APPENDIX A

Glossary

Terms are given in alphabetical order with numbers preceding letters, lower-case preceding upper-case letters, and Greek Letters following.

Parameter	Definition	Chapter
a	Parameter used in the Watt spectrum.	5
a_l	l^{th} Legendre coefficient.	4,6,14
$A_{k,l}$	Probability of emission of a γ ray of energy $E_\gamma=\varepsilon_k-\varepsilon_l$ as a result of the residual nucleus having a transition from the k^{th} to the l^{th} level.	11
A_l	Legendre coefficients (LANG=0) or μ,p_i pairs for tabulated angular distribution (LANG>0).	6
A_n	Mass of the n^{th} type atom; A_o is mass of the principal scattering atom in molecule.	7
ABN	Abundance (weight fraction) of an isotope in this material.	2,32
AC	Channel radius	2
AC_1, AC_2, AC_3, AC_4, BC_1, BC_2	Background constants for the Adler-Adler radiative capture cross section.	2
AF_1, AF_2, AF_3, AF_4, BF_1, BF_2	Background constants for the Adler-Adler fission cross section.	2
AG	Reduced-width amplitude.	2
AJ	Floating-point value of compound nucleus spin, J (resonance spin).	2,32
AL	Floating point value of the angular momentum, *l*.	2
ALAB	Mnemonic of laboratory originating evaluation.	1
ALRE1…ALRE4	Exit-*l*-value for reaction.	2
AMUF	Number of degrees of freedom used in fission-width distribution.	2
AMUG	Number of degrees of freedom used in radiation-width distribution.	2
AMUN	Number of degrees of freedom used in neutron-width distribution.	2
AMUX	Number of degrees of freedom used in competitive-width distribution.	2
AP	Scattering radius.	2,32
APL	*l*-dependent scattering radius.	2
APSX	Total mass in neutron units of the n particles being treated by LAW=6.	6
AS	Floating point value of channel-spin s.	2
AT_1, AT_2, AT_3, AT_4, BT_1, BT_2	Background constants for the Adler-Adler total cross section.	2
AUTH	Author of evaluation.	1
AVGG	Statistical R-matrix parameter.	2
AWD	Atomic mass (not a ratio) of the daughter nucleus.	2
AWI	Projectile mass in neutron units.	1

Parameter	Definition	Chapter
AWP	Product mass in neutron units.	6
AWR	Ratio of mass of atom (or molecule) to that of the neutron.	all
AWRI	Ratio of mass of particular isotope to that of the neutron.	2,32
AWRIC	Mass-ratio for charged-particle exit channel (see page D.40).	2
AWT	Nuclear mass (not a ratio) of outgoing particle.	2
AZD	Atomic number of daughter nucleus.	2
AZP	Atomic number of outgoing particle.	2
b	Parameter used in Watt spectrum.	5
b_i(E,E')	Representation of angular part of f_i(μ,E,E').	6
B_i(N)	List of constants.	7,12
BC	Boundary-condition parameter.	2
BR	Branching ratio for production of a particular nuclide and level.	8
C_n	Coefficients of a polynomial; NC coefficients are given.	1
$C_n(E_i)$	Array of yield data for the i^{th} energy point; contains 4 parameters per fission product.	8
CI	Channel index.	2
	Coefficient of the cross section for a reaction contributing to the value of a "derived" cross section (usually ±1.0).	31,33
CONT	Smallest possible ENDF record, a "control" record.	all
CT	Chain indicator.	8
D	Mean level spacing for a particular J-state.	2,32
DDATE	Original distribution date of the evaluation.	1
DE^2	Variance of the resonance energy ER.	32
DEC_r*	Resonance energy for the radiative capture cross section.	2
DEF_r*	Resonance energy for the fission cross section.	2
DET_r*	Adler-Adler resonance energy for the total cross section.	2
DF^2	Variance of GF.	32
DG^2	Variance of GG.	32
DGDF	Covariance of GG and GF.	32
DJ^2	Variance of AJ.	32
DJDF	Covariance of AJ and GF.	32
DJDF	Covariance of AJ and GF.	32
DJDG	Covariance of AJ and GG.	32
DJDN	Covariance of AJ an GN.	32
DN^2	Variance of GN.	32
DNDF	Covariance of GN and GF.	32
DNDG	Covariance of GN and GG.	32
DWC_r*	Value of Γ/2, (ν), used for the radiative capture cross section.	2
DWF_r*	Value of Γ/2, (ν), used for the fission cross section.	2

* The subscript r denotes the r^{th} resonance.

