

Adopted Levels, Gammas

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	C. M. Baglin ¹ , E. A. Mccutchan ² , S. Basunia ¹		NDS 153, 1 (2018)	1-Oct-2018

$Q(\beta^-)=2575$ SY; $S(n)=6140$ SY; $S(p)=10620$ SY; $Q(\alpha)=-1560$ SY [2017Wa10](#)

$\Delta Q(\beta^-)=200$; $\Delta S(n)=\Delta S(p)=360$; $\Delta Q(\alpha)=280$ ([2017Wa10](#)).

$S(2n)=11246$ (syst) 240; $S(2p)=19878$ (syst) 450 ([2017Wa10](#)).

α : [Additional information 1](#).

 ^{170}Dy LevelsCross Reference (XREF) Flags

- A** ^{170}Tb β^- decay
B ^{170}Dy IT decay
C $^{170}\text{Er}(^{82}\text{Se}, ^{82}\text{Kr}\gamma)$

E(level) [†]	J^π	$T_{1/2}$	XREF	Comments
0.0 [‡]	0 ⁺	55 s 8	ABC	$\% \beta^- = 100$ $T_{1/2}$: from implant- $\beta(t)$ in 2017Wu04 .
71.47 [‡] 15	(2 ⁺)		ABC	
237.33 [‡] 18	(4 ⁺)		ABC	
494.7 [‡] 5	(6 ⁺)		B	
861.35 [@] 21	(2 ⁻)		AB	
925.2 [@] 3	(3 ⁻)		A	
991.8 4	(2 ⁺)		A	
1116.5 [@] 4	(5 ⁻)		B	
1147.13 [#] 23	(4 ⁺)		B	
1257.4 [#] 3	(5 ⁺)		B	
1389.1 [#] 6	(6 ⁺)		B	
1643.8 3	(6 ⁺)	990 ns 40	B	$T_{1/2}$: from implant- $\gamma(t)$ in ^{170}Dy IT decay.
2030.4 4	(2 ⁻)		A	

[†] From a least-squares fit to E_γ , by evaluators.

[‡] Band(A): $K^\pi=0^+$ g.s. band.

[#] Band(B): $K^\pi=4^+$ vibrational band.

[@] Band(C): $K^\pi=2^-$ band.

 $\gamma(^{170}\text{Dy})$

$E_i(\text{level})$	J_i^π	E_γ [†]	I_γ [†]	E_f	J_f^π	$E_i(\text{level})$	J_i^π	E_γ [†]	I_γ [†]	E_f	J_f^π
71.47	(2 ⁺)	71.47 15	100	0.0	0 ⁺	991.8	(2 ⁺)	992.1 [‡] 7	29 [‡] 22	0.0	0 ⁺
237.33	(4 ⁺)	165.84 11	100	71.47	(2 ⁺)	1116.5	(5 ⁻)	621.8 4	100	494.7	(6 ⁺)
494.7	(6 ⁺)	256.9 29	100	237.33	(4 ⁺)	1147.13	(4 ⁺)	909.79 18	100 17	237.33	(4 ⁺)
861.35	(2 ⁻)	789.93 15	100	71.47	(2 ⁺)			1075.68 30	10 5	71.47	(2 ⁺)
925.2	(3 ⁻)	687.72 [‡] 33	100 [‡] 30	237.33	(4 ⁺)	1257.4	(5 ⁺)	764 4	16 6	494.7	(6 ⁺)
		853.7 [‡] 5	60 [‡] 30	71.47	(2 ⁺)			1020.5 10	100 6	237.33	(4 ⁺)
991.8	(2 ⁺)	920.2 [‡] 4	100 [‡] 40	71.47	(2 ⁺)	1389.1	(6 ⁺)	894.5 5	100	494.7	(6 ⁺)

