities of delayed gammas from fission $E_{\bar{g}}$ > 2 MeV and 10 usec<t<1 hr Absolute gamma yields to factor of 2 also useful,										70 70 70
					STATUS: No active work,										72
409	$_{91}Pa^{231}$	$\sigma_{n,\bar{g}}$		II	Th	to	10			10		GE	Snyder	DRDT	69
					REQ COM: Needed for control of U^{232} production										69
					STATUS: No active work,										72
410	* $_{91}Pa^{233}$	$\sigma_{n,\bar{g}}$		II	,001-2				5			IRT	Preskitt	DRDT	67
				II	2-	1				10		IRT	Preskitt	DRDT	69
				II	,001-	,1				10		ORNL	Perry	DRDT	69
					REQ COM: Thorium cycle designs,										69
					STATUS: BET Conner, WAPD-TM-837, 1970 gives σ=38,3±1,1 b, and RI=857±35 barns,										72 72
411	$_{92}U^{233}$	Inelastic	$\sigma(E_{n'})$	III		40-	7			10-	20	ANL	Avery	DRDT	67
					REQ COM: Need energy dependence to 5-10 per above 0,5 MeV										67
					STATUS: No active data,										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
412	$_{92}U^{233}$	Emission	$\sigma(E_{n'})$	I			5-15				20	LLL	Howerton	DMA	70
					REQ COM: Energy range of interest: $0.2MeV \leq E_{n'} \leq E_n$.										70
					STATUS: No active data.										72
413	$_{92}U^{233}$	$\sigma_{n,2n}$		II			Ths-15			10		LASL	Barr	DMA	67
				III			Ths-15			10		ACRP	Hannum	DRDT	67
					REQ COM: For contamination of U^{233} by U^{232}. DRDT.										67
					STATUS: No active data.										72
414	$_{92}U^{233}$	$\sigma_{n,f}$		I	.001-	1		.5-	5			BET	Bayard	DNR	62
										10		GGA	Nordheim	DRDT	62
												ORNL	Perry		62
					REQ COM: Want eta to 1/4 per below 1eV .										69
					Want integral eta to 1 per below 1 keV										69
					STATUS: LLL Behrens+ have measurements in progress above										72
					0.01 eV, see NCSAC-42.										72
					BCMN Deruytter+, relative to ^{10}B, from 0.01-45 eV,										72
					in progress, EANDC(E)150/U.										72
					SAC Blons, data at liquid N temp., to be pub. NSE.										72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
415	$_{92}U^{233}$	$\sigma_{n,f}$		III		1-30			5			ANL	Avery	DRDT	62
												BET	Bayard	DNR	62
												GGA	Nordheim	DRDT	62
												LMFB	Hemmig-AEC	DRDT	62
												ORNL	Perry	DRDT	62
					REQ COM: Want 2 per in eta and integral eta										69
					STATUS: LLL Behrens+ measurements in progress; NCSAC-42.										72
					RPI Block+ plan measurements.										72
					SAC Blons, data at liquid N temp., to be pub, NSE.										72
416	$_{92}U^{233}$	Fis Ratio	wrt U^{235}	I		10-	15	1				LASL	Hansen	DMA	67
				II		1-	10	1				LMFB	Hemmig-AEC	DRDT	69
					REQ COM: Calibration in energy 1 per, resolution 3 per										69
					Accuracy of 2-3 per would be useful										69
					STATUS: LLL Behrens+ measurements in progress; NCSAC-42.										72
					RPI Block+ plan measurements below 200 keV.										72
					ANL Poenitz+ measurements in progress, .15-3.5 MeV										72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
417	$_{92}U^{233}$	Nu Bar		I	.001-	30		.25	-2			BET	Bayard	DNR	69
												GGA	Nordheim	DRDT	66
												ORNL	Perry	DRDT	69
					REQ COM: Need 1/4 per to 30 eV, 1 per 0.3 eV - 1 keV										69
					Need 2 per 1-30 keV										69
					Intermediate accuracy of 1.5 per useful										69
					STATUS: RPI Reed+ have measurements in progress, thermal										72
					to 200 eV and 24 keV.										72
418	$_{92}U^{233}$	Nu Bar		II		30-	3	1-3				BET	Bayard	DNR	69
												GGA	Nordheim	DRDT	69
												ORNL	Perry	DRDT	69
					REQ COM: Is there structure below 1 MeV.										69
					STATUS: AUA Walsh+ find evidence for structure (~2 per)										72
					below 1 MeV.										72
					LLL Howe+ plan measurements, NCSAC-42.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	PERCENT ACCURACY 4-9	PERCENT ACCURACY ≤15	PERCENT ACCURACY >15	REQUESTER LAB	REQUESTER PERSON	REQUESTER ORG	YR
419	$_{92}U^{233}$	Alpha		I	.001-	1		2-	8			BET	Bayard	DNR	62
												GGA	Nordheim	DRDT	62
												ORNL	Perry	DRDT	62
					REQ COM: 1/4 per in eta below 1eV, 1 per useful 1/4 per in eta to 3eV, 1 per in eta 30eV to 1 keV, 5 per useful Capture cross section equally useful.										69
					STATUS: Weston+ estimate uncertainties in eta 0.5 per < .2 eV up to 1 per at 1eV; <2 keV ~2 per integral eta										72
420	$_{92}U^{233}$	Alpha		II		1-	3			10-	20	ANL	Avery	DRDT	62
												BET	Bayard	DNR	62
												GGA	Nordheim	DRDT	62
												LMFB	Hemmig-AEC	DRDT	67
												ORNL	Perry	DRDT	62
					REQ COM: Want 2 per in eta and integral eta from 1 keV to 30 keV Capture cross section equally useful										69
					STATUS: No active work.										72
421	$_{92}U^{233}$	Nu Bar	Prompt	I			7-20	3				LLL	Howerton	DMA	62
					REQ COM: Inconsistent results obscure energy dependence.										62
					STATUS: LLL Howe+ plan measurements to 15 MeV; NCSAC-42.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
422	$_{92}U^{233}$	Res Par		II	Th-	5				10-	30	ANL	Avery	DRDT	67
												BET	Bayard	DNR	67
												LMFB	Hemmig-AEC	DRDT	67
					REQ COM: For thermal breeder calculations										67
					Multilevel params., statistical dist. in eV range.										67
					Want 10 per accuracy to 100 eV, 20-30 per to 5 keV										67
					STATUS: COL Felvinci+ have analysis in progress, USNDC-1.										72
					LASL Keyworth+ have measurements of J, K in										72
					progress at ORELA.										72
					Blons+ single-level analysis completed to 100 eV,										72
					100-150eV in progress, EANDC(E) 150/U.										72
423	$_{92}U^{233}$	Cap Spect	$P(E_g)$	II	.01-15						15	BET	Bayard	DNR	67
					REQ COM: ΔN(E)/N(E) needed to 15 per every 50keV in E_g.										67
					Gammas of 100 keV and above desired, for shielding										67
					Are thermal and resonance spectra the same.										67
					STATUS: No active work.										72
424	$_{92}U^{233}$	Delayd g Y	$P(E_g, T^{1/2})$	I			2,14				35	BNL	Kouts	DNMS	69
					REQ COM: Accuracy refers to rel. intensities of delayed										70
					gammas from fission, E_g > 2MeV and 10 usec<t<1 hr										70
					Absolute gamma yields to factor of 2 also useful.										70
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
425	$_{92}U^{233}$	Fis Prod Y	of Xe^{135}	II	Th			3				BET	Bayard	DNR	67
					REQ COM: For calculation of fission product poisons, Cumulative and direct yields required, inclusive of 15 minute isomer,										67 67 67
					STATUS: GE Meek and Rider compilation reviews status, NEDO-12154,										72 72
426	$_{92}U^{233}$	Fis Prod Y	of Cs^{137}	II	Th			1				BET	Bayard	DNR	67
					REQ COM: For burnup indicator standards,										67
					STATUS: GE Meek and Rider compilation reviews status, NEDO-12154,										72 72
427	$_{92}U^{233}$	Fis Prod Y	of Nd^{147}	II	Th			3				BET	Bayard	DNP	67
					REQ COM: For calculation of fission product poisons,										67
					STATUS: GE Meek and Rider compilation reviews status, NEDO-12154,										72 72
428	$_{92}U^{233}$	Fis Prod Y	of Sm^{149}	II	Th			3				BET	Bayard	DNR	67
					REQ COM: For calculation of fission product poisons,										67
					STATUS: GE Meek and Rider compilation reviews status, NEDO-12154,										72 72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
429	$_{92}U^{234}$	$\sigma_{n,2n}$	Act.	I			Ths-15		≤5			LLL	Howerton	DMA	70
					REQ COM: Measurements with less accuracy not helpful.										70
					STATUS: No active work.										72
430	$_{92}U^{234}$	$\sigma_{n,3n}$		II			Ths-15				20	LASL	Barr	DMA	67
					REQ COM: None.										67
					STATUS: No active work.										72
431	$_{92}U^{234}$	$\sigma_{n,\gamma}$		II	.001	to	10	3	to	10		AI	Alter	DRDT	69
												ANL	Avery	DRDT	69
					REQ COM: To evaluate isotope buildup in thermal reactors.										67
					Accuracy 3 per below 2 eV, 6 per below 10 keV.										69
					STATUS: RPI Block+, plan to make capture measurements.										72
432	$_{92}U^{234}$	Nu Bar	Prompt	I		500-	20	3				LLL	Howerton	DMA	62
					REQ COM: None.										62
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
433	$_{92}U^{235}$	Elastic	$\sigma(\theta_n)$	II			1-5				20	ANL	Avery	DRDT	69
				II			1-5				20	LMFB	Hemmig-AEC	DRDT	69
				II			1-7			10		LASL	Diven	DMA	66
					REQ COM: Needed for analyzing fast critical experiments.										69
					Energy resolution at least 0,5 MeV										69
					STATUS: BCMN Coppola and Knitter have data to 5.5 MeV.										72
					ANL Smith, measurements to 3.5 MeV.										72
434	$_{92}U^{235}$	Inelastic	$\sigma(E_{n'})$	II		50-	6			10		ANL	Avery	DRDT	69
				II		50-	6			10		LMFB	Hemmig-AEC	DRDT	72
				I			1.5-6		5			LLL	Howerton	DMA	69
					REQ COM: Incident and exit energy resolutions 10 per. DRDT										69
					Discrim. between inelastic and fission neuts.										69
					required. LLL										69
					Low energy neutrons must be included (~300 keV).										69
					Absolute spectra at 30° and 75° may suffice.										69
					STATUS: BCMN Coppola and Knitter have data to 5.5 MeV.										72
					ANL Smith, measurements to 3.5 MeV.										72
435	$_{92}U^{235}$	Emission	$\sigma(E_{n'})$	I			5-15				20	LLL	Howerton	DMA	70
					REQ COM: Energy range of interest: $0.2 MeV \leq E_{n'} \leq E_n$.										70
					STATUS: BCMN Coppola and Knitter have data at 5.5 MeV.										72

REQ #	TARGET Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
436	$_{92}U^{235}$	Emission	$\sigma(\theta_{n'},E_{n'})$	I			6-20		5			LLL	Howerton	DMA	62
				I			6-16		5			LASL	Diven	DMA	69
				II			1-7		5-	10		LASL	Diven	DMA	69
					REQ COM: Low-energy neutrons must be included (~300 keV).										69
					Absolute spectra at 30° and 75° may suffice.										69
					STATUS: BCMN Coppola and Knitter have data at 5.5 MeV.										72
					ANL Smith, measurements to 3.5 MeV.										72
437	$_{92}U^{235}$	$\sigma_{n,2n}$	Act.	I			Ths-15		≤5			LLL	Howerton	DMA	70
					REQ COM: Needed for evaluation.										69
					Measurements with less accuracy not helpful.										70
					STATUS: No active work.										72
438	$_{92}U^{235}$	$\sigma_{n,3n}$		II			Ths-16			10		LASL	Barr	DMA	67
					REQ COM: None										69
					STATUS: No active work.										72

REQ #	TARGET Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
439	$_{92}U^{235}$	$\sigma_{n,f}$		II	1-	1		3				GE	Snyder	DRDT	69
					REQ COM: Used as standard at higher energies.										69
					STATUS: LLL Czirr+ have measurements in progress rel to										72
					Li(n,ā); NCSAC-42.										72
					BCMN Theobald+ in progress to 2keV;EANDC(E) 150/U										72
					BCMN Deruytter+ in progress, rel to ^{10}B,										72
					EANDC(E) 150/U.										72
					SAC Blons, NSE to be published.										72
440	$_{92}U^{235}$	$\sigma_{n,f}$		II	1,10 100	1,10 100	1,10	3				KAPL	Ehrlich	DNR	69
					REQ COM: Isolated values needed for normalization purposes.										69
					Choice of energy is influenced by experimental										69
					requirements, but values every decade useful.										69
					Where cross section has structure, energy average										69
					over carefully specified range is desired.										69
					STATUS: LLL Czirr+ have linac measurements in progress.										72
					NCSAC-42, covering this energy range.										72
					ANL Poenitz+ have completed measurements, 30, 150,										72
					500 keV.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
441	$_{92}U^{235}$	$\sigma_{n,f}$		I		1-	14	1-2				GE	Snyder	DRDT	69
												LMFR	Hemmig-AEC	DRDT	69

REQ COM: Of highest priority for fast reactor calculations and as standard. (69)
From 1-20 keV, accuracy 2 per, 5 per useful. (69)
From 20 keV-3 MeV, accuracy 1 per, 3 per useful. (69)
From 3-14 MeV, accuracy 2 per, 5 per useful. (69)
Resolution needed below 20 keV not yet determined (69)
Absolute values required. (69)

STATUS: LASL Barton+, meas. at 1.5-7 MeV; plan 6-15 MeV. (72)
LLL Czirr+ meas. rel. H>50keV; rel $^6Li(n,\bar{a})$ < 100. (72)
ANL Poenitz+ measurements in progress 30-150 keV. (72)
Absolute points at 500, 966 keV planned. (72)
ORNL de Saussure+, meas. rel $^{10}B(n,\bar{a})$ and $^6Li(n,\bar{a})$ (72)
up to 1.5 MeV. (72)
ORNL Peele+ meas. rel. H planned to 15 MeV. (72)
ORNL Gwin+, rel. ^{10}B, to 200 keV, USNDC-3. (72)
AERE Gayther+ measuring 1 keV-1 MeV, <5 percent. (72)
BCMN Deruytter+, up to 100 keV, rel. ^{10}B, (72)
EANDC(E) 150/U. (72)
CEA Szabo finds older data should be normalized (72)
upward by 2-4 percent. EANDC(E) 150/u. (72)

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
442	$_{92}U^{235}$	$\sigma_{n,f}$		I		10-	15	1				LASL	Hansen	DMA	66
				I		10-	14	1				NDC	Caswell	DPR	69

REQ COM: Excitation cross sections at many energies req.	69
Absolute calibration at several different energies	69
Energy resolution 3 per, energy calibration 1 per	69
STATUS: LASL Barton+, meas. at 1.5-7 MeV; plan 6-15 MeV.	72
LLL Czirr+, meas. rel. H > 50keV; rel $^{6}Li(n,\bar{a})$ < 1	72
ANL Poenitz+ measurements in progress 30-150 keV.	72
Absolute points at 500, 966 keV planned.	72
ORNL de Saussure+ meas. rel. $^{10}B(n,\bar{a})$ and $^{6}Li(n,\bar{a})$	72
up to 1.5 MeV.	72
ORNL Peele+ meas. rel H planned to 15 MeV.	72
ORNL Gwin+, rel. ^{10}B, to 200 keV, USNDC-3.	72
AERE Gayther+ measuring 1 keV-1 MeV, <5 percent.	72
BCMN Deruytter+ to 100 keV, rel. ^{10}B,	72
EANDC(E) 150/U.	72
CEA Szabo finds older data should be normalized	72
upward by 2-4 percent, EANDC(E) 150/u.	72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB PERSON ORG	YR
443	$_{92}U^{235}$	$\sigma_{n,f}$ Ratio	wrt H, B^{10}	I		1-	14	1				ANL Avery DRDT	69
												LMFB Hemmig-AEC DRDT	69
												ORNL MaienscheinDRDT	69

REQ COM: Required is ratio of $U^{235}(n,f)$ to $B^{10}(n,\bar{a})$ 69
and to $H^1(n,p)$ to 1 percent, 69
Intermediate accuracy of 3 per would be useful, 69
Needed to compare standards, 69

STATUS: LASL Barton+, meas, at 1.5-7 MeV; plan 6-15 MeV. 72
LLL Czirr+ meas, rel, H > 50 keV; rel $^6Li(n,\bar{a})$ < 1 72
ANL Poenitz+ measurements in progress 30-150 keV, 72
Absolute points at 500, 966 keV planned, 72
ORNL de Saussure+ meas, rel, $^{10}B(n,\bar{a})$ and $^6Li(n,\bar{a})$ 72
up to 1.5 MeV, 72
ORNL Peele+ meas, rel, H planned to 15 MeV, 72
ORNL Gwin+, rel, ^{10}B, to 200 keV, USNDC-3, 72
AERE Gayther+ measuring 1 keV-1 MeV, <5 percent. 72
BCMN Deruytter+ to 100 keV, rel, ^{10}B, 72
EANDC(E) 150/U, 72
CEA Szabo finds older data should be normalized 72
upward by 2-4 percent, EANDC(E) 150/u, 72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
444	$_{92}U^{235}$	Eta		II	Th-	50		.5-	2			ANL	Avery	DRDT	67
												GE	Snyder	DRDT	67
												LMFB	Hemmig-AEC	DRDT	67
					REQ COM: Accuracy 0.5 per at thermal, 2 per elsewhere										67
					STATUS: No active work; however see alpha, nubar.										72
445	$_{92}U^{235}$	Alpha		II	.001	to	7		5-	10		ANL	Avery	DRDT	69
												GE	Snyder	DRDT	69
												LMFB	Hemmig-AEC	DRDT	69
				I	.001-1			1				BET	Bayard	DNR	72
					REQ COM: Capture cross section equally useful.										69
					STATUS: ORNL deSaussure NCSAC-33, to 100 keV in progress.										70
446	$_{92}U^{235}$	$\sigma_{n,f}+\sigma_{n,\gamma}$	at 77°K	II	Th-	1		3-	5			SNPO	Fleishman	DSNS	69
					REQ COM: Required are simultaneous measurements of capture and fission cross sections at low temperature, 77°K, to validate Doppler broadening calculations.										69
					STATUS: SAC Blons, NSE, to be published.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
447	$_{92}U^{235}$	Nu Bar		I	Th-	to	3	1				ANL	Avery	DRDT	69
												GE	Snyder	DRDT	69
												LMFB	Hemmig-AEC	DRDT	69
					REQ COM: Needed as a cross check with other isotopes,										69
					Accuracy of 1,5 to 2 per would be useful,										69
					STATUS: RPI Reed+ have measurements in progress, thermal										72
					to 200 eV and 24 keV,										72
					Howe+ measurements in progress, NCSAC-42; USNDC-3,										72
					ORNL Peele+ plan measurements to 1,5 MeV,										72
448	$_{92}U^{235}$	Fis n Y	$P(E_{n'})$	II	Th	to	3		5			ANL	Avery	DRDT	69
				I	Th			1				BET	Bayard	DNR	72
				II	Th					10		KAPL	Ehrlich	DNR	69
				II	Th	to	3		5			LMFB	Hemmig-AEC	DRDT	69
					REQ COM: Verification of fission spectrum needed,										69
					$\Delta E_{n'}$=5per for $E_{n'}$<0,3MeV and from 10-20MeV, KAPL,										69
					STATUS: ANL Smith+ have measurements in progress < 1,6 MeV										72
					AERE Rose+ find evidence for nonlinearity > 6 MeV,										72
					at E_n = 130 keV,										72
					LASL Auchampaugh+ have verified spectrum										72
					linearity to 12 MeV at E_n = 1,65 MeV, USNDC-3,										72
					CEA Abramson+ heve data to be analyzed at										72
					E_n = 8-50 keV, EANDC(E) 150/U,										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
449	$_{92}U^{235}$	Fis $\bar{g}$ Y	P($E_{\bar{g}}$)	II	Th					15		LASL	Walton	DNMS	70
					REQ COM: For non-destructive assays of ^{235}U,										70
					Ge(Li) resolution required ±2.5keV at 1.2MeV										70
					Need spectra 0.25-5MeV, and yield										70
					(photons/fission-MeV-sec) 1ms-12hr, to 15per										70
					Associate gammas with fiss products if possible										70
					STATUS: GRT Sund+, $\bar{g}$-rays to 1 usec after fission for										72
					U-235, Pu-239, USNDC-1, p. 79.										72
450	$_{92}U^{235}$	Delayd n Y	P($E_{n'}$)	II	Th					15		KAPL	Ehrlich	DNR	69
				II	Th	to	5		5			LMFB	Hemmig-AEC	DRDT	69
					REQ COM: Needed for analysis of fast criticals, and to										69
					check existing data, DRDT.										69
					Yield, half-life and energy needed, DRDT.										69
					STATUS: LASL Evans+ report corrected data, USNDC-3.										72
					ANL Cox, work in progress.										72
451	$_{92}U^{235}$	Delayd n Y		II			5-14		5			LASL	Walton	DNMS	70
					REQ COM: Calculation of moderating assemblies for U assay										70
					Data needed for extrapolation to 15 MeV.										70
					STATUS: ANL Cox, work in progress.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
452	$_{92}U^{235}$	Cap Spect	$P(E_\gamma)$	II	Th-15					10		BET	Bayard	DNR	67
				II	Th						20	KAPL	Ehrlich	DNR	67
					REQ COM: E_n thermal, gamma resol, dn(E)/n(E) = 20 per, KAPL										67
					E_n 0.001 to 15 eV, dn(E)/n(E) = 10 per at										67
					50 keV intervals for E_γ above 100 keV, BET										67
					Does spectrum change for thermal and resonances.										67
					STATUS: BNL Graves+, data for 6 resonances NCSAC-42, p.48,										72
					Geel Coceva+, low energy γ-ray data reported at										72
					Aix-en-Provence - 14 spin assignments made.										72
453	$_{92}U^{235}$	Delayd γ Y	$P(E_\gamma, T^{1/2})$	I			2,14				35	BNL	Kouts	DNMS	69
					REQ COM: Accuracy refers to rel. intensities of delayed										70
					gammas from fission. E_γ > 2MeV and 10 usec<t<1 hr										70
					Absolute gamma yields to factor of 2 also useful.										70
					STATUS: BNL Chrien+ have some data for ^{235}U and ^{239}Pu.										70
					Large+, Phys.Chem.Fission give some data on U.										69

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
454	$_{92}U^{235}$	Res Par		I	Th-200					10		ANL	Avery	DRDT	69
												BET	Bayard	DNR	69
												GE	Snyder	DRDT	69
												LMFB	Hemmig-AEC	DRDT	69
					REQ COM: Needed for extrapolation to unresolved resonance region.										69
					Multilevel fit wanted where feasible.										69
					Need 10 per accuracy below 100 eV.										69
					Needed to as high an energy as possible.										69
					STATUS: ORNL de Saussure has res. par. to 100 eV, ORNL-180										69
					LASL Keyworth+ measuring J, K in progress, USNDC-3										72
					ANC Smith+ in progress, single-vs multi-level comparison studies, USNDC-1.										72
					COL Felvinci+ in progress, NCSAC-42.										72
					SAC Blons+ in progress, EANDC(E) 150/U, to 150 eV, see also USNDC-3.										72
455	$_{92}U^{235}$	Fis Prod Y	of Xe^{135}	II	Th			3				BET	Bayard	DNR	67
					REQ COM: For calculation of fission product poisons										67
					Cumulative and direct (inclusive of 15M isomer) yields wanted.										67
					STATUS: GE Meek and Rider, compilation summarizes status, NEDO = 12154.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
456	$_{92}U^{235}$	Fis Prod Y	of Cs^{137}	II	Th			1				BET	Bayard	DNR	67
					REQ COM: For burn up indicator standards.										67
					STATUS: GE Meek and Rider, compilation summarizes status, NEDO-12154.										72 72
457	$_{92}U^{235}$	Fis Prod Y	of Sm^{149}	II	Th			.3				BET	Bayard	DNR	67
					REQ COM: For calculation of fission product poisons										67
					STATUS: GE Meek and Rider, compilation summarizes status, NEDO-12154.										72 72
458	$_{92}U^{235}$	Fis Prod Y	of Nd^{147}	II	Th			3				BET	Bayard	DNR	67
					REQ COM: For calculation of fission product poisons										67
					STATUS: GE Meek and Rider, compilation summarizes status, NEDO-12154.										72 72
459	$_{92}U^{236}$	Nu Bar	Prompt	I		500-	14	3				LLL	Howerton	DMA	62
					REQ COM: None.										69
					STATUS: Conde and Holmberg, 0.8-6.7 MeV; <2 percent.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
460	$_{92}U^{236}$	Fis Spect	$P(E_{n'})$	II			*			10		LASL	Walton	DNMS	70
					REQ COM: Background corr. in ^{235}U spent fuel assays.										70
					* Needed at one energy above fission threshold.										70
					STATUS: BCMN Coppola+ have data at 1.5,1.9,2.3 MeV to										72
					be analyzed. EANDC(E) 150/u.										72
461	$_{92}U^{236}$	Delayd n Y		I			3,14			10		LASL	Walton	DNMS	70
					REQ COM: Background corr. in ^{235}U spent fuel assay.										70
					STATUS: No active work.										72
462	$_{92}U^{236}$	$\sigma_{n,\gamma}$		I	Th-	1				10		GE	Snyder	DRDT	69
					REQ COM: Needed for control of U^{232} production GE										69
					Needed for isotope build up in thermal										69
					and fast reactors and for Np^{237} production.										69
					Required 10 percent accuracy in capture widths.										69
					STATUS: GRT Carlson+ reports radiation widths to 10 per.										72
					NP A141, 577.										72
					BCMN Rohr+, in progress to 3 keV.										72
463	* $_{92}U^{237}$	$\sigma_{n,f}$		II	100-		16			10		LASL	Barr	DMA	67
					REQ COM: *Short-lived radioactive target, 6.7d										69
					STATUS: LASL McNally, LA 4420, data for 44 eV-1.8 MeV.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
464	* $_{92}U^{237}$	Destruct	of Target	I		1-	15			10		LLL	Howerton	DMA	70
					REQ COM: Needed for evaluation.										69
					* Radioactive target-6.7 day.										69
					STATUS: LASL McNally have fission data to 1.8 MeV, LA 4420										72
					LASL Barr+, have critical assembly core and re-										72
					flector integral fission measurements.										72
465	$_{92}U^{238}$	Elastic	$\sigma(\theta_n)$	I		1-	10		5-	10		ANL	Avery	DRDT	69
												GE	Snyder	DRDT	69
												LMFB	Hemmig-AEC	DRDT	69
												ORNL	Perry	DRDT	69
					REQ COM: Accuracy 10 per in energy region 1-300keV.										69
					Accuracy 5 per in energy region 300keV to 2MeV.										69
					Accuracy 10 per in energy region 2-10MeV.										69
					Factors of 2 lower accuracy would be useful										69
					on short term.										69
					STATUS: ANL Smith+, data to 1.7 MeV; extending to 5 MeV.										72
					BCMN Ahmed has data to 2.3 MeV.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
466	$_{92}U^{238}$	Inelastic	$\sigma(E_{n'})$	I		100-	10		5			ANL	Avery	DRDT	69
												GE	Snyder	DRDT	69
												LMFB	Hemmig-AEC	DRDT	69
					REQ COM: Energy resolution should be 5 percent										69
					Emission cross sections instead of inelastic and										69
					n,2n might be useful										69
					Accuracy of 20 per would be useful.										69
					STATUS: ANL Smith[+], data to 1.7 MeV; extending to 5 MeV.										72
					BCMN Ahmed has data to 2.3 MeV.										72
467	$_{92}U^{238}$	Emission	$\sigma(E_{n'})$	I			5-15				20	LLL	Howerton	DMA	70
					REQ COM: Energy range of interest: $0.2 MeV \le E_{n'} \le E_n$.										70
					STATUS: No active work.										72
468	$_{92}U^{238}$	$\sigma_{n,2n}$		II			Tns-10			10		GE	Snyder	DRDT	72
					REQ COM: Needed for control of U-232 in Pu-238 production.										72
					STATUS: No active work.										72
469	$_{92}U^{238}$	$\sigma_{n,3n}$		II			Tns-15				20	LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation.										69
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB PERSON ORG	YR
470	$_{92}U^{238}$	Fis Ratio	wrt U^{235}	I		500-	15	1-	5			LASL Hansen DMA	67
					REQ COM: Accuracy 5 per below 1.3 MeV, 1 per above.								67
					Energy resolution 3 per, energy calibration 1 per.								69
					Intermediate accuracy would be useful.								69
					STATUS: ANL Meadows[+] have data to 5.3 MeV, to be published. See USNDC-1.								72
					ANL Poenitz[+] have points at 2, 2.5, 3 MeV, with quoted accuracy ~2 per. USNDC-1.								72
					LLL Behrens[+] measurements in progress. NCSAC-42.								72
471	$_{92}U^{238}$	Fis Ratio	wrt Pu^{239}	I		500-	14	2-	4			LMFB Hemmig-AEC DRDT	69
					REQ COM: Accuracy 4 per below 1.3 MeV, 2 per 1.3-5 MeV, 3 per > 5 MeV.								69
					Energy resolution 3 per, energy calibration 1 per.								69
					Intermediate accuracy would be useful.								69
					STATUS: ANL work planned.								72
472	$_{92}U^{238}$	Nu Bar		I			1-10	1				ANL Avery	69
												LMFB Hemmig-AEC DRDT	69
					REQ COM: Confirmation of Soleilhac data requested. need ratio to Cf Nu Bar.								72
					STATUS: LLL Howe[+] have measurements in progress.								72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB PERSON ORG	YR
473	$_{92}U^{238}$	Delayd n Y		II			5-14		5			LASL Walton DNMS	70
					REQ COM: Calculation of moderating assemblies for U assay,								70
					Data needed for extrapolation to 15MeV,								70
					STATUS: ANL Cox, work in progress,								72
					LASL Evans+ have recorrected older work, see								72
					USNDC-3, NSE to be published,								72
474	$_{92}U^{238}$	Delayd n Y	$P(E_{n'})$	I	Th	to	5		5			LMFB Hemmig-AEC DRDT	72
					REQ COM: Available data discrepant								72
					STATUS: ANL Cox planning work,								72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
475	$_{92}U^{238}$	$\sigma_{n,\bar{\varepsilon}}$		I	500	to	10	2	to	10		AI	Alter	DRDT	69
												ANL	Avery	DRDT	69
												GE	Snyder	DRDT	69
												LMFB	Hemmig-AEC	DRDT	69
					REQ COM: Highest priority need for fast reactor calc.										69
					Accuracy 6 per from 500 eV to 1 keV.										72
					Accuracy 4 per from 1-300 keV.										72
					Accuracy 6 per from 300-500 keV.										72
					Accuracy 10 per from 500 keV to 10 MeV.										69
					Accuracy of 10 per from 1 keV to 10 MeV would be useful.										72
					STATUS: LLL Czirr+, USNDC-1.										72
					RPI Block+, USNDC-1, to 80 keV in progress.										72
					ANL Poenitz, measuring in 400-1500 keV range.										72
476	$_{92}U^{238}$	$\sigma_{n,\bar{\varepsilon}}$		I	Th-	to	15			10		LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation. Disagreements and gaps in existing data need to be resolved.										69
					STATUS: LLL Czirr+, USNDC-1.										72
					RPI Block+, USNDC-1, to 80 keV in progress.										72
					ANL Poenitz, measuring in 400-1500 keV range.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB PERSON ORG	YR
477	$_{92}U^{238}$	Tot $\bar{g}$ Prod	$\sigma(\theta_{\bar{g}},E_{\bar{g}})$	II	.001	to	10	*		10		LMFB Hemmig-AEC DRDT	72
					REQ COM: Accuracy 10 per in spectrum								67
					Gamma ray spectrum desired at intervals of 0.5 MeV								67
					in gamma energy.								67
					Gammas of all energies wanted.								67
					For shielding and $\bar{g}$ heating calculations.								67
					STATUS: ANL Bollinger, average spectrum results.								72
					LASL Jurney, thermal capture spectrum, NCSAC-42.								72
478	$_{92}U^{238}$	$\sigma_{n,\bar{g}}$ wrt or	$\sigma_{n,f}$ Pu^{239} $\sigma_{n,f}$ U^{235}	I		10-	10	1.5	-7			ANL Avery DRDT	69
												GE Snyder DRDT	72
												LMFB Hemmig-AEC DRDT	69
												ORNL Perry DRDT	69
					REQ COM: Needed is ratio of capture cross section of								69
					U^{238} to fission cross section of Pu^{239} or U^{235}.								72
					Direct ratio needed to supplement separate meas.								69
					Accuracy 1.5 per below 300 keV, 7 per above.								69
					Intermediate accuracy would be useful on near term								69
					Ratio data discrepant with absolute measurements.								72
					STATUS: ORNL de Saussure+ have measurements rel. to ^{235}U								72
					and to ^{6}Li in progress to 100 keV, plan to extend								72
					to 800 keV.								72