Parameter	Definition	Chapter
DWT_r^*	Value of $\Gamma/2$, (ν), used for the total cross section.	2
DYC	1-σ uncertainty in cumulative fission-product yield.	8
DYI	1-σ uncertainty in fractional independent fission-product yield.	8
$\{E_k\}$	List of energies for a covariance file energy grid	32-40
E	Energy of the incident neutron (eV).	all
E'	Secondary neutron energy (eV).	5,6,7
E1,E2	Range of neutron energies.	31,33
E_{avail}	Available energy.	5
E_{int}	Interpolation scheme for each energy range (Appendix E).	all
E_{th}	Threshold energy.	3
$E_{"x"}$	Average decay energy (eV) of "x" radiation for decay heat applications.	8
EB	Total energy released by delayed β's.	1
EBAR	Statistical R-matrix parameter	2
EBI	Binding energy for subshell (eV)	28
ED	Logarithmic parameter for a R-matrix element	2
EDATE	Date of evaluation.	1
EFH	Constant in energy-department fission spectrum	5
EFL	Constant in energy-department fission spectrum	5
	Fluorescence yield (eV/photo-ionization). Value is zero if not photoelectric subshell ionization cross section.	23
EFR	Kinetic energy of the fragments.	1,5
EG_k	Photon energy or Binding Energy.	12,13,14
EGD	Total energy released by the emission of delayed γ rays.	1
EGP	Total energy released by the emission of "prompt" γ-rays.	1
EH	Upper limit for a resonance region energy range.	2,32
EI	Energy points where the weighting of the standard cross is given.	31,33
EL	Lower limit for a resonance region energy range.	2,32
ELFS	Excitation energy of the reaction product.	8
ELIS	Excitation energy of the target nucleus.	1
ELN	Number of electrons in subshell when neutral.	28
EMAX	Upper limit of energy range for evaluation	1
END	Kinetic energy of the delayed fission neutrons.	1
	End-point energy of the particle or quantum emitted.	8
ENDATE	Master file entry date (yyyymmdd).	1
ENP	Kinetic energy of the "prompt" fission neutrons.	1
ENU	Energy carried away by neutrinos.	1
EPE	Sub-shell binding energy (equal to photoelectric edge energy) in eV. The value is zero if MT≠534-599.	23

Parameter	Definition	Chapter
ER	Total energy release due to fission minus neutrino energy.	1
	Resonance energy (in the laboratory system).	2,32
	Energy (eV) of radiation produced.	8
ER_{AV}	Average decay energy of radiation produced.	8
ES_i	Energy of the i^{th} level.	12
ES_k	Energy of the level from which the photon originates.	12,13,14
ES(N)	Energy of N^{th} point used to tabulate energy-dependent widths.	2
ET	Total energy release due to fission.	1
ET(E)	Energy transfer during electro-atomic excitation or bremsstrahlung	26
ETR	Energy of transition (eV)	28
EU	Logarithmic parameter for a R-matrix element	2
$f_i(\mu,E,E')$	Normalized product energy-angle distribution	6
$f_k(E \rightarrow E')$	k^{th} partial energy distribution; definition depends on LF value.	5
F(q;Z)	Form factor for coherent photon scattering.	27
$F_{x,k,k'}^{(LB)}$	Covariance components correlated over the energy interval with lower edges E_k and $E_{k'}$ (exact definition depends on LB value.	31-40
FC	Continuum spectrum normalization factor.	8
FD	Discrete spectrum normalization factor.	8
FPS	Floating-point value of state designator for a fission product nuclide.	8
FTR	Fractional probability for transition.	28
$g(E_\gamma \leftarrow E)$	Particular class of the functions $g_j(E_\gamma \leftarrow E)$ tabulated in File 15; in units eV^{-1}.	15
$g_j(E_\gamma \leftarrow E)$	j^{th} normalized partial distribution; in units eV^{-1}.	15
GE	Eliminated width.	2
GF	Fission width Γ_f evaluated at resonance energy ER.	2,32
	Average fission width - may be energy dependent.	2
GFA	First partial fission width	2
GFB	Second partial fission width	3
GG	Radiation width Γ_γ evaluated at resonance energy ER.	2,32
	Average radiation width - energy dependent if LRU=2.	2
GIC_r	Asymmetrical capture parameter.	2
GIF_r	Asymmetrical fission parameter.	2
GIT_r	Related to the asymmetrical total cross section parameter.	2
GN	Neutron width Γ_n evaluated at resonance energy ER.	2,32
GN0	Average reduced neutron width; energy dependent.	2
$GP_{j,i} \equiv Gp_i$	Conditional probability of photon emission in a direct transition from level j to level i, i < j.	12
GRC_r	Symmetrical capture parameter.	2

