

MEMO 4C-3/176

MEMO CP-D/9

To: Distribution

23 September 1976

From: H.D. Lemmel *Lemmel*

Subject: ISO-QUANT → REACTION conversion table

Reference: 4C-3/169 = CP-D/6. and 4C-1/69 = CP-C/4

We have added to the Dictionary-system the Dictionary 41 as inverted Dictionary 14, to enable NND centers to convert ISO-QUANT codes to REACTION codes.

Note that Dictionary 41 does not intend to include all quantities entered under REACTION. It only aims at a one-to-one correspondence with Dictionary 14 for the purpose of converting NND quantities to REACTION formalism. The CPND centers are, however, invited to use Dictionary 41 as examples and to code CPND quantities in analogy to Dict. 41.

In addition, we plan to create a Dictionary (say No. 36) which is to include all existing combinations in subfields 5 thru 8, in accordance with the NNCSC proposal in item 3 of Memo 4C-1/89. This Dictionary will help for a checking program, will advise data compilers how to code consistently complex quantities, and will provide expansions for an edited listing.

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Since we are using Dictionary 41 already now for our indexing program, we have introduced this Dictionary into the System, although a few questions are pending and some changes being in process.

In general, the suggestions by NNCSC in memo 4C-1/69 = CP-C/4 were followed, however we have the following comments:

1. quantity alpha: We do not like to code the capture-to-fission cross-section ratio as (N,ALF), since this is an open door for confusion with the (N,A) reaction. Logically, it had to be coded as ((N,G),,SIG)/((N,F),,SIG) which would, however, be inconvenient and create problems in indexing where this important quantity should show up with its own quantity code. Any more convenient solution will disturb the beauty of a strictly logical quantity coding scheme, and we thought that (N,F),,ALF is the simplest solution. However, (N,G),,ALF (or perhaps also (N,G/F),,ALF) would also be acceptable.

2. eta: We would prefer to code

(N,F),,ETA when fission is present, and
(N,ABS),,ETA when fission is not present.

Again, we do not prefer the more logical solution as suggested by NNCSC but the solution more convenient for retrievals.

3. For resonance-parameters we, too, meanwhile prefer the second alternative presented in 4C-3/169. The proposals by NNCSC to code

(N,O),,EN etc. instead of (N,RES),,EN etc;
to move RES into the modifier field;
and to code SIG,,RES instead of PCS;

are immediately convincing. Some of these changes were not yet included in the Dictionary version as of 76/9/16, but corrections are being made.

4. RBT: We prefer to keep RBT and RTB as a subset to TER and thus to code (N,F),TER,RBT rather than (N,F),,RBT.

The dictionary transmission, which is due now, will be slightly delayed due to the continuing work on the quantity dictionaries.