REQ #	TARGET Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
479	$_{92}U^{238}$	Delayd γ Y	$P(E_{\gamma}, T^{1/2})$	II			2,14				35	BNL	Kouts	DNMS	69
					REQ COM: Accuracy refers to rel. intensities of delayed										70
					gammas from fission, E_{γ} > 2MeV and 10 usec<t<1hr.										70
					Absolute gamma yields to a factor of 2 also useful										70
					STATUS: No active work.										72
480	$_{92}U^{238}$	Res Par		I		*				10		AI	Alter	DRDT	69
												ANL	Avery	DRDT	69
												GE	Snyder	DRDT	69
												LMFB	Hemmig-AEC	DRDT	69
					REQ COM: *Needed for Doppler effect on fast reactors, to										69
					as high energy as can be measured.										69
					Need answers to questions of missing p-wave										69
					levels and uncertainity of gamma-widths.										69
					Existing data > 1 keV are discrepant.										69
					STATUS: COL Rahn+, NCSAC-42 and USNDC-1. Trans. and Self										72
					indication measurements.										72

REQ #	TARGET Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
481	$_{93}Np^{237}$	$\sigma_{n,2n}$		II			Ths-15			10		SRL	Dessauer	DPMM	67
				II			Ths-10			10		GE	Snyder	DRDT	69
		$\sigma_{n,2n}$	Act.	I			Ths-15		≤5			LLL	Howerton	DMA	70
					REQ COM: To evaluate contamination of Pu^{238} by Pu^{236}										67
					Also needed for control of U-232 production										69
					Measurements with lower accuracy not helpful, LLL										70
					STATUS: No active work.										72
482	$_{93}Np^{237}$	$\sigma_{n,f}$		II		1-	5			10		SRL	Dessauer	DPMM	67
					REQ COM: Subthreshold to several MeV, for Pu^{238} production.										67
					STATUS: NBS Bowman+ plan measurements rel. to $^{235}U(n,f)$ to										72
					2 MeV.										72
483	$_{93}Np^{237}$	Fis Ratio	wrt U^{235}	III	20-	50				10		LASL	Hansen	DMA	66
				I		50-	1		5			LASL	Hansen	DMA	66
				II			1-15	1				LASL	Hansen	DMA	66
					REQ COM: < 50 keV; E_n(res) = 30 per; E_n(calib) = 10 per.										69
					> 50 keV; E_n(res) = 3 per; E_n(calib) = 1 per.										69
					STATUS: NBS Bowman+ plan measurements 10 keV-2 MeV.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
484	$_{93}Np^{237}$	$\sigma_{n,\bar{\gamma}}$		I	.001-	1		3	to	10		BNW	Leonard	DPMH	67
				I	.001-	1						GE	Snyder	DRDT	67
				II		1-	5					SRL	Dessauer	DPMH	67
					REQ COM: Accuracy 3 per interval Th-10 eV										67
					Accuracy 5 per in $\bar{\sigma}_n$,										67
					Accuracy 10 per in $\bar{\sigma}_{\bar{\gamma}}$, from thermal to 1keV,										67
					For thermal reactor calc, and Pu-238 prod,										67
					STATUS: COL Camarda+ NCSAC-33, total, capture to 5 keV,										70
					LASL Hoffman+ from Physics-8 event, NCSAC-31,										70
					MOL Poortmans+, Knoxville conf, res, par, to 70eV,										71
485	* $_{93}Np^{238}$	$\sigma_{n,\bar{\gamma}}$		II	Th-	1				10		BNW	Leonard	DPMH	67
					REQ COM: Needed to evaluate Pu^{238} production,										67
					*Radioactive sample - 2,1 days										67
					STATUS: No active work,										72
486	$_{94}Pu^{238}$	$\sigma_{n,2n}$		I			Ths-15			15		LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation,										69
					STATUS: No active work,										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
487	$_{94}Pu^{238}$	$\sigma_{n,3n}$		I			14				50	LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation.										69
					STATUS: No active work.										72
488	$_{94}Pu^{238}$	$\sigma_{n,f}$		III			1-10			10		AI	Alter	DRDT	72
					REQ COM: Neutron source in startup and reprocessing.										72
					STATUS: LASL Silbert+ data to be published. See USNDC-3.										72
489	$_{94}Pu^{238}$	Fis Ratio	wrt U^{235}	I		10-	5	3				LASL	Hansen	DMA	66
					REQ COM: Appropriate calibration and resolution on E_n.										69
					STATUS: None that satisfy accuracy requirements.										72
490	$_{94}Pu^{238}$	Nu Bar	Prompt	I		10-	15	3				LLL	Howerton	DMA	62
					REQ COM: None.										69
					STATUS: LLL Howe+ have measurements in progress. NCSAC-42.										72
491	$_{94}Pu^{238}$	$\sigma_{n,\gamma}$		III		1-	10			10		AI	Alter	DRDT	69
				I	Th-	1				10		BNW	Leonard	DPMM	67
					REQ COM: Pu-238 production; neutron source in reprocessing.										72
					STATUS: LASL Silbert+ data to be published, 18 eV-200 keV,										72
					See USNDC-3.										72

REQ #	TARGET Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
492	$_{94}Pu^{238}$	$\sigma_{n,\bar{\gamma}}$		I		.1-300					50	LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation.										69
					STATUS: LASL Silbert+ to be published, to 200keV, USNDC-3.										72
493	$_{94}Pu^{238}$	$\sigma_{n,p}$		II		to	15				50	LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation.										69
					STATUS: No active work.										72
494	$_{94}Pu^{238}$	Destruct	of Target	I		1-	1		5			LASL	Motz	DMA	66
				I		1-	15			10		LLL	Howerton	DMA	70
					REQ COM: None.										66
					STATUS: LASL Silbert+ capture and fission data to be published. See USNDC-3.										72
495	$_{94}Pu^{239}$	Elastic	$\sigma(\theta_n)$	II			1-3			10		ANL	Avery	DRDT	69
				II			1-3			10		LMFB	Hemmig-AEC	DRDT	69
				II			1-7			10		LASL	Diven	DMA	67
					REQ COM: Energy resolution 500 keV or better.										69
					STATUS: ANL Smith+ data to 3.0 MeV, extending to 4.0 MeV.										72

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REQ #	TARGET Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
496	$_{94}Pu^{239}$	Inelastic	$\sigma(E_{n'})$	I		10-	10				20	KAPL	Ehrlich	DNR	72
												LMFB	Hemmig-AEC	DRDT	69
					REQ COM: None.										69
					STATUS: ANL work in progress to 4.0 MeV.										72
497	$_{94}Pu^{239}$	Emission	$\sigma(E_{n'})$	I			5-15				20	LLL	Howerton	DMA	70
					REQ COM: Energy range of interest: $0.2MeV \leq E_{n'} \leq E_n$.										70
					STATUS: None.										72
498	$_{94}Pu^{239}$	$\sigma_{n,2n}$		I			Ths-15			10		LASL	Barr	DMA	67
				II			6-10			10		LMFB	Hemmig-AEC	DRDT	69
		$\sigma_{n,2n}$	Act.	I			Ths-15		≤5			LLL	Howerton	DMA	70
					REQ COM: Needed to predict buildup of Pu^{238}. LMFB.										67
					Measurements with lower accuracy not helpful. LLL.										72
					STATUS: LASL Barr gets 150 mb±20 per at 14 MeV.										72
499	$_{94}Pu^{239}$	$\sigma_{n,3n}$		II			Ths-15				20	LASL	Barr	DMA	67
		$\sigma_{n,3n}$	Act.	I			Ths-15		≤5			LLL	Howerton	DMA	70
					REQ COM: None										67
					STATUS: LASL Barr gets 1.5 ± 0.5 mb at 14 MeV.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
500	$_{94}Pu^{239}$	$\sigma_{n,f}$		I	Th-	1			1			GE	Snyder	DRDT	72

REQ COM: Standard parameter for Pu-fueled reactor 67
Direct measurements disagree 67
Improved precision needed for thermal reactors 67
U and Pu half lives should be confirmed as they 72
affect this measurement, 72

STATUS: LLL Behrens+ measurements in progress, NCSAC-42. 72
RPI Block+, plan meas, rel. to ^{235}U, Th at 24 keV, 72
BCMN Theobald+ in progress to 2keV, EANDC(E) 150/u 72
SAC Blons, NSE, to be published, 72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
501	$_{94}Pu^{239}$	$\sigma_{n,f}$		I	1	to	10	2-	5			ANL	Avery	DRDT	69
				I	1	to	10	2-	5			GE	Snyder	DRDT	69
				I	1	to	10	2-	5			LMFB	Hemmig-AEC	DRDT	69
				I		50-	8	1				NDC	Caswell	DPR	69

REQ COM: Highest priority for fast reactor calculations. 69
Accuracy 3 per below 20 keV, 2 per 20 keV to 3 MeV 69
Accuracy 5 per in energy range 3-6 MeV 69
Verification of current accuracy or intermediate 69
improvement would be useful. 69
Need related accuracy for 5-10 percent energy bins 72

STATUS: LLL Behrens+ measurements in progress, NCSAC-42. 72
ORNL Gwin+ to 1.5 in progress. See NCSAC-42. 72
ANL Poenitz, 0.5-5.0 MeV rel. to ^{235}U, in progress 72
NBS Bowman+ plan measurements 0.1-2.0 MeV. 72
RPI Block+ measurements in progress, 1-200 keV. 72
AERE Gayther+ measurements in progress agree to 5 72
per with Sowerby+ evaluation. AEREM 2497. 72
SAC Blons, to 30 keV, NSE, to be published. 72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
502	$_{94}Pu^{239}$	Fis Ratio	wrt U^{235}	I		10-	14	2				LMFB	Hemmig-AEC	DRDT	72
				I		10-	15	1				LASL	Hansen	DMA	66

REQ COM: Energy resolution 3 per., energy calibration 1 per 69
Need 2 per for avg over 5-10 per energy intervals. 72

STATUS: NBS Bowman+ plan measurements 0.1-2 MeV, 2-5 per. 72
ANL Poenitz+ in progress 0.15-3 MeV, 1 percent. 72
LLL Behrens+ in progress, expect 2 per, NCSAC-42. 72
ORNL Gwin+ in progress to 1.5 MeV, expect 2 per, 72
See NCSAC-42. 72
RPI Block+ in progress to 200 keV, expect 1 per. 72
CEA Szabo+ have completed new measurements 17 keV 72
to 1 MeV, EANDC(E) 150/U. 72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
503	$_{94}Pu^{239}$	Nu Bar		I	Th	to	10	≤1*				AI	Alter	DRDT	66
												ANL	Avery	DRDT	66
												GE	Snyder	DRDT	66
												LMFB	Hemmig-AEC	DRDT	66
												ORNL	Perry	DRDT	66

REQ COM: *Requested accuracy 1/2 percent 1 keV to 3 MeV; otherwise 1 percent. Accuracy of 1.5 percent would be useful. 69
Highest priority for fast reactor calculations. 69
Require resolution of significant structure up to 500 keV. 72

STATUS: RPI Reed+ plan measurements, Thr=200 eV. 72
ORNL Weston+ in progress, Thr=200 eV, plan to extend to 1.5 MeV. 72
LLL Howe+ in progress rel. to $\bar{\nu}$ ^{252}Cf, NCSAC-42. 72
SAC Trochon and Ryabor find no evidence for spin correlation. 72
AAEC Boldeman and Walsh, data < 2 MeV, to be pub. 72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
504	$_{94}Pu^{239}$	Delayd n Y	$P(E_{n'})$	II	Th	to	5		5			ANL	Avery	DRDT	69
												LMFB	Hemmig-AEC	DRDT	69
					REQ COM: Needed for analysis of fast criticals and										69
					fast reactor calculations.										69
					Yield, half life, and energy needed. DRDT										69
					STATUS: No active work.										72
505	$_{94}Pu^{239}$	Delayd n Y		II			3-14			10		LASL	Walton	DNMS	70
					REQ COM: Calculation of moderating assemblies for Pu assay.										70
					Data needed for extrapolation to 15MeV.										70
					STATUS: LASL Evans+ report recorrected older work, NSE,										72
					to be published, USNDC-3.										72
					ANL Cox, work in progress.										72
506	$_{94}Pu^{239}$	Eta		I	Th-1			1				GE	Snyder	DRDT	67
					REQ COM: For Pu-fueled reactor calculations										67
					Desire accuracy to 0.5 per. Th-1 eV										67
					Standard parameter, want value at 0.025 eV.										67
					STATUS: No active work; however, see alpha and nubar.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
507	94 Pu 239	Alpha		I	100	to	10	4	to	10		ANL	Avery	DRDT	69
												GE	Snyder	DRDT	69
												LMFB	Hemmig-AEC	DRDT	69
												ORNL	Maienschein	DRDT	69
					REQ COM: Accuracy 8 per in range 100 eV to 1 keV,										72
					Accuracy 4 per in range 1 keV to 50 keV,										72
					Accuracy 6 per in range 50 to 600 keV,										72
					Accuracy 10 per in range 600 keV-10 MeV,										69
					Energy resol, needed below 20 keV to be determined										69
					Capture cross section would be equally useful,										69
					STATUS: RPI Block*, plan measurements, 1-200 keV,										72
508	94 Pu 239	Delayd g Y	P(E g, T 1/2)	I			2,14				35	BNL	Kouts	DNMS	69
					REQ COM: Accuracy refers to rel, intensities of delayed										70
					gammas from fission, E g > 2MeV and 10 usec<t<1hr,										70
					Absolute gamma yields to factor of 2 also useful,										70
					STATUS: BNL Chrien+ have some data for ^{235}U and ^{239}Pu,										70
					Large+, Phys,Chem,Fission give some data on U,										69

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB PERSON ORG	YR
509	94 Pu 239	Fis $\bar{g}$ Y	$P(E_g)$	II	Th					15		LASL Walton DNMS	70
					REQ COM: For non-destructive assays of ^{239}Pu.								70
					Ge(Li) resolution required-2.5 keV at 1.2 MeV.								70
					Need spectra 0.25-5 MeV, and yield								70
					(photons/fission-MeV-sec) 1ms-12hr, to 15 percent.								70
					Associate gammas with fission products if possible								70
					STATUS: Kimhof⁺, 4 min-24 hrs. NCSAC-42, p. 142.								70
510	94 Pu 239	Cap Spect	$P(E_g)$	III	Th-100						20	LASL Walton DNMS	70
					REQ COM: Development of new Pu assay technique.								70
					Ge(Li) resolution (2.5keV, at 1.2MeV) required.								70
					Gamma yield per capture required to 20 percent.								70
					Need spectra above 1.2MeV gamma energy.								70
					STATUS: No active work.								70

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
511	$_{94}Pu^{239}$	Res Par		II	Thr-50					10		ANL	Avery	DRDT	69
												LMFB	Hemmig-AEC	DRDT	69
												GE	Snyder	DRDT	69
					REQ COM: For thermal reactors, and to determine statistical										69
					parameters for extrapolation to higher energy for										69
					fast reactor calculations.										69
					Exact requirements on accuracy not yet established										69
					STATUS: SAC Blons, NSE, to be published, report analysis										72
					of data taken at liquid N temp.										72
512	$_{94}Pu^{239}$	Fis Prod Y	of Xe^{135}	II	Th			3				BET	Bayard	DNR	67
					REQ COM: For calculation of fission product poison										67
					Cumulative and direct (inclusive of										67
					15 M isomer) is wanted.										67
					STATUS: GE Meek and Rider compilation summarizes status.										72
					NEDO-12154.										72
513	$_{94}Pu^{239}$	Fis Prod Y	of Cs^{137}	II	Th			1				BET	Bayard	DNR	67
												SRL	Dessauer	DPMM	67
					REQ COM: For burnup indicator standard.										67
					STATUS: GE Meek and Rider compilation summarizes status.										72
					NEDO-12154.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
514	$_{94}Pu^{239}$	Fis Prod Y	of Nd^{147}	II	Th			3				BET	Bayard	DNR	67
					REQ COM: For calculation of Fission product poisons.										67
					STATUS: GE Meek and Rider compilation summarizes status, NEDO-12154.										72 72
515	$_{94}Pu^{239}$	Fis Prod Y	of Sm^{149}	II	Th			3				BET	Bayard	DNR	67
					REQ COM: For calculation of Fission product poisons										67
					STATUS: GE Meek and Rider compilation summarizes status, NEDO-12154.										72 72
516	$_{94}Pu^{240}$	Inelastic		II			1.5-10				20	GE LMFB	Snyder Hemmig-AEC	DRDT DRDT	72 69
					REQ COM: Emission σ's might be equally useful at the higher energies.										69 69
					STATUS: ANL Smith+, data to 1.5 MeV, work planned to higher energies.										72 72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
517	$_{94}Pu^{240}$	$\sigma_{n,f}$		II		500-	10		5			GE	Snyder	DRDT	72
				II	500-	100			9			LMFB	Hemmig-AEC	DRDT	72
					REQ COM: Important for fast reactor calculations.										69
					STATUS: LLL Behrens+ measurements in progress, NCSAC-42.										72
					ORNL Weston+ measurements in progress to 250 keV.										72
					AERE Belcher+ measurements in progress rel. to										72
					^{235}U to 1 MeV.										72
518	$_{94}Pu^{240}$	Fis Ratio	wrt U^{235}	III		1-100			5			ACRP	Hannum	DRDT	72
				II		1-	15	2				LASL	Hansen	DMA	67
				II		100-	5	3				LMFB	Hemmig-AEC	DRDT	72
					REQ COM: < 100 keV; E_n(res) = 6 per; E_n(calib) = 2 per.										67
					> 100 keV; E_n(res) = 3 per; E_n(calib) = 2 per.										67
					Accuracy 5 percent useful.										72
					STATUS: LLL Behrens+ measurements in progress, NCSAC-42.										72
					AERE Belcher+ measurements in progress to 1MeV.										72
519	$_{94}Pu^{240}$	Nu Bar		II		Ths-	10	3				ANL	Avery	DRDT	72
												LMFB	Hemmig-AEC	DRDT	69
					REQ COM: Accuracy of 5 percent would be useful.										72
					STATUS: SCU Savin+ 70 HELS 2, 157. 3-5 per in energy										72
					region 1-4 MeV. Soleilhac+ planning 1-14 MeV.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
520	$_{94}Pu^{240}$	Delayd n Y		II		750-	14				20	LASL	Walton	DNMS	70
					REQ COM: Calculation of moderating assemblies for Pu assay										70
					Data needed for extrapolation to 15MeV.										70
					STATUS: ANL Cox will try if sample is available.										72
521	$_{94}Pu^{240}$	$\sigma_{n,\gamma}$		I	Th-100			3				GE	Snyder	DRDT	67
					REQ COM: Improved precision needed for thermal reactors.										67
					STATUS: Discrepancy between RPI and older measurements										72
					has been resolved, see Hockenbury+ NSE 49, 153.										72
522	$_{94}Pu^{240}$	$\sigma_{n,\gamma}$		I	500-	150			5			ANL	Avery	DRDT	69
				I		150-	1			10		GE	Snyder	DRDT	72
				I								LMFB	Hemmig-AEC	DRDT	69
					REQ COM: Accuracy of 15 per would be useful.										69
					High priority for fast reactor calculations										69
					STATUS: Discrepancy between RPI and older measurements										72
					has been resolved, see Hockenbury+ NSE 49, 153.										72
					ORNL Weston+ measurements in progress to 250 keV.										72
523	$_{94}Pu^{240}$	Alpha		II		150-	7			10		LLL	Howerton	DMA	62
					REQ COM: None.										62
					STATUS: ORNL Weston+ measurements in progress to 250 keV.										72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	PERCENT ACCURACY 4-9	PERCENT ACCURACY ≤15	PERCENT ACCURACY >15	REQUESTER LAB	REQUESTER PERSON	REQUESTER ORG	YR
524	$_{94}Pu^{240}$	Res Par		II	100-	5				10		ANL	Avery	DRDT	69
												LMFB	Hemmig-AEC	DRDT	69
					REQ COM: Needed for fast reactor calc., incl. Doppler eff.										69
					Existing data discrepant.										72
					STATUS: RPI Hockenbury+, NSE(1972); capture, fission and										72
					total measurements to 30 keV. Deduced res. par.										72
					for 35 resonances below 500 eV.										72
525	$_{94}Pu^{240}$	Delayd γ Y	$P(E_\gamma, T^{1/2})$	II			2,14				35	BNL	Kouts	DNMS	69
					REQ COM: Accuracy refers to rel. intensities of delayed										70
					gammas from fission, E_γ > 2MeV and 10 usec<t<1hr.										70
					Absolute gamma yield to factor of 2 also useful.										70
					STATUS: HAR Thomas resonance (n,γ) data from Pu-240 in eV										72
					region, shows delayed component. UKNDC, p. 37.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
526	$_{94}Pu^{241}$	$\sigma_{n,f}$		I	Th-	30		3	to	10		ANL	Avery	DRDT	69
												GE	Snyder	DRDT	69
		Fis Ratio	wrt U^{235}	I		1-	10		5			LMFB	Hemmig-AEC	DRDT	72
					REQ COM: Accuracy to 3 per from thermal to 10 eV,										69
					10 per from 10eV to 30keV,										69
					Ratio to U^{235} or Pu^{239} would be useful										69
					STATUS: ORNL Weston+, in progress, rel. to $^{10}B(n,a)$, to										72
					200 keV.										72
					LLL Behrens+ in progress, rel. to ^{235}U, UCSAC-42.										72
					CEA Szabo+ have completed measurements 17 keV to										72
					1 MeV, EANDC(E) 150/U.										72
					SAC Blons report data taken at liq. N temp., to										72
					30 keV, NSE, to be published										72
527	$_{94}Pu^{241}$	Fis Ratio	wrt U^{235}	II		10-	15	1				LASL	Hansen	DMA	66
					REQ COM: Energy resolution 3 per, energy calibration 1 per.										69
					STATUS: LLL Behrens+ in progress, NCSAC-42.										72
528	$_{94}Pu^{241}$	Nu Bar		II			1-10		6			ANL	Avery	DRDT	72
						1.	1		4			LMFB	Hemmig-AEC	DRDT	69
					REQ COM: None.										72
					STATUS: LLL Howe+ plan measurements > 10 keV. See NCSAC-42										72
					Conde+, 5 values from 0.52-15 MeV, JNE 22, p. 53.										68

