

$^{150}\text{Nd}(\text{n},\text{n}'\gamma)$ 2012Ch47

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	S. K. Basu, A. A. Sonzogni		NDS 114, 435 (2013)	1-Apr-2013

2012Ch47: E=1.2, 1.4, 2.05, 2.7 MeV; measured E_γ , I_γ , $\gamma\gamma$ -coin, level half-lives by DSAM. All data from this article unless noted otherwise.

1977TrZX,1978TrZW,1979TrZZ: monoenergetic neutrons from the $^3\text{H}(\text{p},\text{n})$ reaction. Studied γ -ray excitation functions at neutron energies of 0.6-4.5 MeV and angular distributions at 2.5 and 3.5 MeV; TOF measurements were used to separate prompt γ -ray events from neutron events. No γ -ray information was given by authors.

 ^{150}Nd Levels

E(level)	J^π	$T_{1/2}$	E(level)	J^π	$T_{1/2}$
0.0			1180.0 [†]	$\leq 2^+$	
130.20 7	2 ⁺		1200.29 9	3 ⁺	
381.45 9	4 ⁺		1283.6 [†]	(1 ⁻) [†]	
676 [†]	0 ⁺ [†]		1307.5 [†]	(3,4) [†]	
720.52 12	6 ⁺		1351.4 7	4 ⁺	
850.53 10	2 ⁺		1426.7 [†]	(2 ⁺) [†]	
852.72 5	1 ⁻	46 fs +7-6	1434.79 9	2 ⁻	0.6 ps +4-2
934.68 8	3 ⁻	82 fs +12-10	1483.30 8	(3 ⁻)	0.35 ps +11-7
1061.78 9	2 ⁺		1518.5 [†]	3 ⁻ [†]	
1126 [†]	8 ⁺ [†]		1544.4 [†]	3 ⁻ [†]	
1129.25 11	5 ⁻	0.07 ps +20-4	1565.40 11	4 ⁻	0.33 ps +28-11
1137.56 12	4 ⁺		1579.8 [†]	3 ⁻ [†]	

[†] Reported only by 1979TrZZ, spin and parity from Adopted Levels.

 $\gamma(^{150}\text{Nd})$

E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π
132	<27	1483.30	(3 ⁻)	1351.4	4 ⁺	584.27 6	2.9 6	1434.79	2 ⁻	850.53	2 ⁺
214	≤ 9	1565.40	4 ⁻	1351.4	4 ⁺	632.77 6	9.0 10	1483.30	(3 ⁻)	850.53	2 ⁺
234.47 5	12.1 8	1434.79	2 ⁻	1200.29	3 ⁺	722.52 5	100.0 37	852.72	1 ⁻	130.20	2 ⁺
283.03 5	26.4 16	1483.30	(3 ⁻)	1200.29	3 ⁺	747.80 6	100.0 33	1129.25	5 ⁻	381.45	4 ⁺
345.74 9	6.8 13	1483.30	(3 ⁻)	1137.56	4 ⁺	804.47 5	100.0 39	934.68	3 ⁻	130.20	2 ⁺
365.11 5	100	1565.40	4 ⁻	1200.29	3 ⁺	852.72 5	85.5 33	852.72	1 ⁻	0.0	
373.03 5	100.0 33	1434.79	2 ⁻	1061.78	2 ⁺	1101.83 5	100.0 39	1483.30	(3 ⁻)	381.45	4 ⁺
408.73 6	15.9 20	1129.25	5 ⁻	720.52	6 ⁺	1184	≤ 2	1565.40	4 ⁻	381.45	4 ⁺
421.49 5	67.2 26	1483.30	(3 ⁻)	1061.78	2 ⁺	1305	<1	1434.79	2 ⁻	130.20	2 ⁺
553.24 5	34.8 18	934.68	3 ⁻	381.45	4 ⁺	1353.10 5	87.1 35	1483.30	(3 ⁻)	130.20	2 ⁺
582	<1	1434.79	2 ⁻	852.72	1 ⁻						

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Level Scheme

Intensities: Type not specified

Legend

- $I_\gamma < 2\% \times I_\gamma^{\max}$
- $I_\gamma < 10\% \times I_\gamma^{\max}$
- $I_\gamma > 10\% \times I_\gamma^{\max}$

