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Memo CP-D/445

Date: 4 November 2005
To: Distribution
From: O. Schwerer

Subject Conclusions and Actions of the 2005 NRDC meeting

Please find attached the Conclusions and Actions of the 2005 Technical NRDC meeting in Vienna. They are sorted by main topics and renumbered.

Attached are also appendices on the summary of the EXFOR compilation scope and compilation responsibilities (as updated at the meeting) and on coverage of major journals and speeding up compilation of new publications, based on working papers 9, 10, 30 and 31, respectively.

Please give your feedback about any mistakes or omissions by the end of November.

As usual, the complete meeting report, containing also the status reports of the centers and part of the working papers, will be issued as an INDC report.

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Conclusions and Actions of the 2005 NRDC Meeting

Conclusions

General

C1 The **next NRDC meeting** will be a full meeting (centre heads and technical staff) and will be held in Vienna during 4 days in September or October 2006.

CINDA

C2 NDS will maintain also a **common CINDA master file**

C3 NDS will from now on **convert** all received EXFOR TRANS file to a **CINDA** file and update CINDA with it and send it to the originating centre

C4 The revised **CINDA Manual**, as submitted by NEA-DB and revised at this meeting, is approved.

Common EXFOR/CINDA dictionaries

C5 The **reformed dictionaries** as described in memos CP-D/438-440 are accepted.

C6 On request, the **dictionaries** are available from NDS also in **database** form.

EXFOR, general

C7 **Compilation scope:** Data measured in **inverse kinematics**, which would be in the category of obligatory compilation if target and projectile were exchanged, must be compiled also (i.e. are added to the list of obligatory compilation, category "A").

C8 **Compilation responsibilities**: **ATOMKI** will also be in charge of experiments in cooperation with **Free Univ. Brussels**, Cyclotron Department (EXFOR code 2BLGVUB)

C9 **Compilation responsibilities**: Add "**Photonuclear Data** under coordination of CDFE" to UkrNDC and NNDC

C10 The clarification of **compilation responsibilities** as given in WP 2005-10 is adopted

C11 For all compilations of new literature, an **author proof** copy should be sent, and the approval, or "no reply to author proof", should be included under STATUS.

C12 The meeting took note of the release of the **common EXFOR master file** as of 1 July 2005. Any special operations on the master file, outside the normal TRANS operations, if at all necessary, must be communicated to the NRDC via memos.

EXFOR, technical

C13 The coding of **isotopic abundances** (proposed at the 2004 NRDC meeting) is **not** followed up for the time being, until the need is demonstrated.

C14 **Wildcards in SF7 for Dict. 236** are now acceptable to all. Details of implementation will be agreed (see Action A27)

C15 Extension of **multiple reactions** is accepted as proposed in WP 2005-26: *Components of a vector or tensor polarization quantity* will be added to the list of allowed cases in LEXFOR.

C16 The **new headings and units** proposed in WP 2005-27 are approved: POL-BM-MIN, POL-MB-MAX, +ERR-SYS, -ERR-SYS (Dictionary 24); PB (picobarn), FB (femtobarn) (Dictionary 25)

C17 **Neutron multiplicity** from fission will be coded with **NU** for **all** projectiles

C18 **Total kinetic energy distribution** will be coded with connecting the particles in SF7 with +, e.g. ,DE,LF+HF

C19 Quantities PR,NU/DE,FF and PR,NU/DE,A should have dimension FY because they are not differential by energy (they are dependent on secondary energy but not differential). Also the units in the affected entries (PT/FIS/MEV) must be corrected.

C20 The proposal on storage of **covariance files** is accepted (WP 2005-25). Retrieval interfaces at the centres will be developed as need arises.

