

$^{59}\text{Co}(^3\text{He},\text{d}\gamma)$ 1973Ro20,1968Ba14

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 114, 1849 (2013)		31-Dec-2012

$E(^3\text{He})=18$ MeV. Measured $E\gamma$, d- γ coin. Semi telescope, FWHM ≈ 35 keV (1973Ro20).

$E(^3\text{He})=18, 22$ MeV. Measured $\sigma(\theta)$, $\theta(\text{c.m.})\approx 15^\circ$ to 55° . Semi telescope, FWHM ≈ 60 keV. Measured $E\gamma$, d- γ coin. NaI detector (1968Ba14).

 ^{60}Ni Levels

$E(\text{level})^\dagger$	$J^\pi^\#$	$E(\text{level})^\dagger$	$J^\pi^\#$	$E(\text{level})^\dagger$	$J^\pi^\#$	$E(\text{level})^\dagger$
0.0	0^+	3190		4191.0 12		4970.0 11
1330.0 8	2^+	3270.1 ‡ 8	2^+	4299.4 13		5091.8 15
2160.4 10	2^+	3621.1 12		4399.8 11		5118.8 11
2289.8 ‡ 12	0^+	3670.3 11	4^+	4448.8 11		5409.5 14
2504.4 10	4^+	3699.3 17		4498.1 13		5650 ‡
2626.8 10	3^+	3929.6 12	$2^+, 3^+$	4551.4 14	$1^+, 2^+$	5779.5 14
3118.3 13	4^+	4169.4 14	5^+	4778.1 13		5828.3 12

† From 1973Ro20, except as noted.

‡ From 1968Ba14.

$^\#$ From Adopted Levels data set.

 $\gamma(^{60}\text{Ni})$

$E_\gamma^\dagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Comments
520	4191.0		3670.3	4^+	
581	3699.3		3118.3	4^+	
700@	4399.8		3699.3		
740@	3929.6	$2^+, 3^+$	3190		
830 ‡	2160.4	2^+	1330.0	2^+	
960 ‡	2289.8	0^+	1330.0	2^+	
995	3621.1		2626.8	3^+	
1110 ‡	3270.1	2^+	2160.4	2^+	
1130 $^\#$	4399.8		3270.1	2^+	
1165	3670.3	4^+	2504.4	4^+	
1181	4299.4		3118.3	4^+	
1300 $^\#$	2626.8	3^+	1330.0	2^+	
1330 $^\#$	1330.0	2^+	0.0	0^+	
1425	3929.6	$2^+, 3^+$	2504.4	4^+	
1460 $^\#$	3621.1		2160.4	2^+	E_γ : from E(level) difference, $E_\gamma=1440$ (1968Ba14).
1510 $^\#$	3670.3	4^+	2160.4	2^+	E_γ : from E(level) difference, $E_\gamma=1500$ (1968Ba14).
1565	4191.0		2626.8	3^+	
1640 $^\#$	3929.6	$2^+, 3^+$	2289.8	0^+	E_γ : from E(level) difference, $E_\gamma=1630$ (1968Ba14). Placement not adopted.
1665	4169.4	5^+	2504.4	4^+	
1795	4299.4		2504.4	4^+	
1895	4399.8		2504.4	4^+	
1940 $^\#$	3270.1	2^+	1330.0	2^+	
1945	4448.8		2504.4	4^+	
2345	4970.0		2626.8	3^+	
2391	4551.4	$1^+, 2^+$	2160.4	2^+	

Continued on next page (footnotes at end of table)

$^{59}\text{Co}(\text{}^3\text{He},\text{d}\gamma)$ [1973Ro20](#),[1968Ba14](#) (continued) $\gamma(^{60}\text{Ni})$ (continued)

E_γ [†]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	E_γ [†]	$E_i(\text{level})$	J_i^π	E_f	J_f^π
2465	5091.8		2626.8	3 ⁺	3270 [#]	3270.1	2 ⁺	0.0	0 ⁺
2615	5118.8		2504.4	4 ⁺	3275	5779.5		2504.4	4 ⁺
2710	5828.3		3118.3	4 ⁺	3448	4778.1		1330.0	2 ⁺
2905	5409.5		2504.4	4 ⁺	3638	4970.0		1330.0	2 ⁺
3118	4448.8		1330.0	2 ⁺	3788	5118.8		1330.0	2 ⁺
3168	4498.1		1330.0	2 ⁺	4498	5828.3		1330.0	2 ⁺
3218 [@]	4551.4	1 ⁺ ,2 ⁺	1330.0	2 ⁺					

[†] From [1973Ro20](#), except as noted; these are deduced from level energy differences.