Parameter	Definition	Chapter
GRE1…GRE4	Partial widths.	2
GRF_r	Symmetrical fission parameter.	2
GRT_r	Related to symmetrical total cross section parameter.	2
GT	Resonance total width Γ evaluated ate resonance energy ER.	2,32
GX	Competitive width Γ_x evaluated at resonance energy ER, or, average competitive reaction width.	2
H(q;Z)	Form factor or incoherent scattering function; either F(q;Z) or S(q;Z), respectively.	27
H(N)	Array containing text information that describes evaluated data set.	1
HEAD	First record in a section	all
HL	Half life of the reaction product.	8
HSUB	Library identifier (eye-readable)	1
I	Normalizing denominator (see 5.3).	5
I_i	Interpolation scheme (see Appendix E) to be used between the E_{i-1} and E_i energy points.	8
IDP	Resonance parameter identification number.	2,32
INT	Statistical parameter for R-matrix element (LRU=1, LRF=5), or, interpolation scheme used for interpolating between cross sections obtained from average resonance parameters (LRU=2).	2
INT(m)	Interpolation scheme identification number used in m^{th} range.	0
IPS	Imaginary part of a non-hard-sphere phase shift.	2
IPS(e)	Real part of PS(E).	2
IR0(e)	Imaginary part of R0(E).	2
IRP	Imaginary part of background-R-matrix element.	2
ISG	Spin group index.	2
ISH	Shift function flag.	2
k	Boltzmann's constant.	7
L	Value of the *l* state (neutron angular momentum).	
LA	Value of *l* (for the l^{th} coefficient).	
LAD	Angular distribution flag	
LANG	Angular distribution indicator	
LASYM	Flag indicating whether asymmetric S(α,β) is given.	
LAT	Flag indicating which temperature has been used to compute α and β.	7
LAW	Distinguishes between different representations of f_i, the normalized product energy-single distribution	6
LB	Flag which determines meanings of the F-numbers in the arrays $\{E_k,F_k\}\{E_l,F_l\}$.	8,31,33, 34,40
LBK	Background R-matrix parameter (LRU=1, LRF=5), or, background-R-function flag (LRU=1, LRF=6).	2

Parameter	Definition	Chapter
LCOMP	Indicates ENDF-5 compatible format.	32
LCON	Continuum spectrum flag.	8
LCOV	Indicates whether covariance data are given.	8
LCT	Indicates which reference frame is used for both secondary angles and energies.	4,6
LDRV	Distinguishes between different evaluations with the same material keys	1
LE	Indicates whether energy-dependent fission-product yields are given.	8
LEP	Selects interpolation scheme for secondary energy.	6
LF	Specifies the energy distribution law that is used for a particular subsection (partial energy distribution).	5,6,12,13, 15
LFI	Indicates whether this material is fissionable.	1
LFS	Indicator that specifies the final excited state of the residual nucleus produced by a particular reaction.	3,8,9,10,40
LFW	Indicates whether average fission widths are given in the unresolved resonance region for this isotope.	2,32
LG	Transition probability array flag for distinguishing between doublet and triplet arrays in File 12.	12
LI	Indicates kind of Adler-Adler parameters given.	2
	Isotropy flag.	4,14
	Temperature interpolation flag.	7
LIBF	Sub-library where some data are sensitive to the same model parameters as data in present sub-library/material.	30
LIDP	Identifies identical particles for LAW=5.	6
LIP	Product modifier flag.	8
LIS	State number of the target nucleus (for materials that represent nuclides).	1,3,8,9,10, 40
LISO	Isomeric state number of the target nucleus.	1,8
LIST	Record used to list a series of numbers.	all
LLN	Indicates form for storing S(α,β).	7
LMF	File number for this MT containing multiplicity or cross section.	8
LNU	Indicates representation of $\bar{\nu}$ (E) used.	1
LO	Indicates whether multiplicities or transition probability arrays given.	12
LP	Indicates whether particular photon is a primary.	12,13
LPS	Optical model phase shift flag	2
LR	Defines x in (n,n'x); used in the reactions MT=51, 52, 53,…, 90, and 91. (See Section 3.4.4.)	3
LREL	Release number	1

