^{148}Nd(d,pγ) 1977HaXX,1979Ka16

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 185, 2 (2022)	23-Aug-2022

1979Ka16, 1977HaXX: E=10 MeV at Jyvaskyla. Measured Eγ, $\gamma\gamma$, $\gamma\gamma$(t), pγ(t). The authors also report (^{3}He,xnγ) E=27 MeV experiments, but no details are available.

^{149}Nd Levels

E(level)†	J$^\pi$	$T_{1/2}$‡	Comments
0.0			
108.5		≤0.7 ns	
138.4		<0.6 ns	
165.1		<0.5 ns	
220.7		2.1 ns *5*	
258.3		<0.7 ns	
270.9	(9/2$^+$)	5.1 ns *3*	J$^\pi$: 1979Ka16 use particle-rotor model with a nonspherical Woods-Saxon potential to predict the 9/2$^+$ to 7/2$^-$ transition probability for seven N=89, 91 and 93 nuclei. The qualitative agreement between these and the measured probabilities is used as an argument for the 9/2$^+$ assignment. $T_{1/2}$: from 1979Ka16. Note that this value is in severe disagreement with 0.42 ns *3* in the Adopted Levels, where the value is from $\gamma\gamma$(t) and $\beta\gamma$(t) in β^- decay of ^{149}Pr.
285.5		<0.6 ns	
316.2		<0.8 ns	
321.1		<0.9 ns	
332.9		<0.4 ns	
340.4			
365.9		<0.5 ns	
482.7		<0.8 ns	
548.7		<0.5 ns	

† Rounded values from the Adopted Levels.
‡ From pγ(t).

γ(^{149}Nd)

E$_\gamma$†	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Comments
69.7‡	340.4		270.9	(9/2$^+$)	Shown as tentative transition to 270.9 level.
108.5	108.5		0.0		
162.3	270.9	(9/2$^+$)	108.5		

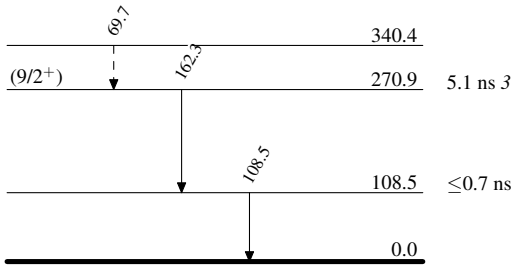
† From level diagram in 1979Ka16. No uncertainties were given.
‡ Placement of transition in the level scheme is uncertain.

Legend

^{148}Nd(d,pγ) 1977HaXX,1979Ka16

Level Scheme

γ Decay (Uncertain)



$^{149}_{60}Nd_{89}$