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Information

KERNFORSCHUNGSZENTRUM · D-7500 KARLSRUHE · POSTFACH 3640 · TELEX 7826-484

16.5.1977

Memo CP-B/10

Subjects: EXFOR-Manual Revisions
Corrections in Dictionaries 13 and 25
KACHAPAG-Transtapes

References: CP-D/20-D/26, CP-B/8, CP-B/9

- I. Comments on Memo CP-D/20
- p. VII.10 For the code lengths of REACTION particles (≤ 3) the possibility of Z-S-A codes is not taken into account. This affects the maximum length of the quantity field which - in addition - can be extended by multiple codes separated by slashes. Furthermore, the sum of the individual subfields amounts to at least 19. Or means 18 a general restriction ? (This should be stated explicitly !).
- p.VIII.1.2 Separate lines for multiple codes under one keyword (case b) must be obviously obligatory in cases where a second subfield is correlated to a code (e.g. a subacc. number under STATUS, a lab-code under FACILITY, two detector codes combined with COIN under DETECTOR). This should be stated explicitly and the examples quoted.
- p. VIII.3 AUTHOR: An unambiguous cyrillic transliteration should be made obligatory. We would appreciate to receive a copy of the "official" EXFOR transliteration table.

- p. VIII.3 FLAG: At the end of the 1st line a word is missing ("way, form" ?). As agreed upon in Kiev the keyword FLAG may now be used also for DATA-tables with only one data point (refers also to p. VIII.4.2).
- p. VIII.3 HALF-LIFE: According to the procedure used by KACHAPAG we propose that for CPND the half-life should be coded always under DECAY-DATA. In case of several nuclides with different half-lives the new BIBFLAG (see Memo CP-B/9) can be used to link lines of the DATA-table to the respective DECAY-DATA information. Furthermore, the use of the keyword HALF-LIFE to code the respective nuclide is not necessary, because it is given anyway under DECAY-DATA.
- p. VIII.3 PART-DET: For items 4-6 it should be mentioned that they are valid for REACTION, too. In item 2.) "compulsory" is misprinted.
- p. VIII.3 REL-REF: This keyword means related reference (not: relevant, see item 2).
Here, the proposed additional subfield for a subaccession number (SAN) should be included (c.f. Memo CP-B/6). The examples for giving a SAN, asked for in Memo CP-D/21, are e.g. critical remarks (REL-REF code "C") which may be compiled under EXFOR and pertinent evaluations (REL-REF code "E") where the references of the publications used in the evaluation should be given under REL-REF.
- p. VIII.3 STATUS: As already stated in CP-B/8, a SAN seems also reasonable with the STATUS-codes OUTDT and RNRM. In case of the code DEP (and possibly others like COREL) giving two subaccession numbers should be possible as agreed in Kiev.
The comma in the last sentence of this page causes a wrong interpretation. The sentence should read: The keyword STATUS is always relevant except in cases, when
- p. VIII.4.1 The DATA-headings RATIO, SUM must also be permitted for the short version of ratios or sums, e.g. (Z-S-A (.....)Z'-S'-A'-M/G, ,RAT/SIG) proposed in CP-D/22 and agreed upon in Kiev.

p.VIII.6 (Format of DATA-tables) Since we had never problems with the check program or with reading the data, we have overlooked the rule requiring a right adjustment of E-Format data. Our conversion program formatting the card input aimed, therefore, rather to a well readable form. Since we heard no objections from Vienna, Moscow and Brookhaven until now, we assume that the data were read either by a PL/I-program or in a literal format (like we do). Please inform us whether this rule is yet valid (and necessary) or not.

II. Comments on Memo CP-D/21

p.4 it. VII and

p.VIII.24a As agreed upon in Kiev, MONITOR data are given under the new keyword DECAY-MON and not under DECAY-DATA.

p.6 it.7 See comments on CP-D/20 p.VIII.3 REL-REF in the present Memo.

p.VIII.20c The explanation for REACTION combinations seems to be ambiguous. We propose the following form: This explicit formalism may be replaced for certain frequently occurring sums and ratios (e.g. isomer and ground-state of a residual nucleus or binary and ternary fission) by a shortened version using the respective arithmetic operators in SF4 (residual nucleus) and a specific parameter code (RAT,SUM) in SF6.

See Dict. 36 and LEXFOR entries Ratios, Isomeric States and others.

In all cases where any ambiguity could arise from this shortened version, the explicit form must be used. On the other hand, sum reactions like "absorption" or (Z-S-O(P,X)Z'-S'-A,,SIG) (natural target irradiation) where the contributions of the individual competing reactions are unknown, cannot be coded in the explicit form ((....)+(....)), nor in the short version.

p.VIII.24a Please change in the example for unresolved multiplets HRS to HR.

p.VIII.25 (ASSUMED) and LEXFOR-Entry "Assumed Values": We are wondering why coding under this keyword is restricted to REACTION quantity strings. There may be cases where other assumed values of additional quantities are also correlated to different lines of the DATA-table.

Furthermore, the rules of application for this keyword are not quite clear even after reading the respective LEXFOR entry (is the restriction, to use the heading ASSUM only if no quantity code and a correlated heading exists, valid for the application of the keyword ASSUMED, too ?). Please, give some examples for clarification.

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LEXFOR entry: "Dependent Data" (refers also to p.VIII.4 and to p.VIII.3 STATUS of CP-D/20).

We would like to have stated explicitly that a subaccession number should be given with the code DEP also in cases where data are dependent from other ones given in the same subentry (to avoid confusion with cases where no subaccession number exists).

This proposal supersedes our proposal given in CP-B/8 p.1.

III. Comments on CP-D/22

Concerning the concept of coding SUM's and RATIO's we expect a final concept on the basis of the agreements of Kiev.

