

## Field Identifier of LEVEL-PROP

(N. Otsuka, 2015-07-23, Memo CP/D-882)

**Addition to Memo CP-D/874 (summary):** The current rule allows only E-LVL as the field identifier under the keyword LEVEL-PROP:

(40-ZR-90, E-LVL=2.186, SPIN=2., PARITY=+1.)

, and this memo proposes to allow use of other relevant headings like

(40-ZR-90, E-LVL2=2.186, SPIN=2., PARITY=+1.)

when the heading is used in the COMMON or DATA section.

The following description on the keyword LEVEL-PROP in the EXFOR Formats Manual assumes that the level properties are always given for the levels which energies are under the heading E-LVL:

Level Energy. The field identifier E-LVL= followed by the excited state energy in MeV, coded as a floating-point number (see page 4.2, no blanks permitted), which also appears in the data section under the data heading E-LVL. No units are given in the code.

However, this does not allow to code level properties of levels which energies are coded under a heading other than E-LVL (e.g., E-LVL2).

### Example (D0767.004 in TRANS.D099):

SUBENT	D0767004	20150518			D0767	4	1
BIB	5	9			D0767	4	2
REACTION	(40-ZR-90 (8-O-17, INL) 40-ZR-90, PAR, DA)				D0767	4	3
PART-DET	(G, 8-O-17)				D0767	4	4
LEVEL-PROP	(1.) 40-ZR-90, E-LVL2=2.186, SPIN=2., PARITY=+1.)				D0767	4	5
	(2.) 40-ZR-90, E-LVL2=2.748, SPIN=3., PARITY=-1.)				D0767	4	6
	(3.) 40-ZR-90, E-LVL2=3.309, SPIN=2., PARITY=+1.)				D0767	4	7
	(4.) 40-ZR-90, E-LVL2=3.842, SPIN=2., PARITY=+1.)				D0767	4	8
EN-SEC	(E-LVL1, 8-O-17)				D0767	4	9
	(E-LVL2, 40-ZR-90)				D0767	4	10
STATUS	(TABLE) Figs.5(b) 6(a-c) of Phys.Rev.C91(2015)024323				D0767	4	11
ENDBIB	9	0			D0767	4	12
COMMON	1	3			D0767	4	13
E-LVL1					D0767	4	14
MEV					D0767	4	15
0.					D0767	4	16
ENDCOMMON	3	0			D0767	4	17
DATA	5	18			D0767	4	18
E-LVL2	ANG-CM	DATA-CM	ERR-S	LVL-FLAG	D0767	4	19
MEV	ADEG	MB/SR	MB/SR	NO-DIM	D0767	4	20
2.186	9.4	97.	20.72135	1.	D0767	4	21
...							
2.748	9.4	66.64103	23.4615	2.	D0767	4	26
...							

In order to allow headings other than E-LVL as the field identifier, I propose the following revision in the Formats Manual:

Level Energy. The field identifier (e.g., E-LVL=) followed by the excited state energy in MeV, coded as a floating-point number (see page 4.2, no blanks permitted), which also appears in the data section under the data heading (e.g., E-LVL). No units are given in the code.