

$^{26}\text{Mg}(\text{n},\gamma)$ E=th 1992Wa06

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia		NDS 112, 1875 (2011)	30-Nov-2010

Others: 2007ChZX, 1970Se07, 1967Sp05, 1982Hu02.

1992Wa06: 99.7% enriched ^{26}MgO target; projectile: thermal neutron; Detector: HPGe detectors inside NaI(Tl) annulus operated in Compton-suppressed or in pair-spectrometer mode; Measured E_γ , I_γ ;

$\sigma_n=0.0384$ 6 (2006MuZX).

$\sigma_n=0.0390$ 8 (1992Wa06) assuming the level scheme is complete and $\sigma_n(^1\text{H})=0.3326$ 7.

 ^{27}Mg Levels

E(level) [‡]	J ^π [†]	T _{1/2}	Comments
0.0	1/2 ⁺	9.458 min 12	T _{1/2} : From Adopted Levels.
984.92 3	3/2 ⁺		
1698.62 4	5/2 ⁺		
1940.37 7	5/2 ⁺		
3476.35 6	1/2 ⁺		
3491.43 15	3/2 ⁺ , 5/2 ⁺		
3561.55 3	3/2 ⁻		
3787.37 5	3/2 ⁺		
4828.17 4	1/2 ⁻ , 3/2 ⁻		
5028.57 15	1/2 ⁺		
5925.93 18			
6443.38 3	1/2 ⁺		E(level): 6443.39 4 from 2003Au03.

[†] From Adopted Levels.

[‡] Least-squares fit to γ -ray energies.

 $\gamma(^{27}\text{Mg})$

I_γ normalization: Deduced by the evaluator, assuming $\Sigma I_\gamma=100\%$ to the g.s. a normalization value of 2.56 is given in 1992Wa06.

E_γ [†]	I_γ [#]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. [‡]	δ [‡]
241.6 4	0.03 1	1940.37	5/2 ⁺	1698.62	5/2 ⁺		
517.3 3	0.24 3	6443.38	1/2 ⁺	5925.93			
713.7 @	<0.03	1698.62	5/2 ⁺	984.92	3/2 ⁺		
955.45 8	0.26 3	1940.37	5/2 ⁺	984.92	3/2 ⁺	M1+(E2)	-0.07 6
984.91 3	6.1 3	984.92	3/2 ⁺	0.0	1/2 ⁺	M1+E2	+0.22 2
1040.7 @	<0.03	4828.17	1/2 ⁻ , 3/2 ⁻	3787.37	3/2 ⁺		
1266.65 18	0.35 3	4828.17	1/2 ⁻ , 3/2 ⁻	3561.55	3/2 ⁻		
1336.80 20	0.17 2	4828.17	1/2 ⁻ , 3/2 ⁻	3491.43	3/2 ⁺ , 5/2 ⁺		
1351.86 8	0.33 3	4828.17	1/2 ⁻ , 3/2 ⁻	3476.35	1/2 ⁺		
1414.95 18	0.17 2	6443.38	1/2 ⁺	5028.57	1/2 ⁺		
1467.3 5	0.03 1	5028.57	1/2 ⁺	3561.55	3/2 ⁻		
(1537.2)	≈0.01	5028.57	1/2 ⁺	3491.43	3/2 ⁺ , 5/2 ⁺		
1552.8 7	0.02 1	5028.57	1/2 ⁺	3476.35	1/2 ⁺		
1615.28 5	6.6 3	6443.38	1/2 ⁺	4828.17	1/2 ⁻ , 3/2 ⁻		
1621.2 @	<0.03	3561.55	3/2 ⁻	1940.37	5/2 ⁺		
1698.58 5	1.11 7	1698.62	5/2 ⁺	0.0	1/2 ⁺	E2	
1792.8 3	0.03 1	3491.43	3/2 ⁺ , 5/2 ⁺	1698.62	5/2 ⁺		
1846.95 18	0.26 3	3787.37	3/2 ⁺	1940.37	5/2 ⁺		

Continued on next page (footnotes at end of table)

$^{26}\text{Mg}(\text{n},\gamma)$ E=th 1992Wa06 (continued) $\gamma(^{27}\text{Mg})$ (continued)

$E_\gamma^\dagger$	$I_\gamma^\#$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡
1862.93 10	0.54 4	3561.55	3/2 ⁻	1698.62	5/2 ⁺	
1939.6 4	0.09 2	1940.37	5/2 ⁺	0.0	1/2 ⁺	
2088.66 11	0.41 3	3787.37	3/2 ⁺	1698.62	5/2 ⁺	
(2490.7)	0.02 1	3476.35	1/2 ⁺	984.92	3/2 ⁺	
2506.7 23	0.15 2	3491.43	3/2 ⁺ , 5/2 ⁺	984.92	3/2 ⁺	
2576.50 6	1.36 8	3561.55	3/2 ⁻	984.92	3/2 ⁺	(E1)
2655.86 6	1.44 7	6443.38	1/2 ⁺	3787.37	3/2 ⁺	
2881.67 4	25.6 8	6443.38	1/2 ⁺	3561.55	3/2 ⁻	
2887.6 @	<0.03	4828.17	1/2 ⁻ , 3/2 ⁻	1940.37	5/2 ⁺	
2951.4 4	0.10 2	6443.38	1/2 ⁺	3491.43	3/2 ⁺ , 5/2 ⁺	
2966.77 22	0.85 6	6443.38	1/2 ⁺	3476.35	1/2 ⁺	
3129.3 @	<0.03	4828.17	1/2 ⁻ , 3/2 ⁻	1698.62	5/2 ⁺	
3476.19 9	1.17 6	3476.35	1/2 ⁺	0.0	1/2 ⁺	
3490.9 6	0.10 2	3491.43	3/2 ⁺ , 5/2 ⁺	0.0	1/2 ⁺	
3561.31 4	23.5 7	3561.55	3/2 ⁻	0.0	1/2 ⁺	
3787.05 15	0.69 6	3787.37	3/2 ⁺	0.0	1/2 ⁺	
3843.01 8	3.14 16	4828.17	1/2 ⁻ , 3/2 ⁻	984.92	3/2 ⁺	
3985.5 6	0.04 1	5925.93		1940.37	5/2 ⁺	
4043.6 3	0.09 2	5028.57	1/2 ⁺	984.92	3/2 ⁺	
4827.67 6	2.20 13	4828.17	1/2 ⁻ , 3/2 ⁻	0.0	1/2 ⁺	
4940.5 3	0.04 1	5925.93		984.92	3/2 ⁺	
5457.82 15	0.97 7	6443.38	1/2 ⁺	984.92	3/2 ⁺	
5924.9 4	0.14 2	5925.93		0.0	1/2 ⁺	
6442.50 6	3.59 17	6443.38	1/2 ⁺	0.0	1/2 ⁺	

† Uncertain and weak intensity γ -rays not adopted.

‡ From Adopted Gammas.

$^\#$ For intensity per 100 neutron captures, multiply by 2.58 6.

@ Placement of transition in the level scheme is uncertain.