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

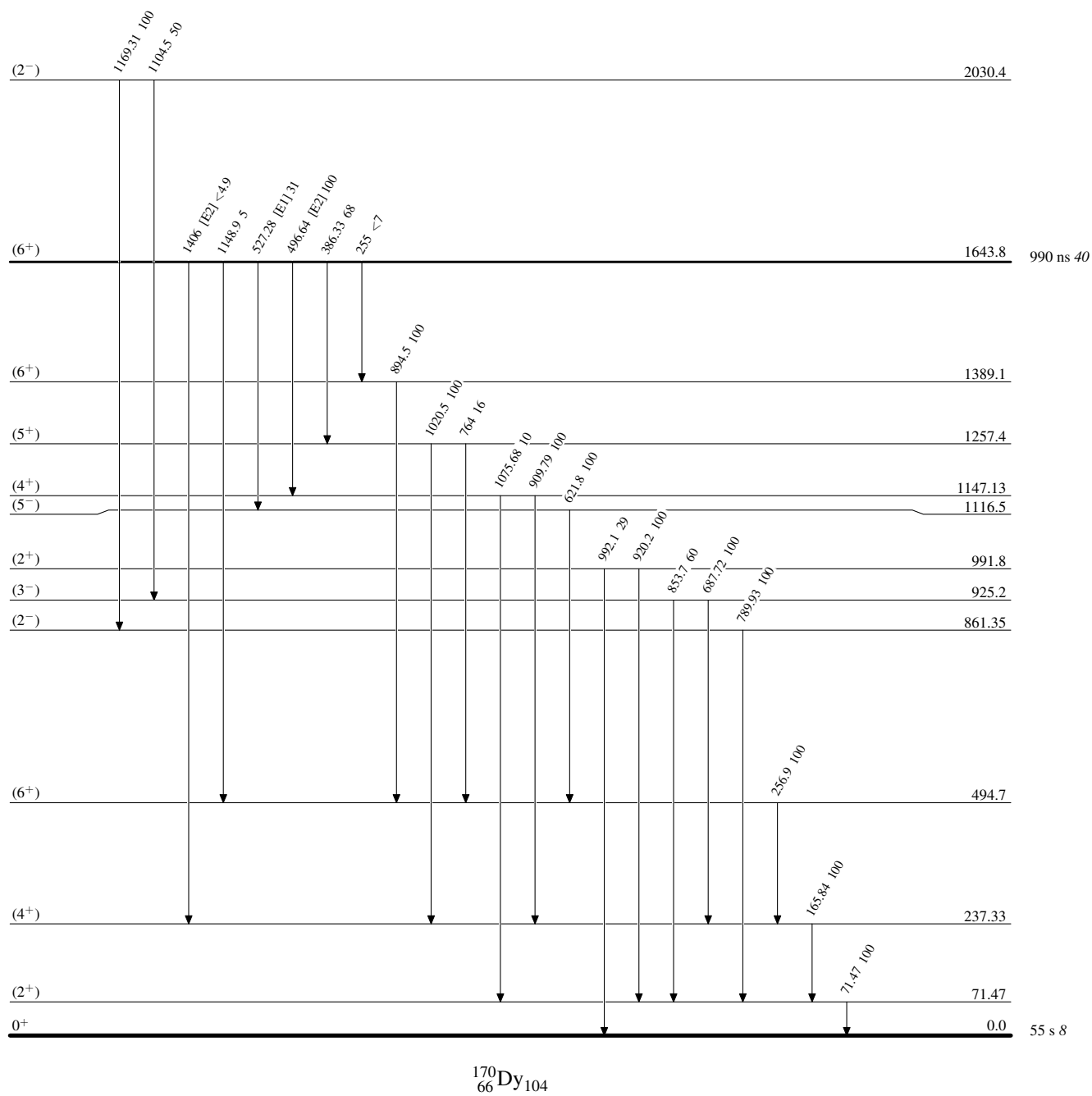
$\gamma(^{170}\text{Dy})$ (continued)								
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult.	α	Comments
1643.8	(6 ⁺)	255 1	<7	1389.1	(6 ⁺)			
		386.33 15	68 9	1257.4	(5 ⁺)			
		496.64 14	100 11	1147.13	(4 ⁺)	[E2]	0.01542	$\alpha(\text{K})=0.01241$ 18; $\alpha(\text{L})=0.00235$ 4; $\alpha(\text{M})=0.000528$ 8; $\alpha(\text{N})=0.0001209$ 17 $\alpha(\text{O})=1.667\times 10^{-5}$ 24; $\alpha(\text{P})=6.94\times 10^{-7}$ 10 B(E2)(W.u.)=0.000161 23
		527.28 22	31 7	1116.5	(5 ⁻)	[E1]	0.00457	$\alpha(\text{K})=0.00389$ 6; $\alpha(\text{L})=0.000532$ 8; $\alpha(\text{M})=0.0001159$ 17; $\alpha(\text{N})=2.67\times 10^{-5}$ 4; $\alpha(\text{O})=3.86\times 10^{-6}$ 6 $\alpha(\text{P})=2.13\times 10^{-7}$ 3 B(E1)(W.u.)=2.2 $\times 10^{-10}$ 6
		1148.9 7	5 3	494.7	(6 ⁺)			
2030.4	(2 ⁻)	1406 1	<4.9	237.33	(4 ⁺)	[E2]	1.59 $\times 10^{-3}$	$\alpha(\text{K})=0.001307$ 19; $\alpha(\text{L})=0.000183$ 3; $\alpha(\text{M})=4.01\times 10^{-5}$ 6; $\alpha(\text{N})=9.25\times 10^{-6}$ 13 $\alpha(\text{O})=1.347\times 10^{-6}$ 19; $\alpha(\text{P})=7.56\times 10^{-8}$ 11 B(E2)(W.u.)=2.2 $\times 10^{-8}$ 22
		1104.5 6	50 25	925.2	(3 ⁻)			
		1169.31 35	100 30	861.35	(2 ⁻)			