Parameter	Definition	Chapter
LRF	Indicates which resonance parameter representation used for energy range; definition depends on value of LRU for range.	2,32
LRP	Indicates whether resolved and/or unresolved resonance parameters given in File 2.	1
LRU	Indicates whether energy range contains data for resolved or unresolved resonance parameters.	2,32
LRX	Indicates whether a competitive width is given.	2
LS	Indicates whether $F_{k,k'}$ matrix is asymmetric or symmetric (LB=5 or 7).	31,33,35
LSSF	Indicates how File 2 and File 3 are to be combined.	2,32
LT	Temperature dependence (see Appendix F).	0
	Specifies whether temperature-dependent data are given.	3,4,5,6,7
	Number of pairs of numbers in the array $\{E_l,F_l\}$.	31,33
LTHR	Thermal data flag.	7
LTP	Specifies representation used for LAW=5.	6
LTT	Specifies whether Legendre or probability representation used.	4,6,14
	Specifies whether Legendre coefficient covariance data start with a_0 coefficient.	34
LTY	In "NC-type" sub-subsections, indicates the procedure used to obtain the covariance matrix.	31,33
LVT	Specifies whether a transformation matrix given for elastic scattering.	4
L1	Integer to be used as a flag or a test. Number of Legendre coefficients.	1 34
L2	Integer to be used as a flag or a test.	1
M_n	Number of atoms of the n^{th} type in the molecule.	7
MAT	Material number.	0
MAT1	Referenced material for covariance data.	33
MATF	MAT in which some data are sensitive to the same parameter.	30
MATP	Material number for the reaction product.	8
MATS	MAT in which a pertinent standard cross section (MTS) exists.	31,33
MF	File number.	0
MF_n	MF of the n^{th} section.	1
MFSEN,MTSEN	MF,MT of a section in which data are sensitive to the indicated parameter (MP).	30
MOD_n	Modification indicator for section MF_n and MT_n.	1
MP	Model parameter index.	30
MPAR	Number of parameters for which covariance data is given.	32
MPF	Model parameter index given the same parameter (MP) in another sublibrary/material	30
MT	Reaction type number, or, covariance file section identifier.	all

Parameter	Definition	Chapter
MT_n	MT of the n^{th} section.	1
MT1	Referenced reaction type for covariance data.	33
MTL	Indicates MT that is a component of the lumped reaction.	33
MTS	Reaction type number for relevant standard cross section.	31,33
MUF	Number of degrees of freedom for fission widths.	2
MTRE1…MTRE4	MT values for inelastic or charged particle reactions	2
N0	Identifies reaction product that has radioactive ground state.	8
N1	Number of items in a list to follow (except for MT 451).	1
N2	Number of items in a second list to follow.	1
NA	Number of angles (cosines) at which secondary distributions given.	6
NAC	Number of channel radii	2
NAPS	Controls use of channel radius *a* and scattering radius AP.	2,32
NB	Total number of β value given.	7
NBC	Number of boundary-condition parameters.	2
NBK	Background-R-matrix parameter.	2
NBT(n)	Value of N separating the m^{th} and $(m+1)^{th}$ interpolation rangers.	0
NC	Number of terms used in the polynomial expansion.	1
	Total number of decay energies (eV) given (NC = 3 or 17).	8
	Number of partial distributions used to represent $f(_{E\gamma} \leftarrow E)$.	15
	Number of "NC-type" sub-subsections.	31,33
NC_n	Number of physical records in the n^{th} section.	1
NCH	Number of channels using particular background R-matrix element, phase shift, penetrability, channel radius, or boundary condition (LRU=1, LRF=5).	2
NCI	Number of reactions summed to obtain the reaction of interest.	1
	For a "derived" cross section, number of reaction types for which cross sections are combined in the derivation.	31,33
NCP	Number of channels.	2
NCRE	Number of charged-particle reactions.	2
NCS	Number of channels in a particular spin group.	2
NCT	Total number of channels.	2
NCTAB	Number of CONT records in the corresponding table.	30
ND	Number of discrete energies (File 6);	6
	Number of branches into which nuclide ZAP decays.	8
NDIR	Number of CONT records in the MF=30 directory.	30
NDK	Total number of decay modes given.	8
NE	Number of incident-energy points at which widths given.	2
	Number of points at which tabulated distributions given.	4
	Number of points at which θ(E) (file 5) given.	5
	Number of energy points given in a TAB2 record.	14,15