REQ #	TARGET # Z A	QUANTITY	VARIABLE	PRI OR.	eV	keV	MeV	1-3	4-9	≤15	>15	LAB	PERSON	ORG	YR
529	$_{94}Pu^{241}$	Nu Bar	Prompt	II		500-	14	3				LLL	Howerton	DMA	62
					REQ COM: None.										62
					STATUS: LLL Howe+ plan measurements, See NCSAC-42.										72
530	$_{94}Pu^{241}$	$\sigma_{n,g}$		I	Th-	30		3				GE	Snyder	DRDT	67
					REQ COM: Accuracy to 3 per in Eta.										67
					Improved precision needed for thermal reactors.										67
					Also wanted for fast reactors.										67
					X-Sec, or Alpha wanted.										67
					STATUS: ORNL Weston+, in progress.										72
531	$_{94}Pu^{241}$	Alpha		II		1-	2				20	GE	Snyder	DRDT	69
												LMFB	Hemmig-AEC	DRDT	69
					REQ COM: Capture cross section would be equally useful.										69
					STATUS: ORNL Weston+, in progress to 250 keV.										72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
532	$_{94}Pu^{241}$	Res Par		II	Thr-	.4			5	to	20	ANL	Avery	DRDT	72
					REQ COM: Accuracy 5 per from thermal to 100 eV,										67
					Accuracy 10 per from 100 eV to 400 eV,										67
					20 per would be useful for thermal										67
					and fast reactor calculations,										67
					STATUS: SAC Blons*, least squares multilevel analysis in										72
					progress, EANDC(E) 150/U,										72
533	$_{94}Pu^{241}$	Delayd n Y		III	Th	to	14			10		LASL	Walton	DNMS	70
					REQ COM: Calculation of moderating assemblies for Pu assay										70
					Data needed for extrapolation to 15MeV,										70
					STATUS: ANL Cox may attempt if sample is available,										72
534	$_{94}Pu^{242}$	$\sigma_{n,2n}$		I			Ths-15			15		LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation,										69
					STATUS: No active work,										72
535	$_{94}Pu^{242}$	Nu Bar		II		500-	10		5			LMFB	Hemmig-AEC	DRDT	69
					REQ COM: None										69
					STATUS: No active work,										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
536	94 Pu 242	Nu Bar	Prompt	II		500-	14	3				LLL	Howerton	DMA	62
					REQ COM: None.										69
					STATUS: No active work.										72
537	94 Pu 242	Delayd n Y		III			3,14				20	LASL	Walton	DNMS	70
					REQ COM: Calculation of moderating assemblies for Pu assay										70
					STATUS: LASL Evans+ report recorrected older data, to be										72
					published NSE, see USNDC-3.										72
538	94 Pu 242	$\sigma_{n,\gamma}$		I	Th	to	7	3-			20	BNW	Leonard	DPMM	67
				II	Th	to	7	3-			20	GE	Hutchins	DRDT	72
				I		1-	7				<20	LMFB	Hemmig-AEC	DRDT	72
					REQ COM: Accuracy: 3 per to 100 eV; 10 per, 100 eV to 1 keV										67
					Accuracy: 15-20 per from 1 keV to 7 MeV.										72
					Accuracy: Res. params. to 10-20 per below 10 keV.										67
					For fast breeder calc., Cm, Cf production.										67
					STATUS: RPI Hockenbury+, capture measurements up to 30										72
					keV are in progress.										72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRIOR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
539	$_{94}Pu^{242}$	$\sigma_{n,\gamma}$	Act	I		.1-300					50	LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation.										69
					STATUS: Czirr, foil available, exp. planned.										72
					KFK Beer+, plan measurements.										72
					RPI Hockenbury+, capture measurements up to 30										72
					keV are in progress.										72
540	$_{94}Pu^{242}$	$\sigma_{n,p}$		II			14				20	LASL	Bell	DMA	67
					REQ COM: For interpretation of heavy element production.										67
					STATUS: No active work.										72
541	$_{95}Am^{241}$	Total		II	Th			2-3				BNW	Leonard	DPMM	69
					REQ COM: Accuracy 2-3 per in thermal energy range										69
					STATUS: No active work.										72
542	$_{95}Am^{241}$	$\sigma_{n,2n}$		I			Ths-15			15		LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation.										69
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
543	$_{95}Am^{241}$	$\sigma_{n,\gamma}$		I	Th-	1				10		SRL	Dessauer	DPMM	67
												BNW	Leonard	DPMM	67
												LLL	Howerton	DMA	70
				II	Th	to	10			15		GE	Hutchins	DRDT	72
					REQ COM: Production of both Am^{242} and Am^{242m} wanted.										67
					PNW needs values at 0.0253 eV, priority 2.										67
					Needed for Pu^{238} program, and production of Cm^{244}.										67
					For spent fuel shielding.										72
					STATUS: ORNL Weston+ in progress, to 250 keV.										72
544	$_{95}Am^{241}$	$\sigma_{n,\gamma}$		I		.1-300					50	LLL	Howerton	DMA	69
					REQ COM: Required is cross section for production of both Am^{242} and Am^{242m}.										69
					STATUS: ORNL Weston+ in progress, to 250 keV.										72
545	$_{95}Am^{242}$	Total		II	Th-	10				10		SRL	Dessauer	DPMM	67
					REQ COM: Resonance energies needed to determine Cm^{244} prod.										67
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	PERCENT ACCURACY 4-9	PERCENT ACCURACY ≤15	PERCENT ACCURACY >15	REQUESTER LAB	REQUESTER PERSON	REQUESTER ORG	YR
546	$_{95}Am^{242}$	$\sigma_{n,f}$		II	Th-	10				10-	20	SRL	Dessauer	DPMM	69
					REQ COM: Cross section needed for 150 year isomer.										69
					Require accuracy 10 per in thermal value and RI.										69
					Needed to determine Cm^{244} production.										69
					STATUS: LLL Browne+ plan measurement, see NCSAC-42.										72
547	$_{95}Am^{242}$	$\sigma_{n,\gamma}$		II	Th	to	10			15		GE	Hutchins	DRDT	72
				I	Th	to	5			<10		LLL	Howerton	DMA	69
				II	Th-	10				10-	20	SRL	Dessauer	DPMM	69
					REQ COM: Needed for evaluation, LLL.										69
					Cross section wanted for 152 year isomer.										69
					Need resonance integral and thermal value to										69
					10 percent, to evaluate Cm^{244} production. SRL.										69
					STATUS: No active work.										72
548	$_{95}Am^{243}$	Total		I	Th-	10		2				BNW	Leonard	DPMM	67
					REQ COM: Res. int. wanted for Cm^{244} production.										67
					Needed for long term reactivity calculations.										67
					STATUS: ANC Simpson+, meas. trans. from 0.5 to 1000 eV.										72
					ANCR-1060.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
549	$_{95}Am^{243}$	$\sigma_{n,\gamma}$		II	Thr	to	10			15		GE	Snyder	DRDT	72
					REQ COM: Res. int. wanted to determine Cm^{244} production.										67
					Needed for long term reactivity calculations										67
					and for spent fuel shielding.										72
					Require 5-10 per in both thermal value and RI.										67
					STATUS: ANC Simpson+ ANCR-1060 reports ORELA data.										72
550	* $_{96}Cm^{242}$	$\sigma_{n,\gamma}$		II	Th						20	SRL	Dessauer	DPMM	67
					REQ COM: Needed to evaluate production of Cm^{244}.										67
					*Target half-life 163d.										67
					STATUS: No active work.										72
551	* $_{96}Cm^{242}$	Res Par		II	Th-	1					20	BNW	Leonard	DPMM	67
					REQ COM: Radiative capture and neutron widths wanted.										67
					Pu-238 prod.										67
					Accuracy 20 per in widths										67
					*Target half-life 163d.										67
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
552	$_{96}Cm^{243}$	Total		II	Th-	10				10		SRL	Dessauer	DPMM	67
					REQ COM: Resonance energies wanted to evaluate Cm^{244} prod.										67
					Accuracy 10 per in res. integral										67
					STATUS: No active work.										72
553	$_{96}Cm^{243}$	$\sigma_{n,f}$		II	Th-	10				10		SRL	Dessauer	DPMM	67
				I		10-100				10		LASL	Cowan	DMA	69
					REQ COM: Needed to evaluate Cm^{244} production.										67
					Accuracy 10 per in resonance integral										67
					STATUS: LASL Diven, data to be analyzed from Physics 8.										72
					LLL Browne+ plan measurements, see NCSAC-42.										72
554	$_{96}Cm^{243}$	$\sigma_{n,\gamma}$		II	Th-	10			5-	10		SRL	Dessauer	DPMM	69
					REQ COM: Require alpha to 10 percent.										69
					Accuracy 5-10 per in thermal value and R.I.										69
					STATUS: No active work.										72
					******	******	******	******	******	******					
555	$_{96}Cm^{244}$	$\sigma_{n,2n}$		I			Ths-15			15		LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation.										69
					STATUS: No active work.										72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
556	$_{96}Cm^{244}$	$\sigma_{n,f}$		I		10-100				10		LASL	Cowan	DMA	69
					REQ COM: Needed to evaluate Cf production.										69
					STATUS: No active work in this energy region.										72
557	$_{96}Cm^{244}$	$\sigma_{n,\gamma}$		II		10-	10			10		GE	Snyder	DRDT	67
				II		10-	10			10		AI	Alter	DRDT	67
					REQ COM: For spent fuel shielding.										72
					Accuracy 5-10 per in resonance integral.										67
					Needed to evaluate Cf production.										69
					STATUS: No active work.										72
558	$_{96}Cm^{244}$	$\sigma_{n,\gamma}$		I		.1-300					50	LLL	Howerton	DMA	69
					REQ COM: Needed for evaluation.										69
					STATUS: No active work.										72
559	$_{96}Cm^{245}$	Total		I	Th-	10				10		SRL	Dessauer	DPMM	67
					REQ COM: Need 10 per in res. int., to evaluate Cf prod.										67
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
560	$_{96}Cm^{245}$	$\sigma_{n,f}$		I	Th-	10				10		SRL	Dessauer	DPMM	67
				I		10-100				10		LASL	Cowan	DMA	69
•					REQ COM: Need 10 per in σ and res. int., to eval. Cf prod.										67
					Need integral alpha to 10 per, thermal and res.										69
					STATUS: LLL Browne+ plan measurements, NCSAC-42.										72
561	$_{96}Cm^{245}$	$\sigma_{n,\bar{\alpha}}$		I	Th-	10				10		SRL	Dessauer	DPMM	69
					REQ COM: Need 10 per in res. int., to evaluate Cf prod.										69
					Need integral alpha to 10 per, thermal and res.										69
					STATUS: No active work.										72
562	$_{96}Cm^{246}$	Total		I	Th-	10				10		SRL	Dessauer	DPMM	67
					REQ COM: Resonance structure desired, to evaluate Cf prod.										67
					Accuracy 10 per in resonance integral										67
					STATUS: No active work.										72
563	$_{96}Cm^{246}$	$\sigma_{n,f}$		I		10-100				10		LASL	Cowan	DMA	69
					REQ COM: To evaluate Cf^{252} production by R-process.										69
					STATUS: No active work in this energy region.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
564	$_{96}Cm^{246}$	$\sigma_{n,\bar{\gamma}}$		I	Th-	10				10		SRL	Dessauer	DPMM	69
					REQ COM: Need accuracy 10 per in resonance integral.										69
					Resonance structure desired, to evaluate Cf prod.										69
					STATUS: No active work.										72
565	$_{96}Cm^{247}$	Total		I	Th-	10					20	SRL	Dessauer	DPMM	67
					REQ COM: Need 20 per in res. int. to evaluate Cf prod.										67
					STATUS: No active work.										72
566	$_{96}Cm^{247}$	$\sigma_{n,f}$		I	Th-	10			5-	10		SRL	Dessauer	DPMM	67
				I	-	10-100				10		LASL	Cowan	DMA	69
					REQ COM: Need 5-10 per in thermal value and RI. SRL.										67
					Need 10 per in σ to evaluate Cf prod. by										69
					R-process. LASL.										69
					STATUS: LLL Browne+ plan measurements. NCSAC-42.										72
567	$_{96}Cm^{247}$	$\sigma_{n,\bar{\gamma}}$		I	Th-	10			5-	10		SRL	Dessauer	DPMM	69
					REQ COM: Need 5-10 per in res. int. and thermal value,										69
					to evaluate Cf production.										69
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
568	$_{96}Cm^{248}$	Total		I	Th-	10					20	SRL	Dessauer	DPMM	67
					REQ COM: Need 50 per accuracy at thermal										67
					Need 20 per in res. int. to evaluate Cf prod.										67
					STATUS: SRL Benjamin+ plan measurements at ORELA.										72
569	$_{96}Cm^{248}$	$\sigma_{n,f}$		I		10-100				10		LASL	Cowan	DMA	69
					REQ COM: To evaluate Cf production.										69
					STATUS: No active work in this energy region.										72
570	$_{96}Cm^{248}$	$\sigma_{n,\bar{\gamma}}$		I	Th-	10				10		SRL	Dessauer	DPMM	69
					REQ COM: Need 10 per at thermal and in resonance integral										69
					to evaluate Cf production.										69
					STATUS: SRL Benjamin+ will try to infer from total cross										72
					section measured on ORELA.										72
571	$_{97}Bk^{249}$	Total		I	Th-	10					20	SRL	Dessauer	DPMM	67
					REQ COM: Res. param. desired to evaluate Cf production.										67
					Need 20 per in resonance integral.										67
					STATUS: No active work.										72

REQ #	TARGET * Z	A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
572	$_{97}Bk^{249}$		$\sigma_{n,\bar{g}}$		I	Th-	10				10		SRL	Dessauer	DPMM	69
						REQ COM: For Cf production, 10 per thermal and RI.										69
						STATUS: No active work.										72
573	$_{98}Cf^{249}$		$\sigma_{n,f}$		I		10-100				.10		LASL	Cowan	DMA	69
						REQ COM: None.										69
						STATUS: LASL Silbert has data to be published, USNDC-3.										72
						LLL Browne+ plan measurements, NCSAC-42.										72
574	$_{98}Cf^{250}$		Total		I	Th-	10					20	SRL	Dessauer	DPMM	67
						REQ COM: Resonances desired to evaluate Cf production.										67
						Need 20 per in res. int. to evaluate Cf^{252} prod.										67
						STATUS: No active work.										72
575	$_{98}Cf^{250}$		$\sigma_{n,f}$		I	Th-	10				10		SRL	Dessauer	DPMM	67
					I		10-100				10		LASL	Cowan	DMA	69
						REQ COM: To evaluate Cf production.										67
						Accuracy 10 per in res. integral. SRL.										67
						STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	PERCENT ACCURACY 4-9	PERCENT ACCURACY ≤15	PERCENT ACCURACY >15	REQUESTER LAB	REQUESTER PERSON	REQUESTER ORG	YR
576	$_{98}Cf^{250}$	$\sigma_{n,\bar{\gamma}}$		I	Th-	10				10		SRL	Dessauer	DPMM	69
					REQ COM: Need 10 per in res, int, to eval, Cf^{252} prod.										69
					STATUS: No active work.										72
577	$_{98}Cf^{251}$	$\sigma_{n,\bar{\gamma}}$		I	Th-	10				10		SRL	Dessauer	DPMM	67
					REQ COM: To evaluate Cf production.										67
					Accuracy 10 per in resonance integral.										67
					STATUS: No active work.										72
578	$_{98}Cf^{252}$	$\sigma_{n,f}$		I		10-100			10			LASL	Cowan	DMA	69
					REQ COM: None.										69
					STATUS: No active work.										72
579	$_{98}Cf^{252}$	Nu Bar		I				.25				NDC	Caswell	DPR	69
												BET	Bayard	DNR	72
					REQ COM: Required is nubar for spontaneous fission of Cf^{252}										69
					as primary standard.										69
					STATUS: NPL Axton has work in progress.										70

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
580	$_{98}Cf^{252}$	Nu Bar		I				<1				AI	Alter	DRDT	72
					REQ COM: Spontaneous fission source; required as standard.										72
					STATUS: No active work.										72
581	$_{98}Cf^{252}$	Fis Spect	$P(E_{n'})$	I				1				BET	Bayard	DNR	72
				I					5*			NDC	Caswell	DPR	72
					REQ COM: Spontaneous fission source.										72
					One percent in mean energy of spectrum req. DNR.										72
					5 percent in shape; 5 percent in energy. DPR.										72
					Needed for reference standard.										72
					STATUS: No active work.										72
582	$_{98}Cf^{252}$	$\sigma_{n,\bar{g}}$		I	Th-	10				10		SRL	Dessauer	DPMM	67
					REQ COM: To evaluate Cf production										67
					Accuracy 10 per in resonance integral.										67
					STATUS: No active work.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
583	* $_{98}Cf^{253}$	$\sigma_{n,\gamma}$		II	Th-	10					20	SRL	Dessauer	DPMM	67
					REQ COM: To evaluate Cf production										67
					Accuracy 20 per in res, integral										67
					*Target half-life 18d,										67
					Want to confirm that thermal cross sect, < 3b,										67
					STATUS: ORNL Bemis, NSE 41, 146 gives sigma eff, = 17,6 b										72
					for pile neutrons,										72
584	* $_{99}Es^{253}$	$\sigma_{n,f}$		I		10-100				10		LASL	Cowan	DMA	69
					REQ COM: *Target half-life 20d,										69
					STATUS: LASL Silbert, USNDC-3, no active work,										72
585	* $_{99}Es^{254}$	Alpha		II	Th-	20					20	LASL	Bell	DMA	67
					REQ COM: Needed to plan for production of Fm^{257}										67
					*Target half-life 480d,										67
					STATUS: No active work,										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
586	$*_{100}Fm^{255}$	$\sigma_{n,f}$		I		10-100				10		LASL	Cowan	DMA	69
					REQ COM: Measurement in presence of Es^{255} parent.										69
					*Target half-life 40d.										69
					STATUS: No active work.										72
587	$*_{100}Fm^{257}$	$\sigma_{n,f}$		I		10-100				10		LASL	Cowan	DMA	69
					REQ COM: *Target half-life 94d.										69
					STATUS: No active work in this energy region.										72

TABLE 2. PHOTONS INCIDENT

Reaction	Variables Allowed	Definition
$\sigma_{\bar{g},f}$		Photofission cross section
$\bar{g}$,n	Total n Y	Total yield of neutrons per incident photon
$\bar{g}$,n	Delayd n Y	Delayed neutron yield per incident photon
$\bar{g}$,f	Del $\bar{g}$ spec	Spectrum of delayed fission gammas per incident photon
Photoneut	Yield	Photoneutron yield

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REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
588	$_1H^2$	$\bar{\gamma}$,n	Total n Y	I			Ths-10			10		IRT	Bramblett	DNMS	70
					REQ COM: Total neut. yield produced by bremsstrahlung										70
					required. Absolute 4π yield per elect. required.										70
					Flat response for emergent neuts. Bremsstrahlung										70
					Converter (prefer Ta) thick enough to stop elects.										70
					Standard for non-destructive photonuclear assay.										70
					Electron energy resolution 1 percent.										70
					STATUS: No useful data; calculations insufficient.										72
589	$_3Li^6$	$\bar{\gamma}$,n	Total n Y	III			Ths-10				20	IRT	Bramblett	DNMS	72
					REQ COM: Background effect on non-dest. photonuc. assay.										70
					Electron energy resol. 1 percent. Total neut.										70
					yield produced by bremsstrahlung required.										70
					Converter (prefer Ta) thick enough to stop elects.										70
					Neutron yield absolute or relative to D($\bar{\gamma}$,n).										70
					STATUS: No useful data.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
590	$_4Be$	$\bar{g}$,n	Total n Y	II			Ths-10				20	IRT	Bramblett	DNMS	72
					REQ COM: Background effect on non-destr. photonuc. assay. Electron energy resol. 1 percent. Total neut. yield produced by bremsstrahlung required. Converter (prefer Ta) thick enough to stop elects. Neutron yield absolute or relative to D($\bar{g}$,n).										70
					STATUS: No useful data.										72
591	$_6C^{13}$	$\bar{g}$,n	Total n Y	II			Ths-10				20	IRT	Bramblett	DNMS	72
					REQ COM: Background effect on non-destr. photonuc. assay. Electron energy resol. 1 percent. Total neut. yield produced by bremsstrahlung required. Converter (prefer Ta) thick enough to stop elects. Neutron yield absolute or relative to D($\bar{g}$,n).										70
					STATUS: No useful data.										72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
592	$_{8}O^{17}$	$\bar{g}$,n	Total n Y	II			Ths-10				20	IRT	Bramblett	DNMS	72

REQ COM: Background effect on non-destr. photonuc. assay. 70
Electron energy resol. 1 percent. Total neut. 70
yield produced by bremsstrahlung required. 70
Converter (prefer Ta) thick enough to stop elects. 70
Neutron yield absolute or relative to D($\bar{g}$,n). 70

STATUS: No useful data. 72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
593	$_{90}Th^{232}$	$\bar{g}$,n	Total n Y	II			Ths-10			10		IRT	Bramblett	DNMS	72

REQ COM: For non-destructive photonuc. assay of Th mixtures 70
4π neutron yield (incl. fission) produced by 70
bremsstrahlung required. Converter (prefer Ta) 70
thick enough to stop electrons. Absolute neutron 70
yield or relative to D($\bar{g}$,n). Electron energy 70
resolution 1 percent. 70

STATUS: Relative data of Gozani+, Trans.ANS13,707(1970). 70
Katz+, Can.J.Phys.35,470(1957). 70

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
594	$_{90}Th^{232}$	γ,n	Delayd n Y	I			Ths-10			10		IRT	Bramblett	DNMS	72
					REQ COM: For non-destructive photonuc. assay of Th mixtures										70
					Delayed neut. yield produced by bremsstrahlung										70
					required. Converter (prefer Ta) thick enough to										70
					stop electrons. Absolute neutron yield or										70
					relative to D(γ,n). Electron energy resolution										70
					1 percent.										70
					STATUS: Relative data of Gozani+, Trans.ANS13,707(1970).										70
					Katz+, Can.J.Phys.35,470(1957).										70
595	$_{90}Th^{232}$	γ,f	Del γ Spec	III			10			10		IRT	Bramblett	DNMS	72
					REQ COM: For non-destructive photonuc. assay of Th mixtures										70
					Electron energy resolution 5 percent. Absolute										70
					fission product delayed gamma yield (1ms-1hr)										70
					produced by bremsstrahlung required. Converter										70
					(prefer Ta) thick enough to stop electrons.										70
					Emergent gamma energies 0.5-5 MeV, ΔE_{γ} = 3 keV.										70
					STATUS: Prelim. data of Rundquist, Trans.ANS13,746(1970).										70

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
596	$_{92}U^{233}$	$\bar{\gamma}$,n	Total n Y	I			Ths-10			10		IRT	Bramblett	DNMS	72
					REQ COM: For non-destructive photonuc. assay of ^{233}U. 4π neutron yield (incl. fission) produced by bremsstrahlung required. Converter (prefer Ta) thick enough to stop electrons. Absolute neutron yield or relative to D($\bar{\gamma}$,n). Electron energy resolution 1 percent.										70
					STATUS: Katz+, Can.J.Phys.35,470(1957).										70
597	$_{92}U^{233}$	$\bar{\gamma}$,n	Delayd n Y	I			Ths-10			10		IRT	Bramblett	DNMS	72
					REQ COM: For non-destructive photonuc. assay of ^{233}U. Delayed neut. yield produced by bremsstrahlung required. Converter (prefer Ta) thick enough to stop electrons. Absolute neutron yield or relative to D($\bar{\gamma}$,n). Electron energy resolution 1 percent.										70
					STATUS: No data.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	PERCENT ACCURACY 4-9	PERCENT ACCURACY ≤15	PERCENT ACCURACY >15	REQUESTER LAB	REQUESTER PERSON	REQUESTER ORG	YR
598	$_{92}U^{233}$	$\bar{\gamma}$,f	Del $\bar{\gamma}$ Spec	II			10			10		IRT	Bramblett	DNMS	72

REQ COM: For non-destructive photonuc. assay of ^{233}U. (70)
Electron energy resolution 5 percent. Absolute (70)
fission product delayed gamma yield (1ms-1hr) (70)
produced by bremsstrahlung required. Converter (70)
(prefer Ta) thick enough to stop electrons. (70)
Emergent gamma energies 0.5-5 MeV, ΔE_{γ} = 3 keV. (70)

STATUS: No data. (72)

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	PERCENT ACCURACY 4-9	PERCENT ACCURACY ≤15	PERCENT ACCURACY >15	REQUESTER LAB	REQUESTER PERSON	REQUESTER ORG	YR
599	$_{92}U^{234}$	$\bar{\gamma}$,n	Total n Y	II			Ths-10			30		IRT	Bramblett	DNMS	72

REQ COM: For non-destructive photonuc. assay of ^{233}U,^{235}U. (70)
4π neutron yield (incl. fission) produced by (70)
bremsstrahlung required. Converter (prefer Ta) (70)
thick enough to stop electrons. Absolute neutron (70)
energy resolution 1 percent. (70)

STATUS: No data. (72)

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
600	$_{92}U^{234}$	γ,n	Delayd n Y	III			Ths-10			30		IRT	Bramblett	DNMS	72

REQ COM: For non-destructive photonuc. assay of ^{233}U, ^{235}U. 70
Delayed neut. yield produced by bremsstrahlung 70
required. Converter (prefer Ta) thick enough to 70
stop electrons. Absolute neutron yield or 70
relative to D(γ,n). Electron energy resolution 70
1 percent. 70

STATUS: No data. 72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
601	$_{92}U^{234}$	γ,f	Del γ Spec	III			10			30		IRT	Bramblett	DNMS	72

REQ COM: For non-destructive photonuc. assay of ^{233}U, ^{235}U. 70
Electron energy resolution 5 percent. Absolute 70
fission product delayed gamma yield (1ms-1hr) 70
produced by bremsstrahlung required. Converter 70
(prefer Ta) thick enough to stop electrons. 70
Emergent gamma energies 0.5-5 MeV, ΔE_{γ} = 3 keV. 70

STATUS: No data. 72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
602	$_{92}U^{235}$	$\bar{g}$,n	Total n Y	II			Ths-10			10		IRT	Bramblett	DNMS	72
					REQ COM: For non-destructive photonuc. assay of ^{235}U.										70
					4π neutron yield (incl. fission) produced by										70
					bremsstrahlung required. Converter (prefer Ta)										70
					thick enough to stop electrons. Absolute neutron										70
					yield or relative to D($\bar{g}$,n). Electron										70
					energy resolution 1 percent.										70
					STATUS: Relative data of Gozani+, Trans.ANS13,707(1970).										70
					LLL Bowman+, PR 133, B676(1964).										70
603	$_{92}U^{235}$	$\bar{g}$,n	Delayd n Y	II			Ths-10			10		IRT	Bramblett	DNMS	72
					REQ COM: For non-destructive photonuc. assay of ^{235}U.										70
					Delayed neut. yield produced by bremsstrahlung										70
					required. Converter (prefer Ta) thick enough to										70
					stop electrons. Absolute neutron yield or										70
					relative to D($\bar{g}$,n). Electron energy resolution										70
					1 percent.										70
					STATUS: Relative data of Gozani+, Trans.ANS13,707(1970).										70

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
604	$_{92}U^{235}$	$\bar{g}$,f	Del $\bar{g}$ Spec	II			10			10		IRT	Bramblett	DNMS	72
					REQ COM: For non-destructive photonuc. assay of ^{235}U.										70
					Electron energy resolution 5 percent. Absolute										70
					fission product delayed gamma yield (1ms-1hr)										70
					produced by bremsstrahlung required. Converter										70
					(prefer Ta) thick enough to stop electrons.										70
					Emergent gamma energies 0.5-5 MeV, $\Delta E_{\bar{g}}$ = 3 keV.										70
					STATUS: Prelim. data of Rundquist, TRANS.ANS13,746(1970).										70
605	$_{92}U^{236}$	$\bar{g}$,n	Total n Y	II			Ths-10			30		IRT	Bramblett	DNMS	72
					REQ COM: For non-destructive photonuc. assay of ^{235}U.										70
					4π neutron yield (incl. fission) produced by										70
					bremsstrahlung required. Converter (prefer Ta)										70
					thick enough to stop electrons. Absolute neutron										70
					yield or relative to D($\bar{g}$,n). Electron										70
					energy resolution 1 percent.										70
					STATUS: No data.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
606	$_{92}U^{236}$	γ,n	Delayd n Y	II			Ths-10			30		IRT	Bramblett	DNMS	72
					REQ COM: For non-destructive photonuc. assay of ^{235}U. Delayed neut. yield produced by bremsstrahlung required. Converter (prefer Ta) thick enough to stop electrons. Absolute neutron yield or relative to D(γ,n). Electron energy resolution 1 percent.										70
					STATUS: None.										72
607	$_{92}U^{236}$	γ,f	Del γ Spec	III			10			30		IRT	Bramblett	DNMS	72
					REQ COM: For non-destructive photonuc. assay of ^{235}U. Electron energy resolution 5 percent. Absolute fission product delayed gamma yield (1ms-1hr) produced by bremsstrahlung required. Converter (prefer Ta) thick enough to stop electrons. Emergent gamma energies 0.5-5 MeV, ΔE_{γ} = 3 keV.										70
					STAT"S: No data.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
608	$_{92}U^{238}$	γ,n	Total n Y	II			Ths-10			10		IRT	Bramblett	DNMS	72
					REQ COM: For non-destructive photonuc. assay of uranium,										70
					4π neutron yield (incl. fission) produced by										70
					bremsstrahlung required. Converter (prefer Ta)										70
					thick enough to stop electrons. Absolute neutron										70
					yield or relative to D(γ,n). Electron										70
					energy resolution 1 percent.										70
					STATUS: Relative data of Gozani+, Trans.ANS13,707(1970).										70
					Katz+, Can.J.Phys.35,470(1957).										70
609	$_{92}U^{238}$	γ,n	Delayd n Y	II			Ths-10			10		IRT	Bramblett	DNMS	72
					REQ COM: For non-destructive photonuc. assay of uranium.										70
					Delayed neut. yield produced by bremsstrahlung										70
					required. Converter (prefer Ta) thick enough to										70
					stop electrons. Absolute neutron yield or										70
					relative to D(γ,n). Electron energy resolution										70
					1 percent.										70
					STATUS: Relative data of Gozani+, Trans.ANS13,707(1970).										70

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
610	$_{92}U^{238}$	$\bar{\gamma}$,f	Del $\bar{\gamma}$ Spec	II			10			10		IRT	Bramblett	DNMS	72
					REQ COM: For non-destructive photonuc. assay of uranium.										70
					Electron energy resolution 5 percent. Absolute										70
					fission product delayed gamma yield (1ms-1hr)										70
					produced by bremsstrahlung required. Converter										70
					(prefer Ta) thick enough to stop electrons.										70
					Emergent gamma energies 0.5-5 MeV, ΔE_{γ} = 3 keV.										70
					STATUS: Prelim. data of Rundquist, Trans.ANS13,746(1970).										70
611	$_{94}Pu^{239}$	$\bar{\gamma}$,n	Total n Y	II			Ths-10			10		IRT	Bramblett	DNMS	72
					REQ COM: For non-destructive photonuc. assay of ^{239}Pu.										70
					4π neutron yield (incl. fission) produced by										70
					bremsstrahlung required. Converter (prefer Ta)										70
					thick enough to stop electrons. Absolute neutron										70
					yield or relative to D($\bar{\gamma}$,n). Electron										70
					energy resolution 1 percent.										70
					STATUS: Relative data of Gozani+, Trans.ANS13,707(1970).										70

