^{157}Gd(^{19}F,5nγ) 2006Zh09

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin, E. A. Mccutchan	NDS 151, 334 (2018)	30-Jun-2018

E=105 MeV; array of eleven HPGe detectors, each with a BGO Compton suppression shield; measured Eγ, Iγ, lifetimes by DSA method using $\gamma\gamma$ coin; deduced Q(transition), average β_2 for band; total routhian surface calculations using non-axial Woods-Saxon potential.

^{171}Ta Levels

E(level)[†]	J$^\pi$	T$_{1/2}$[‡]	Comments
0+x[#]	5/2$^-$		
95+x[#]	9/2$^-$		
292+x[#]	13/2$^-$		
590+x[#]	17/2$^-$		
979+x[#]	21/2$^-$		
1444+x[#]	25/2$^-$		
1969+x[#]	29/2$^-$		
2539+x[#]	33/2$^-$	>0.69 ps	Q(transition) (eb) <6.2.
3148+x[#]	37/2$^-$	0.59 ps *17*	Q(transition) (eb) =5.7 *+7−11*.
3798+x[#]	41/2$^-$	0.40 ps *5*	Q(transition) (eb) =5.9 *3*.
4497+x[#]	45/2$^-$	0.28 ps *4*	Q(transition) (eb) =5.9 *4*.
5250+x[#]	49/2$^-$	0.23 ps *5*	Q(transition) (eb) =5.4 *6*.
6058+x[#]	53/2$^-$	0.17 ps *6*	Q(transition) (eb) =5.1 *8*.

[†] From Eg assigning equal weight to all data. In the Adopted Levels, the energy offset x=31.2.
[‡] From DSA method (2006Zh09).
[#] Band(A): $\pi h_{9/2}$1/2[541] band. Deduced average β_2=0.26.

γ(^{171}Ta)

E$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	E$_\gamma$	I$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
95[†]	95+x	9/2$^-$	0+x	5/2$^-$	570.0	100	2539+x	33/2$^-$	1969+x	29/2$^-$
197[†]	292+x	13/2$^-$	95+x	9/2$^-$	608.5	67	3148+x	37/2$^-$	2539+x	33/2$^-$
298[†]	590+x	17/2$^-$	292+x	13/2$^-$	650.0	45	3798+x	41/2$^-$	3148+x	37/2$^-$
389[†]	979+x	21/2$^-$	590+x	17/2$^-$	699.0	30	4497+x	45/2$^-$	3798+x	41/2$^-$
465[†]	1444+x	25/2$^-$	979+x	21/2$^-$	753.2	15	5250+x	49/2$^-$	4497+x	45/2$^-$
525	1969+x	29/2$^-$	1444+x	25/2$^-$	808.5	6	6058+x	53/2$^-$	5250+x	49/2$^-$

[†] Rounded value from Adopted Levels.

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Level Scheme

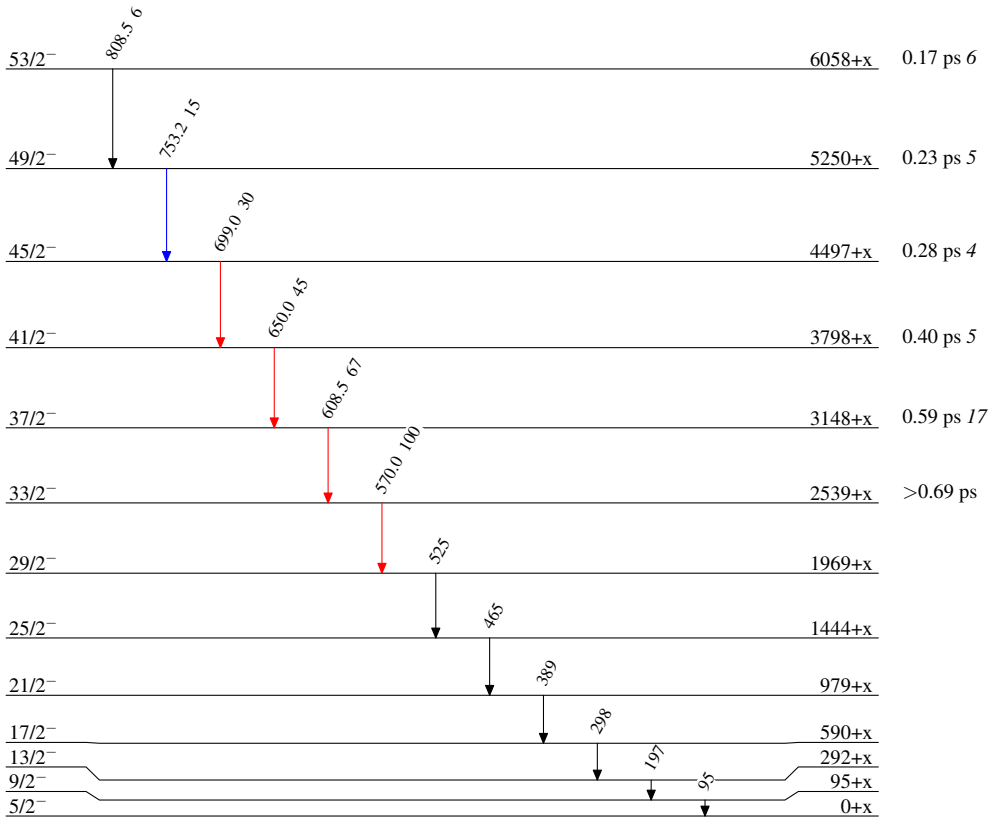
Intensities: Relative I_γ

Legend

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

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

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



$^{171}_{73}Ta_{98}$

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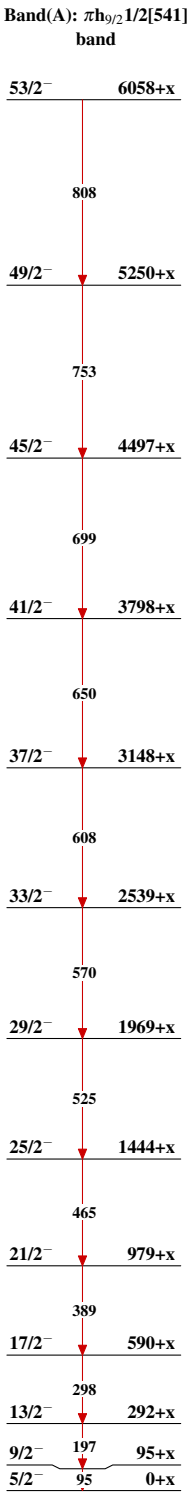

$^{171}_{73}Ta_{98}$