As already mentioned in this Memo (comment on CP-D/20 p.VIII.4.1) it should be explicitly stated that the DATA-headings SUM and RATIO are also permitted with this short-coding concept.

Despite of the objections made in Kiev, we would like to propose again an equal coding of REACTION SF6 for ratios and sums (i.e. RAT/SIG and SUM/SIG). This would not only ease the life of the compiler (who otherwise would have to remind two different procedures for two very similar cases), but gives also the correlation to the DATA-headings SUM and RATIO which should be kept anyway.

IV. Comments on CP-D/23

p.VIII.1.3 The formulation "expansion of coded information in the free text" used several times on this page may lead to some confusion with the automatic expansion performed by the editing program. It would be better to use the formulation "repeated" instead of "expanded".

item 4: The keyword ERR-ANALYS (and probably ASSUMED) may contain codes from dictionaries.

p.VIII.3 ANALYSIS: (This comment is valid for all entries of sect. VIII.3).

A short explanation of the meaning of the keywords should be given (similar to that for DECAY-DATA) in those cases where the keyword is not self-explanatory (e.g. ANALYSIS, ASSUMED, EN-SEC, FACILITY, INCSPECT, METHOD, MONITOR)

DECAY-DATA.1: See comment on p.VIII 24a of CP-D/21 of the present Memo.

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DECAY-DATA,2: With item 11. an explanation of the coding of unresolved multiplets, as already introduced in CP-D/21 p.VIII.24a, should be given. In addition, the respective example (also given in CP-D/21) should be quoted on the next page (DEC.-DATA.3).

In item 12 it should be clearly stated that in case of γ -rays the photon abundance must be given.

MONITOR: For this keyword we expect a new concept as decided in Kiev. As a precaution we want to state here, however, our objections against an optional omission of the SAN-field as well as against the rule that monitor data cannot be given under the heading MONIT in the same subentry if a SAN is specified (think e.g. of a case, where an author has interpolated monitor data from an other work and quotes the cross sections for his projectile energies). This combination must be allowed, free text explanation may be made obligatory.

With the (new) version of item 6 the proposals of CP-B/9 on generalized use of pointers should be taken into account (especially example 4 on p. 7 *ibid.*)

REACTION p.1+p.5. As agreed in Kiev the operators '+,/' may only be used in an arithmetical sense (i.e. the "not necessarily mathematical sum" of p.5 is no longer permitted.

p.2 item 9. The code Z-S-0 for natural targets should be included. The use of the code FCT in SF8 for cases where corrections for the natural isotopic abundances are doubtful (cf. Memo CP-B/8 p.3) should be explained.

item 10,11,12: As stated in Kiev the use of ion codes as well as isomer codes for projectiles and outgoing particles is not meaningful.

item 12: SF3 contains processes and outgoing particles. With the examples the codes X.(for unknown outgoing particles) and XNYP (see Memo CP-B/9) should be taken into account.

p.3: The statement that SF4 contains in general the heaviest reaction product is missing. The explanation for the case (Z-S-A(P,X)4-BE-7) as given in CP-D/21 p.20b is missing.

item 15: The target of the second example must be 53-J-127.

p.5: item 4: See proposed formulation in item II. (re p.VIII.20c) of the present Memo.

Examples for the "frequently occurring sums and ratios" should be given (isomeric/groundstate, binary/ternary fission).

p.6: The use of 'R' and 'S' as pointers should be stated explicitly.

A cross reference to the proposed new pointer concept (cf. CP-B/9) as well as the new concept for coding multiple residual nuclei (ibid.) should be included here.

RESID-NUC: The meaning of item 2 is unclear.

p.VIII.4.1: See comment on p.VIII.4.1 of Memo CP-D/20 in the present Memo.

V. Memo CP-D/24

On this Memo we have no comments

VI. Comment on Memo CP-D/25

Regarding the proposed rules for coding multiple residual nuclei please refer to Memo CP-B/9. We expect a new LEXFOR entry on this subject (without the curious definition of fission!).

VII. Memo CP-D/26

Also in this case the concept agreed in Kiev supersedes the present formalism.

VIII. Correction of Dict. 13

The restriction of the use of some particle codes to the keyword PART-DET is wrong, since these codes are also used under RAD-DET and DECAY-DATA.

As discussed in Kiev a splitting of Dict. 13 into particle codes used in REACTION SF2, 3 and 7 and such codes used under other BIB-keywords (PART-DET, RAD-DET, DECAY-DATA, DECAY-MON etc.) would be desirable. It should be mentioned that the present Dict. 33 is suitable for such a splitting (after the appropriate supplementing, e.g. by the codes correlated to the new concept for multiple residual nuclei, re. CP-B/9).

IX. Correction in Dict. 25

The restriction given in Dict. 25 for the use of the unit PER-CENT in connection with the headings DATA, RATIO etc. could be misunderstood since it is clearly not valid for the derivatives DATA-ERR, RATIO-ERR etc. These exceptions should be mentioned explicitly in the preamble of Dict. 25.

X. KACHAPAG Transtapes

In the future we will continue transmitting the complete file every six months. This has the advantage that no merge runs for altered entries must be performed by the receiver and that unimportant corrections or alterations can

be applied by us directly without retransmitting the whole subentry or entry. This procedure implies that every new transmission tape supersedes completely the previous one. This procedure can be kept at least as long as the file does not exceed one large magnetic tape.

Unimportant corrections or alterations will be performed without an entry under HISTORY while changes which may affect the data or important BIB-information will be marked according to the EXFOR rules.

We would appreciate to get informed if centres which now need 800 BPI tapes are able to accept a density of 1600 BPI with respect to the desirable compression of the file.

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