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
612	$_{94}Pu^{239}$	γ,n	Delayd n Y	II			Ths-10			10		IRT	Bramblett	DNMS	72
					REQ COM: For non-destructive photonuc. assay of ^{239}Pu										70
					Delayed neut. yield produced by bremsstrahlung										70
					required. Converter (prefer Ta) thick enough to										70
					stop electrons. Absolute neutron yield or										70
					relative to D(γ,n). Electron energy resolution										70
					1 percent.										70
					STATUS: Relative data of Gozani+, Trans.ANS13,707(1970).										70
613	$_{94}Pu^{239}$	γ,f	Del γ Spec	II			10			10		IRT	Bramblett	DNMS	72
					REQ COM: For non-destructive photonuc. assay of ^{239}Pu										70
					Electron energy resolution 5 percent. Absolute										70
					fission product delayed gamma yield (1ms-1hr)										70
					produced by bremsstrahlung required. Converter										70
					(prefer Ta) thick enough to stop electrons.										70
					Emergent gamma energies 0.5-5 MeV, ΔE_{γ} = 3 keV.										70
					STATUS: Prelim. data of Rundquist, Trans.ANS13,746(1970).										70

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
614	$_{94}Pu^{240}$	$\bar{g}$,n	Total n Y	II			Ths-10			10		IRT	Bramblett	DNMS	72
					REQ COM: For non-destructive photonuc. assay of ^{239}Pu. 4π neutron yield (incl. fission) produced by bremsstrahlung required. Converter (prefer Ta) thick enough to stop electrons. Absolute neutron yield or relative to D($\bar{g}$,n). Electron energy resolution 1 percent.										70
					STATUS: No data.										72
615	$_{94}Pu^{240}$	$\bar{g}$,n	Delayd n Y	II			Ths-10			10		IRT	Bramblett	DNMS	72
					REQ COM: For non-destructive photonuc. assay of ^{239}Pu. Delayed neut. yield produced by bremsstrahlung required. Converter (prefer Ta) thick enough to stop electrons. Absolute neutron yield or relative to D($\bar{g}$,n). Electron energy resolution 1 percent.										70
					STATUS: No data.										72

REQ #	TARGET Z	A	REACTION TYPE QUANTITY	VARIABLE	PRIOR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
616	94 Pu	240	$\bar{\gamma}$,f	Del $\bar{\gamma}$ Spec	II			10			10		IRT	Bramblett	DNMS	72

REQ COM: For non-destructive photonuc. assay of Pu^{239}. 70
Electron energy resolution 5 percent. Absolute 70
fission product delayed gamma yield (1ms-1hr) 70
produced by bremsstrahlung required. Converter 70
(prefer Ta) thick enough to stop electrons. 70
Emergent gamma energies 0.5-5 MeV, $\Delta E_{\bar{\gamma}}$ = 3 keV. 70

STATUS: No data. 72

REQ #	TARGET Z	A	REACTION TYPE QUANTITY	VARIABLE	PRIOR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
617	94 Pu	241	$\bar{\gamma}$,n	Total n Y	III			Ths-10			30		IRT	Bramblett	DNMS	72

REQ COM: For non-destructive photonuc. assay of Pu. 70
4π neutron yield (incl. fission) produced by 70
bremsstrahlung required. Converter (prefer Ta) 70
thick enough to stop electrons. Absolute neutron 70
yield or relative to D($\bar{\gamma}$,n). Electron 70
energy resolution 1 percent. 70

STATUS: None. 72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OK.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
618	$_{94}Pu^{241}$	$\bar{g}$,n	Delayd n Y	III			Ths-10			30		IRT	Bramblett	DNMS	72
					REQ COM: For non-destructive photonuc. assay of Pu. Delayed neut. yield produced by bremsstrahlung required. Converter (prefer Ta) thick enough to stop electrons. Absolute neutron yield or relative to D($\bar{g}$,n). Electron energy resolution 1 percent.										70
					STATUS: None.										72
619	$_{94}Pu^{241}$	$\bar{g}$,f	Del $\bar{g}$ Spec	III			10			30		IRT	Bramblett	DNMS	72
					REQ COM: For non-destructive photonuc. assay of Pu. Electron energy resolution 5 percent. Absolute fission product delayed gamma yield (1ms-1hr) produced by bremsstrahlung required. Converter (prefer Ta) thick enough to stop electrons. Emergent gamma energies 0.5-5 MeV, $\Delta E_{\bar{g}}$ = 3 keV.										70
					STATUS: No data.										70

TABLE 3. MEDIUM ENERGY REQUESTS

Reaction	Variables Allowed	Definition
Tot p Reac		Total reaction cross section for incident protons
$\sigma_{p,x}$	$\sigma(E_x)$	Cross section for the emission of a charged-particle, x, where x is one of many charged particles allowed
σ_{p,Li^6}		Cross section for Li^6 production due to incident protons
$\sigma_{p,A=19}$		Cross section for the production of mass 19 particles
$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	Angle and energy dependence of the neutrons produced by protons incident, k is the neutron multiplicity, and y is the remaining particle or particles
$\sigma_{p,kpy}$	$\sigma(\theta_p,E_p)$	Angle and energy dependence of the protons produced by protons incident, k is the proton multiplicity, and y is the remaining particle or particles
$\sigma_{\bar{a},kny}$	$\sigma(\theta_{n'},E_{n'})$	Angle and energy dependence of the neutrons produced by α's incident, k is the neutron multiplicity, and y is the remaining particle or particles
$\sigma_{\bar{a},k\pi^{\pm}y}$	$\sigma(\theta_\pi,E_\pi)$	Angle and energy dependence of the pions produced by α's incident, k is the pion multiplicity, and y is the remaining particle or particles
$\sigma_{\bar{a},x}$	$\sigma(E_x)$	Cross section for the emission of a charged particle, x, where x is one of many charged particles allowed

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REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	INCIDENT ENERGY GeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
620	$_2He^4$	$\sigma_{p,x}$	$\sigma(E_x)$	II		25-100				10*		GSFC	Reames	NASA	67
					REQ COM: x = each of the nuclides: D, T, and He^3.										67
					(*): requested accuracy 10 percent or a few mb.										69
					STATUS: None.										72
621	$_2He^4$	$\sigma_{p,x}$	$\sigma(E_x)$	II		300-	.6			10*		GSFC	Reames	NASA	67
					REQ COM: x = each of the nuclides: D, T, and He^3.										67
					(*): requested accuracy 10 percent or a few mb.										69
					STATUS: None.										72
622	$_2He^4$	$\sigma_{a,x}$	$\sigma(E_x)$	II		25-600				10*		GSFC	Reames	NASA	67
					REQ COM: x = each of the nuclides: D, T, and He^3.										67
					(*): requested accuracy 10 percent or a few mb.										69
					STATUS: None.										72
623	$_3Li^6$	Tot p Reac		III		25-600				10*		GSFC	Reames	NASA	67
					REQ COM: (*): requested accuracy 10 percent or a few mb.										69
					STATUS: None.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY keV	MeV	GeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
624	$_3Li^7$	Tot p Reac		III		25-600				10*		GSFC	Reames	NASA	67
					REQ COM: (*): requested accuracy 10 percent or a few mb.										69
					STATUS: None.										72
625	$_3Li^7$	$\sigma_{p,x}$		II		25-600				10*		GSFC	Reames	NASA	67
					REQ COM: x = each of the nuclides Li^6 and Be^7.										67
					(*): requested accuracy 10 percent or a few mb.										69
					STATUS: None.										72
626	$_4Be^7$	σ_{p,Li^6}		II		25-600					est.*	GSFC	Reames	NASA	67
					REQ COM: (*): need an estimate of the amount of Li^6 formed.										67
					STATUS: None.										72
627	$_4Be^9$	Tot p Reac		III		25-600				10*		GSFC	Reames	NASA	67
					REQ COM: (*): requested accuracy 10 percent or a few mb.										69
					STATUS: None.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	INCIDENT ENERGY GeV	PERCENT ACCURACY 1-3	PERCENT ACCURACY 4-9	PERCENT ACCURACY ≤15	PERCENT ACCURACY >15	REQUESTER LAB	REQUESTER PERSON	REQUESTER ORG	YR
628	$_5B^{10}$	$\sigma_{p,x}$		II		25-600				10*		GSFC	Reames	NASA	67
					REQ COM: x = each of the nuclides: Li^6, Li^7, Be^7, Be^9										67
					(*): requested accuracy 10 percent or a few mb.										69
					STATUS: None.										72
629	$_5B^{11}$	$\sigma_{p,x}$		II		25-600				10*		GSFC	Reames	NASA	67
					REQ COM: x = each of the nuclides: Li^6, Li^7, Be^7, Be^9,										67
					Be^{10}, B^{10}.										67
					(*): requested accuracy 10 percent or a few mb.										69
					STATUS: None.										72
630	$_6C$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I		~50					25	HASL	O'Brien	DBER	67
												NASA	Reetz	NASA	66
												ORNL	Alsmiller	DPR	66
					REQ COM: Measurements at a few angles, one near 0^{o}.										66
					Measurements should include 1-MeV neutrons.										66
					STATUS: None.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY keV	MeV	GeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
631	$_6C$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	II		600-	2				25	HASL	O'Brien	DBER	66
												NASA	Reetz	NASA	66
												ORNL	Alsmiller	DPR	66
					REQ COM: One energy in interval.										66
					Measurements at a few angles, one near 0°.										66
					Measurements should include 1-MeV neutron.										66
					STATUS: None.										72
					**										
632	$_6C^{12}$	n,x		II		25-	1			10*		GSFC	Reames	NASA	67
					REQ COM: x = each of the nuclides: Li^6, Li^7, Be^7, Be^9,										67
					Be^{10}, Be^{11}, B^{10}, B^{11}, C^{10}, C^{11}.										67
					(*): requested accuracy 10 percent or a few mb.										69
					STATUS: None.										72
633	$_6C^{12}$	$\sigma_{\alpha,x}$		I		25-	1,2			10*		GSFC	Reames	NASA	69
					REQ COM: x = each of the stable and particle-stable isotopes with $3 \leq Z \leq 6$.										69
					(*): requested accuracy 10 percent or a few mb.										69
					STATUS: None.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY keV	MeV	GeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
634	$_6C^{13}$	$\sigma_{p,x}$		I		25-600				10*		GSFC	Reames	NASA	67
					REQ COM: x = each of the nuclides Li^6, Li^7, Be^7, Be^{10}, Be^{11}										67
					B^{10}, B^{11}, B^{12}, C^{10}, C^{11}, C^{12}										67
					(*): requested accuracy 10 percent or a few mb.										67
					STATUS: None.										72
635	$_7N^{14}$	$\sigma_{p,x}$		II		25-600				10*		GSFC	Reames	NASA	67
					REQ COM: x = each of the stable and particle-stable iso-										67
					topes with $3 \leq Z \leq 6$.										67
					For Li^6 and Be^7 isotopes, below 100 MeV, only.										67
					(*): requested accuracy 10 percent or a few mb.										69
					STATUS: None.										72
636	$_7N^{15}$	$\sigma_{p,x}$		II		25-600				10*		GSFC	Reames	NASA	67
					REQ COM: x = each of the stable and particle-stable iso-										67
					topes with $3 \leq Z \leq 7$.										67
					(*): requested accuracy 10 percent or a few mb.										67
					STATUS: None.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY keV	MeV	GeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
637	8 O	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I		~50					25	HASL	O'Brien	DBER	66
												NASA	Reetz	NASA	66
												ORNL	Alsmiller	DPR	66
					REQ COM: Measurements at a few angles, one near 0°.										66
					Measurements should include 1-MeV neutrons.										66
					STATUS: None.										72
638	8 O	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	II		600-	2				25	HASL	O'Brien	DBER	66
												NASA	Reetz	NASA	66
												ORNL	Alsmiller	DPR	66
					REQ COM: One energy in interval.										66
					Measurements at a few angles, one near 0°.										66
					Include very low (~1 MeV) neutrons.										66
					STATUS: None.										72
639	8 O	$\sigma_{\pi^-,k\pi^\pm y}$	$\sigma(\theta_\pi,E_\pi)$	II			1-2				25	HASL	O'Brien	DBER	66
												NASA	Reetz	NASA	66
												ORNL	Alsmiller	DPR	66
					REQ COM: Cross section for $\pi^\pm$ at one energy in interval.										66
					Measurements at a few angles, one near 0°.										66
					Low-energy (~50 MeV) pions should be included.										66
					STATUS: None.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY keV	MeV	GeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
640	$_8O^{16}$	$\sigma_{p,x}$		I		25-600				10*		GSFC	Reames	NASA	67
					REQ COM: x = each of the nuclides: Li^6, Li^7, Be^9, Be^{10},										67
					B^{10}, B^{11}, C^{10}, C^{11}.										67
					(*): requested accuracy 10 percent or a few mb.										69
					STATUS: None.										72
641	$_8O^{16}$	$\sigma_{p,x}$		I		25-600				10*		GSFC	Reames	NASA	67
					REQ COM: x = each of the nuclides: C^{12}, C^{13}, C^{14}, N^{13}, N^{14},										67
					N^{15}, O^{15}.										67
					(*): requested accuracy 10 percent or a few mb.										69
					STATUS: None.										72
642	$_8O^{16}$	$\sigma_{a,x}$		I		25-	1.2			10*		GSFC	Reames	NASA	69
					REQ COM: x = each of the stable and particle-stable iso-										69
					topes with $3 \leq Z \leq 7$.										69
					(*): requested accuracy 10 percent or a few mb.										69
					STATUS: None.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY keV	MeV	GeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
643	$_8O^{18}$	$\sigma_{p,x}$		I		25-600				10*		GSFC	Reames	NASA	67
					REQ COM: x = each of the nuclides: $Li^{6,7}$, Be^{7-10}, $B^{10,11}$,										67
					C^{10-14}, N^{13-16}, $O^{16,17}$,										67
					(*): requested accuracy 10 percent or a few mb.										69
					STATUS: None.										72
644	$_{10}Ne^{20}$	$\sigma_{p,A=19}$		I		25-600				10		GSFC	Reames	NASA	67
					REQ COM: Production of O^{19}, F^{19}, and Ne^{19};										67
					Upper limits useful.										67
					STATUS: None.										72
645	$_{12}Mg^{24}$	$\sigma_{p,x}$		II		25-600				10*		GSFC	Reames	NASA	67
					REQ COM: x = each of the stable and particle-stable isotopes with $3 \leq Z \leq 11$.										67
					(*): requested accuracy 10 percent or a few mb.										69
					STATUS: None.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	INCIDENT ENERGY GeV	PERCENT ACCURACY 1-3	PERCENT ACCURACY 4-9	PERCENT ACCURACY ≤15	PERCENT ACCURACY >15	REQUESTER LAB	REQUESTER PERSON	REQUESTER ORG	YR
646	$_{13}$Al	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I		600-	2				25	HASL	O'Brien	DBER	66
												NASA	Reetz	NASA	66
												ORNL	Alsmiller	DPR	66
					REQ COM: Measurements at a few angles, one near 0°.										66
					Measurements should include 1-MeV neutrons.										66
					Data on an adjacent element would suffice.										66
					STATUS: None.										72
647	$_{13}$Al	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I			~10,30				25	HASL	O'Brien	DBER	66
												NASA	Reetz	NASA	66
												ORNL	Alsmiller	DPR	66
					REQ COM: Measurements at a few angles, one near 0°.										66
					Measurements should include 1-MeV neutrons.										66
					Data on an adjacent element would suffice.										66
					STATUS: None.										72
648	$_{13}$Al	$\sigma_{p,kpy}$	$\sigma(\theta_p,E_p)$	II		~2000.	~10,30				25	HASL	O'Brien	DBER	66
												NASA	Reetz	NASA	66
												ORNL	Alsmiller	DPR	66
					REQ COM: Measurements at a few angles, one near 0°.										66
					Include low-energy (~50 MeV) protons.										66
					Data on an adjacent element would suffice.										66
					STATUS: None.										72

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY keV	MeV	GeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
649	$_{13}Al$	$\sigma_{a,kny}$	$\sigma(\theta_{n'},E_{n'})$	II		100-	1				25	HASL	O'Brien	DBER	66
												NASA	Reetz	NASA	66
												ORNL	Alsmiller	DPR	66
					REQ COM: Measurements at a few angles, one near 0°.										66
					Include very low-energy (~1 MeV) neutrons.										66
					STATUS: None.										72
650	$_{20}Ca^{40}$	$\sigma_{p,x}$		III		25-600				10*		GSFC	Reames	NASA	67
					REQ COM: x = each of the stable and particle-stable isotopes with 3 ≤ Z ≤ 11.										67
					(*): requested accuracy 10 percent or a few mb.										67
					STATUS: None.										72
651	$_{26}Fe^{56}$	$\sigma_{p,x}$		II		25-600				10*		GSFC	Reames	NASA	67
					REQ COM: x = each of the stable and particle stable isotopes with 3 ≤ Z ≤ 11.										67
					(*): requested accuracy 10 percent or a few mb.										67
					STATUS: None.										72

REQ #	TARGET Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	INCIDENT ENERGY GeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
652	$_{26}Fe^{56}$	$\sigma_{p,x}$		I		25-600				10*		GSFC	Reames	NASA	67
					REQ COM: x = each of the nuclides: Ca^{40-46}, Sc^{45}, Ti^{46-50},										67
					$V^{50,51}$, Cr^{52-54}, $Mn^{54,55}$, and $Fe^{54,55}$.										67
					(*): required accuracy 10 percent or a few mb.										67
					STATUS: None.										72
653	$_{27}Co$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I		600-	2				25	HASL	O'Brien	DBER	66
												NASA	Reetz	NASA	66
												ORNL	Alsmiller	DPR	66
					REQ COM: One energy in interval wanted.										66
					Measurements at a few angles, one near 0^{o}.										66
					Measurements should include 1-MeV neutrons.										66
					Data on an adjacent element would suffice.										66
					STATUS: None.										72
654	$_{27}Co$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I			~10,30				25	HASL	O'Brien	DBER	66
												NASA	Reetz	NASA	66
												ORNL	Alsmiller	DPR	66
					REQ COM: Measurements at a few angles, one near 0^{o}.										66
					Measurements should include 1-MeV neutrons.										66
					Data on an adjacent element would suffice.										66
					STATUS: None.										72

REQ #	TARGET * A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRIOR.	INCIDENT ENERGY keV	MeV	GeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
655	2'	$\sigma_{p,kpy}$	$\sigma(\theta_p,E_p)$	II		~2000,	~10,30				25	HASL	O'Brien	DBER	66
												NASA	Reetz	NASA	66
												ORNL	Alsmiller	DPR	66
					REQ COM: Measurements at a few angles, one near 0°.										66
					Include low-energy (~50 MeV) protons.										66
					Data on an adjacent element would suffice.										66
					STATUS: None.										72
656	83 Bi	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I		600-	2				25	HASL	O'Brien	DBER	66
												NASA	Reetz	NASA	66
												ORNL	Alsmiller	DPR	66
					REQ COM: One energy (only) within energy range.										66
					Measurements at a few angles, one near 0°.										66
					Measurements should include 1-MeV neutrons.										66
					Data on an adjacent element would suffice.										66
					STATUS: None.										72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY keV	MeV	GeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
657	$_{83}$Bi	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	II			~10,30				25	HASL	O'Brien	DBER	66
												NASA	Reetz	NASA	66
												ORNL	Alsmiller	DPR	66
					REQ COM: Measurements at a few angles, one near 0°.										66
					Measurements should include 1-MeV neutron.										66
					Data on an adjacent element would suffice.										66
					STATUS: None.										72
658	$_{83}$Bi	$\sigma_{p,kpy}$	$\sigma(\theta_p,E_p)$	II		~2000.	~10,30				25	HASL	O'Brien	DBER	66
												NASA	Reetz	NASA	66
												ORNL	Alsmiller	DPR	66
					REQ COM: Measurements at a few angles, one near 0°.										66
					Include low-energy (~50 MeV) protons.										66
					Data on an adjacent element would suffice.										66
					STATUS: None.										72

TABLE 4

REQUESTS DELETED FROM NCSAS 35

NCSAC-35 Number	Target	Reaction	Variable	Priority
	$_1H^1$	Total		I
3	$_1H^1$	$\sigma_{n,\bar{g}}$		II
6	$_2He^3$	Total		I
7	$_2He^3$	Elastic	$\sigma(\theta_n)$	III
10	$_3Li^6$	Total		I
15	$_3Li^6$	$\sigma_{n,\alpha}$ Ratio	wrt B^{10}	I
17	$_3Li^7$	Total		I
47	$_8O^{17}$	$(n,p)N^{17}$	$\beta \rightarrow O^{17*} \rightarrow n$	I
69	$_{16}S^{36}$	$\sigma_{n,2n}$	Act	I
74	$_{20}Ca^{40}$	$\sigma_{n,\alpha}$	Act	III
76	$_{20}Ca^{46}$	$\sigma_{n,2n}$	Act	I
104	$_{26}Fe$	Tot $\bar{g}$ Prod	$\sigma(\theta_{\bar{g}},E_{\bar{g}})$	I
148	$*_{37}Rb^{84}$	$\sigma_{n,p}$		II
149	$_{39}Y^{87}$	$\sigma_{n,2n}$	Act	I
150	$_{39}Y^{87}$	$\sigma_{n,p}$		II
151	$_{39}Y^{88}$	$\sigma_{n,2m}$	Act	I
152	$_{39}Y^{88}$	$\sigma_{n,p}$		II
159	$_{40}Zr^{88}$	$\sigma_{n,2n}$	Act	I
161	$*_{40}Zr^{88}$	$\sigma_{n,p}$		II
162	$_{40}Zr^{89}$	n,2n	Act	I
169	$_{40}Zr^{90}$	n,$\bar{g}$		I
173	$_{40}Zr^{91}$	Total		I
176	$_{40}Zr^{91}$	$\sigma_{n,\bar{g}}$		I
179	$_{40}Zr^{91}$	Res. Par.		I
182	$_{40}Zr^{92}$	Total		I
185	$_{40}Zr^{92}$	$\sigma_{n,\bar{g}}$		I

TABLE 4 (cont.)

NCSAC-35 Number	Target	Reaction	Variable	Priority
189	$_{40}Zr^{94}$	Total		I
192	$_{40}Zr^{94}$	$\sigma_{n,\bar{g}}$		
193	$_{40}Zr^{94}$	Res Int	Capture	II
197	$_{40}Zr^{96}$	Total		I
198	$_{40}Zr^{96}$	$\sigma_{n,\bar{g}}$		I
201	$_{40}Zr^{96}$	Res In	Capture	I
202	$_{40}Zr^{96}$	$\bar{G}_n$ and $\bar{G}_{\bar{g}}$		I
203	$_{41}Nb$	Elastic	$\sigma(\theta_n)$	II
210	$_{41}Nb^{91}$	n,2n	Act	I
212	$*_{41}Nb^{91}$	$\sigma_{n,p}$		II
213	$*_{41}Nb^{92}$	$\sigma_{n,2n}$	Act	I
215	$*_{41}Nb^{92}$	$\sigma_{n,p}$		II
217	$*_{41}Nb^{94}$	$\sigma_{n,\bar{g}}$		I
219	$*_{41}Nb^{95}$	Res Int	Capture	I

NCSAC-35 Number	Target	Reaction	Variable	Priority
242	$_{60}Nd^{146}$	$\sigma_{n,\bar{g}}$		II
249	$_{62}Sm^{147}$	$\sigma_{n,\bar{g}}$		II
252	$*_{62}Sm^{151}$	Total		I
257	$*_{63}Eu^{148}$	$\sigma_{n,2n}$	Act.	II
261	$*_{63}Eu^{150}$	$\sigma_{n,2n}$	Act	II
268	$*_{63}Eu^{154}$	Total		II
271	$*_{63}Eu^{155}$	Total		II
278	$_{64}Gd^{154}$	$\bar{G}_n$ and $\bar{G}_{\bar{g}}$		
288	$_{64}Gd^{158}$	$\sigma_{n,\bar{g}}$		I
289	$_{64}Gd^{158}$	Res Int	Capture	I
290	$_{64}Gd^{158}$	$\bar{G}_n$ and $\bar{G}_{\bar{g}}$		I
291	$_{64}Gd^{160}$	Res Int	Capture	I
292	$_{64}Gd^{160}$	$\bar{G}_n$ and $\bar{G}_{\bar{g}}$		I
295	$_{68}Er^{166}$	$\sigma_{n,\bar{g}}$		I II

Table 4 (cont.)

NCSAC-35 Number	Target	Reaction	Variable	Priority
296	$_{68}Er^{167}$	$\sigma_{n,\bar{g}}$		I
297	$^{*}{}_{69}Tm^{167}$	$\sigma_{n,2n}$	Act	II
299	$^{*}{}_{69}Tm^{168}$	$\sigma_{n,2n}$	Act	II
305	$^{*}{}_{71}Lu^{173}$	$\sigma_{n,2n}$	Act	II
307	$^{*}{}_{71}Lu^{174}$	$\sigma_{n,2n}$	Act	II
342	$_{82}Pb^{206}$	$\sigma_{n,\alpha}$	Act	I
351	$_{90}Th$	Delayd n Y	$P(E_{n'})$	II II
366	$_{92}U^{233}$	Delayd n Y	$P(E_{n'})$	III II
374	$_{92}U^{233}$	Delayd f Y		III
375	$_{92}U^{234}$	Total		II
379	$_{92}U^{234}$	Nu Bar		II
405	$_{92}U^{235}$	Delayd f Y		II
406	$_{92}U^{236}$	Total		I
408	$_{92}U^{236}$	Res Int		II
426	$_{92}U^{238}$	Delayd f Y		II
437	$_{94}U^{238}$	Nu Bar		II
440	$_{94}U^{238}$	$\sigma_{n,\bar{g}}$		II
462	$_{94}U^{239}$	Delayd f Y		II
467	$_{94}Pu^{240}$	Delayd n Y	$P(E_{n'})$	II II II
473	$_{94}Pu^{240}$	Delayd f Y		III
482	$_{94}Pu^{241}$	Delayd $\bar{g}$ Y	$P(E_{\bar{g}},T^{\frac{1}{2}})$	II
483	$_{94}Pu^{241}$	Delayd f Y		III
485	$_{94}Pu^{242}$	$\sigma_{n,f}$		I
491	$_{94}Pu^{242}$	Delayd $\bar{g}$ Y	$P(E_{\bar{g},}T^{\frac{1}{2}})$	II
492	$_{94}Pu^{242}$	$\sigma_{n,p}$		II
493	$_{94}Pu^{242}$	Delayd f Y		III
508	$_{96}Cm^{244}$	Total		II
511	$_{96}Cm^{244}$	Nu Bar		II

SECTION V. TABLE 5.A DBER

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REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY keV	MeV	GeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
630	$_{6}C$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I		~50					25	HASL	O'Brien	DBER	67
631	$_{6}C$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	II		600-	2				25	HASL	O'Brien	DBER	66
637	$_{8}O$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I		~50					25	HASL	O'Brien	DBER	66
638	$_{8}O$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	II		600-	2				25	HASL	O'Brien	DBER	66
639	$_{8}O$	$\sigma_{\bar{a},k\pi^{\pm}y}$	$\sigma(\theta_{\pi},E_{\pi})$	II			1-2				25	HASL	O'Brien	DBER	66
646	$_{13}Al$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I		600-	2				25	HASL	O'Brien	DBER	66
647	$_{13}Al$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I			~10,30				25	HASL	O'Brien	DBER	66
648	$_{13}Al$	$\sigma_{p,kpy}$	$\sigma(\theta_{p},E_{p})$	II		~2000,	~10,30				25	HASL	O'Brien	DBER	66
649	$_{13}Al$	$\sigma_{\bar{a},kny}$	$\sigma(\theta_{n'},E_{n'})$	II		100-	1				25	HASL	O'Brien	DBER	66
653	$_{27}Co$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I		600-	2				25	HASL	O'Brien	DBER	66
654	$_{27}Co$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I			~10,30				25	HASL	O'Brien	DBER	66
655	$_{27}Co$	$\sigma_{p,kpy}$	$\sigma(\theta_{p},E_{p})$	II		~2000,	~10,30				25	HASL	O'Brien	DBER	66
656	$_{83}Bi$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I		600-	2				25	HASL	O'Brien	DBER	66
657	$_{83}Bi$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	II			~10,30				25	HASL	O'Brien	DBER	66
658	$_{83}Bi$	$\sigma_{p,kpy}$	$\sigma(\theta_{p},E_{p})$	II		~2000,	~10,30				25	HASL	O'Brien	DBER	66

SECTION V. TABLE 5.B DCTR

Division of Controlled Thermonuclear Research, Robert L. Hirsch, Director

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USAEC, Washington, D. C. 20545

