Memo CP-B/8   15.3.1977

Subjects: 1. Reply to Memo CP-C/8

2. Reply to Memo CP-C/9 and CP-D/18, Dict. 36

3. Int. Dict. Updates 770214 and 770228

4. EXFOR manual addition: Cross sections from natural targets

5. EXFOR manual addition: Free Text under REACTION

6. Reply to Memo CP-D/19: 9-digit Lab-codes

References: CP-C/8, CP-C/9, CP-D/18, CP-D/19

Int. Dict. Updates 770214, 770228

1. Reply to Memo CP-C/8

Item I: We would appreciate to receive all memos (including 4C-Memos) concerning the EXFOR system (see Memo CP-B/4 and item V below).

Item II: We appreciate the inclusion of the coding rules of Dict. 2 into the EXFOR manual, but we would like to keep the short-handed form in Dict. 2, too, since it saves the use of a second set of documents, for these rules are most frequently needed.

Item IV: We agree to the introduction of an accession number field into the coding under STATUS. We propose, however, some slight changes and extensions corresponding to the present use at KACHAPAG.

a) Giving an accession number under STATUS is, in our opinion, only meaningful in combination with the STATUS-codes
SPSDD, DEP, OUTDT, RNRM.

b) The code DEP is not used by us if the data are given in the same subentry (indicating that the dependent data and the reference data originate from one experiment). On the other hand, there should be an explicit indication if no accession number exists.

Therefore, we propose the explicit code NAN (no existing accession number) to indicate this case. Thus, no confusion will arise, if neutron data groups want to use a blank field as indicator for reference data to be given in the same subentry.

c) Concerning the use of the code DEP at KACHAPAG we refer to memo CP-B/3,p.4.

Item V/VI: Since we did not receive memo 4C-1/101, we cannot comment these items.

Item VII: The keyword DECAY-DATA should not be used for a monitor reaction to avoid any confusion. We recommend, therefore, the new keyword DECAY-MON and accept its proposed application, if its use is not made obligatory. For CPND the most frequent case will be a separate compilation of a monitor reaction, since it is mostly contained in a separate publication. This monitor reaction, however, should be compiled immediately to obtain its accession number for reference (cf. memo CP-B/6, p.5).

Concerning coding for unresolved γ-rays see memo CP-B/6, p.6.

Item VIII: We welcome the comment given here and agree completely with it.

Item IX: Please refer to our memos CP-B/3, p.2 and B/5, p.3.
Since our former proposal for isomeric ratio codes seems to need so many extensions, we have withdrawn it and propose to use no ratio codes at all.

Item X: Referring to our comments in memo CP-B/5 we feel that this concept favours spallation without taking into account several other reaction types which could be treated similarly. In addition, clear border lines between these generally competing reaction types do not exist. Since there are many additional aspects and consequences, we propose to discuss this subject in more detail at the Kiev meeting.

Item XI: We assume that this question refers to memo CP-B/4 (not 3). The combined code PR, SIG is taken from dicts. 31/32. In dict. 31 prompt and delayed fission is distinguished, where the latter in our opinion means isomeric or ß-delayed fission.

Item XII: This concept of charge, mass, and product yield codes has many appealing aspects and could be extended to a more general concept (cf. CP-B/5). This concept, however, should also be discussed at the Kiev meeting.

2. Reply to Memos CP-C/9 and CP-D/18

We have already introduced the combination (CUM), SIG (cf. Memo CP-B/3, p.3) in addition, the code DCUM has meanwhile been deleted (see dict. update 761111).

The code (CUM) should not be cancelled because its meaning is different from that of the combination CUM/(M).(Cf. CP-B/3, p.2).

3a. Int. Dict. Update 770214

The reference of the deleted keyword NODICTION should read CP-D/15 instead of D/17.

3b. Int. Dict. Update 770228

Behind line 3000000200037C the line:

LAST SF   EXFOR ACCESSION NUMBER OF REFERENCE

is missing, which, however, may have been reserved until approval by other centers.

4. EXFOR Manual Addition:

Relative Cross Sections from Natural Targets

In many cases, cross sections obtained from an irradiation of a natural target refer nevertheless to a special reaction with only one of the target isotopes, e.g. if reaction thresholds prevent a contribution from other isotopes to this reaction. In such a case important information would be lost by the usual coding (Z-S-0(P,X)Z'-S'-A), especially for an indexing and search procedure. On the other hand, data are often not corrected for the isotopic abundance for the target isotope of the reaction considered. We propose, therefore, the following addition to the EXFOR manual under REACTION p. VIII 20c behind the rule on natural isotope mixtures proposed in memo CP-B/6, p.5, and probably the respective LEXFOR entries under "Reaction" and "Relative Data":

> If for irradiations of natural targets the product nucleus considered is formed by a specific reaction from one target isotope only, the explicit coding (Z-S-A(P,...)Z'-S'-A') should be used. In cases, where it seems to be ambiguous, whether the data have been corrected for the abundance of the target isotope considered, the data should be declared to be relative, giving the code REL in REACTION SF 8. An explanation in the free text of REACTION keyword is obligatory.

5. EXFOR manual additions:

Free Text under the Keyword REACTION

All comments which refer to any of the REACTION subfield codes or which are necessary to understand a special coding or reaction type, should be given in the free text of REACTION rather than under COMMENT. Only in this case it is ensured that an editing program can link such comments to the reaction directly.

This note should be added to the EXFOR manual.

6. 9-Digit Lab-codes (Memo CP-D/19)

We can accept 9-character institute codes with respect to our programs, if the necessary changes for the EXFOR expansion- and check programs are placed to our disposal. Concerning the general concept to integrate atomic data into the EXFOR system there are several serious doubts which must be discussed in the future.

i. V.

Distribution:

A. F.E. Chukreev, CaJaD
B. H. Münzel, KaChaPaG
C. S. Pearlstein, NNCSN
D. J. Schmidt, NDS
E. H. Tanaka, Study Group
F. G. Dearnaley, AERE

G. H. Behrens, ZAED
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