New Keyword – SUPPL-INF (Supplemental Information)

(N. Otsuka, O. Gritzay, 2018-09-11, Memo CP-D/965 Rev.)

Proper use of a data set compiled in EXFOR sometimes requires supplemental information.:

Examples

1. A data set defined by a REACTION code with SF8=SPA can be well-defined only when the incident spectrum is available
2. An incident neutron energy determined by time-of-flight in the resonance region is properly treated by resonance analysis codes only when the resolution (response) function relating the time domain to the energy domain is available.

Such supplemental information has been kept as free text under a keyword (e.g., numerical incident neutron spectrum under INC-SPECT). However sometimes it occupies a lot of records (can be more than 1000 records), and it makes other free text less visible.

To improve the situation, we would like to propose a new keyword SUPPL-INF (Supplemental information) providing supplemental information in free text, and allow to have a subentry which has this keyword without REACITON in BIB section.

We also propose creation of a new dictionary (say, Dictionary 38 "Supplemental information types") for a code indicating the type of the supplemental information included. Addition of the following two new codes are foreseen:

INCSP: Incident particle spectrum

RESFN: Resolution/response function

EXFOR Format Manual update (proposal)

REACTION Specifies the data presented in the DATA section in fields headed by DATA[4].
1. Presence is obligatory with coded information <u>unless SUPPL-INF is used</u>; use of free text is optional.

…

SUPPL-INF Provides a voluminous supplemental information which characterizes a data set in another subentry.
1. Contains a code from Dictionary 38 with free text.
2. The subentry having this keyword must be referred by another subentry by a status code SUPPL.
3. The subentry having this keyword must be with NOCOMMON and NODATA, and without REACTION.

LEXFOR update (proposal)

Supplemental Information

Supplemental information that is required to make the data set well-defined may be provided under SUPPL-INF. This is a useful option when the supplemental information is voluminous, and not suitable to keep it with other information in a BIB section. See also EXFOR Formats Chapter 7: **SUPPL-INF**.

Use of this keyword is currently limited to store (1) incident neutron spectra, or (2) resolution or response function.

Example

```
SUBENT        22850002   20101208                                  2285000200001
…
REACTION    (43-TC-99(N,G)43-TC-100,,SIG,,SPA)                     2285000200003
…
STATUS      (TABLE) Table 4 of Nucl.Sci.Technol.40(2003)61         2285000200014
            (SUPPL,22850010) Neutron source spectrum
…
SUBENT        22850010   20101208                                  2285001000001
BIB                  1        997                                  2285000200002
SUPPL-INF   (INCSP) Neutron flux (spectrum) normalized to 1        2285001000003
              Col. 1: Incident neutron energy (MeV)                2285001000004
              Col. 2: Neutron flux (1/MeV)                         2285001000005
              --------------------------                           2285001000006
                0.0000E+00    0.0100E+00                           2285001000007
                1.0000E+00    0.0100E+00                           2285001000008
                2.0000E+00    0.0100E+00                           2285001000009
…
STATUS      (TABLE) Fig.2 data set received from the authors       2285001000998
HISTORY     (20102108R) Data received from the authors             2285001000999
ENDBIB             997          0                                  2285001001000
NOCOMMON             0          0                                  2285001001001
NODATA               0          0                                  2285001001002
ENDSUBENT         1001          0                                  2285001099999
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