^{26}Mg(t,pγ) 1973Fi03,1974Ra15,1961Hi11

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 114, 1189 (2013)	1-Apr-2013

Others: 1972Fi22, 1964Mi06.

1973Fi03,1972Fi22: ^{26}Mg(t,pγ): 99% enriched ^{26}Mg target; Projectile: t, E=2.9 MeV; Detectors: NaI(Tl), Ge(Li), annular silicon detector; Measured: Eγ, proton spectrum, P-γ coin, p-$\gamma(\theta)$, lifetime by Doppler Shift Attenuation method.

1974Ra15: ^{26}Mg(t,pγ): ^{26}Mg target; Projectile: t, E=2.54, 2.90 and 3.20 MeV; Measured Eγ, E(p), p-$\gamma(\theta)$, lifetime by Doppler Shift Attenuation method.

1961Hi11: ^{26}Mg(t,p): ^{26}Mg target; Projectile: t, E=5.5 to 6.0 MeV; protons were analyzed with a broad-range magnetic spectrograph; deduced level energy and L value.

1964Mi06: Enriched ^{26}Mg on carbon film; Projectile: t, E=10 MeV; measured angular distribution of protons using multichannel magnetic spectrograph; deduced level energies and L values.

^{28}Mg Levels

E(level)[†]	J$^\pi$[@]	T$_{1/2}$[&]	L[b]	Comments
0	0$^+$	20.915 h *9*	0	T$_{1/2}$: From Adopted Levels.
1473.7 *4*	2$^+$	1.2 ps *1*	2	
3862.7 *7*	0$^+$	0.55 ps *7*	0	
4021.1 *8*	4$^+$	105 fs *35*		
4557.3 *8*	2$^+$	<0.03 ps	2	
4560.8[#] *8*	1			
4877 *4*	2$^+$	<0.08[a] ps	2	
5171.5 *8*	3$^-$	0.11 ps *9*	(3)	
5184.6[#] *7*			1	
5191 *3*		<0.02 ps		
5271.7[#] *10*	1$^-$	<0.1[a] ps	0	
5470.3 *6*	2			
5672.8[#] *8*	2$^+$		2	
5702.3[#] *7*	0$^+$	0.21[a] ps *3*	0	
5910[‡] *15*				
6135[‡] *15*				
6416[‡] *15*				
6516[‡] *15*				
6539[‡] *15*				
6599[‡] *15*				
6708[‡] *15*				
6759[‡] *15*				

[†] From a least-squares fit to the γ-ray energies reported in 1973Fi03. Calculated γ-ray energies are obtained after the fitting.
[‡] From 1961Hi11.
[#] From 1974Ra15.
[@] From Adopted Levels.
[&] Weighted average of T$_{1/2}$ values from 1973Fi03 and 1974Ra15, except otherwise noted.
[a] From 1974Ra15.
[b] From 1964Mi06.

^{26}Mg(t,pγ) 1973Fi03,1974Ra15,1961Hi11 (continued)

