Memo CP-D/563

Date: 18 May 2009
To: Distribution
From: N. Otsuka, O. Schwerer

Subject: **Angular distribution of fission fragment gamma**

A new quantity code is proposed for partial angular distribution of fission gamma with respect to the relative angle between the outgoing fission fragment and gamma momenta (gammas / sr / fission) presented in two articles [1, 2].

Dictionary 236 (Quantities)

PAR,FY/DA,G/G+FF   Differential partial fission fragment gamma yield with respect to relative angle between gamma and fission fragment

Unit code PRT/FIS/SR is now defined with dimension 1/A in dictionary 26. But it would be more logical to link this unit code with a new dimension code FYDA as we have two dimension codes, FY and YLD, for integrated fission yield and other integrated yield (or multiplicity), respectively. The following update is therefore also proposed:

Dictionary 25 (Data units)

PRT/FIS/SR   (change of dimension from 1/A to FYDA)

Dictionary 26 (Dimensions)

FYDA   per-cent per fission per solid angle

Quantity code	Reaction Type	Dimension
236	**213**	**26**
PAR,FY/DA,G/G+FF	FYA	FYDA (new)

There are four quantity codes which are relevant to fission and their dimension codes are 1/A:

Quantity code	Subentries	Unit code
MLT/DA,G/FF	C1460.002-004	PRT/FIS/SR
PR,DA,N	(always coded with REL in SF8)	(ARB-UNIT)
PR/TER,DA,N	(always coded with REL in SF8)	(ARB-UNIT)
PR,DA,N+LF	41516.002 (new code to be added)	PRT/FIS/SR

For consistency, the following change and addition is also proposed:

Dictionary 236 (Quantities)

`FY/DA,G/FF`	Differential fission fragment gamma yield with respect to angle of fission fragment (replaces `MLT/DA,G/FF`)
`MLT/DA,G/FF`	(Made obsolete, use `FY/DA,G/FF`)
`PR,DA,N`	(Change of dimension from `1/A` to `FYDA`)
`PR/TER,DA,N`	(Change of dimension from `1/A` to `FYDA`)

Consequently, the quantity code should be changed from `MLT/DA,G/FF` to `FY/DA,G/FF` when subentries C1460.002-004 are updated. All other subentries are not affected by this proposal.

References

[1] A. T. Kandil *et al*., Nucl. Phys. **A224**(1974)468 (EXFOR 30411)
[2] L.S.El-Mekkawi, Indian J. Pure Appl. Phys. **9**(1971)470 (EXFOR 30442)

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