

MEMORANDUM 4-C 2/21

From: H. Potters

Subject: Points to be discussed at forthcoming four-centre meeting

11th October 1971

1. Standard (NONE)

This item can mean three different things :

- (a) no information available
- (b) relative measurement or arbitrary units
- (c) not pertinent (e.g. nuclear temperature and spins of resonances).

We propose to reserve NONE to case (a) only and to introduce a new code, e.g. (RELAT) or (ARBUN) for case (b). As STANDARD is the only keyword of Group 1 (*) which can be "not pertinent", it in fact belongs to Group 2 (✓). We propose to move it to Group 2 and leave it out in case (c).

2. We would like to support NNCSC if they propose S, P, D as a third quantity field modifier. Reasons: (a) users are accustomed to seeing S_0 , S_1 etc. as one symbol. EXFOR breaks up this information over DATA and ISO-QUANT, which is not a clear representation. (b) Putting information in the data section has sense only for automatic processing. The only automatic processing for MOMENTUM L we can think of is retrieval, and that goes better by ISO-QUANT modifier (see also our point 3).

3. We would like to leave it to the judgment of the compiler whether he would like to put secondary numerical data as standards, half-lives (except in the case where it identifies the residual nucleus) etc. in DATA or BIB section. We do not believe anyone will ever use these items for routine automatic processing on large numbers of data, so we propose to drop the Note from the item DATA in the Compiler's Manual. However, what to do with data lines without numbers referring to the ISO-QUANT ? AN 30114 SAN 002 to 010 and AN SAN 30075005. We propose that for each data line there should actually be a number under the heading DATA and/or RATIO. If this is not possible and the centres find the data nevertheless so important that they should be sent in EXFOR, they can enter the table in the BIB part and use NODATA.

4. Error corrections

(a) Certainly in this early phase there will be many small corrections to be made on EXFOR tapes. We should avoid a situation where a work or a subwork has to be sent several times because of errors discovered. We propose that each EXFOR tape should be corrected only when the originating centre feels more or less all serious errors have been discovered. During this cooling-down period the necessary corrections can provisionally be sent for example in FIXIT input format on sheets so that the data can be corrected by each centre. The so-called small corrections as proposed by NNCSC have then to be separated from the more serious ones. It is to be envisaged that with the increasing strictness of the available checking programmes and the decreasing ambiguities in the definitions the "cooling down" period of an EXFOR tape will decrease. In any case, complicated changes involving many records should not be processed in this manner.

(b) In case of complete replacement of a large number of records, e.g. rewriting of a BIB section, replacement of a table, etc. instead of the Alter flags I, C, T and D (which would be too complicated without irrelevant information) we propose using an Alter flag R for the whole trajectory changed. Under HISTORY should be written what has been done and why, e.g.

(710608A) Between 1.0 eV and 700 eV data replaced by a new set calculated from the old one averaging over five data points

or

(710709A) BIB section rewritten; full paper published.

5. Nuclear temperature and Incident energy

Normally nuclear temperature originates from an outgoing particle spectrum shape measured at a certain incident energy. The compiler should be free to give this number in the BIB part or in the DATA or COMMON section. We propose the data heading keyword EN-EXP for this case as incident energy EN seems to meet difficulties at NNCSC.

6. Please sort journals in alphabetic order as they have hardly anything to do with the centre country code. For many particularly obscure codes one has to scan the whole listing to find them if one does not know the country.

7. Quantum numbers

We propose leaving both possibilities (ISO-QUANT and data heading keyword). At CCDN the general policy is that when J, π etc. is a result of the resonance parameter analysis, the data should be coded

with a separate ISO-QUANT. If it is given for information only (and therefore taken from other references) we code it under the appropriate data heading parallel to each ISO-QUANT. However, CCDN feels that no strict rules should be set in view of ambiguous cases encountered.

With regard to the statistical weight factor g , we feel it is a representation of the spin of the compound nucleus (as the target nucleus spin is fixed) and it should be handled as a Quantum number. We therefore propose to add to :

Dictionary 10

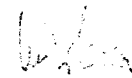
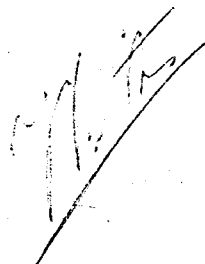
G (Statistical weight factor)

Dictionary 14

G,RES NO (Statistical weight factor)

Dictionary 24

STAT-W G (Statistical weight factor G)



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