International Atomic Energy Agency

Information-identifying keywords

Otto Schwerer

IAEA Nuclear data Section

Pointers

- **Use with care, legal only for cases defined in Manual !**
  - **1 - Mutiple REACTIONs**
  - **2 - Vector COMMON**
  - **3 - BIB-DATA links: only together with 1 or 2 !**
  - **4 - BIB-BIB links (referring to same REACTION). Can be combined with 1 or 2 if restricted to same pointers**
  - **5 - Alternative results: repeat REACTION (formally same as 1)**
- **1 and 2 CANNOT occur together in the same subentry**
- **Pointers link ONLY to information with same pointer or without pointer => cannot mix 2 sets of pointers within subentry**

MONITOR

- **Information given under keywords MONITOR, MONIT-REF, DECAY-MON, compare also ASSUMED**

- **Coding of MONITOR: like REACTION but**
  - **May be preceded by heading**
  - **SF5-9 may be omitted**

- **Only data to which DATA are proportional; otherwise use ASSUMED**

How to enter MONITOR values

- **If given at several points: in DATA table**
- **If only 1 MONITOR point:**
  - **in DATA table, with blank in remaining lines, or**
  - **In COMMON, with EN-NRM or E-NRM or ANG-NRM**
- **If original ratio Data/Monitor also given: enter both as multiple REACTIONs:**

```
REACTION     1((AAAA)/(BBBB))
             2(AAAA)
MONITOR      2(BBBB)

DATA
EN      DATA        1DATA    2MONIT    2
```

Related keywords to MONITOR

- **MONIT-REF: where monitor data are taken**
  - **Coding: ((heading)subacc.#,author,reference)**
  - **Heading: e.g. MONIT1; optional**
  - **Subacc.#: if data in EXFOR; optional**
  - **Author: First author as in REFERENCE (+)**
  - **Reference: as in REFERENCE**
- **DECAY-MON: decay data for monitor reaction as assumed by *author***
  - **Coding: like DECAY-DATA, optionally preceded by heading (e.g. MONIT1) (NEW since 2003)**
- **ASSUMED: data used by author to derive data given under REACTION (except MONITOR and DECAY-DATA) which can be specified as reaction**
  - **Coding: (heading,REACTION)**

DECAY-DATA

- **Decay information relevant to REACTION measured, as used by *authors***
- **Needed to**
  - **define isomeric state(s), and/or**
  - **provide parameters used for deducing quantity given under REACTION**
- **ONLY give values in coded form which you are sure were used by authors (Values assumed by compiler may only be given in free text)**
- **If authors used decay data now badly superseded, mention this in free text**
- **Source of decay data: in free text**
- **Uncertainties: only in free text**

Coding of DECAY-DATA

- **DECAY-DATA ((flag)nuclide,half-life,radiation) (Only obligatory field is nuclide)**
- **Flag: optional; links to heading DECAY-FLAG (for variable product nucleus formalism)**
- **Nuclide: Z-S-A-X (-G may be omitted)**
- **Half-life: value followed by unit from Dict.25**
- **Radiation: 3 subfields:**
  - **Type of radiation (from Dict.13)**
  - **Energy in keV**
  - **Abundance (normalized to 1.)**
    - **normally $\leq$ 1 except for AR and multiplets**
- **Radiation field may be repeated**

Half-lives without keyword DECAY-DATA

- **Keyword HALF-LIFE: can be used to give half-life in COMMON/DATA section under heading HL (not recommended; better use DECAY-DATA).**

- **Half-life as independent variable (e.g. for delayed neutron groups) is coded in DATA section under heading HL, without connection to a BIB keyword.**

Other related keywords

- **RAD-DET: information on nuclides and decay radiation observed. Must be given if this is not evident from DECAY-DATA, otherwise optional. If used, DECAY-DATA must also be given.**
  - **Coding: ((flag),nuclide,radiation)**
  - **Flag: optional decay flag**
  - **Nuclide: Z-S-A-X**
  - **Radiation: code(s) from Dict.33**

- **PART-DET: To code particle detected if not obvious from REACTION. To be used for prompt particles (where DECAY-DATA and RAD-DET are not appropriate). Particle code from Dict.33 or nuclide.**

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LEVEL-PROP

- **To give spin and parity of excited states**
- **Coding: ((flag)nuclide, level identif.,level properties)**
  - **Flag: optional, links to heading LVL-FLAG**
  - **Nuclide: Z-S-A-X**
  - **Level identification: E-LVL= (value in MeV), or**
    LVL-NUMB= (if E-LVL unknown)
  - **Level properties: SPIN= and/or**
    PARITY= (+1. or –1.)
- **If 2 or more levels given: separate code string**

- **Important: E-LVL must be repeated in COMMON/DATA section if needed as secondary energy!**

- **Important: Headings SPIN J and PARITY may be used only for resonances and related data, not for levels in general**

Keywords describing the experiment

- **METHOD, FACILITY, DETECTOR, ANALYSIS: At least one of these must be present with coded information**

- **Description of experiment (summarizing) should contain essentials but be concise. Do not copy complete abstract from reference. (Electronic journals!)**

- **Other "experimental" keywords: INC-SOURCE, INC-SPECT, SAMPLE**

Bibliographic keywords

- **INSTITUTE**
- **AUTHOR**
- **TITLE**
- **REFERENCE**
  - **All references directly relevant to this experiment may be given (data tables / experiment description may be in different references). => Free text**
  - **Important references published after compilation should be added in a retransmission!**
  - **References (by other authors) *about* this work may be given under REL-REF**

Coding of REFERENCE

- **Basic reference types (Dict.4):**
  - **Book / Conference / Conf.Abstract (B,C,A)**
  - **Journal / Journal Abstract (J,K)**
  - **Report / Progress Report / Conference Report / Preprint (R,P,S,X)**
  - **Thesis / Private Communication (T,W)**

- **REFERENCE (Ref.type,reference,date)**
  - **Format of 'reference' differs for different ref.types**
  - **Check Manual and examples!**

- **When to use Ref.type W (private communication):**
  - **Mainly, when no other suitable main reference exists**
  - **Other communication with author (e.g. receiving numerical data) may be recorded under STATUS**

Corrections and Uncertainties

- **CORRECTION: describes corrections applied to obtain DATA. Free text only.**

- **ERR-ANALYS: describes error types given under error headings in COMMON / DATA section**
  - `ERR-ANALYS  (heading) explanation`

- **COVARIANCE: for covariance information. Free text, or code COVAR indicating existence of separate covariance file**

Comments

- **COMMENT**
  - **Use only for free text which does not fit under a more specific keyword!**
- **CRITIQUE**
  - **For comments on quality of the data**
- **FLAG**
  - **For "footnotes" on individual data lines (linked with data heading FLAG)**
- **REL-REF: Related reference (by other authors), with code from Dict. 17**
  - **E.g.: critical remarks / Ref. With which data agree/disagree**

STATUS

- **STATUS: Obligatory, contains several important types of information (codes from Dict.16 and/or free text)**
- **Source of data (Main ref., curve, author, etc.)**
- **Preliminary / Superseded / Final data**
- **Dependent data (e.g. derived from experiment compiled in another subentry)**
- **Author proof**
- ```
  STATUS       (DEP,12345002)
  STATUS       Data from Table 2 of main
                   reference
  STATUS       (APRVD) Approved by
                   A.Miller, 2003-12-25
  STATUS       (SPSDD,10048009)
  ```