^{64}Ni(n,n′γ)   1989Ko54,1983El03

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 178,41 (2021).	12-Nov-2021

1989Ko54 (also 1982ArZO from the same group): fast neutrons. Measured Eγ, Iγ, $\gamma(\theta)$, Doppler-shift attenuation. Deduced levels, T$_{1/2}$.

Additional information 1.

1983El03 (also 1989Ge09): E=fast neutrons from the IRT-2000 reactor at Sofia. Measured Doppler-shift attenuation. Deduced T$_{1/2}$.

1996Ko41: E=fast neutrons, analyzed level population data.

1979Tr09: 100-4000 keV, σ measurement.

^{64}Ni Levels

E(level)[†]	J$^{\pi}$[‡]	T$_{1/2}$[#]	Population(90°)[†]	Comments
0	0$^+$			
1346	2$^+$	0.017 ps 8	64.5	T$_{1/2}$: from DSAM in 1983El03,1989Ge09.
2277	2$^+$		15.0	J$^{\pi}$: 930$\gamma(\theta)$ (1989Ko54) forbids J=0 choice.
2609	4$^+$	>0.31 ps	4.7	
2865	0$^+$	0.04 ps 2	1.3	
2971	(1,2$^+$)	0.13 ps $+13-5$	3.5	
3028	0$^+$		0.6	
3166	4$^+$	0.13 ps $+17-5$	2.7	
3273	2$^+$		1.9	
3396	4$^+$		1.3	
3463	0$^+$		0.7	
3483	(2$^+$,3,4$^+$)		1.7	
3560	3$^-$			
3647	2$^+$		1.2	
3749	2$^+$		0.9	
3797	2$^+$		0.3	
3808			1.3	
3849	5$^-$			
4083	4$^+$		0.5	

[†] From 1982ArZO, with relative population measured at 90°.

[‡] From the Adopted Levels, unless otherwise stated.

[#] From DSAM (1989Ko54), unless otherwise stated.

γ(^{64}Ni)

E$_\gamma$[†]	E$_i$(level)	J$_i^{\pi}$	E$_f$	J$_f^{\pi}$	Mult.	δ	Comments
930	2277	2$^+$	1346	2$^+$	D+Q	+0.75 20	Mult.,δ: from $\gamma(\theta)$ in 1989Ko54. A$_2$=+0.42 4, A$_4$=−0.02 4 (1989Ko54).
1264	2609	4$^+$	1346	2$^+$	Q		Mult.: from A$_2$=+0.38 3, A$_4$=−0.11 4 (1989Ko54).
1346	1346	2$^+$	0	0$^+$			
1521	2865	0$^+$	1346	2$^+$			
1820	3166	4$^+$	1346	2$^+$			
2971	2971	(1,2$^+$)	0	0$^+$			

[†] From 1989Ko54.

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Level Scheme

4$^+$	3166	0.13 ps +$17-5$
(1,2$^+$)	2971	0.13 ps +$13-5$
0$^+$	2865	0.04 ps 2
4$^+$	2609	>0.31 ps
2$^+$	2277	
2$^+$	1346	0.017 ps 8
0$^+$	0	

$^{64}_{28}$Ni$_{36}$