Software

C21 V. Zerkin is encouraged to proceed with the concept of "**Projects" in CINDA** (WP 2005-21). This item will be reconsidered at the next meeting. *(See also Action A31.)*

C22 The meeting notes that all **digitizing software packages** recently compared by the centres (WP 2005-24) give satisfactory results, and that the major source of discrepancies is the "human factor". *(See also Action A32.)*

C23 The meeting encourages steps to improve **cooperation in software development**, beginning with the Exfor editor (Sarov + NDS). Centres are encouraged to inform each other about software developments where cooperation is possible and/or desirable.

Recommendation

Compilations with serious formal and/or physics mistakes are increasingly being transmitted to the network coordinator. As a consequence of this increasing number of errors over the previous 12 months, further considerable time and effort has to be spent by the coordinating centre, and other network centres, checking these entries, pointing out mistakes, and requesting corrections before these compilations can be added to the EXFOR database.

Therefore, the meeting recommends that all centres ensure that their EXFOR compilers are able to spend the necessary time to understand both the essentials of the article and the relevant EXFOR procedures, so that they are able to produce good quality initial compilations for the EXFOR database.

Actions

General

A1	All	(Continuing) All recognized **policy papers** for consideration by the NRDC members need to be prepared and distributed four weeks before the Annual NRDC meeting. This will ensure adequate thought and discussion prior to the meeting.
A2	All	(Continuing) Review the **Citation Guidelines** (2004 version from NRDC internal webpage) and send updates to NDS.
A3	All	Update **CP memo distribution** with A.Mengoni@iaea.org (new), yolee@kaeri.re.kr (Lee Young-Ouk, new), katakura.junichi@jaea.go.jp (new address)

CINDA

A4	CNDC	(Continuing) Compile **all Chinese experimental works** (journals and conference proceedings) for CINDA and send to NDS in Reader format.
A5	CINDA centers	(Continuing) When coming across **report codes in dictionary 6** which differ significantly from what is shown on the cover, submit additional explanation to NDS for inclusion in dictionary 6
A6	NNDC, NEA-DB, CJD	(Continuing) Check and confirm/clarify report codes given in WP 2003-8, Sections 4 and 5, by end of 2005
A7	CINDA centers	(Continuning) Correct **errors in report coding**, as listed in Sections 6 and 7 of WP 2003-8
A8	CINDA centers except NNDC	(Continuing) Search for **illegal experimental entries for MANY** and replace them with individual entries, and for the many illegal entries for **FPROD** which may be used only for lumped fission products. (MANY is allowed only for evaluated and theoretical data)
A9	Henriksson, Zerkin	Clarify differences in the converted **area 2 CINDA file** by 14 November

A10	Henriksson	Communicate to other centres the information needed for the **introductory pages** for the CINDA book
A11	all	reply to above Action A10
A12	Henriksson	keep others informed about developments on **CINDA book**

Common EXFOR/CINDA dictionaries

A13	Zerkin	Prepare the **dictionary** system for distribution in form of **relational database**

EXFOR, general

A14	NDS	Develop an **external flagging** system to indicate which data sets were **adopted by evaluators**
A15	CNDC	Provide to NDS list of 10 **most important Chinese journals** relevant to nuclear data, emphasizing in particular journals published in Chinese language
A16	All	(Continuing) Check/retransmit those entries from the list of **pending retransmissions** (distributed by McLane at the 2001 NRDC meeting) which still need correction
A17	NDS	Redistribute this list
A18	All	(Continuing) All centers should give high priority to compiling **new publications**
A19	Nichols	(Continuing) Communicate with **major journals** concerning **data transfer** to the network for inclusion in EXFOR.
A20	All	Follow the procedures described in WP 2005-30 for **journal coverage**. Instead of the reaction code, it is sufficient to give data type (neutron, charged particle, photonuclear) and priority (A = obligatory, B = voluntary)
A21	All	Follow the procedures described in WP 2005-31 for compilation of **new publications** (but without including the e-mail address, para. 4)

