Nuclear Data Working Group Summary

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Revision of Nuclear Data Sheets format

γ(168Er)

E_{level}	E_γ	I_γ	Mult.	δ	α	Comments
79.804	79.804 *1*	100	E2		7.04	B(E2)(W.u.)=213 *4*
264.0888	184.285 *1*	10	E2		0.331	B(E2)(W.u.)=319 *9*
548.7470	284.655 *2*	100	E2		0.0811	B(E2)(W.u.)=424 *18*
821.1685	557.079 *3*	1.7			0.01252	B(E2)(W.u.)=0.61 *4*
	741.356 *3*	100 *2*	M1	>25&	0.00639 *9*	B(M1)(W.u.)<1.6×10^{-5}; B(E2)(W.u.)>8.0
	821.164 *5*	93.6 *4*			0.00510 *8*	B(E2)(W.u.)=4.68 *16*
895.7947	74.626 *3*	0.04 *1*	M1+E2	+1.42 *+4-5*	8.35 *13*	B(M1)(W.u.)=0.0018 *+5-7*;
	631.703 *3*	18.1 *2*				

http://www.nndc.bnl.gov/useroutput/AR_41076CBC6A

New format has been heavily Influenced by user input

Adopted Levels, Gammas (continued)

γ(168Er)

E_i(level)	J_i^π	E_γ†	I_γ‡	E_f	J_f^π	Mult.†	δ†	α	Comments
79.804	2+	79.804 *1*	100	0.0	0+	E2		7.04	B(E2)(W.u.)=213 *4*
264.0888	4+	184.285 *1*	100	79.804	2+	E2		0.331	B(E2)(W.u.)=319 *9*
548.7470	6+	284.655 *2*	100	264.0888	4+	E2		0.0811	B(E2)(W.u.)=424 *18*
821.1685	2+	557.079 *3*	1.74 *8*[f]	264.0888	4+	E2[f]		0.01252	B(E2)(W.u.)=0.61 *4*
		741.356 *3*	100 *2*[e]	79.804	2+	E2+M1[e]	>25[ea]	0.00639 *9*	B(E2)(W.u.)>8.0; B(M1)(W.u.)<1.6×10^{-5}
		821.164 *5*	93.6 *4*[g]	0.0	0+	E2		0.00510 *8*	B(E2)(W.u.)=4.68 *16*
895.7947	3+	74.626 *3*	0.04 *1*	821.1685	2+	M1+E2	+1.42 *+4-5*	8.35 *13*	B(E2)(W.u.)=3.1×10^2 +8-12; B(M1)(W.u.)=0.0018 +5-7 δ: sign from γγ(θ) (1996Al31) in ε decay; magnitude from L1/L3 in (n,γ) E=thermal (1980Sc15).
		631.703 *3*	18.1 *2*[g]	264.0888	4+	M1+E2	-4.8 *2*[b]	0.00965 *14*	B(E2)(W.u.)=4.6 *+3-14*; B(M1)(W.u.)=0.000172 +18-51
		815.990 *4*	100 *2*[g]	79.804	2+	M1+E2	+17.7 *23*[c]	0.00518 *8*	B(E2)(W.u.)=7.4 *+5-21*; B(M1)(W.u.)=3.4×10^{-5}+9-13
928.3029	8+	379.545 *3*	100	548.7470	6+	E2		0.0346	B(E2)(W.u.)=354 *13*
994.7474	4+	98.95		895.7947	3+				B(E2)(W.u.)=505 +122-40

New format will likely be folded into online services

Actions Recommended by Brad Sherrill in Summary of Workshop on Nuclear Data Needs & Capabilities for Basic Science

- The USNDP must be maintained and improved. Evaluated nuclear structure and reactions data represent the fundamental building blocks of basic nuclear physics research. There is a strong need from the nuclear physics research community for reliable, up-to-date and comprehensive databases of nuclear properties and bibliographical information (see the talks: http://meetings.nscl.msu.edu/2016ND_workshop/html/program.html).
- Maintain a high level of expertise and activity in the critical area of nuclear structure data evaluation
- Continue the active role of the USNDP in research
- Expand the scope to include more theory and nuclear astrophysics activities
- Have data management plans from investigators include submission of measured quantities, e.g. cross sections, which are presented in publications, in an easily readable format
- Continue development of new tools and products (software, data evaluation for researchers, …) – maybe hold targeted workshops to adress issues like continuous data
- Investigate the possibility to offer data-related pre-review of manuscripts (helping to avoid mistakes and errata)
- Version controlled publication of ENSDF to allow reproducible citations
- Continue the effort to digitize and catalogue old graphical data and obscure publications

B. Sherrill, Nuclear Data Workshop, Notre Dame August 2016, Slide 3