Memo CP-D/219

5 July 1991

To: Distribution

From: O. Schwerer

Subject: A. Reply to Memo CP-C/200
B. Dictionary transmission 9063: notes on some codes

A. Reply to memo CP-C/200

We agree with most proposals of this memo. However, most of the items require formal approval at the next NRDC meeting (October 1991). Nevertheless we will include most of the new codes in the coming dictionary update, however, with the understanding that some changes might be necessary after the NRDC meeting. Anyway the complete update of the area M Exfor file should not be delayed because of this.

We have two problems with dictionary 36:

- No final wordings for the expansions in dict. 36 were given in memo CP-C/200. Our tentative expansions (given below in detail) should be reviewed until the NRDC meeting.

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- The proposal of item 11 in CP-C/200 (no entry required in dictionary 36 for the 'particle considered' field) is a good idea but presents a serious programming problem for us. Our present edited-listing-program uses only dictionary 36 to translate the REACTION code to a user-friendly reaction definition. Therefore, at present, separate entries for, e.g. DA,N and DA,P are for us the only way to distinguish the quantities (G,N+P),,DA,N and (G,N+P),,DA,P in an edited listing.

  In principle, we agree to the proposal, but we request to postpone its implementation until all centres have updated their programs accordingly. For the time being, particles in SF7 (from dict. 33 or nuclides from dict. 27) continue to be entered in dict. 36. We shall take care of updating the dictionary, and no CP-memos will be required for such cases.

1. Multipolarity

Dict. 36: EP,SIG electric multipole component of cross section for polarity specified

MP,SIG magnetic .... (as above)

Dict. 24: We omit the flag E (secondary energy) proposed for the new heading POLAR because this is probably a mistake.

2. Treiman-Young distribution

- Lexfor entry: I would find it helpful to start with the definition that a reaction Y(X,a+b)c is being considered.

- Dict. 36: According to the first proposal in memo CP-C/198, the dimension of the new quantity will be DA (equivalent to units B/SR). To be consistent with existing entries, the expansion must be 'differential cross section'. (For dimension NO, both 'diff.cs' and 'angular distribution' have been used for the expansions.)

  We propose the expansion:

  ,DA/TYA,P DIFF.CS,TREIMAN-YANG DISTRIBUTION FOR PLANE DEFINED BY INCIDENT PROJECTILE AND OUTGOING PROTON

3. Secondary Particle Correlations

Accepted.

4. Asymmetry

Before entering the proposed new codes we would like to have several points clarified.

- Case a): Is it correct that the meaning of the existing code POL/DA,,ASY would not change?

- Case c): Is this still related to polarization, or should the code POL be dropped from SF6? (So far, asymmetry in Exfor is only defined for polarization.)

- Does dσ everywhere stand for dσ/dΩ?

- How will the definitions of the new codes be added to the existing, 5 pages long Lexfor entry on POLARIZATION? Or will there be a new Lexfor chapter ASYMMETRY?

- Please supply wordings for the expansions in dictionary 36 for all three asymmtery cases a), b), c).

5. Mass ratios

Dict. 24:	MASS-RATIO	accepted
	MASS1-MAX)	not accepted because the definition of
	MASS2-MIN)	"first" and "second" fission fragment is unclear. Note also that there are no headings MASS1 and MASS2 so far but only MASS-NM and MASS-DN.

6. High- and Low Energy Component of Cross Section

We add the codes to dict. 36 with the expansions

HEN,SIG	High energy component of cross section
LEN,SIG	Low " " " "

but we have 3 questions:

- Is this expansion sufficient for the user to understand the data definition?

- Are these codes relevant for photonuclear data only?

- Where will the detailed explanations of CP-C/200 be added to LEXFOR? (New chapter?)

7. Analysis

Accepted.

8. Incident source

Accepted. The new formalism MPH=reaction will however require some program changes.

9. Incident Spectrum

Accepted.

10. Fitting coefficnets

Accepted, but some information needed in Lexfor is missing:

- We assume that the new coefficients correspond to the formula

$$\frac{d\sigma}{d\Omega} = a_0 + a_1 \sin^2\theta + a_2 \sin^2\theta\cos\theta + a_3 \sin^2\theta\cos^2\theta$$

  which would imply the dimension DA (b/sr) for the coefficients.

- Since the coefficients have to be numbered a_0, a_1, a_2, a_3 to be compiled in a DATA section, this naming convention (rather than A,B,C,D) should be kept also in Lexfor and in dictionaries 34 and 36.

11. Particle designator codes in dictionary 36

- As explained in the introduction to this memo, we still need the codes with particles in SF7 separately for some time and will therefore include them in dictionary 36.

- ,DA,RSD and DE,A/RSD: we still feel that the actual nucleus or particle should be coded in SF7.

- DE,N/P etc.)
  PAR,DA,N/P:)
  PAR,MCO,N/P:)
  as mentioned in CP-D/215, we feel that these quantities need explanation or at least a better expansion for dict. 36. To us, it is not obvious what a spectrum of a neutron/proton pair or an angular distribution of a neutron/proton pair means.

B. Dictionary transmission 9063

We are sending out dictionary TRANS-9063 (there was no interim update since TRANS 9062). The update includes memos CP-D/200 (with the exceptions mentioned in the present memo), CP-D/199 and 4C-2/154, as well as some other changes, including the following new codes:

Dict. 3

3SHQNPT	Inst. of Nucl. Physics, Tirana
4CCPKRI	Inst. of Crystallography, Leningrad

Dict. 7

91MINSK	41.Conf.Nucl.Spectroscopy Nucl.Struct., Minsk 1991

Dict. 5:

Journal code CPC proposed in CP-C/199, as "Computational Physics Communications" (originating country?)

We found a journal

COMPUTER (not Computational) PHYSICS COMMUNICATIONS

published in Netherlands and will enter it this way. Please verify that this is the journal meant.