^{153}Eu(γ,γ') 2003No02,1964Ha43

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 170, 1 (2020)	16-Aug-2020

The data are from 2003No02, except for the $T_{1/2}$ of the 98 level which is from 1964Ha43. For the data from 2003No02, the compilation for the XUNDL database by M. Lee and B. Singh, McMaster University, has been used with only minor editing of the comments.

2003No02: bremsstrahlung beam with 4 MeV endpoint, measured Eγ, $\gamma\gamma$, and peak widths using three Ge detectors at three angles. 1964Ha43: 98-keV photons, measured $T_{1/2}$.

^{153}Eu Levels

E(level)	J^π	$((2J_F+1)/6)\Gamma_0$[†]	Scattering cross section (eV b)	Comments
0.0 *1*	$5/2^+$			
83.4 *1*	$7/2^+$			
97.4 *1*	$5/2^-$			$T_{1/2}$=0.16 ns *2* (1964Ha43).
1156 *1*		1.29×10^{-3} eV *24*	3.7 *7*	B(M1)↑=0.072 *13*
1177 *1*	5/2	13.2×10^{-3} eV *8*	27.5 *19*	B(M1)↑=0.70 *40*
2295 *1*		3.6×10^{-3} eV *6*	2.6 *5*	B(M1)↑=0.026 *5*
2324 *1*		4.2×10^{-3} eV *6*	3.0 *5*	B(M1)↑=0.029 *4*
2346 *1*		3.6×10^{-3} eV *6*	2.5 *4*	B(M1)↑=0.024 *4*
2369 *1*		3.1×10^{-3} eV *6*	2.1 *4*	B(M1)↑=0.020 *4*
2561 *1*		7.4×10^{-3} eV *9*	4.3 *5*	B(M1)↑=0.038 *5*
2630 *1*		3.2×10^{-3} eV *6*	1.8 *3*	B(M1)↑=0.015 *3*
2648 *1*		4.6×10^{-3} eV *7*	2.5 *4*	B(M1)↑=0.022 *3*
2697 *1*		4.0×10^{-3} eV *7*	2.1 *4*	B(M1)↑=0.018 *3*
2730 *1*		7.8×10^{-3} eV *9*	4.0 *5*	B(M1)↑=0.033 *4*
2761 *1*		10.4×10^{-3} eV *11*	2.6 *4*	B(M1)↑=0.043 *5*
2837 *1*		4.1×10^{-3} eV *7*	2.0 *3*	B(M1)↑=0.016 *3*
2878 *1*		5.2×10^{-3} eV *8*	2.4 *4*	B(M1)↑=0.019 *3*
2891 *1*		1.7×10^{-3} eV *4*	0.77 *18*	B(M1)↑=0.006 *1*

[†] J_f=spin of the excited state.

$\gamma(^{153}Eu)$

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π
1156		1156 *1*		0.0	$5/2^+$	2648		2648 *1*		0.0	$5/2^+$
1177	5/2	1094 *1*	33 *4*	83.4	$7/2^+$	2697		2697 *1*		0.0	$5/2^+$
		1177 *1*	100	0.0	$5/2^+$	2730		2730 *1*		0.0	$5/2^+$
2295		2295 *1*		0.0	$5/2^+$	2761		2664 *1*	102 *22*	97.4	$5/2^-$
2324		2324 *1*		0.0	$5/2^+$			2761 *1*	100	0.0	$5/2^+$
2346		2346 *1*		0.0	$5/2^+$	2837		2837 *1*		0.0	$5/2^+$
2369		2369 *1*		0.0	$5/2^+$	2878		2878 *1*		0.0	$5/2^+$
2561		2561 *1*		0.0	$5/2^+$	2891		2891 *1*		0.0	$5/2^+$
2630		2630 *1*		0.0	$5/2^+$						

[†] Uncertainty of 1 keV assigned based on a general comment by 2003No02.

[‡] Deduced by the compilers from reduced branching ratios R_{expt} given by 2003No02.