[†] From ^{170}Dy IT decay, except where noted.

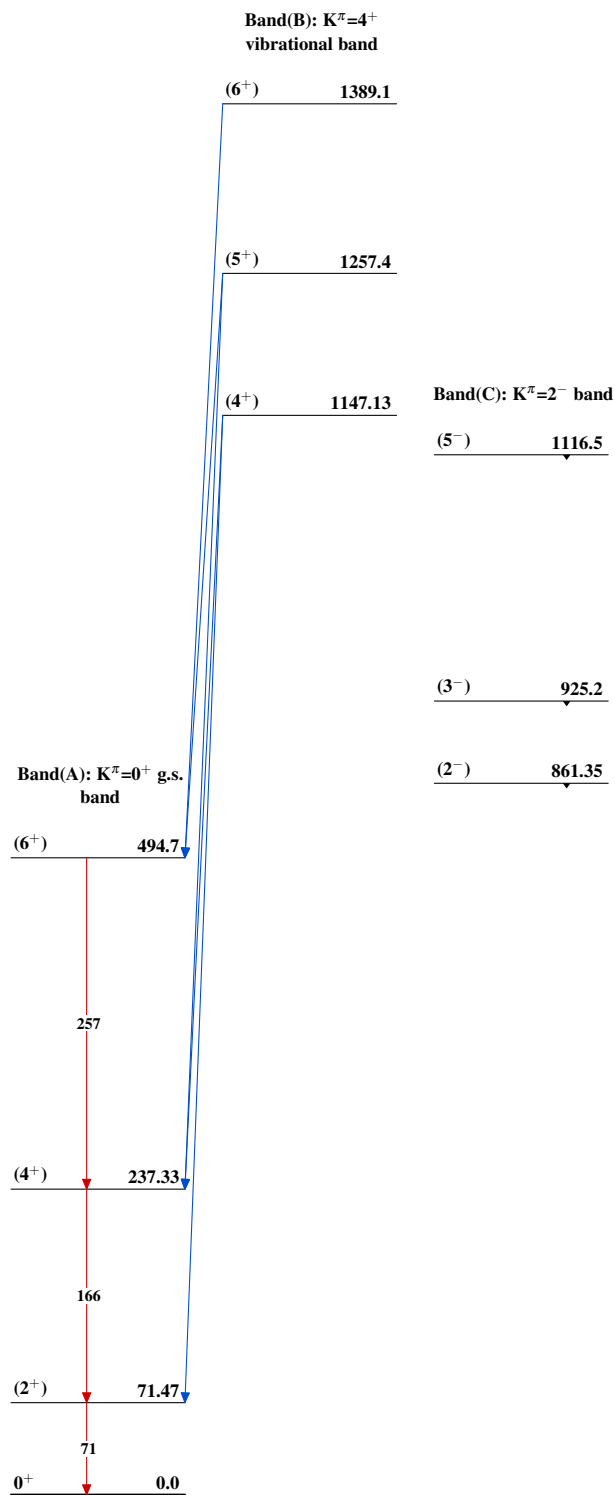
[‡] From ^{170}Tb β^- decay.

Adopted Levels, Gammas**Level Scheme**

Intensities: Relative photon branching from each level



Adopted Levels, Gammas


 $^{170}_{66}\text{Dy}_{104}$