Pending proposals and issues from CP memos since the last meeting

O. Schwerer

- New STATUS code RCALC (CP-D/457)
- Clarification on format of LEVEL-PROP
- Reference type X for electronic preprints (CP-D/446)
- Quantities KE and AKE (CP-E/092 Rev.)
- Coding of ISINN conferences (CP-D/467)
- Production cross sections for decay gammas (CP-D/470)

Nuclear Data Section
International Atomic Energy Agency
P.O.Box 100, A-1400 Vienna, Austria

Memo CP-D/457

Date:	9 March 2006
To:	Distribution
From:	O. Schwerer

Subject: Proposed new STATUS code (Dictionary 16): RCALC

For quite some time we had discussions about the problem of renormalizing old measurements to up-to-date standard values. No agreement could be reached about solutions such as consistent input of renormalized data by the compilation centres, because of manpower and other problems. As a partial solution to some cases in question, the following option is now proposed:

If the data were measured relative to a standard (with given source), but the authors quote only the cross section but not the ratio to the standard, and an expert such as an evaluator provides the **ratio** of the cross section to the standard to the data centre, this ratio, as recalculated, may be added to the compilation in addition to the cross section data published by the original authors, with a new STATUS code RCALC and appropriate explanation in free text.

Addition to Dictionary 16 (STATUS):

RCALC   Ratio to standard calculated by other than author

(compare the existing code
RNORM   Data renormalized by other than author)

It is important to note the following:

• If the authors published themselves both the cross section and the ratio to the standard, it is already now obligatory to compile both quantities (as multiple reactions).

• The proposed new formalism with the added ratio data is optional. There is no obligation for a data centre to go back to old entries and add these data, nor to make an effort in every new compilation to recalculate this ratio. It is an option for (important) cases where e.g. an evaluator can provide the ratio to the data centre.

- If this option is used, information must be given in free text from which source the ratio was obtained plus any other information needed to trace the procedure used.

Example:

Existing entry:
```
......
....
REACTION   (91-PA-231(N,F),,SIG)
MONITOR    (92-U-235(N,F),,SIG)  VALUES TAKEN FROM ENDF/B-V.


..............
STATUS     (APRVD)
```

New optional way of compilation:

```
REACTION   1(91-PA-231(N,F),,SIG)
           2((91-PA-231(N,F),,SIG)/(92-U-235(N,F),,SIG))
MONITOR    1(92-U-235(N,F),,SIG)  VALUES TAKEN FROM ENDF/B-V.
STATUS     1(APRVD)
           2(RCALC) Ratio to monitor recalculated by A. Trkov,
           2006-03-09
```

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Clarification on format of LEVEL-PROP

The EXFOR Exchange Formats Manual says on page 7.14 on LEVEL-PROP:

"…..
Level identification field. Identifies the level for which properties are specified. **If the field is not present, its separating comma is omitted.** If there is no flag field, a level identification field must be present. …."

However, in the examples given on the following page, the separating comma is present:

Examples:

```
LEVEL-PROP     (82-PB-206,E-LVL=0.,SPIN=0./1.,PARITY=+1.)
               (82-PB-206,E-LVL=1.34,SPIN=3.,PARITY=+1.)
LEVEL-PROP     ((1.)82-PB-206,,SPIN=0./1.,PARITY=+1.)
               ((2.)82-PB-206,,SPIN=3.,PARITY=+1.)
LEVEL-PROP     (82-PB-207,LVL-NUMB=2.,SPIN=1.5,PARITY=-1.)
LEVEL-PROP     (23-V-46,IAS-NUMB=0.,SPIN=0.,PARITY=+1.)
```

The CHEX program issued an error message if the field and the comma are omitted.

We therefore propose to change the relevant text to:

"If the field is not present, its separating comma must be included."

and to adjust CHEX and any other affected programs accordingly.

Memo CP-D/446

Date: 25 November 2005

To: Distribution

From: S.Dunaeva, O.Schwerer

Subject: **Usage of reference type X (Preprint)**

We propose to expand the usage of the reference type **X** (Preprint), introduced last year, to cases when an article was taken from an Internet website. This is one of the type of Preprint – electronic preprint.

Now there are a lot of web sites where a lot of articles are collected. Some of them will be published later and a few of them - not. Anyway we must have possibility to enter them in EXFOR.

The format is as described in the manual, i.e. the same as for private communication and for theses. Free text should be added giving information about from where the information was taken, and/or where it will be published (e.g., "To be published in Nucl.Phys.A", or "taken from web archive …..", etc.)