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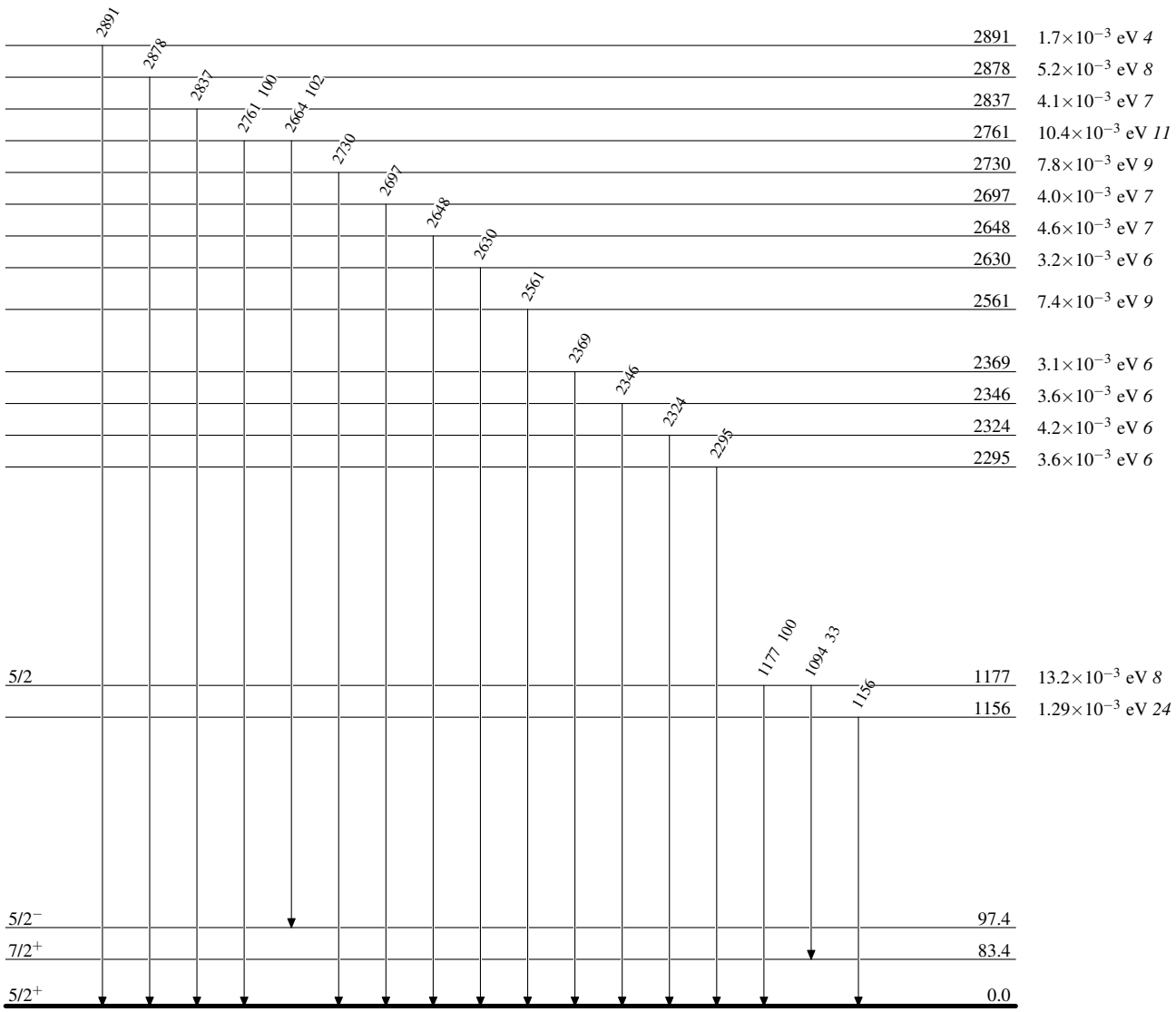
Level Scheme

Intensities: Relative photon branching from each level



$^{153}_{63}Eu_{90}$