Contact: William C. Gough

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REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
3	$_1H^2$	$\sigma_{p,n'p}$					3.3-15				<25	ORNL	McNally	DCTR	72
					******	******	******	***	***	***	*****				
6	$_1H^3$	$\sigma_{p,n}$					1.5-15				<25	ORNL	McNally	DCTR	72
7	$_1H^3$	$\sigma_{t,2n}$				10-	10				<25	ORNL	McNally	DCTR	72
9	$_2He^3$	$\sigma_{t,d}$				100-	10				<25	ORNL	McNally	DCTR	72
					******	******	******	***	***	***	*****				
10	$_2He^4$	$\sigma_{d,n'p}$					3.3-15				<25	ORNL	McNally	DCTR	72
13	$_3Li^6$	Elastic	$\sigma(\theta_n)$				~14			15		AEC	Gough	DCTR	71
16	$_3Li^6$	$\sigma_{n,n'd}$					Ths-14			10		AEC	Gough	DCTR	71
17	$_3Li^6$	$\sigma_{n,t}$					3-14		<10			AEC	Gough	DCTR	71
20	$_3Li^6$	$(n,p')Li^{6*}$	$d + \bar{a}$				3-15				<25	ORNL	McNally	DCTR	72
21	$_3Li^6$	$\sigma_{p,\bar{a}}$				100-	15				<25	ORNL	McNally	DCTR	72
22	$_3Li^6$	$\sigma_{d,n}$				100-	5				<25	ORNL	McNally	DCTR	72
23	$_3Li^6$	$\sigma_{d,n}$	$He^3+\bar{a}$			100-	5				<25	ORNL	McNally	DCTR	72
24	$_3Li^6$	$\sigma_{d,p}$				100-	5				<25	ORNL	McNally	DCTR	72
25	$_3Li^6$	$\sigma_{d,p}$	$t + \bar{a}$			100-	5				<25	ORNL	McNally	DCTR	72
26	$_3Li^6$	$(d,d')Li^{6*}$	$d + \bar{a}$				3-6				<25	ORNL	McNally	DCTR	72
27	$_3Li^6$	$\sigma_{d,\bar{a}}$				100-	5				<25	ORNL	McNally	DCTR	72
28	$_3Li^6$	$(t,n)Be^8$	$2\bar{a}$ decay			10-	2				<25	ORNL	McNally	DCTR	72
29	$_3Li^6$	$(t,p)Li^8$	$\bar{b}^- \to 2\bar{a}$			10-	2				<25	ORNL	McNally	DCTR	72
30	$_3Li^6$	$\sigma_{t,d}$				10-	2				<25	ORNL	McNally	DCTR	72
31	$_3Li^6$	$(^3He,n)B^8$	$\bar{b}^+ \to 2\bar{a}$				2-8				<25	ORNL	McNally	DCTR	72
32	$_3Li^6$	$(^3He,p)$	$2\bar{a}$ decay			100-	8				<25	ORNL	McNally	DCTR	72
33	$_3Li^6$	$(^3He,d)$				100-	8				<25	ORNL	McNally	DCTR	72
34	$_3Li^6$	$\sigma_{\bar{a},p}$					3-12				<25	ORNL	McNally	DCTR	72

REQ	TARGET	REACTION TYPE		PRI	INCIDENT ENERGY			PERCENT ACCURACY				REQUESTER			YR
#	* Z A	QUANTITY	VARIABLE	OR.	eV	keV	MeV	1-3	4-9	≤15	>15	LAB	PERSON	ORG	
35	$_3Li^6$	$(\bar{a},\bar{a}')Li^{6*}$	$d + \bar{a}$				3-12				<25	ORNL	McNally	DCTR	72
36	$_3Li^6$	$^6Li + {}^6Li$-	$^7Be+{}^4He+n$			*	*				*	AEC	Gough	DCTR	71
					******	******	******	***	***	***	*****				
37	$_3Li^7$	Elastic	$\sigma(\theta_n)$				~14			15		AEC	Gough	DCTR	71
38	$_3Li^7$	Inelastic	$\sigma(E_{n'})$			Ths-	14			15		AEC	Gough	DCTR	71
41	$_3Li^7$	$\sigma_{n,n't}$					3-14		<10			AEC	Gough	DCTR	71
42	$_3Li^7$	$\sigma_{n,n't}$	$\sigma(\theta_{n'})$				~14			15		AEC	Gough	DCTR	71
49	$_4Be^9$	$\sigma_{p,\bar{a}}$				10-	15				<25	ORNL	McNally	DCTR	72
50	$_4Be^9$	$(p,d)Be^8$	$2\bar{a}$ decay			10-	15				<25	ORNL	McNally	DCTR	72
61	$_6C^{12}$	$\sigma_{n,n'}$ 1st					4.8-14			10		AEC	Gough	DCTR	71
62	$_6C^{12}$	$\sigma_{n,n'3\bar{a}}$					14			10		AEC	Gough	DCTR	71
76	$_9F$	Inelastic					10-14			10		AEC	Gough	DCTR	71
78	$_9F$	$\sigma_{n,\bar{g}}$				1-	1			10		ORNL	Perry	DRDT	66
79	$_9F$	Absorption			Th-	to	14			10		AEC	Gough	DCTR	71
89	$_{13}Al$	$\sigma_{n,2n}$					14			10		AEC	Gough	DCTR	71
90	$_{13}Al$	$\sigma_{n,2n}$	$\sigma(\theta_{n'},E_{n'})$				14			15		AEC	Gough	DCTR	71
91	$_{13}Al$	Inelastic	$\sigma(E_{n'})$			Ths-	14			15		AEC	Gough	DCTR	72
93	$_{13}Al$	$\sigma_{n,\bar{g}}$					14				20	AEC	Gough	DCTR	71
94	$_{13}Al$	$\sigma_{n,p}$					14				20	AEC	Gough	DCTR	71
95	$_{13}Al$	$\sigma_{n,\bar{a}}$					14				20	AEC	Gough	DCTR	71
96	$_{13}Al$	$\sigma_{n,n'}(\bar{g}'S)$				Ths-	14			15		AEC	Gough	DCTR	72
97	$_{13}Al$	Cap Spect	$P(E_{\bar{g}})$	I	Th					10		SNPO	Fleishman	DSNS	69
117	$_{23}V$	$\sigma_{n,2n}$					14			10		AEC	Gough	DCTR	71

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRIOR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
118	$_{23}V$	$\sigma_{n,2n}$	$\sigma(\theta_{n'},E_{n'})$				14			15		AEC	Gough	DCTR	71
120	$_{23}V$	Inelastic	$\sigma(E_{n'})$			Ths-	14			15		AEC	Gough	DCTR	72
121	$_{23}V$	$\sigma_{n,\bar{g}}$					14				20	AEC	Gough	DCTR	71
123	$_{23}V$	$\sigma_{n,p}$					14				20	AEC	Gough	DCTR	71
124	$_{23}V$	$\sigma_{n,\bar{a}}$					14				20	AEC	Gough	DCTR	71
126	$_{23}V$	$\sigma_{n,n'}(\bar{g}'S)$				Ths-	14			15		AEC	Gough	DCTR	72
127	$_{23}V$	Cap Spect	$P(E_{\bar{g}})$		Th-	res.				15		AEC	Gough	DCTR	71
131	$_{24}Cr$	Inelastic	$\sigma(E_{n'})$			Ths-	14			15		AEC	Gough	DCTR	72
132	$_{24}Cr$	$\sigma_{n,2n}$					14			10		AEC	Gough	DCTR	71
133	$_{24}Cr$	$\sigma_{n,2n}$	$\sigma(\theta_{n'},E_{n'})$				14			15		AEC	Gough	DCTR	71
135	$_{24}Cr$	$\sigma_{n,\bar{g}}$					14				20	AEC	Gough	DCTR	71
136	$_{24}Cr$	$\sigma_{n,p}$					14				20	AEC	Gough	DCTR	71
137	$_{24}Cr$	$\sigma_{n,\bar{a}}$					14				20	AEC	Gough	DCTR	71
138	$_{24}Cr$	$\sigma_{n,n'}(\bar{g}'S)$					14				20	AEC	Gough	DCTR	71
139	$_{24}Cr$	Cap Spect	$P(E_{\bar{g}})$		Th-	res.				15		AEC	Gough	DCTR	71
150	$_{26}Fe$	Inelastic	$\sigma(E_{n'})$			Ths-	14			15		AEC	Gough	DCTR	72
151	$_{26}Fe$	$\sigma_{n,2n}$					14			10		AEC	Gough	DCTR	71
152	$_{26}Fe$	$\sigma_{n,2n}$	$\sigma(\theta_{n'},E_{n'})$				14			15		AEC	Gough	DCTR	71
156	$_{26}Fe$	$\sigma_{n,\bar{g}}$					14				20	AEC	Gough	DCTR	71
157	$_{26}Fe$	$\sigma_{n,p}$					14				20	AEC	Gough	DCTR	71
159	$_{26}Fe$	$\sigma_{n,\bar{a}}$					14				20	AEC	Gough	DCTR	71
160	$_{26}Fe$	$\sigma_{n,n'}(\bar{g}'S)$				Ths-	14			15		AEC	Gough	DCTR	72
161	$_{26}Fe$	Cap Spect	$P(E_{\bar{g}})$		Th-	res.				15		AEC	Gough	DCTR	71
184	$_{28}Ni$	Inelastic	$\sigma(E_{n'})$			Ths-	14			15		AEC	Gough	DCTR	72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
185	$_{28}$Ni	$\sigma_{n,2n}$					14			10		AEC	Gough	DCTR	71
186	$_{28}$Ni	$\sigma_{n,2n}$	$\sigma(\theta_{n'},E_{n'})$				14			15		AEC	Gough	DCTR	71
188	$_{28}$Ni	$\sigma_{n,\bar{g}}$					14				20	AEC	Gough	DCTR	71
189	$_{28}$Ni	$\sigma_{n,p}$					14				20	AEC	Gough	DCTR	71
191	$_{28}$Ni	$\sigma_{n,\bar{a}}$					14				20	AEC	Gough	DCTR	71
192	$_{28}$Ni	$\sigma_{n,n'}$(g'S)				Ths-	14			15		AEC	Gough	DCTR	72
193	$_{28}$Ni	Cap Spect	$P(E_{\bar{g}})$		Th-	res.				15		AEC	Gough	DCTR	71
201	$_{29}$Cu	Inelastic	$\sigma(E_{n'})$			Ths-	14			15		AEC	Gough	DCTR	72
202	$_{29}$Cu	$\sigma_{n,2n}$					14			10		AEC	Gough	DCTR	71
203	$_{29}$Cu	$\sigma_{n,2n}$	$\sigma(\theta_{n'},E_{n'})$				14			15		AEC	Gough	DCTR	71
204	$_{29}$Cu	$\sigma_{n,\bar{g}}$					14				20	AEC	Gough	DCTR	71
205	$_{29}$Cu	$\sigma_{n,p}$					14				20	AEC	Gough	DCTR	71
206	$_{29}$Cu	$\sigma_{n,\bar{a}}$					14				20	AEC	Gough	DCTR	71
207	$_{29}$Cu	$\sigma_{n,n'}$(g'S)				Ths-	14			15		AEC	Gough	DCTR	72
208	$_{29}$Cu	Cap Spect	$P(E_{\bar{g}})$		Th-	res.				15		AEC	Gough	DCTR	71
228	$_{40}$Zr	Inelastic	$\sigma(E_{n'})$			Ths-	14			15		AEC	Gough	DCTR	72
229	$_{40}$Zr	$\sigma_{n,2n}$					14			10		AEC	Gough	DCTR	71
230	$_{40}$Zr	$\sigma_{n,2n}$	$\sigma(\theta_{n'},E_{n'})$				14			15		AEC	Gough	DCTR	71
233	$_{40}$Zr	$\sigma_{n,\bar{g}}$					14				20	AEC	Gough	DCTR	71
235	$_{40}$Zr	$\sigma_{n,p}$					14				20	AEC	Gough	DCTR	71
236	$_{40}$Zr	$\sigma_{n,\bar{a}}$					14				20	AEC	Gough	DCTR	71
238	$_{40}$Zr	$\sigma_{n,n'}$(g'S)				Ths-	14			15		AEC	Gough	DCTR	72
239	$_{40}$Zr	Cap Spect	$P(E_{\bar{g}})$		Th-	res.				15		AEC	Gough	DCTR	71
270	$_{41}$Nb	Inelastic	$\sigma(E_{n'})$			Ths-	14			15		AEC	Gough	DCTR	72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
273	41 Nb	$\sigma_{n,2n}$					14			10		AEC	Gough	DCTR	71
274	41 Nb	$\sigma_{n,2n}$	$\sigma(\theta_{n'},E_{n'})$				14			15		AEC	Gough	DCTR	71
277	41 Nb	$\sigma_{n,\bar{g}}$					14				20	AEC	Gough	DCTR	71
278	41 Nb	$\sigma_{n,p}$					14				20	AEC	Gough	DCTR	71
279	41 Nb	$\sigma_{n,\bar{a}}$					14				20	AEC	Gough	DCTR	71
281	41 Nb	$\sigma_{n,n'}(\bar{g}'S)$				Ths-	14			15		AEC	Gough	DCTR	72
282	41 Nb	Cap Spect	$P(E_{\bar{g}})$		Th-	res,				15		AEC	Gough	DCTR	71
284	41 Nb	Tot $\bar{g}$ Prod	$\sigma(E_{\bar{g}})$		Th-	to	14			15		AEC	Gough	DCTR	71
290	42 Mo	Inelastic	$\sigma(E_{n'})$			Ths-	14			15		AEC	Gough	DCTR	72
291	42 Mo	$\sigma_{n,2n}$					14			10		AEC	Gough	DCTR	71
292	42 Mo	$\sigma_{n,2n}$	$\sigma(\theta_{n'},E_{n'})$				14			15		AEC	Gough	DCTR	71
295	42 Mo	$\sigma_{n,\bar{g}}$					14				20	AEC	Gough	DCTR	71
296	42 Mo	$\sigma_{n,p}$					14				20	AEC	Gough	DCTR	71
297	42 Mo	$\sigma_{n,\bar{a}}$					14				20	AEC	Gough	DCTR	71
299	42 Mo	$\sigma_{n,n'}(\bar{g}'S)$				Thr-	14			15		AEC	Gough	DCTR	71
300	42 Mo	Cap Spect	$P(E_{\bar{g}})$		Th-	res,				15		AEC	Gough	DCTR	71
301	42 Mo	Tot $\bar{g}$ Prod	$\sigma(E_{\bar{g}})$		Th-	to	14			15		AEC	Gough	DCTR	71

SECTION V. TABLE 5.C DMA

Division of Military Application, Maj. Gen. Frank A. Camm, Asst. Gen Man. for Military Application

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USAEC, Washington, D. C. 20545

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
4	${}_1H^3$	Elastic	$\sigma(\theta_n)$	II			14			10		LASL	Motz	DMA	65
5	${}_1H^3$	$\sigma_{n,2n}$		III			12.5			10		LASL	Motz	DMA	65
8	${}_2He^3$	$\sigma_{n,p}$		II		10-	3	1				GGA	Nordheim	DRDT	69
14	${}_3Li^6$	Emission	$\sigma(\theta_{n'},E_{n'})$	I			8-14			≤10		LASL	Motz	DMA	65
15	${}_3Li^6$	$\sigma_{n,2n}$		I			8-16		5			LASL	Motz	DMA	66
18	${}_3Li^6$	$\sigma_{n,\bar{a}}$		I		1-	3	1				ANL	Avery	DRDT	69
39	${}_3Li^7$	Emission	$\sigma(\theta_{n'},E_{n'})$	I			5-16			10		LASL	Motz	DMA	63
40	${}_3Li^7$	$\sigma_{n,2n}$		I			8-16		5			LASL	Motz	DMA	65
44	${}_4Be$	Elastic	$\sigma(\theta_n)$	I			7-20			10		LLL	Howerton	DMA	62
48	* ${}_4Be^7$	$\sigma_{n,p}$		II	Th-	to	15				50	LLL	Howerton	DMA	69
53	${}_5B^{10}$	$\sigma_{n,\bar{a}}$		I		1-	10	1-	5			ANL	Avery	DRDT	69
56	${}_6C$	Elastic	$\sigma(\theta_n)$	II			6-15		5			AFWL	Enz	DNA	69
58	${}_6C$	Emission	$\sigma(\theta_{n'},E_{n'})$	II			8-15			10		AFWL	Enz	DNA	69
59	${}_6C$	Tot $\bar{g}$ Prod	$\sigma(\theta_{\bar{g}},E_{\bar{g}})$	III			6-16			<10		LASL	Biggers	DMA	65
64	${}_7N$	Elastic	$\sigma(\theta_n)$	I			7-15		5			AC	Greenhow	DNA	69
66	${}_7N$	Emission	$\sigma(\theta_{n'},E_{n'})$	I			7-15			10		AC	Greenhow	DNA	69
67	${}_7N$	Absorption		I			1-15		5			AC	Greenhow	DNA	66
68	${}_7N$	Tot $\bar{g}$ Prod	$\sigma(\theta_{\bar{g}},E_{\bar{g}})$	I			8-15			10		AC	Greenhow	DNA	69
69	${}_8O$	Elastic	$\sigma(\theta_n)$	II		10-	1		5			IRT	Preskitt	DRDT	69

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
71	$_8O$	Absorption		I			10-15		5			AFWL	Enz	DNA	66
72	$_8O$	Tot $\bar{g}$ Prod	$\sigma(\theta_{\bar{g}},E_{\bar{g}})$	I			10-15			10		LASL	Biggers	DMA	62
75	$_9F$	Elastic	$\sigma(\theta_n)$	I			3-20			10		LLL	Howerton	DMA	69
77	$_9F$	Emission	$\sigma(E_{n'})$	I		500-	20			10		LLL	Howerton	DNA	69
80	$_9F$	$\sigma_{n,\bar{a}}$		I			9-14			10		LLL	Howerton	DMA	69
88	$_{13}Al$	Elastic	$\sigma(\theta_n)$	I			8-16		5			LASL	Biggers	DMA	66
102	$_{14}Si^{30}$	$\sigma_{n,\bar{g}}$	Act	III	.025	to	15				30	LLL	Howerton	DMA	69
103	$_{16}S^{34}$	$\sigma_{n,\bar{g}}$	Act	I	.025	to	15				30	LLL	Howerton	DMA	69
104	$_{19}K^{41}$	$\sigma_{n,\bar{g}}$	Act	II	.025	to	15				30	LLL	Howerton	DMA	69
108	$_{20}Ca^{44}$	$\sigma_{n,\bar{g}}$	Act	I	.025	to	15				30	LLL	Howerton	DMA	69
144	$_{25}Mn^{55}$	$\sigma_{n,\bar{g}}$		II	Th-	1				10		LLL	Howerton	DNA	66
148	$_{26}Fe$	Elastic	$\sigma(\theta_n)$	I			8-16		5			LASL	Biggers	DMA	66
153	$_{26}Fe$	Emission	$\sigma(E_{n'})$	I			5-15				20	LLL	Howerton	DNA	70
154	$_{26}Fe$	Emission	$\sigma(\theta_{n'},E_{n'})$	I			7-15			10		AFWL	Enz	DNA	69
165	$_{26}Fe$	Tot $\bar{g}$ Prod	$\sigma(\theta_{\bar{g}},E_{\bar{g}})$	II			8-15			10		GDFW	Western	DNA	69
					******	******	******	***	***	***	*****				
169	$_{26}Fe^{54}$	$\sigma_{n,\bar{g}}$	Act	II	.025-	to	15				30	LLL	Howerton	DMA	69
					******	******	******	***	***	***	*****				
171	$_{26}Fe^{56}$	$\sigma_{n,2n}$	Act.	II			Ths-15				30	LLL	Howerton	DMA	69

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	PERCENT ACCURACY 4-9	PERCENT ACCURACY ≤15	PERCENT ACCURACY >15	REQUESTER LAB	REQUESTER PERSON	REQUESTER ORG	YR
173	$_{26}Fe^{58}$	$\sigma_{n,\gamma}$	Act	II	.025	to	15				30	LLL	Howerton	DMA	69
176	$_{27}Co$	$\sigma_{n,\gamma}$	Act	I	.025	to	15				30	LLL	Howerton	DMA	69
211	$_{29}Cu^{63}$	$\sigma_{n,\gamma}$	Act	III	.025	to	15				30	LLL	Howerton	DMA	69
213	$_{29}Cu^{65}$	$\sigma_{n,2n}$	Act.	III			Ths-15				30	LLL	Howerton	DMA	69
217	$_{30}Zn^{64}$	$\sigma_{n,\gamma}$	Act	I	.025	to	15				30	LLL	Howerton	DMA	69
218	$_{30}Zn^{66}$	$\sigma_{n,2n}$	Act.	I			Ths-15				30	LLL	Howerton	DMA	72
225	* $_{37}Rb^{83}$	$\sigma_{n,\gamma}$		I		.1-300					50	LLL	Howerton	DMA	69
226	* $_{37}Rb^{84}$	$\sigma_{n,\gamma}$		I		.1-300					50	LLL	Howerton	DMA	69
241	* $_{40}Zr^{88}$	$\sigma_{n,\gamma}$		I		.1-300					50	LLL	Howerton	DMA	69
242	* $_{40}Zr^{89}$	$\sigma_{n,\gamma}$		I		.1-300					50	LLL	Howerton	DMA	69
271	$_{41}Nb$	$\sigma_{n,n'}$	Isom State	I		Ths-	15				20	LLL	Howerton	DMA	69
275	$_{41}Nb$	$\sigma_{n,2n}$	Act.	I			Ths-15		≤5			LLL	Howerton	DMA	70
285	* $_{41}Nb^{91}$	$\sigma_{n,\gamma}$		I		.1-300					50	LLL	Howerton	DMA	69
286	* $_{41}Nb^{92}$	$\sigma_{n,\gamma}$		I		.1-300					50	LLL	Howerton	DMA	69
287	* $_{41}Nb^{93}$	$\sigma_{n,\gamma}$		I		.1-300					50	LLL	Howerton	DMA	69

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	PERCENT ACCURACY 4-9	PERCENT ACCURACY ≤15	PERCENT ACCURACY >15	REQUESTER LAB	REQUESTER PERSON	REQUESTER ORG	YR
330	$_{63}Eu$	$\sigma_{n,g}$		II	100-	200				10		LASL	Motz	DMA	66
331	$_{63}Eu$	Tot g Prod	$\sigma(E_g)$	III		1-	15				*	LASL	Motz	DMA	66
332	* $_{63}Eu^{148}$	$\sigma_{n,g}$		I		.1-300					50	LLL	Howerton	DMA	69
333	* $_{63}Eu^{149}$	$\sigma_{n,g}$		I		.1-300					50	LLL	Howerton	DMA	69
334	* $_{63}Eu^{150}$	$\sigma_{n,g}$		I		.1-300					50	LLL	Howerton	DMA	69
335	$_{63}Eu^{151}$	$\sigma_{n,2n}$	Act.	I			14			15		LLL	Howerton	DMA	69
337	$_{63}Eu^{151}$	$\sigma_{n,g}$		I		.1-300					20	LLL	Howerton	DMA	69
338	* $_{63}Eu^{152}$	$\sigma_{n,g}$		I		.1-300					30	LASL	Bell	DMA	70
341	* $_{63}Eu^{154}$	$\sigma_{n,g}$		I		.1-300					30	LASL	Bell	DMA	70
345	$_{64}Gd$	$\sigma_{n,g}$		II	100-	200				10		LASL	Motz	DMA	66
346	$_{64}Gd$	Tot g Prod	$\sigma(E_g)$	III		1-	15				*	LASL	Motz	DMA	66
357	$_{66}Dy$	$\sigma_{n,g}$		II	100-	200				10		LASL	Motz	DMA	66
358	$_{66}Dy$	Tot g Prod	$\sigma(E_g)$	III		1-	15				*	LASL	Motz	DMA	66
359	* $_{69}Tm^{167}$	$\sigma_{n,g}$		I		.1-300					50	LLL	Howerton	DMA	69
360	* $_{69}Tm^{168}$	$\sigma_{n,g}$		I		.1-300					50	LLL	Howerton	DMA	69
361	$_{69}Tm$	$\sigma_{n,2n}$	Act.	I			Ths-15		≤5			LLL	Howerton	DMA	70

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRIOR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
365	* $_{71}Lu^{173}$	$\sigma_{n,\bar{g}}$		I		.1-300					50	LLL	Howerton	DMA	69
366	* $_{71}Lu^{174}$	$\sigma_{n,\bar{g}}$		I		.1-300					50	LLL	Howerton	DMA	69
367	$_{71}Lu^{175}$	$\sigma_{n,2n}$	Act.	I			Ths-15		≤5			LLL	Howerton	DMA	70
368	$_{71}Lu^{175}$	$\sigma_{n,\bar{g}}$		I		1.-300					20	LLL	Howerton	DMA	69
384	$_{74}W^{180}$	$\sigma_{n,\bar{g}}$	Act	I	.025-	to	15				30	LLL	Howerton	DMA	69
385	$_{74}W^{182}$	$\sigma_{n,2n}$	Act.	I			Ths-15				30	LLL	Howerton	DMA	69
389	$_{74}W^{184}$	$\sigma_{n,\bar{g}}$	Act	I	.025-	100					30	LLL	Howerton	DMA	69
390	$_{74}W^{186}$	$\sigma_{n,2n}$	Act.	I			Ths-15				30	LLL	Howerton	DMA	69
394	$_{79}Au$	$\sigma_{n,\bar{g}}$		II	.5	1*		1				BET	Bayard	DNR	67
399	$_{82}Pb^{204}$	$\sigma_{n,n'}$	Isom State	I			Ths-15				30	LLL	Howerton	DMA	69
400	$_{82}Pb^{208}$	$\sigma_{n,\bar{g}}$	Act	II	.025	to	15				30	LLL	Howerton	DMA	69
412	$_{92}U^{233}$	Emission	$\sigma(E_{n'})$	I			5-15				20	LLL	Howerton	DMA	70
413	$_{92}U^{233}$	$\sigma_{n,2n}$		II			Ths-15			10		LASL	Barr	DMA	67
416	$_{92}U^{233}$	Fis Ratio	wrt U^{235}	I		10-	15	1				LASL	Hansen	DMA	67
421	$_{92}U^{233}$	Nu Bar	Prompt	I			7-20	3				LLL	Howerton	DMA	62
429	$_{92}U^{234}$	$\sigma_{n,2n}$	Act.	I			Ths-15		≤5			LLL	Howerton	DMA	70

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
430	$_{92}U^{234}$	$\sigma_{n,3n}$		II			Ths-15				20	LASL	Barr	DMA	67
432	$_{92}U^{234}$	Nu Bar	Prompt	I		500-	20	3				LLL	Howerton	DMA	62
					******	******	******	***	***	***	*****				
433	$_{92}U^{235}$	Elastic	$\sigma(\theta_n)$	II			1-5				20	ANL	Avery	DRDT	69
434	$_{92}U^{235}$	Inelastic	$\sigma(E_{n'})$	II		50-	6			10		ANL	Avery	DRDT	69
435	$_{92}U^{235}$	Emission	$\sigma(E_{n'})$	I			5-15				20	LLL	Howerton	DMA	70
436	$_{92}U^{235}$	Emission	$\sigma(\theta_{n'},E_{n'})$	I			6-20		5			LLL	Howerton	DMA	62
437	$_{92}U^{235}$	$\sigma_{n,2n}$	Act.	I			Ths-15		≤5			LLL	Howerton	DMA	70
438	$_{92}U^{235}$	$\sigma_{n,3n}$		II			Ths-16			10		LASL	Barr	DMA	67
442	$_{92}U^{235}$	$\sigma_{n,f}$		I		10-	15	1				LASL	Hansen	DMA	66
					******	******	******	***	***	***	*****				
459	$_{92}U^{236}$	Nu Bar	Prompt	I		500-	14	3				LLL	Howerton	DMA	62
					******	******	******	***	***	***	*****				
463	* $_{92}U^{237}$	$\sigma_{n,f}$		II	100-		16			10		LASL	Barr	DMA	67
464	* $_{92}U^{237}$	Destruct	of Target	I		1-	15			10		LLL	Howerton	DMA	70
					******	******	******	***	***	***	*****				
467	$_{92}U^{238}$	Emission	$\sigma(E_{n'})$	I			5-15				20	LLL	Howerton	DMA	70
469	$_{92}U^{238}$	$\sigma_{n,3n}$		II			Ths-15				20	LLL	Howerton	DMA	69
470	$_{92}U^{238}$	Fis Ratio	wrt U^{235}	I		500-	15	1-	5			LASL	Hansen	DMA	67
476	$_{92}U^{238}$	$\sigma_{n,\gamma}$		I	Th-	to	15			10		LLL	Howerton	DMA	69
481	$_{93}Np^{237}$	$\sigma_{n,2n}$		II			Ths-15			10		SRL	Dessauer	DPMM	67
483	$_{93}Np^{237}$	Fis Ratio	wrt U^{235}	III	20-	50				10		LASL	Hansen	DMA	66
486	$_{94}Pu^{238}$	$\sigma_{n,2n}$		I			Ths-15			15		LLL	Howerton	DMA	69
487	$_{94}Pu^{238}$	$\sigma_{n,3n}$		I			14				50	LLL	Howerton	DMA	69
489	$_{94}Pu^{238}$	Fis Ratio	wrt U^{235}	I		10-	5	3				LASL	Hansen	DMA	66

