^{102}Pd(^{58}Ni,4pnγ) 2001Di17

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 160, 1 (2019)	21-Oct-2019

Data set adapted from the XUNDL data file entry compiled by C. T. Malcolmson, C. Grinyer and B. Singh (McMaster Univ., August, 2001) from the data reported by 2001Di17.

E(^{58}Ni)=270 MeV. 1 mg/cm^{2}thick ^{102}Pd (69% enrichment) target. Measured Eγ, Iγ, $\gamma\alpha$ coin, and $\gamma\gamma$, using the Gammasphere array consisting of 101 Ge detectors and coupled to the Fragment Mass Analyzer (FMA). Reaction products studied using the "recoil-decay tagging" technique.

^{155}Yb Levels

E(level)	J$^\pi$[†]	T$_{1/2}$	Comments
0.0	(7/2$^-$)	1.793 s *19*	T$_{1/2}$: from the adopted values.
169.30[‡] *12*	(9/2$^-$)		
985.0[‡] *4*	(13/2$^-$)		
1594.3[‡] *4*	(17/2$^-$)		
1914.6[‡] *4*	(21/2$^-$)		
2281.3[‡] *5*			

[†] Adopted by 2001Di17 based on mult and theoretical arguments.

[‡] Band(A): Level sequence based on (9/2$^-$) and established by the observed γ cascade. The levels are proposed to arise from the coupling of the νh$_{9/2}$ orbital to the 0$^+$, 2$^+$, 4$^+$, 6$^+$ couplings of the two νf$_{7/2}$ orbitals (2001Di17).

γ(^{155}Yb)

Eγ	Iγ	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.[†]	Comments
169.30 *12*	70 *11*	169.30	(9/2$^-$)	0.0	(7/2$^-$)	(D)	
[x]223.4[‡] *2*	28 *9*						
320.31 *13*	66 *9*	1914.6	(21/2$^-$)	1594.3	(17/2$^-$)	(E2)	
366.7 *2*	19 *7*	2281.3		1914.6	(21/2$^-$)		Additional information 1.
[x]474.7 *4*	14 *8*						
609.3 *2*	67 *8*	1594.3	(17/2$^-$)	985.0	(13/2$^-$)	(E2)	
[x]755.1[‡] *3*	47 *13*						
815.7 *3*	100	985.0	(13/2$^-$)	169.30	(9/2$^-$)	(E2)	

[†] From 2001Di17 from measured DCO ratios and angular distributions when DCO analyses were not available (values not given). 2001Di17 adopted (E2) for Q (confirmed by evalutor based on unlikeliness of M2 in high-spin level schemes) while (M1) adopted by 2001Di17 is adopted as (D) by evaluator (one cannot distinguish in between M1 and E1 solely by these measurements).

[‡] Possibly in coincidence with the 169.3 and 815.7 γ's.

[x] γ ray not placed in level scheme.

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Level Scheme

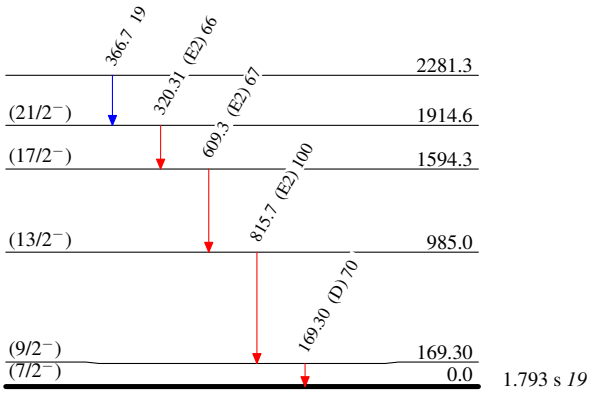
Intensities: Relative I_γ

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



$^{155}_{70}Yb_{85}$

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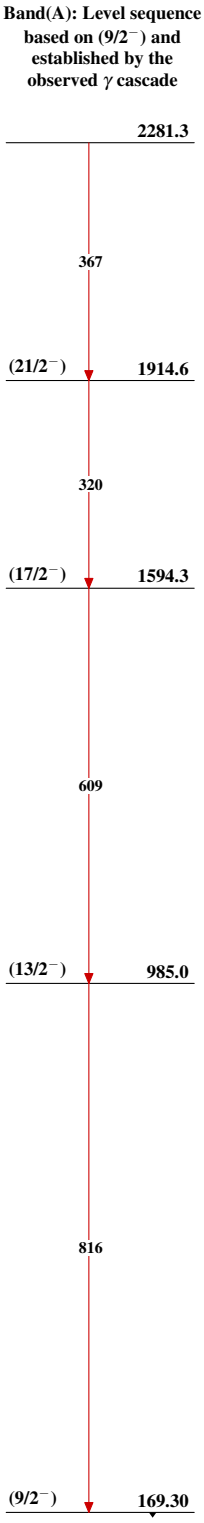

$^{155}_{70}Yb_{85}$