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Memo CP-D/712

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To: Distribution
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Subject: **Too high level energies coded under E-LVL**

EXFOR data sets coded with level energies (E-LVL) higher than 20 MeV (giant resonance region) were searched. Within 88 subentries, 26 erroneous subentries were identified. In addition one mistake in Q-VAL(-ERR) was manually identified.

General remark – *Use* LVL-NUMB *when level energies are not in articles!!*
Levels must be coded with the heading LVL-NUMB when the level energy is not given. Some compilers take level energies from nuclear database (e.g., ENSDF) when authors do not give the level energies explicitly (except for the ground state, which we always set as E-LVL=0, and we observe this may be a source of coding mistake. Also we cannot trust one-to-one relation between the level index and level energy for high excitation levels.

Example
LVL-NUMB =2 when (d,p_2) reaction data are given without the 2nd level energy.

1. Unit code MEV wrongly coded for level energies in keV

Subentry	Heading	$E_{exc,max}$ (eV)	Additional remark
21791.002	Q-VAL(-ERR)	2.3e+9	Delete E(-ERR)
40854.004	E-LVL-INI/FIN	2.2e+9	
41436.003	E-LVL-INI	2.1e+9	E-LVL-INI → LVL-INI
41467.003	E-LVL-INI	9.0e+8	E-LVL-INI → LVL-INI
A0289.002	E-LVL	2.1e+9	
A0370.002	E-LVL	6.8e+9	E-LVL → LVL-NUMB for excitation levels, remove SF7
A0370.003	E-LVL	3.0e+9	E-LVL → LVL-NUMB for excitation levels,, remove SF7
A0370.004	E-LVL	4.4e+9	E-LVL → LVL-NUMB for excitation levels
A0370.005	E-LVL	3.0e+9	E-LVL → LVL-NUMB for excitation levels
A0872.002	E-LVL	4.8e+8	E-LVL-INI → E-LVL-MIN?
A0872.003	E-LVL	4.8e+8	E-LVL-INI → E-LVL-MIN?
A0872.004	E-LVL	4.3e+8	E-LVL-INI → E-LVL-MIN?
A0872.005	E-LVL	4.1e+8	E-LVL-INI → E-LVL-MIN?
D0077.004	E-LVL	1.3e+9	
D0279.005	E-LVL	1.0e+9	
D0279.007	E-LVL	6.0e+8	
D0331.002	E-LVL	7.9e+8	

D0428.003	E-LVL	2.1e+9	
D0617.002	E-LVL	5.8e+8	
D0617.003	E-LVL	5.5e+8	
D5065.002	E-LVL(-ERR)	5.6e+9	
E1782.005	E-LVL	8.9e+8	
O1729.003	E-LVL	1.1e+8	

2. Other mistakes

Subentry	Remark
41033.002	Too high level for 426.8 keV transition.
C1189.002	MEV → KEV, multiply 1000 to several incident energy values
D0072.004	E-LVL → LVL-NUMB for excitation levels
D0077.004	E-LVL → Q-VAL, and adopt Q-values given in figure captions
F0130.002	E-LVL → LVL-NUMB for excitation level
O0933.003	Swap two headings E-LVL and ANG-CM
O1078.003	Swap two headings E-LVL and ANG-CM
O1098.003	Swap two headings E-LVL and ANG-CM

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