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
490	$_{94}Pu^{238}$	Nu Bar	Prompt	I		10-	15	3				LLL	Howerton	DMA	62
492	$_{94}Pu^{238}$	$\sigma_{n,\bar{g}}$		I		.1-300					50	LLL	Howerton	DMA	69
493	$_{94}Pu^{238}$	$\sigma_{n,p}$		II		to	15				50	LLL	Howerton	DMA	69
494	$_{94}Pu^{238}$	Destruct	of Target	I		1-	1		5			LASL	Motz	DMA	66
					******	******	******	***	***	***	*****				
495	$_{94}Pu^{239}$	Elastic	$\sigma(\theta_n)$	II			1-3			10		ANL	Avery	DRDT	69
497	$_{94}Pu^{239}$	Emission	$\sigma(E_{n'})$	I			5-15				20	LLL	Howerton	DMA	70
498	$_{94}Pu^{239}$	$\sigma_{n,2n}$		I			Ths-15			10		LASL	Barr	DMA	67
499	$_{94}Pu^{239}$	$\sigma_{n,3n}$		II			Ths-15				20	LASL	Barr	DMA	67
502	$_{94}Pu^{239}$	Fis Ratio	wrt U^{235}	I		10-	14	2				LMFB	Hemmig-AEC	DRDT	72
					******	******	******	***	***	***	*****				
518	$_{94}Pu^{240}$	Fis Ratio	wrt U^{235}	III		1-100			5			ACRP	Hannum	DRDT	72
523	$_{94}Pu^{240}$	Alpha		II		150-	7			10		LLL	Howerton	DMA	62
					******	******	******	***	***	***	*****				
527	$_{94}Pu^{241}$	Fis Ratio	wrt U^{235}	II		10-	15	1				LASL	Hansen	DMA	66
529	$_{94}Pu^{241}$	Nu Bar	Prompt	II		500-	14	3				LLL	Howerton	DMA	62
					******	******	******	***	***	***	*****				
534	$_{94}Pu^{242}$	$\sigma_{n,2n}$		I			Ths-15			15		LLL	Howerton	DMA	69
536	$_{94}Pu^{242}$	Nu Bar	Prompt	II		500-	14	3				LLL	Howerton	DMA	62
539	$_{94}Pu^{242}$	$\sigma_{n,\bar{g}}$	Act	I		.1-300					50	LLL	Howerton	DMA	69
540	$_{94}Pu^{242}$	$\sigma_{n,p}$		II			14				20	LASL	Bell	DMA	67
542	$_{95}Am^{241}$	$\sigma_{n,2n}$		I			Ths-15			15		LLL	Howerton	DMA	69
543	$_{95}Am^{241}$	$\sigma_{n,\bar{g}}$		I	Th-	1				10		SRL	Dessauer	DPMM	67
544	$_{95}Am^{241}$	$\sigma_{n,\bar{g}}$		I		.1-300					50	LLL	Howerton	DMA	69
					******	******	******	***	***	***	*****				
547	$_{95}Am^{242}$	$\sigma_{n,\bar{g}}$		II	Th	to	10			15		GE	Hutchins	DRDT	72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRIOR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	PERCENT ACCURACY 4-9	PERCENT ACCURACY ≤15	PERCENT ACCURACY >15	REQUESTER LAB	REQUESTER PERSON	REQUESTER ORG	YR
553	$_{96}Cm^{243}$	$\sigma_{n,f}$		II	Th-	10				10		SRL	Dessauer	DPMM	67
555	$_{96}Cm^{244}$	$\sigma_{n,2n}$		I			Ths-15			15		LLL	Howerton	DMA	69
556	$_{96}Cm^{244}$	$\sigma_{n,f}$		I		10-100				10		LASL	Cowan	DMA	69
558	$_{96}Cm^{244}$	$\sigma_{n,\gamma}$		I		.1-300					50	LLL	Howerton	DMA	69
560	$_{96}Cm^{245}$	$\sigma_{n,f}$		I	Th-	10				10		SRL	Dessauer	DPMM	67
563	$_{96}Cm^{246}$	$\sigma_{n,f}$		I		10-100				10		LASL	Cowan	DMA	69
566	$_{96}Cm^{247}$	$\sigma_{n,f}$		I	Th-	10			5-	10		SRL	Dessauer	DPMM	67
569	$_{96}Cm^{248}$	$\sigma_{n,\gamma}$		I		10-100				10		LASL	Cowan	DMA	69
573	$_{98}Cf^{249}$	$\sigma_{n,f}$		I		10-100				10		LASL	Cowan	DMA	69
575	$_{98}Cf^{250}$	$\sigma_{n,f}$		I	Th-	10				10		SRL	Dessauer	DPMM	67
578	$_{98}Cf^{252}$	$\sigma_{n,f}$		I		10-100			10			LASL	Cowan	DMA	69
584	* $_{99}Es^{253}$	$\sigma_{n,f}$		I		10-100				10		LASL	Cowan	DMA	69
585	* $_{99}Es^{254}$	Alpha		II	Th-	20					20	LASL	Bell	DMA	67
586	* $_{100}Fm^{255}$	$\sigma_{n,f}$		I		10-100				10		LASL	Cowan	DMA	69
587	* $_{100}Fm^{257}$	$\sigma_{n,f}$		I		10-100				10		LASL	Cowan	DMA	69

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Defense Nuclear Agency		(Capt. Dean Kaul) Radiation Transport Project Officer Phone: 202-694-5395

REQ #	TARGET Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	PERCENT ACCURACY 4-9	PERCENT ACCURACY ≤15	PERCENT ACCURACY >15	REQUESTER LAB	REQUESTER PERSON	REQUESTER ORG	YR
56	$_{6}C$	Elastic	$\sigma(\theta_n)$	II			6-15		5			AFWL	Enz	DNA	69
58	$_{6}C$	Emission	$\sigma(\theta_{n'},E_{n'})$	II			8-15			10		AFWL	Enz	DNA	69
59	$_{6}C$	Tot γ Prod	$\sigma(\theta_\gamma,E_\gamma)$	III			6-16			<10		LASL	Biggers	DMA	65
60	$_{6}C$	Absorption		II			10-15		5			AFWL	Enz	DNA	69
64	$_{7}N$	Elastic	$\sigma(\theta_n)$	I			7-15		5			AC	Greenhow	DNA	69
65	$_{7}N$	Elastic	$\sigma(\theta_n)$	I			7-15		5			NEL	Eccleshall	DNA	69
66	$_{7}N$	Emission	$\sigma(\theta_{n'},E_{n'})$	I			7-15			10		AC	Greenhow	DNA	69
67	$_{7}N$	Absorption		I			1-15		5			AC	Greenhow	DNA	66
68	$_{7}N$	Tot γ Prod	$\sigma(\theta_\gamma,E_\gamma)$	I			8-15			10		AC	Greenhow	DNA	69
69	$_{8}O$	Elastic	$\sigma(\theta_n)$	II		10-	1		5			IRT	Preskitt	DRDT	69
70	$_{8}O$	Emission	$\sigma(\theta_{n'},E_{n'})$	I			8-15			10		AFWL	Enz	DNA	69
71	$_{8}O$	Absorption		I			10-15		5			AFWL	Enz	DNA	66
72	$_{8}O$	Tot γ Prod	$\sigma(\theta_\gamma,E_\gamma)$	I			10-15			10		LASL	Biggers	DMA	62
82	$_{11}Na$	Elastic	$\sigma(\theta_n)$	II			8-15		5			NEL	Eccleshall	DNA	69
84	$_{11}Na$	Emission	$\sigma(\theta_{n'},E_{n'})$	II			4-15			10		NEL	Eccleshall	DNA	69
88	$_{13}Al$	Elastic	$\sigma(\theta_n)$	I			8-16		5			LASL	Biggers	DMA	66
92	$_{13}Al$	Emission	$\sigma(\theta_{n'},E_{n'})$	I			8-15			10		AFWL	Enz	DNA	69
99	$_{13}Al$	$\sigma_{n,p}$	Act	III			5-11,9			10		NEL	Eccleshall	DNA	69
100	$_{14}Si$	Elastic	$\sigma(\theta_n)$	II			8-15			10		NEL	Eccleshall	DNA	69
101	$_{14}Si$	Emission	$\sigma(\theta_{n'},E_{n'})$	II			8-15			10		NEL	Eccleshall	DNA	69
105	$_{20}Ca$	Elastic	$\sigma(\theta_n)$	II			8-15			10		NEL	Eccleshall	DNA	69

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
106	$_{20}Ca$	Emission	$\sigma(\theta_{n'},E_{n'})$	II			8-15			10		NEL	Ecclesha11	DNA	69
107	$_{20}Ca$	Tot γ Prod	$\sigma(\theta_{\gamma},E_{\gamma})$	II			5-15			10		NEL	Ecclesha11	DNA	69
112	$_{22}Ti$	Tot γ Prod	$\sigma(\theta_{\gamma},E_{\gamma})$	III			4-14				20	GDFW	Western	DNA	63
					******	******	******	***	***	***	*****				
113	$_{22}Ti^{46}$	$\sigma_{n,p}$	Act	II			1-18			10		HEDL	McElroy	DRDT	69
					******	******	******	***	***	***	*****				
114	$_{22}Ti^{47}$	$\sigma_{n,p}$	Act	II			>1			10		HEDL	McElroy	DRDT	69
					******	******	******	***	***	***	*****				
115	$_{22}Ti^{48}$	$\sigma_{n,p}$	Act	II			>1			10		HEDL	McElroy	DRDT	69
122	$_{23}V$	$\sigma_{n,\gamma}$	Act	II	Th				5			AFIT	Dooley	DNA	62
141	$_{24}Cr$	Tot γ Prod	$\sigma(E_{\gamma})$	I	500-	20				15*		SNPO	Fleishman	DSNS	69
145	$_{25}Mn$	Tot γ Prod	$\sigma(E_{\gamma})$	I	300-	120				15*		SNPO	Fleishman	DSNS	69
154	$_{26}Fe$	Emission	$\sigma(\theta_{n'},E_{n'})$	I			7-15			10		AFWL	Enz	DNA	69
165	$_{26}Fe$	Tot γ Prod	$\sigma(\theta_{\gamma},E_{\gamma})$	II			8-15			10		GDFW	Western	DNA	69
					******	******	******	***	***	***	*****				
170	$_{26}Fe^{54}$	$\sigma_{n,p}$	Act	III			1-18			15		BET	Bayard	DNR	72
177	$_{27}Co$	Tot γ Prod	$\sigma(E_{\gamma})$	I	100-	100				15*		SNPO	Fleishman	DSNS	69
196	$_{28}Ni$	Tot γ Prod	$\sigma(E_{\gamma})$	II		12-340				15*		SNPO	Fleishman	DSNS	69
					******	******	******	***	***	***	*****				
198	$_{28}Ni^{58}$	$\sigma_{n,p}$	Act	III			9.4-14			10		NEL	Ecclesha11	DNA	69

REQ #	TARGET # Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
199	$_{28}Ni^{60}$	$\sigma_{n,p}$	Act	III			2-12.5			10		NEL	Eccleshall	DNA	69
209	$_{29}Cu$	Tot γ Prod	$\sigma(E_\gamma)$	II	200-	50				15*		SNPO	Fleishman	DSNS	69
216	$_{30}Zn$	Tot γ Prod	$\sigma(E_\gamma)$	I	200-	25				15*		SNPO	Fleishman	DSNS	69
219	$_{32}Ge$	Emission	$\sigma(\theta_{n'},E_{n'})$	II			1-15			10		NEL	Eccleshall	DNA	69
220	$_{32}Ge$	Tot γ Prod	$\sigma(\theta_\gamma,E_\gamma)$	II			1-15			10		NEL	Eccleshall	DNA	69
221	$_{33}As$	Elastic	$\sigma(\theta_n)$	II	Th	to	14			15		IRT	Russell	DNA	69
222	$_{33}As$	Emission	$\sigma(\theta_{n'})$	II		Th-	14			15		IRT	Russell	DNA	69
240	$_{40}Zr$	Tot γ Prod	$\sigma(E_\gamma)$	II	100-	20				15*		SNPO	Fleishman	DSNS	69
283	$_{41}Nb$	Tot γ Prod	$\sigma(E_\gamma)$	II	30-	75				15*		SNPO	Fleishman	DSNS	69
302	$_{42}Mo$	Tot γ Prod	$\sigma(E_\gamma)$	I	10-	9				15*		SNPO	Fleishman	DSNS	69
381	$_{74}W$	Emission	$\sigma(\theta_{n'},E_{n'})$	I			4-14			10		AFWL	Enz	DNA	69
382	$_{74}W$	Tot γ Prod	$\sigma(E_\gamma)$	I	2-	2.5				15*		SNPO	Fleishman	DSNS	69
396	$_{82}Pb$	Emission	$\sigma(\theta_{n'},E_{n'})$	II			3-15			10		NEL	Eccleshall	DNA	69
397	$_{82}Pb$	Tot γ Prod	$\sigma(E_\gamma)$	II			8-15			10		NEL	Eccleshall	DNA	69
406	$_{90}Th$	Tot γ Prod	$\sigma(E_\gamma)$	II		500	-15			10		AFWL	Enz	DNA	69

SECTION V. TABLE 5.E DNMS

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REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
47	$_{4}Be$	(n,p)Li^{9}	β^-- Be^{9*}-n	II			14			10		LASL	Walton	DNMS	70
408	$_{90}Th$	Delayd $\bar{\gamma}$ Y	$P(E_{\bar{\gamma}},T^{1/2})$	II			2,14				35	BNL	Kouts	DNMS	69
424	$_{92}U^{233}$	Delayd $\bar{\gamma}$ Y	$P(E_{\bar{\gamma}},T^{1/2})$	I			2,14				35	BNL	Kouts	DNMS	69
449	$_{92}U^{235}$	Fis $\bar{\gamma}$ Y	$P(E_{\bar{\gamma}})$	II	Th					15		LASL	Walton	DNMS	70
451	$_{92}U^{235}$	Delayd n Y		II			5-14		5			LASL	Walton	DNMS	70
453	$_{92}U^{235}$	Delayd $\bar{\gamma}$ Y	$P(E_{\bar{\gamma}},T^{1/2})$	I			2,14				35	BNL	Kouts	DNMS	69
460	$_{92}U^{236}$	Fis Spect	$P(E_{n'})$	II			*			10		LASL	Walton	DNMS	70
461	$_{92}U^{236}$	Delayd n Y		I			3,14			10		LASL	Walton	DNMS	70
473	$_{92}U^{238}$	Delayd n Y		II			5-14		5			LASL	Walton	DNMS	70
479	$_{92}U^{238}$	Delayd $\bar{\gamma}$ Y	$P(E_{\bar{\gamma}},T^{1/2})$	II			2,14				35	BNL	Kouts	DNMS	69
505	$_{94}Pu^{239}$	Delayd n Y		II			3-14			10		LASL	Walton	DNMS	70
508	$_{94}Pu^{239}$	Delayd $\bar{\gamma}$ Y	$P(E_{\bar{\gamma}},T^{1/2})$	I			2,14				35	BNL	Kouts	DNMS	69
509	$_{94}Pu^{239}$	Fis $\bar{\gamma}$ Y	$P(E_{\bar{\gamma}})$	II	Th					15		LASL	Walton	DNMS	70
510	$_{94}Pu^{239}$	Cap Spect	$P(E_{\bar{\gamma}})$	III	Th-100						20	LASL	Walton	DNMS	70
520	$_{94}Pu^{240}$	Delayd n Y		II		750-	14				20	LASL	Walton	DNMS	70
525	$_{94}Pu^{240}$	Delayd $\bar{\gamma}$ Y	$P(E_{\bar{\gamma}},T^{1/2})$	II			2,14				35	BNL	Kouts	DNMS	69
533	$_{94}Pu^{241}$	Delayd n Y		III	Th	to	14			10		LASL	Walton	DNMS	70
537	$_{94}Pu^{242}$	Delayd n Y		III			3,14				20	LASL	Walton	DNMS	70

REQ #	TARGET Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	PERCENT ACCURACY 4-9	PERCENT ACCURACY ≤15	PERCENT ACCURACY >15	REQUESTER LAB	REQUESTER PERSON	REQUESTER ORG	YR
588	$_{1}H^{2}$	$\bar{\nu}$,n	Total n Y	I			Ths-10			10		IRT	Bramblett	DNMS	70
589	$_{3}Li^{6}$	$\bar{\nu}$,n	Total n Y	III			Ths-10				20	IRT	Bramblett	DNMS	72
590	$_{4}Be$	$\bar{\nu}$,n	Total n Y	II			Ths-10				20	IRT	Bramblett	DNMS	72
591	$_{6}C^{13}$	$\bar{\nu}$,n	Total n Y	II			Ths-10				20	IRT	Bramblett	DNMS	72
592	$_{8}O^{17}$	$\bar{\nu}$,n	Total n Y	II			Ths-10				20	IRT	Bramblett	DNMS	72
593	$_{90}Th^{232}$	$\bar{\nu}$,n	Total n Y	II			Ths-10			10		IRT	Bramblett	DNMS	72
594	$_{90}Th^{232}$	$\bar{\nu}$,n	Delayd n Y	I			Ths-10			10		IRT	Bramblett	DNMS	72
595	$_{90}Th^{232}$	$\bar{\nu}$,f	Del $\bar{\nu}$ Spec	III			10			10		IRT	Bramblett	DNMS	72
596	$_{92}U^{233}$	$\bar{\nu}$,n	Total n Y	I			Ths-10			10		IRT	Bramblett	DNMS	72
597	$_{92}U^{233}$	$\bar{\nu}$,n	Delayd n Y	I			Ths-10			10		IRT	Bramblett	DNMS	72
598	$_{92}U^{233}$	$\bar{\nu}$,f	Del $\bar{\nu}$ Spec	II			10			10		IRT	Bramblett	DNMS	72
599	$_{92}U^{234}$	$\bar{\nu}$,n	Total n Y	II			Ths-10			30		IRT	Bramblett	DNMS	72
600	$_{92}U^{234}$	$\bar{\nu}$,n	Delayd n Y	III			Ths-10			30		IRT	Bramblett	DNMS	72
601	$_{92}U^{234}$	$\bar{\nu}$,f	Del $\bar{\nu}$ Spec	III			10			30		IRT	Bramblett	DNMS	72
602	$_{92}U^{235}$	$\bar{\nu}$,n	Total n Y	II			Ths-10			10		IRT	Bramblett	DNMS	72
603	$_{92}U^{235}$	$\bar{\nu}$,n	Delayd n Y	II			Ths-10			10		IRT	Bramblett	DNMS	72
604	$_{92}U^{235}$	$\bar{\nu}$,f	Del $\bar{\nu}$ Spec	II			10			10		IRT	Bramblett	DNMS	72
605	$_{92}U^{236}$	$\bar{\nu}$,n	Total n Y	II			Ths-10			30		IRT	Bramblett	DNMS	72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	PERCENT ACCURACY 4-9	PERCENT ACCURACY ≤15	PERCENT ACCURACY >15	REQUESTER LAB	REQUESTER PERSON	REQUESTER ORG	YR
606	$_{92}U^{236}$	$\bar{\bar{g}}$,n	Delayd n Y	II			Ths-10			30		IRT	Bramblett	DNMS	72
607	$_{92}U^{236}$	$\bar{\bar{g}}$,f	Del $\bar{\bar{g}}$ Spec	III			10			30		IRT	Bramblett	DNMS	72
					******	******	******	***	***	***	*****				
608	$_{92}U^{238}$	$\bar{\bar{g}}$,n	Total n Y	II			Ths-10			10		IRT	Bramblett	DNMS	72
609	$_{92}U^{238}$	$\bar{\bar{g}}$,n	Delayd n Y	II			Ths-10			10		IRT	Bramblett	DNMS	72
610	$_{92}U^{238}$	$\bar{\bar{g}}$,f	Del $\bar{\bar{g}}$ Spec	II			10			10		IRT	Bramblett	DNMS	72
611	$_{94}Pu^{239}$	$\bar{\bar{g}}$,n	Total n Y	II			Ths-10			10		IRT	Bramblett	DNMS	72
612	$_{94}Pu^{239}$	$\bar{\bar{g}}$,n	Delayd n Y	II			Ths-10			10		IRT	Bramblett	DNMS	72
613	$_{94}Pu^{239}$	$\bar{\bar{g}}$,f	Del $\bar{\bar{g}}$ Spec	II			10			10		IRT	Bramblett	DNMS	72
					******	******	******	***	***	***	*****				
614	$_{94}Pu^{240}$	$\bar{\bar{g}}$,n	Total n Y	II			Ths-10			10		IRT	Bramblett	DNMS	72
615	$_{94}Pu^{240}$	$\bar{\bar{g}}$,n	Delayd n Y	II			Ths-10			10		IRT	Bramblett	DNMS	72
616	$_{94}Pu^{240}$	$\bar{\bar{g}}$,f	Del $\bar{\bar{g}}$ Spec	II			10			10		IRT	Bramblett	DNMS	72
					******	******	******	***	***	***	*****				
617	$_{94}Pu^{241}$	$\bar{\bar{g}}$,n	Total n Y	III			Ths-10			30		IRT	Bramblett	DNMS	72
618	$_{94}Pu^{241}$	$\bar{\bar{g}}$,n	Delayd n Y	III			Ths-10			30		IRT	Bramblett	DNMS	72
619	$_{94}Pu^{241}$	$\bar{\bar{g}}$,f	Del $\bar{\bar{g}}$ Snec	III			10			30		IRT	Bramblett	DNMS	72

SECTION V. TABLE 5.F DNR

Division of Naval Reactors, H. G. Rickover, Vice Admiral (USN), Director

Phone: 301-973-5771

USAEC, Washington, D. C. 20545

Contacts at BETTIS and KAPL

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
73	$_{8}O^{17}$	$\sigma_{\alpha,n}$		II			Ths-7				20	KAPL	Ehrlich	DNR	72
					******	******	******	***	***	***	*****				
74	$_{8}O^{18}$	$\sigma_{\alpha,n}$		III			Ths-7			10		BET	Bayard	DNR	66
182	$_{28}Ni$	Elastic	$\sigma(\theta_n)$	II			1.5-3		5-	10		ANL	Avery	DRDT	72
195	$_{28}Ni$	Tot γ Prod	$\sigma(E_\gamma)$	II	Th	to	10			10		BET	Bayard	DNR	66
					******	******	******	***	***	***	*****				
200	$_{28}Ni^{61}$	$\bar{\Gamma}_n$		I		1-600			4-9			KAPL	Ehrlich	DNR	69
303	* $_{42}Mo^{99}$	$\sigma_{n,\gamma}$		II	.001-	1					20	BET	Bayard	DNR	67
304	* $_{44}Ru^{103}$	$\sigma_{n,\gamma}$		II	.001-	1					20	BET	Bayard	DNR	67
305	$_{45}Rh$	$\sigma_{n,\gamma}$		II	.5-	1				10		KAPL	Ehrlich	DNR	67
320	* $_{60}Nd^{147}$	$\sigma_{n,\gamma}$		I	.001-	1			5	to	20	KAPL	Ehrlich	DNR	67
321	* $_{61}Pm^{147}$	$\sigma_{n,\gamma}$		I	.001-	1				10		BET	Bayard	DNR	67
					******	******	******	***	***	***	*****				
324	* $_{61}Pm^{149}$	$\sigma_{n,\gamma}$		I	.001-	1					20	BET	Bayard	DNR	67
369	$_{72}Hf$	Elastic	$\sigma(\theta_n)$	II			1.5-10			10		BET	Bayard	DNR	66
370	$_{72}Hf$	Emission	$\sigma(E_{n'})$	II			1.5-10			15		BET	Bayard	DNR	66
371	$_{72}Hf$	$\sigma_{n,\gamma}$		II	200-	50					20	BET	Bayard	DNR	62
					******	******	******	***	***	***	*****				
374	$_{72}Hf^{177}$	$\sigma_{n,\gamma}$		I	.001-	5			4	to	20	BET	Bayard	DNR	62
					******	******	******	***	***	***	*****				
376	$_{72}Hf^{179}$	$\sigma_{n,\gamma}$		I	.001-	5			5	to	20	BET	Bayard	DNR	62

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
377	$_{72}Hf^{180}$	$\sigma_{n,\gamma}$		I	.001-	5			4	to	20	BET	Bayard	DNR	67
379	$_{73}Ta$	$\sigma_{n,\gamma}$		I		1-	10		5-	10		AI	Alter	DRDT	69
394	$_{79}Au$	$\sigma_{n,\gamma}$		II	.5	1*		1				BET	Bayard	DNR	67
405	$_{90}Th$	Absorption		II	100	to	1	3-	5			BET	Bayard	DNR	69
407	$_{90}Th$	Tot γ Prod	$\sigma(\theta_\gamma, E_\gamma)$	II	.5	to	10			10		BET	Bayard	DNR	67
450	$_{92}U^{235}$	Delayd n Y	$P(E_{n'})$	II	Th					15		KAPL	Ehrlich	DNR	69
452	$_{92}U^{235}$	Cap Spect	$P(E_\gamma)$	II	Th-15					10		BET	Bayard	DNR	67
454	$_{92}U^{235}$	Res Par		I	Th-200					10		ANL	Avery	DRDT	69
496	$_{94}Pu^{239}$	Inelastic	$\sigma(E_{n'})$	I		10-	10				20	KAPL	Ehrlich	DNR	72
514	$_{94}Pu^{239}$	Fis Prod Y	of Nd^{147}	II	Th			3				BET	Bayard	DNR	67

SECTION V. TABLE 5.G DPMM

Division of Production and Materials Management, F. P. Baranowski, Director

Phone: 301-973-4413

USAEC, Washington, D. C. 20545

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
232	$_{40}Zr$	$\sigma_{n,g}$		II	Th-	1			5			BNW	Leonard	DPMM	67
336	$_{63}Eu^{151}$	$\sigma_{n,g}$		II	.001-	1		2-	5			SRL	Dessauer	DPMM	67
339	$_{63}Eu^{153}$	$\sigma_{n,g}$		II	.001-	1		2-	5			GE	Snyder	DRDT	67
362	$_{69}Tm$	$\sigma_{n,g}$		I	Th-	1			5			BNW	Leonard	DPMM	67
363	* $_{69}Tm^{170}$	$\sigma_{n,g}$		I	Th-	1				10		BNW	Leonard	DPMM	67
364	* $_{69}Tm^{171}$	$\sigma_{n,g}$		I	Th-	1				10		BNW	Leonard	DPMM	67
395	* $_{81}Tl^{204}$	$\sigma_{n,g}$		II	Th					10		BNW	Leonard	DPMM	65
481	$_{93}Np^{237}$	$\sigma_{n,2n}$		II			Ths-15			10		SRL	Dessauer	DPMM	67
482	$_{93}Np^{237}$	$\sigma_{n,f}$		II		1-	5			10		SRL	Dessauer	DPMM	67
484	$_{93}Np^{237}$	$\sigma_{n,g}$		I	.001-	1		3	to	10		BNW	Leonard	DPMM	67
485	* $_{93}Np^{238}$	$\sigma_{n,g}$		II	Th-	1				10		BNW	Leonard	DPMM	67
491	$_{94}Pu^{238}$	$\sigma_{n,g}$		III		1-	10			10		AI	Alter	DRDT	69
513	$_{94}Pu^{239}$	Fis Prod Y	of Cs^{137}	II	Th			1				BET	Bayard	DNR	67
538	$_{94}Pu^{242}$	$\sigma_{n,g}$		I	Th	to	7	3-			20	BNW	Leonard	DPMM	67
541	$_{95}Am^{241}$	Total		II	Th			2-3				BNW	Leonard	DPMM	69

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YP
543	$_{95}Am^{241}$	$\sigma_{n,\gamma}$		I	Th-	1				10		SRL	Dessauer	DPMM	67
					******	******	******	***	***	***	*****				
545	$_{95}Am^{242}$	Total		II	Th-	10				10		SRL	Dessauer	DPMM	67
546	$_{95}Am^{242}$	$\sigma_{n,f}$		II	Th-	10				10-	20	SRL	Dessauer	DPMM	69
547	$_{95}Am^{242}$	$\sigma_{n,\gamma}$		II	Th	to	10			15		GE	Hutchins	DRDT	72
					******	******	******	***	***	***	*****				
548	$_{95}Am^{243}$	Total		I	Th-	10		2				BNW	Leonard	DPMM	67
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550	* $_{96}Cm^{242}$	$\sigma_{n,\gamma}$		II	Th						20	SRL	Dessauer	DPMM	67
551	* $_{96}Cm^{242}$	Res Par		II	Th-	1					20	BNW	Leonard	DPMM	67
					******	******	******	***	***	***	*****				
552	$_{96}Cm^{243}$	Total		II	Th-	10				10		SRL	Dessauer	DPMM	67
553	$_{96}Cm^{243}$	$\sigma_{n,f}$		II	Th-	10				10		SRL	Dessauer	DPMM	67
554	$_{96}Cm^{243}$	$\sigma_{n,\gamma}$		II	Th-	10			5-	10		SRL	Dessauer	DPMM	69
					******	******	******	***	***	***	*****				
559	$_{96}Cm^{245}$	Total		I	Th-	10				10		SRL	Dessauer	DPMM	67
560	$_{96}Cm^{245}$	$\sigma_{n,f}$		I	Th-	10				10		SRL	Dessauer	DPMM	67
561	$_{96}Cm^{245}$	$\sigma_{n,\gamma}$		I	Th-	10				10		SRL	Dessauer	DPMM	69
					******	******	******	***	***	***	*****				
562	$_{96}Cm^{246}$	Total		I	Th-	10				10		SRL	Dessauer	DPMM	67
564	$_{96}Cm^{246}$	$\sigma_{n,\gamma}$		I	Th-	10				10		SRL	Dessauer	DPMM	69
					******	******	******	***	***	***	*****				
565	$_{96}Cm^{247}$	Total		I	Th-	10					20	SRL	Dessauer	DPMM	67
566	$_{96}Cm^{247}$	$\sigma_{n,f}$		I	Th-	10			5-	10		SRL	Dessauer	DPMM	67
567	$_{96}Cm^{247}$	$\sigma_{n,\gamma}$		I	Th-	10			5-	10		SRL	Dessauer	DPMM	69
					******	******	******	***	***	***	*****				
568	$_{96}Cm^{248}$	Total		I	Th-	10					20	SRL	Dessauer	DPMM	67

