Revisions of EXFOR Formats Manual

N. Soppera and N. Otsuka
Memo CP-D/1011

**Technical Meeting on the
International Network of Nuclear Reaction Data Centres
4 - 7 May, 2021, Virtual**

Memo CP-D/1011
2021-04-10

3 proposals:

- Page 6.2 : Z-S-A-X coding

- Page 7.11 : trailing commas in ERR-ANALYS codes

- Page 7.2 : presence of keywords table

Coding of nuclides and compounds

> **Coding of nuclides and compounds**
>
> Nuclides appear in the coding of many keywords. The general code format is *Z-S-A-X*, where:
>
> > *Z* is the charge number; up to 3 digits, no leading zeros
> > *S* is the element symbol; 1 or 2 characters (Dictionary 8)
>
> ...
> Valid nuclide codes are given in Dictionary 227 (see EXFOR/CINDA Dictionary Manual).

- SF4 can contains 1-AP-1 (anti-proton), 1-PP-0 (π^+)...

- Dictionary 8 – Elements: Z -> symbol, name

```
INT 198903    0            NNneutron
TRA 198202    1            H Hydrogen
TRA 198202    2            HEHelium
...
TRA 201704  117            TSTennessine
TRA 201704  118            OGOganesson
TRA                          (Others to be added when they occur)
```

Coding of nuclides and compounds

<u>Coding of nuclides and compounds</u>

Nuclides appear in the coding of many keywords. The general code format is *Z-S-A-X*, where:

Z is the charge number; up to 3 digits, no leading zeros

S is the element **or particle** symbol; 1 or 2 characters ~~**(Dictionary 8)**~~**(* is used for super-heavy elements that do not have element symbol)**

...

Valid nuclide codes are given in Dictionary 227 (see EXFOR/CINDA Dictionary Manual).

Trailing commas in ERR-ANALYS

ERR-ANALYS

…

2. The coded information is of the form: (heading, minimum value, maximum value, correlation property) free text.

Heading Field. Contains the data heading or the root of the data heading...

Minimum Value Field The minimum value is given in per-cent, used to give an uncertainty expressed as a minimum value or the lower limit of a range. A single value is given in this field. This field must not be used when constant or point-wise values are coded in the COMMON or DATA sections.

Maximum Value Field The maximum value is given in per-cent,…

Correlation Property Field Contains one of the following correlation property flags…

This field is optional. It may be given only when authors give the proper information in the publication. If this field is not given, the trailing comma is omitted.

Trailing commas in ERR-ANALYS

ERR-ANALYS

…

2. The coded information is of the form: (heading, minimum value, maximum value, correlation coefficient) free text. **The absence of any field must be indicated by including the separating comma; trailing commas are not included.**

Heading Field. Contains the data heading or the root of the data heading...

Minimum Value Field The minimum value is given in per-cent, used to give an uncertainty expressed as a minimum value or the lower limit of a range. A single value is given in this field. This field must not be used when constant or point-wise values are coded in the COMMON or DATA sections.

Maximum Value Field The maximum value is given in per-cent,…

Correlation Property Field Contains one of the following correlation property flags…

This field is optional. It may be given only when authors give the proper information in the publication. ~~If this field is not given, the trailing comma is omitted.~~

Trailing commas in ERR-ANALYS

Subentry	JANIS warning message	EXFOR-2020-01-13	EXFOR-2021-04-27
10431.001	Correlation flag not given, trailing comma should be omitted	ERR-1,5.,,	was max.
10431.001	Correlation flag not given, trailing comma should be omitted	ERR-S,1.,,	was max.
20008.001	Empty Max field, trailing comma should be omitted	ERR-1,5.,	min.
22303.001	Empty Max field, trailing comma should be omitted	DATA-ERR,5.,	min.
22856.001	Empty Max field, trailing comma should be omitted	DATA-ERR,5.5,	min., now ERR-6
22880.001	Empty Max field, trailing comma should be omitted	DATA-ERR,5.5,	min., now ERR-6
22884.001	Empty Max field, trailing comma should be omitted	DATA-ERR,5.5,	min.
30781.001	Empty Max field, trailing comma should be omitted	ERR-1,2.,	free text says '<'
30781.001	Empty Max field, trailing comma should be omitted	ERR-2,1.,	free text says '<'
A0319.017	Empty Max field, trailing comma should be omitted	ERR-T,30.,	min.
A0319.027	Empty Max field, trailing comma should be omitted	ERR-T,40.,	min.
A0319.032	Empty Max field, trailing comma should be omitted	ERR-T,40.,	min.
A0319.033	Empty Max field, trailing comma should be omitted	ERR-T,40.,	min.
A0509.001	Empty Max field, trailing comma should be omitted	ERR-S,2.,	was max.
C1062.001	Empty Max field, trailing comma should be omitted	DATA-ERR,4.0,	min.
M0787.001	Empty Max field, trailing comma should be omitted	ERR-1,3.,	free text : "not less than"
M0787.001	Empty Max field, trailing comma should be omitted	ERR-2,10.,	free text : "not less than"
M0982.001	Empty Max field, trailing comma should be omitted	ERR-1,3.,	free text : "not less than"
M0982.001	Empty Max field, trailing comma should be omitted	ERR-2,10.,	free text : "not less than"

Presence of keywords

- Page 7.2

Keyword	Presence of keyword is obligatory	Obligatory with data heading
…	…	…

Data specification
  REACTION
  RESULT
	always **except when SUPPL-INF is present**
	when a code exists	

…	…	…

Physics
  INC-SOURCE
  INC-SPECT
  SAMPLE
  SUPPL-INF		

METHOD
  FACILITY
  ANALYSIS
  DETECTOR
	↑
	one of these is obligatory **except when SUPPL-INF is present**
	↓	

…	…	…

Thank you for your attention!