A22	Schwerer	(Continuing) Review the EXFOR **Basics Manual** and submit revision when time permits. Also include the "C4" computational format.
A23	All	On the proposal of WP 2005-14: store locally pdf versions of **EXFOR relevant articles** and discuss within the centers what part of it can be shared with a central archive kept at NDS
A24	All	Go through WP 2005-15 and retransmit the **corrections** asap

EXFOR, technical

A25	Otsuka	Research the usage of quantity codes **AKE** and **KE** in EXFOR and come up with a proposal for consistent dictionary entries.
A26	Otsuka	Submit summary on **tensor polarization data** as a memo to remove inconsistencies in dictionary expansions
A27	NDS	Formulate detailed proposal for introducing **wild cards** in Dict.236 for SF7
A28	NDS	(Continuing) Check whether there is a LEXFOR entry on the process code FUS **(total fusion**, Dictionary 30); if not, provide such an entry.

Software

A29	Sarov, NDS	Distribute beta-version of **EXFOR editor** to interested centers for review, and continue development in cooperation with Zerkin/NDS.
A30	Zerkin + NNDC	Look into possibility of using the "human readable EXFOR" format (being developed) also for a **data uploading facility** for authors.
A31	All	Give feedback to NDS on the proposal of WP 2005-21 (concept of **Project** in CINDA)
A32	All centres producing digitizing software	Consider making the **digitizing software** (including documentation) available to the network

Services

A33	All	Consider the proposal of NNDC (WP 2005-7) to publish the **state of knowledge on 1-2 nuclides** and express opinions and proposals on it to NNDC and NDS by the end of 2005.

Review of Compilation Scope
(as updated at the 2005 NRDC Meeting)

General categories

Category	**Data type**
A - Compulsory compilation	All experimental data for incident projectile energy ≤ 1 GeV and projectiles with A ≤ 12, unless listed in Cat. B; ***and data measured in inverse kinematics, which fulfill these criteria when target and projectile are exchanged.***
	For photonuclear data (no obligation for completeness), compilation is highly recommended.
B - Voluntary compilation	Neutron- or charged-particle data with E_{in} > 1GeV; Heavy ion data for projectiles with A>12; Vector and tensor polarization data; Kerma factors (integral data only)
C - Separate transmission	Other data types, as specified in the table below

Separate Transmission Series

CIC *)	**Center**	**Data types**
J	JCPRG	Charged-particle nuclear data for projectiles with nonpositive baryon number *(submitted in memo CP-E/053)*
V (extinct)	NDS	Evaluated neutron data

*) Center Identification Character

Review of Compilation Responsibilities
(updated at the 2005 NRDC Meeting)

Center	**Basic responsibility**	**Additional compilation**
NNDC	Neutron data and CPND from USA and Canada	***Photonuclear data (coordinated by CDFE)***
NEA-DB	Neutron data from NEA countries	CPND (coordinated by NDS)
NDS	Neutron data and CPND from "rest of the world" (areas not covered otherwise)	
CJD	Neutron data from former Soviet Union (except Ukraine)	
CAJAD	CPND from former Soviet Union (except Ukraine)	CPND from "rest of the world" (coordinated by NDS)
CDFE	Photonuclear data	
CNDC	Neutron data and CPND from China (entries submitted through NDS)	
JCPRG	CPND from Japan	
ATOMKI	CPND from ATOMKI and data measured in cooperation with Juelich ***or with Free Univ. Brussels*** (entries submitted through NDS)	
UkrNDC	Neutron data and CPND from Ukraine (entries submitted through NDS)	***Photonuclear data (coordinated by CDFE)***
RFNC	CPND on light nuclei, coordinated with other centers	

Special case: **Two or more institutions from different service areas:**

*If two institutions from different service areas are involved, the primary institution defines the responsible center. See **LEXFOR, Institutes** for definition of primary institution.*

LEXFOR / Institutes /Compilation Responsibility

If two or more institutions of different service areas are involved, the following rules shall determine the center responsible.