The compiling center is responsible for replacing the Preprint reference by a corresponding final publication and to retransmit the entry with this modification.

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Memo CP-E/092 (Revised)

Date: September 22, 2006
To: Distribution
From: OTSUKA Naohiko
Subject: AKE and KE (Response to Action 25 of 2005 NRDC meeting)

According to Action 25 of the 2005 NRDC meeting, the usage of parameter codes AKE (Averaged kinetic energy) and KE (Kinetic energy) has been investigated to check the difference between them. On the assumption that

- AKE is averaged kinetic energy without specification of mass and atomic number, therefore SF4 is blank, and SF7 is blank or *F.

  e.g. SF1(SF2,F),,AKE,**FF**   SF1(SF2,F),,AKE,**LF**   SF1(SF2,F),,AKE,,**HF**

- KE is averaged kinetic energy for fixed mass and/or atomic number specified in SF4 or SF7, therefore SF4 is not blank or SF7 is particle code (like N).

  e.g. SF1(SF2.F)**MASS**,,KE   SF1(SF2,F)**ELEM**,,KE   SF1(SF2,F),,KE,**N**

, numbers of subentries are investigated.

	Total #	SF4≠blank	SF4=blank		
			SF7=N	SF7=*F	Others
AKE	496	68 (13.7%)	89 (17.9%)	306(61.7%)	33 (6.7%)
KE	74	13 (17.6%)	0	57 (77.0%)	4 (5.4%)

We cannot see clear difference between AKE and KE. Therefore I propose to keep AKE in the future unless there is a criterion which can define the proper usage of two codes keeping consistency with the existing subentries.

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Memo CP-D/467

Date: 15 August 2006
To: Distribution
From: S. Dunaeva and O. Schwerer

Subject: New report code (Dictionary 6)

The following new code is proposed for dictionary 6:

ISINN-
for the proceedings of the *International Seminar on Interactions of Neutron with Nuclei* which
is held every year in Dubna, Russia.

Six years ago, after a lengthy discussion about coding of these conference proceedings,
the 2000 NRDC meeting decided that these conferences have to be coded with the appropriate
JINR report codes, e.g. JINR-E3-…, with the name of the conference to be given in free text.

For most of these conferences, conference codes in dictionary 7 had been introduced, such as
96DUBNA. These were meant to be used for immediate entering into CINDA and possibly
EXFOR, to be replaced by the final proceedings code after publication. If no immediate entries
were made, only the JINR- report code should be used.

This was enough for its coding at that time, because the report number usually appeared on the
first page of the proceedings with its title.

However, from 2001 there is no report number any more on the first page. The publishers keep
it but only on the last page in very fine font. (Therefore new conference codes were introduced
in dictionary 7 for the 2001 and 2002 conferences.)
Furthermore, since 1993, when the new title *International Seminar on Interactions of Neutron
with Nuclei (ISINN)* was introduced, most of the scientists know these proceedings as ISINN
series.

Therefore we propose the new conference code ISINN- (followed by the number of the
conference), and to add the new code to all old compilations from 1993. This will help the
users who are looking for the proceedings.

For example: ((S,ISINN-7,page,1999)=
             (S,JINR-E3-99-212,page,199905)=
             (C,99DUBNA,,page,199905))

No dictionary 7 conference code will be needed for future conferences of this series.

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Memo CP-D/470

Date:	22 September 2006
To:	Distribution
From:	O. Schwerer

Subject: **Production cross sections for decay gammas**
(proposal for new quantity, with updates of dictionaries 31 and 236)

In a recent paper, for the first time we met production cross sections for decay γs (following β-decay) which could and should be compiled.

The beginning of this paper (L. Szentmiklósi et al., NIM/A, 564, 655, 2006) reads:

> *"In prompt gamma activation analysis (PGAA), radionuclides*
> *are also produced during the irradiation. Their*
> *decay γ-rays appear in the γ-spectrum along with the*
> *numerous prompt peaks. Since many of the decay peaks*
> *are among the most intense peaks of the spectrum, they are*
> *widely utilized in the routine analysis. Partial γ-ray*
> *production cross-sections (σ_γ) and k_0 values of the*
> *strongest decay lines have already been measured with*
> *high precision at our laboratory ....."*

So far only prompt γ production cross sections were compiled. We propose the following coding for production of decay γs:

…(N,G)…,PAR/DG,SIG

for the production cross section of a particular decay γ from neutron capture followed by β-decay.

Addition to Dictionary 31:

DG   (production of) decay gammas (usually given as PAR/DG)

Addition to Dictionary 236:

PAR/DG,SIG   CSP B   Cross section for production of a particular decay gamma