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Memo CP-D/385

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To: Distribution
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Subject: **EXFOR compilation scope and priorities**

Reference: **Memo CP-C/336**

Over recent months, there has been a proliferation of data compiled in EXFOR that are outside the agreed scope of the NRDC-shared work programme, either by extending the definition of what are charged-particle data or by adding very exotic data types of low priority for our major users. Not all boundaries of the compilation scope of the NRDC have been clearly defined (not felt necessary), but in view of these recent "extensions" and the limited manpower, we believe it is important to set our priorities more clearly. This question will be on the agenda of the NRDC meeting in October 2004. NDS observations and opinions are as follows:

- Not all data permitted by the format are automatically within the scope of NRDC exchange (e.g., originally EXFOR was restricted to data below 20 MeV although the format always permitted entering data of higher energy). The scope will always be determined by the needs of the user community and appropriate decisions by the NRDC to compile particular data types.
- If a centre wished to compile such additional data (permitted by the format but not part of the regular exchange agreement), they should do so using different centre identification characters, and the other centres can then decide whether or not to include these transmissions in their local database. This practice is referred to in memo CP-C/336. As an example, the EXFOR "O" series (by NEA/DB + CAJAD) was originally introduced as a separate medium energy transmission series (in this case, all centres were interested, because the files contained largely "non-exotic" data; however, content and interest have changed lately).
- We believe that examples of data types outside the main scope of EXFOR are (without claiming completeness):
  - Data for incident particles other than neutrons, γs, "normal" charged particles (e.g., pions, kaons, antiprotons, etc.) Codes for such particles were introduced for reactions producing them as **product** particles (not projectiles)
  - High energy data (> 1GeV?)
  - Heavy ion data (A>12?)
  - Differential Kerma factors (note that even "integral" kerma factors are not compiled at present; the quantity exists in the dictionary, but occurs only in 1 entry of the EXFOR-V series of evaluated data)

- Very exotic quantities even if the reaction as such is within the normal scope (e.g., certain parameters for triple-differential polarization data)

- It is stressed that for the addition of any new quantity types, except trivial generalisations, explicit agreement of the core centres is required. This approach represents an implicit mechanism to prevent part of the proliferation of exotic data. Also, any new data types which need major changes of the format or compilation rules must be carefully considered and should only be introduced with good justification.
- We think that the various data types could be categorized into the following four categories:
  - **Core** data (high priority, compilation obligatory)
  - **Voluntary** (low priority, compilation voluntary, but can be part of regular transmission; at present, neutron-capture γ spectra fall into this category)
  - **Separate** transmission (may be compiled but must be sent on separate transmissions with different Centre Identification Character)
  - **Outside** scope, not to be compiled, because data do not fit to EXFOR format and/or are far from the interests of our user communities.

- A starting point for defining the "core scope" would be the definition used for the coverage completeness exercise for the year 1998 which was agreed upon at the last NRDC meeting: projectiles up to α, energies up to 1 GeV. However, this should be discussed further and agreed at the next NRDC meeting.
- In the meantime, we ask centres to bear these considerations in mind leading up to the NRDC meeting in October 2004, and ensure they are evaluating priority items. Further debate should occur at this meeting to ensure we can agree all data types and their categories as outlined above.

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