1. The institute containing the facility used, if at least one of the authors belongs to that facility, should determine the center responsible.
2. If an itinerant group uses the facility of another institution, the institute of the primary investigator of the itinerant group shall determine the center responsible.

3. In an ambiguous case, the institution from which one is most likely to obtain further information on the experiment should be used to determine the center responsible.

If a publication reports the results of different experiments, done at different laboratories, or, measured at one laboratory, and, subsequently, analyzed at another laboratory, and either the laboratories are in different areas, or the incident-projectile is of a different type (*i.e.*, neutron, charged particle, or photon), the results are compiled in separate entries by the center responsible for the data. The entries may be linked using the STATUS code COREL; see **Status** (Interdependent Data).

2004 NRDC Meeting, Conclusion C17:
If several institutes and several experimental facilities are involved in an experiment, the first author of the paper will determine the centre responsible for the EXFOR compilation.

Consolidated Summary:

If several institutes of different service areas are involved, the following rules determine the compilation responsibility:

1) The institute of the facility used, if at least one author is from this institute. If an itinerant group used the facility, the main investigator of this group determines the center responsible.
2) If facilities of different laboratories from different service areas are used, the institution from which it is most likely to obtain further information on the experiment should determine the center responsible. This will normally be the corresponding author, or, in case of doubt, the first author of the publication. In all such cases the other affected center and NDS must be contacted before compilation to avoid duplication.
3) If separate experiments from different service areas with clearly separated results are reported in the same paper, the results should be compiled in separate entries. This separation is obligatory for different projectile types (neutron, charged particle, photon). In all such cases cross references to the other entry must be given.

Coverage of major journals

At the previous meeting one of the Conclusions (C16) was:

Coverage of major journals by data centre:

PR/C	NNDC
NSE	NNDC
NP/A	NDS
YF and EPJ	CAJAD
YK	CJD
ANE	NEA
NST	NEA
NSTS	NEA
RCA	NEA
CNP	CNDC
NIM/A and B	ATOMKI
ARI	ATOMKI
PL/B	NDS
PRL	NNDC

Each responsible centre will rapidly assess the contents of an issue of the above journals, and communicate rapidly with relevant compilation centres and NDS to point out their need to compile asap. The NDS coordinator will oversee implementation and report on a quarterly basis to all responsible centres collectively.

These lists of references must be written in a way making it clear which centre is responsible for compilation. Therefore, we propose the following form for the Coverage control system:

1. Journal name, volume, Issue, Page, year, Laboratory. Or it can be NSR code and laboratory, data type (neutron / charged particle / Photonculear), importance of compilation (A (obligatory)/ B (voluntary) / C (separate transmission, like area J)).

2. NDS should receive these lists within one month after issue of publication.

Speeding up Compilation of new publications

1. For neutron data, the responsibility for compilation in areas 1,2,3,4 should be clear (remember that neutron data from Japan belong to area 2). Nevertheless, the responsible centers should inform NDS about their compilation plans.

2. For CPND, the reference has to be booked for compilation by the responsible Center within one month after publication (or after the center was informed by another center covering the particular journal). Usually, NDS sends the list of publications that are relevant for compilation within two weeks after publication.

3. To avoid duplications, it is preferable to send the plan of compilations to NDS in the form: reference, EXFOR number , laboratory, where experiment was done.

4. The references relevant to EXFOR have to be included in EXFOR within six months after publication. If there is no possibility to receive data from the author (no reply to e-mail) the compiler can digitize curves and point out under STATUS that there was no response from the author. The compiler should mention the name of the author he tried to contact.

5. After this period, NDS will take the responsibility for compilation of such papers (or assign it to another center).

6. Photonuclear data are coordinated by CDFE. At present, apart from CDFE, only NNDC and NDS have photonuclear data series (L and G, respectively). All correspondence about compilation of photonuclear data should go to CDFE with copy to NDS.