Table VII B.1. Binary COVariance file

Variable names (with dimension in parenthesis)	Meaning
TITLE	test which version of the SAMMY code wrote this COV file
JJJJJJ(300)	array dimensions, etc.
ALLVR(NVPALL)	covariance matrix for physical parameters (*p*-parameters), stored in NVPALL separate records
VRPR(NVPALL)	covariance matrix for *u*-parameters, stored in NVPALL separate records
U(NVPALL)	values of *u*-parameters
PKEN(NRES)	resonance energies
GGA(NRES)	gamma widths
GSI(NTOTC,NRES)	particle widths
IFLRES(NTOTC2,NRES)	flags for resonance parameters. Flags are 0 if fixed, $1 \leq$ flag $\leq$ NVPALL if parameter is varied, and NVPALL < flag $\leq$ NFPALL if PUP'd
IGROUP(NRES)	number of the spin group to which the resonance belongs
BETAPR(NTOTC,NRES)	(related to particle widths)
GBETPR(3,NRES)	(related to gamma widths)
BETA(NTRIAG,NRES)	(related to particle widths)
POLAR(2,NRES)	optional; fission width in polar coordinate system
IFLPOL(2,NRES)	optional; flags for polar fission widths
IFLEXT(NREXT,NTOTC,NGROUP)	flags for R-external parameters
PAREXT(NREXT,NTOTC,NGROUP)	R-external parameters
IGRRAD(NTOTC,NGROUP), PAREFF(NUMRAD), IFLEFF(NUMRAD), PARTRU(NUMRAD), IFLTRU(NUMRAD)	values of the several radii, spin groups to which they apply, and flags for radii

Table VII B.1 (continued)

Variable names (with dimension in parenthesis)	Meaning
AMUISO(NUMISO), PARISO(NUMISO), IFLISO(NUMISO), IGRISO(NGROUP)	atomic weight, fractional abundance, flags for abundances, spin groups which correspond to this isotope
PARDET(NUMDET), IFLDET(NUMDET), IGRDET(NGROUP)	detector efficiency parameters for eta measurements, flags for detector efficiencies, which detector efficiency applies to this spin group
PARBRD(NUMBRD)	"broadening" parameters
IFLBRD(NUMBRD)	flags for broadening parameters
DUM(19)	related to broadening parameters
PARMSC(NUMMSC)	values of miscellaneous parameters
NAMMSC(NUMMSC)	names of miscellaneous parameters
IFLMSC(NUMMSC)	flags for miscellaneous parameters
IRADMS(NGROUP)	radiation width number for this spin group
IJKMSC(NUMMSC-KDRCAP+1)	index for direct capture component
PARPMC(NUMPMC), IFLPMC(NUMPMC), ISOPMC(NUMPMC)	paramagnetic parameters, flags for paramagnetic parameters, which isotopes these apply to
PARORR(NUMORR)	parameters related to the Oak Ridge resolution function option
IFLORR(NUMORR)	
ECRNCH(NUMORR-11)	
ENDETS(NMDETS)	
SESESE(NMDETS)	
ESESES(NMDETS)	
SIGDTS(NMDETS)	
PARRPI(NUMRPI), IFLRPI(NUMRPI), ECRNCH(NUMRPI-NNNRPI)	parameters related to the RPI resolution function option
PARUDR(NUMUDR), IFLUDR(NUMUDR), ECRNCH(NUMUDR-NNNUDR)	parameters related to the user-defined numerical resolution function option

Table VII B.1 (continued)

Variable names (with dimension in parenthesis)	Meaning
PARBGF(NUMBGF), IFLBGF(NUMBGF), KNDBGF(NUMBGF), BGFMIN(NUMBGF), BGFMAX(NUMBGF), DIST	parameters related to the background function option
PARDTP(NUMDTP)	values of data reduction parameters
NAMDTP(NUMDTP)	names of data reduction parameters
IFLDTP(NUMDTP)	ordinal numbers for varied data reduction parameters
PARUSD(NUMUSD)	values of "unused" parameters
NAMUSD(NUMUSD)	names of unused parameters
IFLUSD(NUMUSD)	ordinal numbers for unused parameters
PARBAG(NUMBAG)	values of "baggage" parameters
NAMBAG(NUMBAG)	names of baggage parameters
IFLBAG(NUMBAG)	ordinal numbers for baggage parameters

Exceptions:

The rule that parameter values are taken from the COVariance file (if it exists) rather than from the PARameter file is violated under certain conditions:

- Certain unvaried parameters can be flagged to use values from the PAR file; see Table VI B.2 for specifics.
- Exceptions can also occur for most of the PUP'd parameters, as discussed in Section IV.D.2.
- The user may overwrite the rule, as discussed in Sections IV.E.2 and IV.E.6. The rule is often, but not always, violated when modifications are to be made to the parameter covariance matrix. To ascertain exactly which parameter values have been used, look through the LPT file for the phrase "`SAMMY-NEW`". If this phrase occurs, then the PARameter file values were used. If this phrase does not occur, then the COVariance file parameter values were used.