Parameter	Definition	Chapter
NEI	Number of energy points in {EI,WEI} list.	33
NEP	Number of secondary energy points.	6
NER	Number of energy ranges given for this isotope.	2,32
	Total number of discrete energies for given spectra type (STYP).	8
	Number of energies corresponding to the rows of LB=6 covariance matrix.	33
NF	Number of channels not requiring a phase shift.	2
	Number of secondary energy points in tabulation.	5
NFOR	Library format.	1
NFP	Number of fission-product nuclide states to be specified at each incident-energy point.	8
NFRE	Number of fission reactions.	2
NGRE	Number of capture reactions.	2
NHS	Number of channels that require hard-sphere phase shifts.	2
NI	Total number of items in the B(N) list; NL=6* (NS + 1).	7
	Number of isotropic angular distributions given in section (MT) for which LI=0, *i.e.*, with at least one anisotropic distribution).	14
	Number of "NI-type" sub-subsections.	31,33
NIRE	Number of inelastic reactions.	2
NIS	Number of isotopes in this material.	2,32
NJS	Number of sets of resonance parameters (each having the same J state) for a specified *l*-state.	2,32
NK	Number of elements in transformation matrix; NK=$(NM+1)^2$.	4
	Number of partial energy distributions (one subsection for each partial distribution).	5,6
	Number of partial energy distributions (LCON=5).	8
	Number of discrete photons plus the photon continuum.	12,13,14
	Number of subsections in this section (MT).	26
	Number of incident-neutron energy ranges for covariance representation, each with a subsection.	35
NL	Highest order Legendre polynomial given at each energy.	4,6,14
	Number of subsections within a section.	33
NLG	Number of logarithmically parameterized elements.	2
NL1	Number of Legendre coefficients.	34
NLIB	Library identifier.	1
NLJ	Count of the number of levels for which parameters will be given.	2

Parameter	Definition	Chapter
NLRS	Number of subsections containing data on long-range resonance parameter covariance.	32
NLS	Number of *l*-values considered; a set of resonance parameters is given for each *l*-value.	2,32
NLSC	Number of *l*-value for convergence.	2
NLSJ	Number of resonances specified by *l*, s, and J.	2
NM	Maximum order Legendre polynomial required to describe the angular distributions.	4
NML	Number of entries in MT list.	2
NMOD	Modification number.	1
NMT1	Number of subsections, for MT1 ≥ MT.	34
NMU	Number of emission cosine values for LAW=7.	6
NN	Number of elements in the LIST record	8
NNF	Number of precursor families considered.	1
NO	Decay information flag.	8
NP	Number of points in a tabulation of y(x) that are contained on the same record.	all but ↓
	Number of Bragg edges.	7
	Total number of distinct model parameters.	30
	Total number of pairs of numbers in the arrays $\{E_k,F_k\}\{E_l,F_l\}$.	31,33
NPE	Number of charged-particle penentrabilities.	2
NPP	Number of pairs of numbers in the $\{E_k,F_k\}$ array.	8
NPS	Number of non-hard-sphere phase shifts.	2
NPSX	Number of particles distributed by LAW=6.	6
NR	Number of different interpolation intervals in a tabulation of y(x) that are contained in the same record.	all
NRB	Number of resonances in block.	32
NRM	Number of interpolation intervals for emission cosine for LAW=7.	6
NRO	Energy dependence of the scattering radius.	2,32
NRP	Number of interpolation intervals for emission energy (LAW=7).	6
NRS	Number of resolved resonances for a given *l*-state.	2,32
NRT	Total number of resonances.	2
NS	Number of non-principle scattering atom types.	7
	Number of states of the radioactive reaction product.	8,9,10
	Number of levels below the present one, including ground state.	12
NSG	Number of spin groups.	2
NSP	Total number of spectra radiation types (STYP) given.	8