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
570	$_{96}Cm^{248}$	$\sigma_{n,\bar{\gamma}}$		I	Th-	10				10		SRL	Dessauer	DPMM	69
571	$_{97}Bk^{249}$	Total		I	Th-	10					20	SRL	Dessauer	DPMM	67
572	$_{97}Bk^{249}$	$\sigma_{n,\bar{\gamma}}$		I	Th-	10				10		SRL	Dessauer	DPMM	69
574	$_{98}Cf^{250}$	Total		I	Th-	10					20	SRL	Dessauer	DPMM	67
575	$_{98}Cf^{250}$	$\sigma_{n,f}$		I	Th-	10				10		SRL	Dessauer	DPMM	67
576	$_{98}Cf^{250}$	$\sigma_{n,\bar{\gamma}}$		I	Th-	10				10		SRL	Dessauer	DPMM	69
577	$_{98}Cf^{251}$	$\sigma_{n,\bar{\gamma}}$		I	Th-	10				10		SRL	Dessauer	DPMM	67
582	$_{98}Cf^{252}$	$\sigma_{n,\bar{\gamma}}$		I	Th-	10				10		SRL	Dessauer	DPMM	67
583	* $_{98}Cf^{253}$	$\sigma_{n,\bar{\gamma}}$		II	Th-	10					20	SRL	Dessauer	DPMM	67

SECTION V. TABLE 5.H DPR

Division of Physical Research, John M. Teem, Director

Phone: 301-973-5565

USAEC, Washington, D. C. 20545

Contact: George A. Kolstad, Assistant Director for Physics and Mathematics Programs

Phone: 301-973-3613

W. A. Wallenmeyer, Assistant Director, High-Energy Physics Programs

Phone: 301-973-3624

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	REACTION TYPE VARIABLE	PRI OR.	INCIDENT ENERGY eV	INCIDENT ENERGY keV	INCIDENT ENERGY MeV	PERCENT ACCURACY 1-3	PERCENT ACCURACY 4-9	PERCENT ACCURACY ≤15	PERCENT ACCURACY >15	REQUESTER LAB	REQUESTER PERSON	REQUESTER ORG	YR
1	$_{1}H^{1}$	Elastic	$\sigma(\theta_n)$	I			*	2				NDC	Caswell	DPR	72
8	$_{2}He^{3}$	$\sigma_{n,p}$		II		10-	3	1				GGA	Nordheim	DRDT	69
12	$_{3}Li^{6}$	Elastic	$\sigma(\theta_n)$	I		1-100		1-	5			NDC	Caswell	DPR	69
18	$_{3}Li^{6}$	$\sigma_{n,\bar{a}}$		I		1-	3	1				ANL	Avery	DRDT	69
43	$_{3}Li^{7}$	$\sigma_{\bar{a},n}$		II			4-6	2				NDC	Caswell	DPR	69
51	$_{5}B^{10}$	Total		II		10-	1	1				NDC	Caswell	DPR	69
52	$_{5}B^{10}$	Elastic	$\sigma(\theta_n)$	II		1-100		1-	5			NDC	Caswell	DPR	69
53	$_{5}B^{10}$	$\sigma_{n,\bar{a}}$		I		1-	10	1-	5			ANL	Avery	DRDT	69
54	$_{5}B^{10}$	$\sigma_{n,\bar{a}\bar{g}}$ (g_1)	$E_{\bar{g}}$=480 keV	I		1-	10	1-	5			ANL	Avery	DRDT	69
392	$_{76}Os^{186}$	$\sigma_{n,\bar{g}}$		III		1-100			4-9			ORNL	Macklin	DPR	70
393	$_{76}Os^{187}$	$\sigma_{n,\bar{g}}$		III		1-100			4-9			ORNL	Macklin	DPR	70
394	$_{79}Au$	$\sigma_{n,\bar{g}}$		II	.5	1*		1				BET	Bayard	DNR	67
442	$_{92}U^{235}$	$\sigma_{n,f}$		I		10-	15	1				LASL	Hansen	DMA	66
501	$_{94}Pu^{239}$	$\sigma_{n,f}$		I	1	to	10	2-	5			ANL	Avery	DRDT	69
579	$_{98}Cf^{252}$	Nu Bar		I				.25				NDC	Caswell	DPR	69
581	$_{98}Cf^{252}$	Fis Spect	$P(E_{n'})$	I				1				BET	Bayard	DNR	72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY keV	MeV	GeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
630	$_{6}C$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I		~50					25	ORNL	Alsmiller	DPR	66
631	$_{6}C$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	II		600-	2				25	ORNL	Alsmiller	DPR	66
637	$_{8}O$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I		~50					25	ORNL	Alsmiller	DPR	66
638	$_{8}O$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	II		600-	2				25	ORNL	Alsmiller	DPR	66
639	$_{8}O$	$\sigma_{\alpha,k\pi^{\pm}y}$	$\sigma(\theta_{\pi},E_{\pi})$	II			1-2				25	ORNL	Alsmiller	DPR	66
646	$_{13}Al$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I		600-	2				25	ORNL	Alsmiller	DPR	66
647	$_{13}Al$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I			~10,30				25	ORNL	Alsmiller	DPR	66
648	$_{13}Al$	$\sigma_{p,kpy}$	$\sigma(\theta_{p},E_{p})$	II		~2000,	~10,30				25	ORNL	Alsmiller	DPR	66
649	$_{13}Al$	$\sigma_{\alpha,kny}$	$\sigma(\theta_{n'},E_{n'})$	II		100-	1				25	ORNL	Alsmiller	DPR	66
653	$_{27}Co$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I		600-	2				25	ORNL	Alsmiller	DPR	66
654	$_{27}Co$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I			~10,30				25	ORNL	Alsmiller	DPR	66
655	$_{27}Co$	$\sigma_{p,kpy}$	$\sigma(\theta_{p},E_{p})$	II		~2000,	~10,30				25	ORNL	Alsmiller	DPR	66
656	$_{83}Bi$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I		600-	2				25	ORNL	Alsmiller	DPR	66
657	$_{83}Bi$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	II			~10,30				25	ORNL	Alsmiller	DPR	66
658	$_{83}Bi$	$\sigma_{p,kpy}$	$\sigma(\theta_{p},E_{p})$	II		~2000,	~10,30				25	ORNL	Alsmiller	DPR	66

SECTION V.

TABLE 5.I DRDT

Division of Reactor Development and Technology, Milton Shaw, Director

Phone: 301-973-5203

USAEC, Washington, D. C. 20545

Contacts: William H. Hannum, Phillip B. Hemmig — Reactor Physics Branch

Phone: 301-973-4181

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
2	$_1H^2$	Elastic		I	1-	1		<2				BET	Bayard	DNR	72
8	$_2He^3$	$\sigma_{n,p}$		II		10-	3	1				GGA	Nordheim	DRDT	69
18	$_3Li^6$	$\sigma_{n,\bar{a}}$		I		1-	3	1				ANL	Avery	DRDT	69
19	$_3Li^6$	Tot a Prod		II		1-	18			10		HEDL	McElroy	DRDT	69
45	$_4Be$	Emission	$\sigma(\theta_{n'},E_{n'})$	II			1.8-5			15		LMFB	Hemmig-AEC	DRDT	62
46	$_4Be$	$\sigma_{n,\bar{g}}$		II	1-	100				10		IRT	Preskitt	DRDT	69
53	$_5B^{10}$	$\sigma_{n,\bar{a}}$		I		1-	10	1-	5			ANL	Avery	DRDT	69
54	$_5B^{10}$	$\sigma_{n,\bar{a}g}$ $(\bar{g}_1)$	E_g=480 keV	I		1-	10	1-	5			ANL	Avery	DRDT	69
55	$_5B^{10}$	Tot a Prod		I		1-	18			10		HEDL	McElroy	DRDT	69
57	$_6C$	Elastic	$\sigma(\theta_n)$	III			2-14			10		KAPL	Ehrlich	DNR	62
					******	******	******	***	***	***	*****				
63	$_6C^{12}$	Polariz.	$P(\theta_n)$	II			4-5.5				15	KAPL	Ehrlich	DNR	69
69	$_8O$	Elastic	$\sigma(\theta_n)$	II		10-	1		5			IRT	Preskitt	DRDT	69
70	$_8O$	Emission	$\sigma(\theta_{n'},E_{n'})$	I			8-15			10		AFWL	Enz	DNA	69
78	$_9F$	$\sigma_{n,\bar{g}}$		II		1-	1			10		ORNL	Perry	DRDT	66
81	$_{11}Na$	Total		I		10-	5	3-	5			ORNL	Clifford	DRDT	69
83	$_{11}Na$	Inelastic	$\sigma(E_{n'})$	II			2-10			10		AI	Alter	DRDT	62
85	$_{11}Na$	Absorption		II		1-100					20	GE	Snyder	DRDT	69
86	$_{11}Na$	$\bar{\sigma}_n$ and $\bar{\sigma}_{\bar{g}}$		I		3				10		ANL	Avery	DRDT	62

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
87	$_{11}Na$	Cap Spect	$P(E_\gamma)$	I		3				10		ANL	Avery	DRDT	72
109	$_{21}Sc$	$\sigma_{n,\gamma}$	Act	II		1-	18			10		HEDL	McElroy	DRDT	69
111	$_{22}Ti$	Tot γ Prod	$\sigma(\theta_\gamma,E_\gamma)$	I		10-	16				20	ORNL	Clifford	DRDT	69
113	$_{22}Ti^{46}$	$\sigma_{n,p}$	Act	II			1-18			10		HEDL	McElroy	DRDT	69
114	$_{22}Ti^{47}$	$\sigma_{n,p}$	Act	II			>1			10		HEDL	McElroy	DRDT	69
115	$_{22}Ti^{48}$	$\sigma_{n,p}$	Act	II			>1			10		HEDL	McElroy	DRDT	69
116	$_{23}V$	Elastic	$\sigma(\theta_n)$	III			1.4-10			10		ANL	Avery	DRDT	62
119	$_{23}V$	Inelastic	$\sigma(E_{n'})$	III			1.5-10				15	ANL	Avery	DRDT	62
125	$_{23}V$	Absorption		III		1-150				10		ANL	Avery	DRDT	62
128	$_{24}Cr$	Total		II		1-	20	3				LMFB	Hemmig-AEC	DRDT	72
129	$_{24}Cr$	Elastic	$\sigma(\theta_n)$	II			2-14		4-9			KAPL	Ehrlich	DNR	69
130	$_{24}Cr$	Inelastic	$\sigma(E_{n'})$	II		500	-10			10		GE	Snyder	DRDT	66
134	$_{24}Cr$	$\sigma_{n,\gamma}$		II		1-	1			15		GE	Snyder	DRDT	72
140	$_{24}Cr$	Res Int	Capture	I	.5-	up				10-	15	KAPL	Ehrlich	DNR	69
142	$_{24}Cr$	Tot γ Prod	$\sigma(E_\gamma)$	II	up	to	10			10		BET	Bayard	DNR	69
143	$_{24}Cr^{53}$	$\bar{G}_\gamma$		II		1-600			4-9			KAPL	Ehrlich	DNR	69
146	$_{26}Fe$	Total		I	.001	to	1		5			KAPL	Ehrlich	DNR	72
147	$_{26}Fe$	Elastic	$\sigma(\theta_n)$	I			7-14		4-9			KAPL	Ehrlich	DNR	69

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
149	$_{26}Fe$	Inelastic	$\sigma(E_{n'})$	I		850-	2		5			GE	Snyder	DRDT	66
155	$_{26}Fe$	$\sigma_{n,\gamma}$		II	.001	to	1			10		KAPL	Ehrlich	DNR	72
					******	******	******	***	***	***	*****				
158	$_{26}Fe^{56}$	$\sigma_{n,\alpha}$		II	Th	to	10			15		GE	Hutchins	DRDT	72
					******	******	******	***	***	***	*****				
162	$_{26}Fe$	Absorption		I		1-	1.5		5	to	20	ANL	Avery	DRDT	69
164	$_{26}Fe$	Tot γ Prod	$\sigma(E_\gamma)$	I	Th	to	10				<15	LMFB	Hemmig-AEC	DRDT	66
166	$_{26}Fe$	Res Int	Capture	I	.5-	up				10-	15	KAPL	Ehrlich	DNR	69
167	$_{26}Fe$	$\bar{G}_n$ and $\bar{G}_\gamma$		II		to	1			10		KAPL	Ehrlich	DNR	72
168	$_{26}Fe$	J,π		III		to	1					KAPL	Ehrlich	DNR	72
					******	******	******	***	***	***	*****				
170	$_{26}Fe^{54}$	$\sigma_{n,p}$	Act	III			1-18			15		BET	Bayard	DNR	72
					******	******	******	***	***	***	*****				
172	$_{26}Fe^{57}$	$\bar{G}_n$		I		1-600			4-9			KAPL	Ehrlich	DNR	69
					******	******	******	***	***	***	*****				
173	$_{26}Fe^{58}$	$\sigma_{n,\gamma}$	Act	II	.025	to	15				30	LLL	Howerton	DMA	69
174	$_{27}Co$	Res Par		II	132			1				ANC	Brugger	DRDT	62
175	$_{27}Co$	$\sigma_{n,\gamma}$		II	132			1				ANC	Brugger	DRDT	62
176	$_{27}Co$	$\sigma_{n,\gamma}$	Act	I	.025	to	15				30	LLL	Howerton	DMA	69
					******	******	******	***	***	***	*****				
178	* $_{27}Co^{58}$	$\sigma_{n,\gamma}$		II	Th	to	10			10		BET	Bayard	DNR	72
179	* $_{27}Co^{58}$	$\sigma_{n,\gamma}$		II	Th	to	10			10		BET	Bayard	DNR	72
180	* $_{27}Co^{58}$	J,π		III		25-	3					KAPL	Ehrlich	DNR	66
181	$_{28}Ni$	Total		II		1-	20	3				ORNL	Clifford	DRDT	72
182	$_{28}Ni$	Elastic	$\sigma(\theta_n)$	II			1.5-3		5-	10		ANL	Avery	DRDT	72

REQ #	TARGET Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
183	$_{28}Ni$	Inelastic	$\sigma(E_{n'})$	II			1-10			10		GE	Snyder	DRDT	66
187	$_{28}Ni$	Absorption		II		1-	1			10		ANL	Avery	DRDT	72
190	$_{28}Ni$	$\sigma_{n,\alpha}$		II	Th	to	10			15		GE	Hutchins	DRDT	72
194	$_{28}Ni$	Res Int	Capture	I	.5-	up				10-	15	KAPL	Ehrlich	DNR	69
195	$_{28}Ni$	Tot γ Prod	$\sigma(E_{\gamma})$	II	Th	to	10			10		BET	Bayard	DNR	66
					******	******	******	***	***	***	*****				
197	$_{28}Ni^{58}$	$\sigma_{n,p}$		II			<10		5			BET	Bayard	DNR	72
210	$_{29}Cu^{63}$	$\sigma_{n,\gamma}$		II	Th-	1		2-	5			AGRP	Hannum	DRDT	67
211	$_{29}Cu^{63}$	$\sigma_{n,\gamma}$	Act	III	.025	to	15				30	LLL	Howerton	DMA	69
212	$_{29}Cu^{63}$	$\sigma_{n,\alpha}$	Act	II			>6			10		HEDL	McElroy	DRDT	69
					******	******	******	***	***	***	*****				
214	$_{29}Cu^{65}$	$\sigma_{n,\gamma}$		II	Th-	1		2-	5			AGRP	Hannum	DRDT	67
223	$_{36}Kr^{83}$	Total		II	.001-	1				10		BET	Bayard	DNR	67
224	$_{36}Kr^{83}$	$\sigma_{n,\gamma}$		II	.001-	1				10		BET	Bayard	DNR	67
227	$_{40}Zr$	Elastic	$\sigma(\theta_n)$	II		200-	1.5			10		KAPL	Ehrlich	DNR	69
231	$_{40}Zr$	Emission	$\sigma(\theta_{n'},E_{n'})$	I			2-14			10		KAPL	Ehrlich	DNR	67
232	$_{40}Zr$	$\sigma_{n,\gamma}$		II	Th-	1			5			BNW	Leonard	DPMM	67
234	$_{40}Zr$	Res Int	Capture	I	.5-	up			5			KAPL	Ehrlich	DNR	69
					******	******	******	***	***	***	*****				
243	$_{40}Zr^{90}$	Total		I			2-10	3				GE	Snyder	DRDT	72
244	$_{40}Zr^{90}$	Elastic	$\sigma(\theta_n)$	I		100-	10			10		BET	Bayard	DNR	72
245	$_{40}Zr^{90}$	Inelastic	$\sigma(\theta_{n'})$	II			14				15	KAPL	Ehrlich	DNR	69
246	$_{40}Zr^{90}$	Inelastic	$\sigma(E_{n'})$	I			5-15			10		BET	Bayard	DNR	72
247	$_{40}Zr^{90}$	Emission	$\sigma(\theta_{n'},E_{n'})$	I			1-15			10		BET	Bayard	DNR	67

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
248	$_{40}Zr^{90}$	Res Int	Capture	II	.5-	up					20	KAPL	Ehrlich	DNR	69
249	$_{40}Zr^{90}$	$\bar{G}_n$ and $\bar{G}_g$		II	*	-15				10		KAPL	Ehrlich	DNR	69
250	$_{40}Zr^{90}$	J,π		II			1.8-5					KAPL	Ehrlich	DNR	69
					******	******	******	***	***	***	*****				
251	$_{40}Zr^{91}$	Elastic	$\sigma(\theta_n)$	I		100-	10			10		BET	Bayard	DNR	72
252	$_{40}Zr^{91}$	Inelastic	$\sigma(\theta_{n'})$	II			2.5-10			10		BET	Bayard	DNR	72
253	$_{40}Zr^{91}$	$\sigma_{n,\bar{\alpha}}$		III			14				30	KAPL	Ehrlich	DNR	69
254	$_{40}Zr^{91}$	Res Int	Capture	I	.5	up			5			KAPL	Ehrlich	DNR	69
255	$_{40}Zr^{91}$	$\bar{G}_n$ and $\bar{G}_g$		I	*	-10				10		KAPL	Ehrlich	DNR	69
256	$_{40}Zr^{91}$	J,π		II			1-4					KAPL	Ehrlich	DNR	69
					******	******	******	***	***	***	*****				
257	$_{40}Zr^{92}$	Elastic	$\sigma(\theta_n)$	I		100-	10			10		BET	Bayard	DNR	72
258	$_{40}Zr^{92}$	Inelastic	$\sigma(\theta_{n'})$	II			14				15	KAPL	Ehrlich	DNR	69
259	$_{40}Zr^{92}$	Inelastic	$\sigma(E_{n'})$	I			2.5-10			10		BET	Bayard	DNR	72
260	$_{40}Zr^{92}$	Res Int	Capture	II	.5-	up					20	KAPL	Ehrlich	DNR	69
261	$_{40}Zr^{92}$	$\bar{G}_n$ and $\bar{G}_g$		I	*-	15				10		KAPL	Ehrlich	DNR	69
262	$_{40}Zr^{92}$	J,π		II			1-4					KAPL	Ehrlich	DNR	69
					******	******	******	***	***	***	*****				
263	$_{40}Zr^{94}$	Elastic	$\sigma(\theta_n)$	I	.5	to	10			10		BET	Bayard	DNR	67
264	$_{40}Zr^{94}$	Inelastic	$\sigma(\theta_{n'})$	II			14			15		KAPL	Ehrlich	DNR	67
265	$_{40}Zr^{94}$	$\bar{G}_n$ and $\bar{G}_g$		II	*	-15				10		KAPL	Ehrlich	DNR	69
266	$_{40}Zr^{94}$	J,π		II		950-	4					KAPL	Ehrlich	DNR	69
					******	******	******	***	***	***	*****				
267	* $_{40}Zr^{95}$	$\sigma_{n,\bar{g}}$		II	.5-	10				10-	20	BET	Bayard	DNR	67
					******	******	******	***	***	***	*****				
268	$_{40}Zr^{96}$	Elastic	$\sigma(\theta_n)$	I		100-	10			10		BET	Bayard	DNR	72
269	$_{40}Zr^{96}$	$\sigma_{n,\bar{g}}$		II	Th				5			KAPL	Ehrlich	DNR	69

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
276	$_{41}Nb$	$\sigma_{n,\gamma}$		II		1-100				10		AI	Alter	DRDT	62
288	* $_{41}Nb^{95}$	$\sigma_{n,\gamma}$		I	Th						20	KAPL	Ehrlich	DNR	67
289	$_{42}Mo$	Inelastic	$\sigma(E_{n'})$	III			1.5-3				20	ANL	Avery	DRDT	72
294	$_{42}Mo$	$\sigma_{n,\gamma}$		III		1-	1			10		ACRP	Hannum	DRDT	72
305	$_{45}Rh$	$\sigma_{n,\gamma}$		II	.5-	1				10		KAPL	Ehrlich	DNR	67
306	* $_{45}Rh^{105}$	$\sigma_{n,\gamma}$		II	.001-1					10		GE	Snyder	DRDT	67
307	* $_{46}Pd^{107}$	$\sigma_{n,\gamma}$		II	.001-	10				10		BET	Bayard	DNR	67
308	$_{47}Ag^{109}$	$\sigma_{n,\gamma}$		II	.001-1					10		GE	Snyder	DRDT	67
309	* $_{52}Te^{127}$	$\sigma_{n,\gamma}$		II	.001-1						20	KAPL	Ehrlich	DNR	67
310	* $_{52}Te^{132}$	$\sigma_{n,\gamma}$		II	.001-1						20	BET	Bayard	DNR	67
311	* $_{53}I^{133}$	$\sigma_{n,\gamma}$		II	.001-	1					20	BET	Bayard	DNR	67
312	$_{54}Xe^{131}$	$\sigma_{n,\gamma}$		II	.001-	1				10		BET	Bayard	DNR	67
313	* $_{54}Xe^{133}$	$\sigma_{n,\gamma}$		II	Th					10		GE	Snyder	DRDT	67
314	* $_{54}Xe^{135}$	$\sigma_{n,\gamma}$		II	.001-2				5			GGA	Nordheim	DRDT	67
315	* $_{54}Xe^{135}$	Tot γ Prod	$\sigma(E_\gamma)$	II	Th					10-	20	KAPL	Ehrlich	DNR	67

REQ #	TARGET *	Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
316		$_{55}$Cs	$\sigma_{n,\gamma}$		I	.001-1					10		GE	Snyder	DRDT	67
317		$_{55}$Cs	$\sigma_{n,\gamma}$		I	.5-	1				10		GE	Snyder	DRDT	67
318		$_{60}$Nd^{143}	$\sigma_{n,\gamma}$		I	.001-	1				10		BET	Bayard	DNR	67
319		$_{60}$Nd^{145}	$\sigma_{n,\gamma}$		I	.001-	1				10		BET	Bayard	DNR	67
320	*	$_{60}$Nd^{147}	$\sigma_{n,\gamma}$		I	.001-	1			5	to	20	KAPL	Ehrlich	DNR	67
321	*	$_{61}$Pm^{147}	$\sigma_{n,\gamma}$		I	.001-	1				10		BET	Bayard	DNR	67
322	*	$_{61}$Pm^{148}	$\sigma_{n,\gamma}$		I	.001-	1				10		BET	Bayard	DNR	67
323	*	$_{61}$Pm^{148}	$\sigma_{n,\gamma}$		I	.001-1					10		BET	Bayard	DNR	67
324	*	$_{61}$Pm^{149}	$\sigma_{n,\gamma}$		I	.001-	1					20	BET	Bayard	DNR	67
325	*	$_{61}$Pm^{151}	$\sigma_{n,\gamma}$		II	.001-	1				10		BET	Bayard	DNR	67
326		$_{62}$Sm^{150}	$\sigma_{n,\gamma}$		I	.001-	1		2-	5			BET	Bayard	DNR	67
327	*	$_{62}$Sm^{151}	$\sigma_{n,\gamma}$		I	.001-	1			5			BET	Bayard	DNR	67
328		$_{62}$Sm^{152}	$\sigma_{n,\gamma}$		II	.001-	1				10		BET	Bayard	DNR	67
329	*	$_{62}$Sm^{153}	$\sigma_{n,\gamma}$		II	.001-	1					20	BET	Bayard	DNR	67
339		$_{63}$Eu^{153}	$\sigma_{n,\gamma}$		II	.001-	1		2-	5			GE	Snyder	DRDT	67

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
340	* $_{63}Eu^{154}$	$\sigma_{n,\gamma}$		II	.001-	1				10		BET	Bayard	DNR	67
					******	******	******	***	***	***	*****				
342	* $_{63}Eu^{155}$	$\sigma_{n,\gamma}$		II	.001-	1				10		BET	Bayard	DNR	67
343	$_{64}Gd$	Elastic	$\sigma(\theta_n)$	I			1.5-10			10		GE	Snyder	DRDT	67
344	$_{64}Gd$	Emission	$\sigma(\theta_{n'},E_{n'})$	I			1.5-10			15		GE	Snyder	DRDT	67
347	$_{64}Gd$	Res Int	Capture	I	.5-	up			5			GE	Snyder	DRDT	69
					******	******	******	***	***	***	*****				
348	$_{64}Gd^{155}$	$\sigma_{n,\gamma}$		I	.5-	1			5			GE	Snyder	DRDT	67
349	$_{64}Gd^{155}$	Res Int	Capture	I	.5-	up			5			GE	Snyder	DRDT	69
350	$_{64}Gd^{155}$	$\bar{\Gamma}_n$ and $\bar{\Gamma}_\gamma$		I	*-	.5				10		GE	Snyder	DRDT	69
					******	******	******	***	***	***	*****				
351	$_{64}Gd^{156}$	$\sigma_{n,\gamma}$		I	.001-	1			5			GE	Snyder	DRDT	67
352	$_{64}Gd^{156}$	Res Int	Capture	I	.5-	up			5			GE	Snyder	DRDT	69
353	$_{64}Gd^{156}$	$\bar{\Gamma}_n$ and $\bar{\Gamma}_\gamma$		I	*-	2			5			GE	Snyder	DRDT	69
					******	******	******	***	***	***	*****				
354	$_{64}Gd^{157}$	$\sigma_{n,\gamma}$		I	.5-	1			5			GE	Snyder	DRDT	67
355	$_{64}Gd^{157}$	Res Int	Capture	I	.5-	up			5			GE	Snyder	DRDT	69
356	$_{64}Gd^{157}$	$\bar{\Gamma}_n$ and $\bar{\Gamma}_\gamma$		I	*-	1				10		GE	Snyder	DRDT	69
371	$_{72}Hf$	$\sigma_{n,\gamma}$		II	200-	50					20	BET	Bayard	DNR	62
					******	******	******	***	***	***	*****				
372	$_{72}Hf^{174}$	$\sigma_{n,\gamma}$		I	.001-	5				10-	20	KAPL	Ehrlich	DNR	66
					******	******	******	***	***	***	*****				
373	$_{72}Hf^{176}$	$\sigma_{n,\gamma}$		I	.001-	5				10-	40	BET	Bayard	DNR	62
					******	******	******	***	***	***	*****				
374	$_{72}Hf^{177}$	$\sigma_{n,\gamma}$		I	.001-	5			4	to	20	BET	Bayard	DNR	62