[‡] From [1968Ba14](#), inferred with the aid of other experiments.

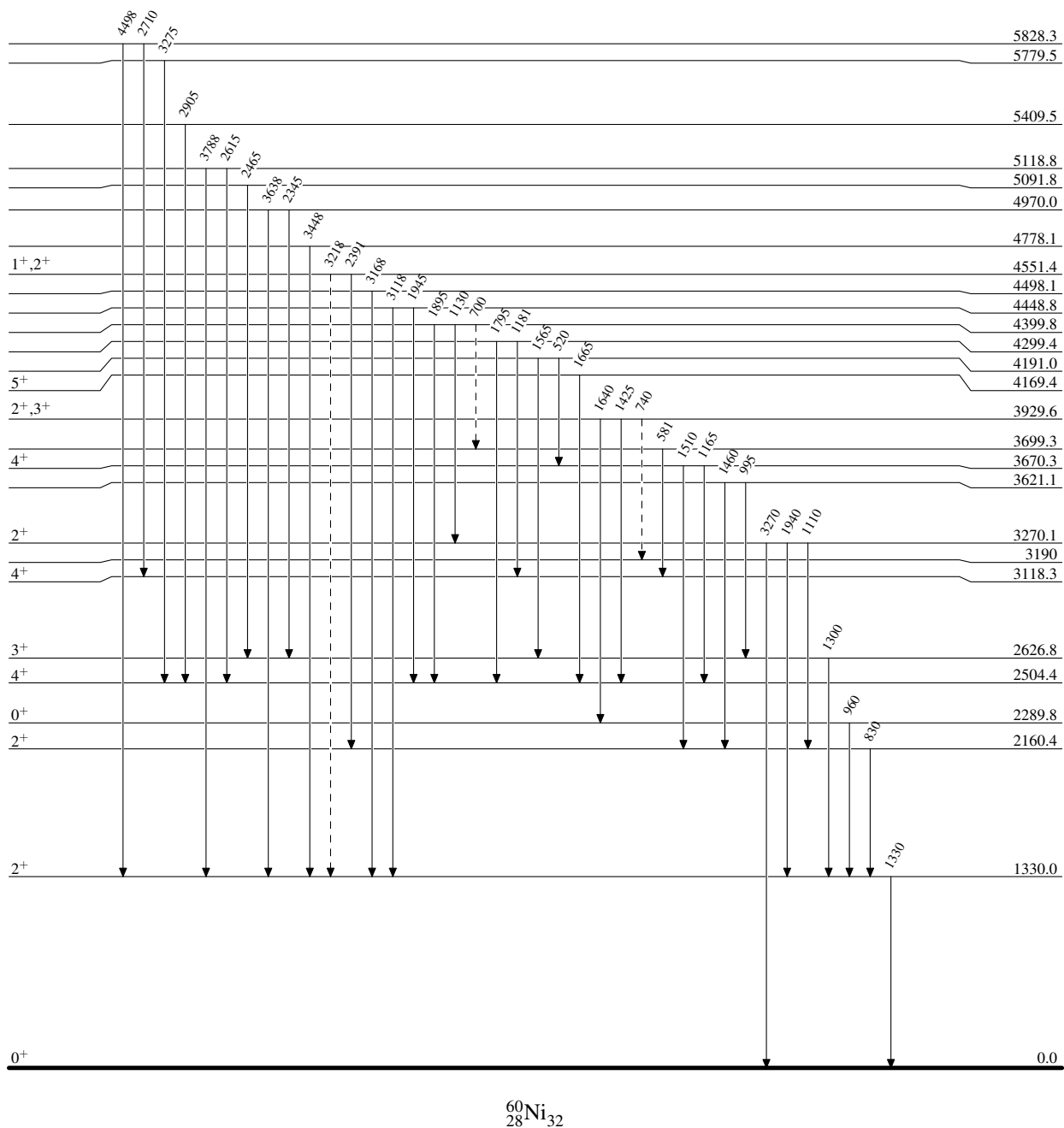
[#] From [1968Ba14](#).

[@] Placement of transition in the level scheme is uncertain.

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Legend

Level Scheme

-----► γ Decay (Uncertain) $^{60}_{28}\text{Ni}_{32}$