Parameter	Definition	Chapter
NSRS	Number of subsections for covariances among parameters of specific resonances.	32
NSS	Number of different s-values.	2
	Number of subshells.	28
NST	Number of statistically parameterized background R-matrix elements.	2
NSUB	Sub-library number.	1
NT	Number of transitions for which data given.	2
	Number of entries for each discrete energy ER.	8
	Total number of items in LIST.	33,34,35
NTP	Control flag for background-R-matrix or penetrability list.	2
NTR	Number of transitions.	28
NVER	Library version number.	1
NVS	Number of covariance elements for a block of resonances.	32
NW	Number of words in LIST record.	6
NWD	Number of elements in the text section.	1
NX	Number of sets of background constants to be given.	2
NXC	Number of the sections to be found in the dictionary	1
$P_j(E)$	Probability or weight given to j^{th} partial distribution, $g_j(E_\gamma \leftarrow E)$.	15
$P_k(E_N)$	Fractional part of cross section that can be described by the k^{th} partial distribution of the n^{th} incident-energy point.	5
$p(\mu,E)$	$\frac{2\pi}{\sigma_s(E)}\frac{d\sigma}{d\Omega}(\Omega,E)$	4
PAR	Parity π of target nuclide.	8
PCP(E)	Charged-particle penetrability.	2
PMT	Floating point value for PMT.	2
PS(E)	Complex phase shift.	2
Q	Reaction Q-value (eV); Q=(rest mass of initial state - rest mass of final state).	3,9,10
	Total decay energy (eV) available in corresponding decay process, not necessarily the same as maximum energy of emitted radiation).	8
QI	Reaction Q-value.	3,9,10
QM	Mass-difference Q-value.	3,9,10
QRE1…QRE4	Q-values.	2
QX	Effective Q-value for the competitive width.	2,32
$R_{mj\alpha}$	Probability of de-excitation.	11
R0,R1,R2	Logarithmic parameters for a R-matrix element.	2
R0(E)	Complex background R-function.	2
RCOV	Relative covariance of model parameters.	30

Parameter	Definition	Chapter
RDATE	Date and number of last revision.	1
REF	Reference to evaluation.	1
RFS	Isomeric state flag for daughter nuclide.	8
RI	Resonance index.	2
	Intensity of radiation produced (relative units).	8
RICC	Total internal conversion coefficient.	8
RICK	K-shell internal conversion coefficient.	8
RICL	L-shell internal conversion coefficient.	8
RIN	Statistical R-matrix parameters.	2
RIS	Internal pair formation coefficient (STYP=0.0); positron intensity (STYP=2.0).	8
RNPM	Number of particular sections (MT's).	2
RNSM	Number of summed sections (MT's).	2
RP	Spectrum of the continuum component of the radiation $\int RP(E)dE=1$.	8
RPB	Real part of background R-matrix element.	2
RPS	Real part of a non-hard-sphere phase shift.	2
RPS(E)	Real part of PS(E).	2
RR0(E)	Real part of R0(E).	2
RTYP	Mode of decay of the nuclide in its LISO state.	8
RV_{ij}	Relative covariance quantities among average unresolved parameters.	32
S(α,β,T)	Defined (for a moderating molecule) by the relation. $\frac{d^2\sigma}{d\Omega dE'}\left(E \to E',\mu,T\right) = \sum_{n=0}^{NS} \frac{M_n\sigma_{bn}}{4\pi kT}\sqrt{\frac{E'}{E}}e^{\beta/2}S_n\left(\alpha,\beta,T\right)$	7
S0, S1	Logarithmic parameters for an R-matrix element.	2
SF	Statistical R-matrix parameter.	2
SMT	Floating-point value for MT.	2
SPD	Spin and parity for the daughter nucleus.	2
SPI	Nuclear spin of the target nucleus, I (positive number).	2,8,32
SPP	Spin and parity.	2
STA	Target stability flag.	1
STYP	Decay radiation type (defined in 8.3).	8
SUBI	Subshell designator.	28
SUBJ	Secondary subshell designator	28
SUBK	Tertiary subshell designator.	28
T	Temperature (K) at which temperature dependent data given.	4,5,6,7
$T_{1/2}$	Half-life of the original nuclide (seconds).	8
TAB1	Control record for one-dimensional tabulated functions.	all
TAB2	Control record for two-dimensional tabulated functions.	all