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
375	$_{72}Hf^{178}$	$\sigma_{n,\bar{g}}$		I	.001-	5		3-	-	to	20	BET	Bayard	DNR	62
376	$_{72}Hf^{179}$	$\sigma_{n,\bar{g}}$		I	.001-	5			5	to	20	BET	Bayard	DNR	62
377	$_{72}Hf^{180}$	$\sigma_{n,\bar{g}}$		I	.001-	5			4	to	20	BET	Bayard	DNR	67
379	$_{73}Ta$	$\sigma_{n,\bar{g}}$		I		1-	10		5-	10		AI	Alter	DRDT	69
381	$_{74}W$	Emission	$\sigma(\theta_{n'},E_{n'})$	I			4-14			10		AFWL	Enz	DNA	69
383	$_{74}W$	Tot $\bar{g}$ Prod	$\sigma(\theta_{\bar{g}},E_{\bar{g}})$	I		100-	16				20	ORNL	Clifford	DRDT	63
386	$_{74}W^{182}$	$\sigma_{n,\bar{g}}$		I		1-	10			10		AI	Alter	DRDT	69
387	$_{74}W^{183}$	$\sigma_{n,\bar{g}}$		I		1-	10			10		AI	Alter	DRDT	69
388	$_{74}W^{184}$	$\sigma_{n,\bar{g}}$		I		10-	10			10		AI	Alter	DRDT	69
391	$_{74}W^{186}$	$\sigma_{n,\bar{g}}$		I		10-	10			10		AI	Alter	DRDT	69
396	$_{82}Pb$	Emission	$\sigma(\theta_{n'},E_{n'})$	II			3-15			10		NEL	Eccleshall	DNA	69
401	$_{90}Th$	Elastic	$\sigma(\theta_n)$	III			1-5			10		ANL	Avery	DRDT	72
402	$_{90}Th$	Inelastic	$\sigma(E_{n'})$	III			1-4		5			ANL	Avery	DRDT	72
403	$_{90}Th$	$\sigma_{n,2n}$		I			Ths-10			10		GE	Snyder	DRDT	67
404	$_{90}Th$	$\sigma_{n,\bar{g}}$		I	.5-	2			5-	10		BET	Bayard	DNR	62
409	$_{91}Pa^{231}$	$\sigma_{n,\bar{g}}$		II	Th	to	10			10		GE	Snyder	DRDT	69

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
410	* $_{91}Pa^{233}$	$\sigma_{n,\gamma}$		II	.001-2				5			IRT	Preskitt	DRDT	67
411	$_{92}U^{233}$	Inelastic	$\sigma(E_{n'})$	III		40-	7			10-	20	ANL	Avery	DRDT	67
413	$_{92}U^{233}$	$\sigma_{n,2n}$		II			Ths-15			10		LASL	Barr	DMA	67
414	$_{92}U^{233}$	$\sigma_{n,f}$		I	.001-	1		.5-	5			BET	Bayard	DNR	62
415	$_{92}U^{233}$	$\sigma_{n,f}$		III		1-30			5			ANL	Avery	DRDT	62
416	$_{92}U^{233}$	Fis Ratio	wrt U^{235}	I		10-	15	1				LASL	Hansen	DMA	67
417	$_{92}U^{233}$	Nu Bar		I	.001-	30		.25	-2			BET	Bayard	DNR	69
418	$_{92}U^{233}$	Nu Bar		II		30-	3	1-3				BET	Bayard	DNR	69
419	$_{92}U^{233}$	Alpha		I	.001-	1		2-	8			BET	Bayard	DNR	62
420	$_{92}U^{233}$	Alpha		II		1-	3			10-	20	ANL	Avery	DRDT	62
422	$_{92}U^{233}$	Res Par		II	Th-	5				10-	30	ANL	Avery	DRDT	67
423	$_{92}U^{233}$	Cap Spect	$P(E_{\gamma})$	II	.01-15						15	BET	Bayard	DNR	67
425	$_{92}U^{233}$	Fis Prod Y	of Xe^{135}	II	Th			3				BET	Bayard	DNR	67
426	$_{92}U^{233}$	Fis Prod Y	of Cs^{137}	II	Th			1				BET	Bayard	DNR	67
427	$_{92}U^{233}$	Fis Prod Y	of Nd^{147}	II	Th			3				BET	Bayard	DNR	67
428	$_{92}U^{233}$	Fis Prod Y	of Sm^{149}	II	Th			3				BET	Bayard	DNR	67
					******	******	******	***	***	***	*****				
431	$_{92}U^{234}$	$\sigma_{n,\gamma}$		II	.001	to	10	3	to	10		AI	Alter	DRDT	69
					******	******	******	***	***	***	*****				
433	$_{92}U^{235}$	Elastic	$\sigma(\theta_n)$	II			1-5				20	ANL	Avery	DRDT	69
434	$_{92}U^{235}$	Inelastic	$\sigma(E_{n'})$	II		50-	6			10		ANL	Avery	DRDT	69
439	$_{92}U^{235}$	$\sigma_{n,f}$		II	1-	1		3				GE	Snyder	DRDT	69
440	$_{92}U^{235}$	$\sigma_{n,f}$		II	1,10	1,10	1,10	3				KAPL	Ehrlich	DNR	69
441	$_{92}U^{235}$	$\sigma_{n,f}$		I		1-	14	1-2				GE	Snyder	DRDT	69
443	$_{92}U^{235}$	$\sigma_{n,f}$ Ratio	wrt H, B^{10}	I		1-	14	1				ANL	Avery	DRDT	69
444	$_{92}U^{235}$	Eta		II	Th-	50		.5-	2			ANL	Avery	DRDT	67

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
445	$_{92}U^{235}$	Alpha		II	.001	to	7		5-	10		ANL	Avery	DRDT	69
447	$_{92}U^{235}$	Nu Bar		I	Th-	to	3	1				ANL	Avery	DRDT	69
448	$_{92}U^{235}$	Fis n Y	$P(E_{n'})$	II	Th	to	3		5			ANL	Avery	DRDT	69
450	$_{92}U^{235}$	Delayd n Y	$P(E_{n'})$	II	Th					15		KAPL	Ehrlich	DNR	69
454	$_{92}U^{235}$	Res Par		I	Th-200					10		ANL	Avery	DRDT	69
455	$_{92}U^{235}$	Fis Prod Y	of Xe^{135}	II	Th			3				BET	Bayard	DNR	67
456	$_{92}U^{235}$	Fis Prod Y	of Cs^{137}	II	Th			1				BET	Bayard	DNR	67
457	$_{92}U^{235}$	Fis Prod Y	of Sm^{149}	II	Th			3				BET	Bayard	DNR	67
458	$_{92}U^{235}$	Fis Prod Y	of Nd^{147}	II	Th			3				BET	Bayard	DNR	67
					******	******	******	***	***	***	*****				
462	$_{92}U^{236}$	$\sigma_{n,\gamma}$		I	Th-	1				10		GE	Snyder	DRDT	69
					******	******	******	***	***	***	*****				
465	$_{92}U^{238}$	Elastic	$\sigma(\theta_n)$	I		1-	10		5-	10		ANL	Avery	DRDT	69
466	$_{92}U^{238}$	Inelastic	$\sigma(E_{n'})$	I		100-	10		5			ANL	Avery	DRDT	69
468	$_{92}U^{238}$	$\sigma_{n,2n}$		II			Ths-10			10		GE	Snyder	DRDT	72
471	$_{92}U^{238}$	Fis Ratio	wrt Pu^{239}	I		500-	14	2-	4			LMFB	Hemmig-AEC	DRDT	69
472	$_{92}U^{238}$	Nu Bar		I			1-10	1				ANL	Avery		69
474	$_{92}U^{238}$	Delayd n Y	$P(E_{n'})$	I	Th	to	5		5			LMFB	Hemmig-AEC	DRDT	72
475	$_{92}U^{238}$	$\sigma_{n,\gamma}$		I	500	to	10	2	to	10		AI	Alter	DRDT	69
477	$_{92}U^{238}$	Tot γ Prod	$\sigma(\theta_\gamma, E_\gamma)$	II	.001	to	10			10		LMFB	Hemmig-AEC	DRDT	72
478	$_{92}U^{238}$	$\sigma_{n,\gamma}$ wrt	$\sigma_{n,f}$ Pu^{239}	I		10-	10	1.5	-7			ANL	Avery	DRDT	69
480	$_{92}U^{238}$	Res Par		I		*				10		AI	Alter	DRDT	69
481	$_{93}Np^{237}$	$\sigma_{n,2n}$		II			Ths-15			10		SRL	Dessauer	DPMM	67
484	$_{93}Np^{237}$	$\sigma_{n,\gamma}$		I	.001-	1		3	to	10		BNW	Leonard	DPMM	67
488	$_{94}Pu^{238}$	$\sigma_{n,f}$		III			1-10			10		AI	Alter	DRDT	72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
491	$_{94}Pu^{238}$	$\sigma_{n,\gamma}$		III		1-	10			10		AI	Alter	DRDT	69
					******	******	******	***	***	***	*****				
495	$_{94}Pu^{239}$	Elastic	$\sigma(\theta_n)$	II			1-3			10		ANL	Avery	DRDT	69
496	$_{94}Pu^{239}$	Inelastic	$\sigma(E_{n'})$	I		10-	10				20	KAPL	Ehrlich	DNR	72
498	$_{94}Pu^{239}$	$\sigma_{n,2n}$		I			Ths-15			10		LASL	Barr	DMA	67
500	$_{94}Pu^{239}$	$\sigma_{n,f}$		I	Th-	1			1			GE	Snyder	DRDT	72
501	$_{94}Pu^{239}$	$\sigma_{n,f}$		I	1	to	10	2-	5			ANL	Avery	DRDT	69
502	$_{94}Pu^{239}$	Fis Ratio	wrt U^{235}	I		10-	14	2				LMFB	Hemmig-AEC	DRDT	72
503	$_{94}Pu^{239}$	Nu Bar		I	Th	to	10	≤1*				AI	Alter	DRDT	66
504	$_{94}Pu^{239}$	Delayd n Y	$P(E_{n'})$	II	Th	to	5		5			ANL	Avery	DRDT	69
506	$_{94}Pu^{239}$	Eta		I	Th-1			1				GE	Snyder	DRDT	67
507	$_{94}Pu^{239}$	Alpha		I	100	to	10	4	to	10		ANL	Avery	DRDT	69
511	$_{94}Pu^{239}$	Res Par		II	Thr-50					10		ANL	Avery	DRDT	69
512	$_{94}Pu^{239}$	Fis Prod Y	of Xe^{135}	II	Th			3				BET	Bayard	DNR	67
513	$_{94}Pu^{239}$	Fis Prod Y	of Cs^{137}	II	Th			1				BET	Bayard	DNR	67
515	$_{94}Pu^{239}$	Fis Prod Y	of Sm^{149}	II	Th			3				BET	Bayard	DNR	67
					******	******	******	***	***	***	*****				
516	$_{94}Pu^{240}$	Inelastic		II			1.5-10				20	GE	Snyder	DRDT	72
517	$_{94}Pu^{240}$	$\sigma_{n,f}$		II		500-	10		5			GE	Snyder	DRDT	72
518	$_{94}Pu^{240}$	Fis Ratio	wrt U^{235}	III		1-100			5			AORP	Hannum	DRDT	72
519	$_{94}Pu^{240}$	Nu Bar		II		Ths-	10	3				ANL	Avery	DRDT	72
521	$_{94}Pu^{240}$	$\sigma_{n,\gamma}$		I	Th-100			3				GE	Snyder	DRDT	67
522	$_{94}Pu^{240}$	$\sigma_{n,\gamma}$		I	500-	150			5			ANL	Avery	DRDT	69
524	$_{94}Pu^{240}$	Res Par		II	100-	5				10		ANL	Avery	DRDT	69
					******	******	******	***	***	***	*****				
526	$_{94}Pu^{241}$	$\sigma_{n,f}$		I	Th-	30		3	to	10		ANL	Avery	DRDT	69
528	$_{94}Pu^{241}$	Nu Bar		II			1-10		6			ANL	Avery	DRDT	72

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
530	$_{94}Pu^{241}$	$\sigma_{n,\gamma}$		I	Th-	30		3				GE	Snyder	DRDT	67
531	$_{94}Pu^{241}$	Alpha		II		1-	2				20	GE	Snyder	DRDT	69
532	$_{94}Pu^{241}$	Res Par		II	Thr-	.4			5	to	20	ANL	Avery	DRDT	72
535	$_{94}Pu^{242}$	Nu Bar		II		500-	10		5			LMFB	Hemmig-AEC	DRDT	69
538	$_{94}Pu^{242}$	$\sigma_{n,\gamma}$		I	Th	to	7	3-			20	BNW	Leonard	DPMM	67
543	$_{95}Am^{241}$	$\sigma_{n,\gamma}$		I	Th-	1				10		SRL	Dessauer	DPMM	67
547	$_{95}Am^{242}$	$\sigma_{n,\gamma}$		II	Th	to	10			15		GE	Hutchins	DRDT	72
549	$_{95}Am^{243}$	$\sigma_{n,\gamma}$		II	Thr	to	10			15		GE	Snyder	DRDT	72
557	$_{96}Cm^{244}$	$\sigma_{n,\gamma}$		II		10-	10			10		GE	Snyder	DRDT	67
579	$_{98}Cf^{252}$	Nu Bar		I				.25				NDC	Caswell	DPR	69
580	$_{98}Cf^{252}$	Nu Bar		I				<1				AI	Alter	DRDT	72
581	$_{98}Cf^{252}$	Fis Spect	$P(E_{n'})$	I				1				BET	Bayard	DNR	72

SECTION V. TABLE 5.J DSNS

Division of Space Nuclear Systems, David S. Gabriel, Director

Phone: 301-973-3027

USAEC, Washington, D. C. 20545

Contacts set up at AGC and at WAL along with the following in the DSNS Division

Charles P. MaCallum
Donald S. Beard } Phone: 301-973-4558

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
11	$_{3}$Li	Tot γ Prod	$\sigma(E_\gamma)$	II		258±10				15*	1	SNPO	Fleishman	DSNS	69
97	$_{13}$Al	Cap Spect	$P(E_\gamma)$	I	Th					10		SNPO	Fleishman	DSNS	69
98	$_{13}$Al	Tot γ Prod	$\sigma(E_\gamma)$	II		5-200				15*		SNPO	Fleishman	DSNS	69
110	$_{22}$Ti	Tot γ Prod	$\sigma(E_\gamma)$	II		1-100				15*		SNPO	Fleishman	DSNS	69
141	$_{24}$Cr	Tot γ Prod	$\sigma(E_\gamma)$	I	500-	20				15*		SNPO	Fleishman	DSNS	69
145	$_{25}$Mn	Tot γ Prod	$\sigma(E_\gamma)$	I	300-	120				15*		SNPO	Fleishman	DSNS	69
163	$_{26}$Fe	Tot γ Prod	$\sigma(E_\gamma)$	II		1-650				15*		SNPO	Fleishman	DSNS	69
177	$_{27}$Co	Tot γ Prod	$\sigma(E_\gamma)$	I	100-	100				15*		SNPO	Fleishman	DSNS	69
196	$_{28}$Ni	Tot γ Prod	$\sigma(E_\gamma)$	II		12-340				15*		SNPO	Fleishman	DSNS	69
209	$_{29}$Cu	Tot γ Prod	$\sigma(E_\gamma)$	II	200-	50				15*		SNPO	Fleishman	DSNS	69
215	$_{30}$Zn	Cap Spect	$P(E_\gamma)$	I	Th					10		SNPO	Fleishman	DSNS	69
216	$_{30}$Zn	Tot γ Prod	$\sigma(E_\gamma)$	I	200-	25				15*		SNPO	Fleishman	DSNS	69
231	$_{40}$Zr	Emission	$\sigma(\theta_{n'},E_{n'})$	I			2-14			10		KAPL	Ehrlich	DNR	67
237	$_{40}$Zr	Cap Spect	$P(E_\gamma)$	I	Th					10		SNPO	Fleishman	DSNS	69
240	$_{40}$Zr	Tot γ Prod	$\sigma(E_\gamma)$	II	100-	20				15*		SNPO	Fleishman	DSNS	69
272	$_{41}$Nb	Emission	$\sigma(\theta_{n'},E_{n'})$	I			1.5-15			10		LASL	Streetman	DSNS	69

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY eV	keV	MeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
280	$_{41}Nb$	Cap Spect	P(E-g)	I	Th					10		SNPO	Fleishman	DSNS	69
283	$_{41}Nb$	Tot g Prod	σ(E-g)	II	30-	75				15*		SNPO	Fleishman	DSNS	69
293	$_{42}Mo$	Emission	σ(θn',En')	II			1.5-15			10		LASL	Streetman	DSNS	69
298	$_{42}Mo$	Cap Spect	P(E-g)	I	Th					10		SNPO	Fleishman	DSNS	69
302	$_{42}Mo$	Tot g Prod	σ(E-g)	I	10-	9				15*		SNPO	Fleishman	DSNS	69
378	$_{73}Ta$	Emission	σ(θn',En')	III			1.5-15			10		LASL	Streetman	DSNS	69
380	$_{73}Ta$	Tot g Prod	σ(E-g)	I	4-	1.4				15*		SNPO	Fleishman	DSNS	69
381	$_{74}W$	Emission	σ(θn',En')	I			4-14			10		AFWL	Enz	DNA	69
382	$_{74}W$	Tot g Prod	σ(E-g)	I	2-	2.5				15*		SNPO	Fleishman	DSNS	69
398	$_{82}Pb$	Tot g Prod	σ(E-g)	II	80-	800				15*		SNPO	Fleishman	DSNS	69
446	$_{92}U^{235}$	$\sigma_{n,f}+\sigma_{n,g}$	at 77°K	II	Th-	1		3-	5			SNPO	Fleishman	DSNS	69

National Aeronautics and Space Administration

REQ #	TARGET Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY keV	MeV	GeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
620	$_{2}He^{4}$	$\sigma_{p,x}$	$\sigma(E_x)$	II		25-100				10*		GSFC	Reames	NASA	67
621	$_{2}He^{4}$	$\sigma_{p,x}$	$\sigma(E_x)$	II		300-	,6			10*		GSFC	Reames	NASA	67
622	$_{2}He^{4}$	$\sigma_{\bar{a},x}$	$\sigma(E_x)$	II		25-600				10*		GSFC	Reames	NASA	67
623	$_{3}Li^{6}$	Tot p Reac		III		25-600				10*		GSFC	Reames	NASA	67
					******	******	******	***	***	***	*****				
624	$_{3}Li^{7}$	Tot p Reac		III		25-600				10*		GSFC	Reames	NASA	67
625	$_{3}Li^{7}$	$\sigma_{p,x}$		II		25-600				10*		GSFC	Reames	NASA	67
626	$_{4}Be^{7}$	$\sigma_{p,Li^{6}}$		II		25-600					est,*	GSFC	Reames	NASA	67
					******	******	******	***	***	***	*****				
627	$_{4}Be^{9}$	Tot p Reac		III		25-600				10*		GSFC	Reames	NASA	67
628	$_{5}B^{10}$	$\sigma_{p,x}$		II		25-600				10*		GSFC	Reames	NASA	67
					******	******	******	***	***	***	*****				
629	$_{5}B^{11}$	$\sigma_{p,x}$		II		25-600				10*		GSFC	Reames	NASA	67
630	$_{6}C$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I		~50					25	HASL	O'Brien	DBER	67
631	$_{6}C$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	II		600-	2				25	HASL	O'Brien	DBER	66
					******	******	******	***	***	***	*****				
632	$_{6}C^{12}$	$\sigma_{p,x}$		II		25-	1			10*		GSFC	Reames	NASA	67
633	$_{6}C^{12}$	$\sigma_{\bar{a},x}$		I		25-	1,2			10*		GSFC	Reames	NASA	69
					******	******	******	***	***	***	*****				
634	$_{6}C^{13}$	$\sigma_{p,x}$		I		25-600				10*		GSFC	Reames	NASA	67
635	$_{7}N^{14}$	$\sigma_{p,x}$		II		25-600				10*		GSFC	Reames	NASA	67
					******	******	******	***	***	***	*****				
636	$_{7}N^{15}$	$\sigma_{p,x}$		II		25-600				10*		GSFC	Reames	NASA	67

REQ #	TARGET Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY keV	MeV	GeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
637	$_8O$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I		~50					25	HASL	O'Brien	DBER	66
638	$_8O$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	II		600-	2				25	HASL	O'Brien	DBER	66
639	$_8O$	$\sigma_{\bar{a},k\pi^{\pm}y}$	$\sigma(\theta_{\pi},E_{\pi})$	II			1-2				25	HASL	O'Brien	DBER	66
					******	******	******	***	***	***	*****				
640	$_8O^{16}$	$\sigma_{p,x}$		I		25-600				10*		GSFC	Reames	NASA	67
641	$_8O^{16}$	$\sigma_{p,x}$		I		25-600				10*		GSFC	Reames	NASA	67
642	$_8O^{16}$	$\sigma_{\bar{a},x}$		I		25-	1,2			10*		GSFC	Reames	NASA	69
					******	******	******	***	***	***	*****				
643	$_8O^{18}$	$\sigma_{p,x}$		I		25-600				10*		GSFC	Reames	NASA	67
644	$_{10}Ne^{20}$	$\sigma_{p,A=19}$		I		25-600				10		GSFC	Reames	NASA	67
645	$_{12}Mg^{24}$	$\sigma_{p,x}$		II		25-600				10*		GSFC	Reames	NASA	67
646	$_{13}Al$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I		600-	2				25	HASL	O'Brien	DBER	66
647	$_{13}Al$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I			~10,30				25	HASL	O'Brien	DBER	66
648	$_{13}Al$	$\sigma_{p,kpy}$	$\sigma(\theta_{p},E_{p})$	II		~2000,	~10,30				25	HASL	O'Brien	DBER	66
649	$_{13}Al$	$\sigma_{\bar{a},kny}$	$\sigma(\theta_{n'},E_{n'})$	II		100-	1				25	HASL	O'Brien	DBER	66
650	$_{20}Ca^{40}$	$\sigma_{p,x}$		III		25-600				10*		GSFC	Reames	NASA	67
651	$_{26}Fe^{56}$	$\sigma_{p,x}$		II		25-600				10*		GSFC	Reames	NASA	67
652	$_{26}Fe^{56}$	$\sigma_{p,x}$		I		25-600				10*		GSFC	Reames	NASA	67
653	$_{27}Co$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I		600-	2				25	HASL	O'Brien	DBER	66
654	$_{27}Co$	$\sigma_{p,kny}$	$\sigma(\theta_{n'},E_{n'})$	I			~10,30				25	HASL	O'Brien	DBER	66
655	$_{27}Co$	$\sigma_{p,kpy}$	$\sigma(\theta_{p},E_{p})$	II		~2000,	~10,30				25	HASL	O'Brien	DBER	66

REQ #	TARGET * Z A	REACTION TYPE QUANTITY	VARIABLE	PRI OR.	INCIDENT ENERGY keV	MeV	GeV	PERCENT ACCURACY 1-3	4-9	≤15	>15	REQUESTER LAB	PERSON	ORG	YR
656	$_{83}Bi$	$\sigma_{p,kny}$	$\sigma(\theta_{n'}, E_{n'})$	I		600-	2				25	HASL	O'Brien	DBER	66
657	$_{83}Bi$	$\sigma_{p,kny}$	$\sigma(\theta_{n'}, E_{n'})$	II			~10,30				25	HASL	O'Brien	DBER	66
658	$_{83}Bi$	$\sigma_{p,kpy}$	$\sigma(\theta_p, E_p)$	II		~2000,	~10,30				25	HASL	O'Brien	DBER	66

APPENDIX A

LIST OF REQUESTERS*

LAB	NAME	SPONSORING AND/OR REVIEWING AGENCY	FULL NAME OF CONTACT AND PHONE NUMBER	COMPLETE ADDRESS
AC 005	Greenhow 01	DNA 205	Charles R. Greenhow Phone:	Nuclear Effects Department AEROSPACE CORPORATION P. O. Box 1308 San Bernadino, California 92401
ACRP 010	Hannum 01	DRDT 135	W. H. Hannum Chairman, ACRP Phone: 301-973-4181	Division of Reactor Development & Tech. Reactor Physics Branch U. S. Atomic Energy Commission Washington, D. C. 20545
AGC 015	Koebberling 01	DSNS 165	Karl O. Koebberling Phone: 916-449-2000 Ask for: 355-3539	Aerojet-General Corporation P. O. Box 15847 Sacramento, California 95813
AFIT 020	Dooley 01	DNA 201	John A. Dooley Phone: 513-257-7266	Air Force Institute of Technology Wright Patterson Air Force Base Space Systems Division Ohio 45433
AFWL 025	Enz 01	DNA 205	Major Richard Enz Phone: 505-247-1711 Ext-3636	USAF (SRUGT) Department of the Air Force Air Force Weapons Laboratory Kirtland Air Force Base New Mexico 87117
AI 030	Alter 01	DRDT 135	Harry Alter Phone: 213-341-1000 Ext-2491 or 2492	Atomics International P. O. Box 309 Canoga Park, California 91305

*Due to the many name and organizational changes during the past six years, the Laboratories are no longer listed alphabetically. The numbers which appear under the laboratory, name, and agency are those stored in the computer. Searches are therefore made on the numerical indices.

LAB	NAME	SPONSORING AND/OR REVIEWING AGENCY	FULL NAME OF CONTACT AND PHONE NUMBER	COMPLETE ADDRESS
ANL 035	Avery 01	DRDT 135	Robert Avery Phone: 312-739-2275	Argonne National Laboratory 9700 S. Cass Ave. Argonne, Illinois 60439
BET 040	Bayard 01	DNR 185	R. T. Bayard Phone: 412-462-0234	Westinghouse Electric Company Bettis Atomic Power Lab P. O. Box 79 West Mifflin, Pennsylvania 15122
BNL 045	Kouts 05	DNMS 155	Herbert J. Kouts Phone: 516-924-7796	Brookhaven National Laboratory Upton, New York 11973
DNA 055	Kaul 03	DNA 205	Captain Dean Kaul Phone: 202-694-5395	HQ, Defense Nuclear Agency Department of Defense Washington, D. C. 20305
GDFW 060	Western 01	DNA 201	G. T. Western Phone: 817-334-3011 Ask for: 732-4811 Ext-2895 or 2000 Others: Ernest Jones H. R. Dvorak	Nuclear Radiation Transport and Safet General Dynamics Fort Worth Division P. O. Box 748 Fort Worth, Texas 76101
GE 065	Snyder 01	DRDT 135	Thoma Snyder Phone: 408-286-2525 Ask for: 297-3000 Ext-2404 or 2292	General Electric Company Nuclear Energy Division Mail Code 581 175 Curtner Avenue San Jose, California 95125
GE 065	Hutchins 02	DRDT 135	Bruce Hutchins Phone: 408-275-7011 Ask for: 297-3000 Ext- 330	General Electric Company BRDO 310 De Guigne Drive Sunnyvalle, California 94086

LAB	NAME	SPONSORING AND/OR REVIEWING AGENCY	FULL NAME OF CONTACT AND PHONE NUMBER	COMPLETE ADDRESS
IRT 070	Bramblett 04	DNMS 155	Richard L. Bramblett Phone: 714-293-5000 Ask for: 453-1000 Ext-17351	Intelcom Rad Tech Technical Applications Department P. O. Box 80817 San Diego, California 92138
IRT 070	Preskitt 01	DRDT 135	C. A. Preskitt Phone: 714-293-5000 Ask for: 453-1000 Ext- 278	Intelcom Rad Tech Technical Applications Department P. O. Box 80817 San Diego, California 92138
GSFC 075	Reames 01	NASA 301	D. V. Reames Phone: 301-982-4917	Goodard Space Flight Center Greenbelt, Maryland 20771
HASL 080	O'Brien 01	DBER 105	Keran O'Brien Phone: 212-620-3632	Health and Safety Laboratory Radiation Physics Division U. S. Atomic Energy Commission 376 Hudson Street New York, New York 10014
ANC 085	Brugger 01	DRDT 135	Robert M. Brugger Phone: 208-526-4387]	Aerojet Nuclear Corporation P. O. Box 1845 Idaho Fals, Idaho 83401
ANC 085	Heath 05	DNMS 155	Russell Heath Phone: 208-526-4447	Aerojet Nuclear Corporation P. O. Box 1845 Idaho Falls, Idaho 83401
KAPL 090	Ehrlich 01	DNR 185	Richard Ehrlich Phone: 518-393-4312	Knolls Atomic Power Laboratory P. O. Box 1072 Schenectady, New York 12301

LAB	NAME	SPONSORING AND/OR REVIEWING AGENCY	FULL NAME OR CONTACT AND PHONE NUMBER	COMPLETE ADDRESS
LASL	Various	DMA	Michael S. Moore (Contact)	Los Alamos Scientific Laboratory
				P. O. Box 1663
			Phone: 505-667-5951	Los Alamos, New Mexico 87544
100	Barr 12	DMA 115	Donald W. Barr - 505-667-5328	
	Bell 14	DMA 115	George I. Bell - 505-667-4401	
	Bennett 16	DMA 115	Elbert W. Bennett - 505-667-4143	
	Biggers 18	DMA 115	Wendell Biggers - 505-667-5201	
	Cowan 19	DMA 115	George A. Cowan - 505-667-5201	
	Diven 20	DMA 115	Ben C. Diven - 505-667-4504	
	Hansen 24	DMA 115	Gordon Hansen - 505-667-4610	
	Moore 26	DMA 115	Michael S. Moore - 505-667-5951	
	Motz 28	DMA 115	Henry T. Motz - 505-667-4117	
	Walton 40	DNMS 155	Roddy B. Walton - 505-667-6141	
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