

New Related Reference Code “O”

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In some articles authors include new experimental data together with data already published and compiled before. There are no strict rules in EXFOR for coding related references already compiled in other entries. At present, heterogeneous coding options are used by compilers:

1. STATUS. The DEP and COREL codes from the STATUS keyword are used to link dependent (DEP) and interdependent (COREL) data compiled in different entries or subentries. Additional information should be added in free text for clarification.

Example based on subentry 22789005:

```
STATUS      (COREL,22979002) F.Gunsing+,C,2006VANCOU,,(B072),2006.
              Energy range 12 - 1800 eV
```

2. ADD-RES (example based on entry 30763)

```
ADD-RES     Compiler's comment:
              Isomeric ratios produced by Bremsstrahlung in the same
              samples and published in the same paper are compiled
              in EXFOR G0004
```

The main drawback of the use of the above two keywords (STATUS and ADD-RES) is that they do not allow computer coding of the article's reference. Addition of bibliographic information in free text is possible but, by definition of the free text format, this information cannot be standardised.

3. REFERENCE. This keyword allows coding of bibliographic information directly relevant to the compiled data (see CP-D/686 for the last update). Additional information should be added in free text for clarification.

Example based on entry O1456:

```
REFERENCE   (J,NP/A,779,21,2006)
              (J,PR/C,61,034609,2000) It is O1000
              The experimental data of the O-18+C-12 elastic
              scattering and their optical model analysis
              (J,PR/C,60,064608,1999) It is O0999
              See above but for O-16+O-16
```

The REFERENCE keyword does not allow computer coding of entry numbers. Addition of these numbers in free text is possible but, by definition of the free text format, this information cannot be standardised.

4. REL-REF with code “N”, which means that no other codes apply (explanation in free text is mandatory) or using a **new code “O”** (present proposal):

```
O           (Reference to related data compiled in another entry) 30000017-
```

As already emphasised in memo CP-D/686, addition of free text information is essential for clarification and contents of the reference should be indicated in free text as shown in the example below.

Example based on entry O1456:

```
REFERENCE (J,NP/A,779,21,2006)
REL-REF (O,O1000001,M.P.Nicoli+,J,PR/C,61,034609,2000) The exp.
        data of the O-18+C-12 elastic scattering are given
        in the EXFOR Entry O1000
        (O,O0999001,M.P.Nicoli+,J,PR/C,60,064608,1999) The exp.
        data of the O-16+O-16 elastic scattering are given
        in the EXFOR Entry O0999
```

The use of REL-REF with this new code “O” would allow the compiler to code in a (computer retrievable) standardised way both the article’s reference and the entry number in order to provide complete information to compilers and users. A longer-term objective of this proposal is also to contribute to the homogenisation of related-reference coding in EXFOR.

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Following the discussion in Memo CP-N/96 (Rev.) to introduce a new related reference code “O” (reference to related data compiled in another entry), we propose to amend the first paragraph of the current LEXFOR entries:

LEXFOR “Institute”

Separation of entries by areas (*now titled “Compilation in separate entries”*)

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 applies also if the data were measured at one laboratory, and, subsequently, analysed at another laboratory and the laboratories are in different areas. The entries may be linked using the REL-REF code O with a free text explanation (see also **REFERENCE**).

LEXFOR “Reference”

Compilation in separate entries (*new*)

If data sets from different works of an experimental group published in one article are compiled in several entries (e.g., data from different areas published in the same paper), these entries may be linked using the REL-REF code O with a free text explanation.

Example:

```
1. Two entries in two different areas (neutron and photon-induced reaction data)
TITLE      Isomeric yield ratios in the productions of Sm-143-m,g,
           Nd-141-m,g, Zr-89-m,g and Pd-109-m,g by 14 MeV neutrons
           and 15-20.5 MeV bremsstrahlung
...
REFERENCE (J,BJP,14,152,1987)
           Both neutron and photon reaction data given
REL-REF (O,G0004001,Hoang Dac Luc+,J,BJP,14,152,1987)
           Photon induced reaction data compiled
...

2. Two entries in the same area (proton and deuteron-induced reaction data)
TITLE      Investigation of proton and deuteron induced reaction
           on cobalt
...
REFERENCE (J,KPS,59,1697,2011)
           Both proton and deuteron reaction data given
REL-REF (O,D4232001,F.Ditroi+,J,NIM/B,268,2571,2010)
           Deuteron induced reaction data compiled
```