Parameter	Definition	Chapter
TEMP	Target temperature.	1
TM	Maximum temperature parameters.	5
TP_i	Probability of a direct transition from level NS to level I, I = 0, 1, 2, …(NS-1).	12
TYPE	Indicates the type of transition for beta and electron capture.	8
U	Defines the upper energy limit for the secondary neutron, so that 0 ≤E′≤E-U (given in the Lab system).	5
V_k	Matrix elements of the transformation matrices.	4
V_{mn}	Variance-covariance matrix element among resonance parameters.	32
WEI	Weight of the standard cross section at a given EI relative to the next given energy.	31,33
x	E′/θ(E).	5
x(n)	n^{th} value of x.	0
XLFS1	Floating-point form of final excited state number references for covariance data.	33,40
XLFSS	Floating-point form of LFSS, final excited state number of a reaction with a standard cross section	31,33
XMF1	Floating-point form of file number reference for covariance data.	33,40
XMFS	Floating-point form of MFS, file number in which pertinent standard cross section (MTS) may be found.	31,33
XMTI	Floating-point equivalent of MT number of the reaction for which the cross section contributes to a "derived" cross section.	31,33
y(E)	Yield for particle described.	26
y(n)	n^{th} value of y.	0
$y_i(E)$	Product yield or multiplicity.	6
Y(E)	Total multiplicity at energy E(eV); given as energy-multiplicity pairs.	9,12
	Partial multiplicity at energy E(eV).	12
YC	Cumulative yield for a particular fission product.	8
YI	Fractional independent yield for a particular fission product.	8
ZA	Designation of the original nuclide.**	all
ZAI	(Z,A) designation for an isotope.**	2,32
ZAFP	(Z,A) identifier for a particular fission product.**	8
ZAN	(Z,A) designation of the next nuclide in the chain.**	8
ZAP	(Z,A) designation of the product nuclide.**	8
ZSYMA	Test representation of material: Z-chemical symbol-A	8
ZSYMAM	Text representation of material Z-chemical symbol-A-state.	1

** (ZA=(1000.0*Z) + A).

Parameter	Definition	Chapter
α	Momentum transfer, $\alpha = \left(E' + E - 2\mu\sqrt{EE'}\right)\Big/A_0kT$.	7
β	Energy transfer, $\beta = (E' - E)/kT$.	7
$\delta(E_\gamma - \varepsilon_j + \varepsilon_i)$	Delta function, with ε_j, ε_i being energy levels of the residual nucleus.	11
Δ	Uncertainty in quantity.	1,8
λ_i	Decay constant (sec^{-1}) for the i^{th} precursor.	1
θ	Parameter describing secondary energy distribution; definition of θ depends on the energy distribution law (LF).	5
$\bar{\nu}(E)$	Total average number of neutrons formed per fission event.	1
$\sigma(E)$	Cross section (barns) for a particular reaction type at incident energy point, E, in (eV).	3,10,23
σ_{bn}	Bound atom scattering cross section of n^{th} type atom, $$\sigma_{bn} = \sigma_{fn}\left(\frac{A_n + 1}{A_n}\right)^2$$	7
σ_{fn}	Free atom scattering cross section of n^{th} type atom.	7
$\sigma_k^\gamma(E)$	Photon production cross section for a discrete photon or photon continuum specified by k.	13
$\sigma_{m_0}(E)$	Neutron cross section for exciting m_o^{th} level with neutron energy E.	11
$\sigma_s(E)$	Scattering cross sections, *e.g.*, elastic scattering at energy E as given in File 3 for the particular reaction type (MT).	4
σ_T (background)	$\frac{C}{\sqrt{E}}(AT_1 + AT_2/E + A_3/E^2 + AT_4/E^3 + BT_1 * E + BT_2 * E^2)$	2
σ_W	Wick's limit cross section in units of barns/steradian.	4
$\frac{d\sigma(\Omega,E)}{d\Omega}$	Differential scattering cross section in units of barns/steradian.	4
$\frac{d\sigma_k^\gamma}{d\Omega}$	Differential photon production cross section in barns/steradian.	14
μ	Cosine of scattered angle in either laboratory or center-of-mass system.	4,6,14