γ(^{28}Mg)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[@]	δ[@]	Comments
1473.7	2+	1473.8 *4*	100	0	0+	E2		A_2/A_0=0.63 *4*, A_4/A0=−1.77 *7* for E_t=2.5 MeV; A_2/A_0=0.52 *3*, A_4/A0=−0.09 *4* for E_t=2.9 MeV (1973Fi03).
3862.7	0+	2388.9 *6*	100	1473.7	2+	E2		A_2/A_0=−0.05 *4*, A_4/A0=0.04 *4* for E_t=2.5 MeV; A_2/A_0=−0.02 *5*, A_4/A0=0.05 *5* for E_t=2.9 MeV (1973Fi03).
		3862.1[‡]	<1[‡]	0	0+			E_γ: not adopted, transition 0+ to 0+.
4021.1	4+	2547.2 *15*	100	1473.7	2+	(E2)		A_2/A_0=0.48 *5*, A_4/A0=−0.39 *7* for E_t=2.9 MeV (1973Fi03).
		4020.5[‡]	<1[‡]	0	0+			E_γ: not adopted, transition 4+ to 0+.
4557.3	2+	536.1[‡]	<2[‡]	4021.1	4+			
		694.6[‡]	<2[‡]	3862.7	0+			
		3083.4 *7*	100	1473.7	2+	M1+E2	+0.04 *3*	A_2/A_0=0.37 *6*, A_4/A0=−0.14 *9* for E_t=2.5 MeV; A_2/A_0=0.43 *3*, A_4/A0=0.09 *3* for E_t=2.9 MeV (1973Fi03).
		4556.5	<3	0	0+			E_γ: Calculated from level-energy difference and recoil subtraction.
4877	2+	319.2[‡]	<2.5[‡]	4557.3	2+			
		855.9[‡]	<2.5[‡]	4021.1	4+			
		1014.3[‡]	<4[‡]	3862.7	0+			
		3403 *4*	100 *4*	1473.7	2+	M1+E2	+0.35 *6*	A_2/A_0=−0.06 *8*, A_4/A0=0.04 *13* for E_t=2.5 MeV; A_2/A_0=0.04 *6*, A_4/A0=0.04 *7* for E_t=2.9 MeV (1973Fi03).
		4877 *10*	25 *4*	0	0+	E2		A_2/A_0=0.40 *13*, A_4/A0=0.05 *15* for E_t=2.9 MeV (1973Fi03).
5171.5	3−	294.5[‡]	<1[‡]	4877	2+			
		614.2[‡]	3[‡] *1*	4557.3	2+			
		1150.3 *4*	38[#] *2*	4021.1	4+	(E1)		A_2/A_0=0.14 *6*, A_4/A0=−0.03 *6* for E_t=2.9 MeV (1973Fi03).
		3697.5 *7*	100[#] *2*	1473.7	2+	(E1)		A_2/A_0=−0.28 *4*, A_4/A0=−0.05 *4* for E_t=2.9 MeV (1973Fi03).
5191		314[‡]	<1[‡]	4877	2+			
		633.7[‡]	<1.1[‡]	4557.3	2+			
		1328.2[‡]	2.9[‡] *6*	3862.7	0+			
		3716.8[‡]	11.4[‡] *11*	1473.7	2+			
		5190 *3*	100.0[#] *11*	0	0+			A_2/A_0=−0.81 *4*, A_4/A0=−0.05 *3* for E_t=2.9 MeV (1973Fi03).
5470.3	2	3996.5 *5*	100	1473.7	2+			A_2/A_0=0.43 *5*, A_4/A0=0.04 *5* for E_t=2.9 MeV (1973Fi03).
		5469	<2	0	0+			
5672.8	2+	1115.5[‡]	21[‡] *4*	4557.3	2+			
		1651.6[‡]	<7.3[‡]	4021.1	4+			
		1810.0[‡]	<5.9[‡]	3862.7	0+			
		4198.4[‡]	100[‡] *6*	1473.7	2+	M1+E2	+0.3 *+2−6*	δ: From 1974Ra15.
		5671.6[‡]	26[‡] *6*	0	0+	E2		
5702.3	0+	430.6[‡]	17.5[‡] *15*	5271.7	1−			
		1141.5[‡]	100.0[‡] *19*	4560.8	1			
		4227.9[‡]	28.5[‡] *16*	1473.7	2+			

Continued on next page (footnotes at end of table)

^{26}Mg(t,pγ) 1973Fi03,1974Ra15,1961Hi11 (continued)

$\gamma(^{28}Mg)$ (continued)

† From 1973Fi03, except otherwise noted.
‡ From 1974Ra15. Eγ calculated by the evaluator from level energy differences and recoil subtraction.
# From 1974Ra15.
@ From γ-ray angular correlation in 1973Fi03.

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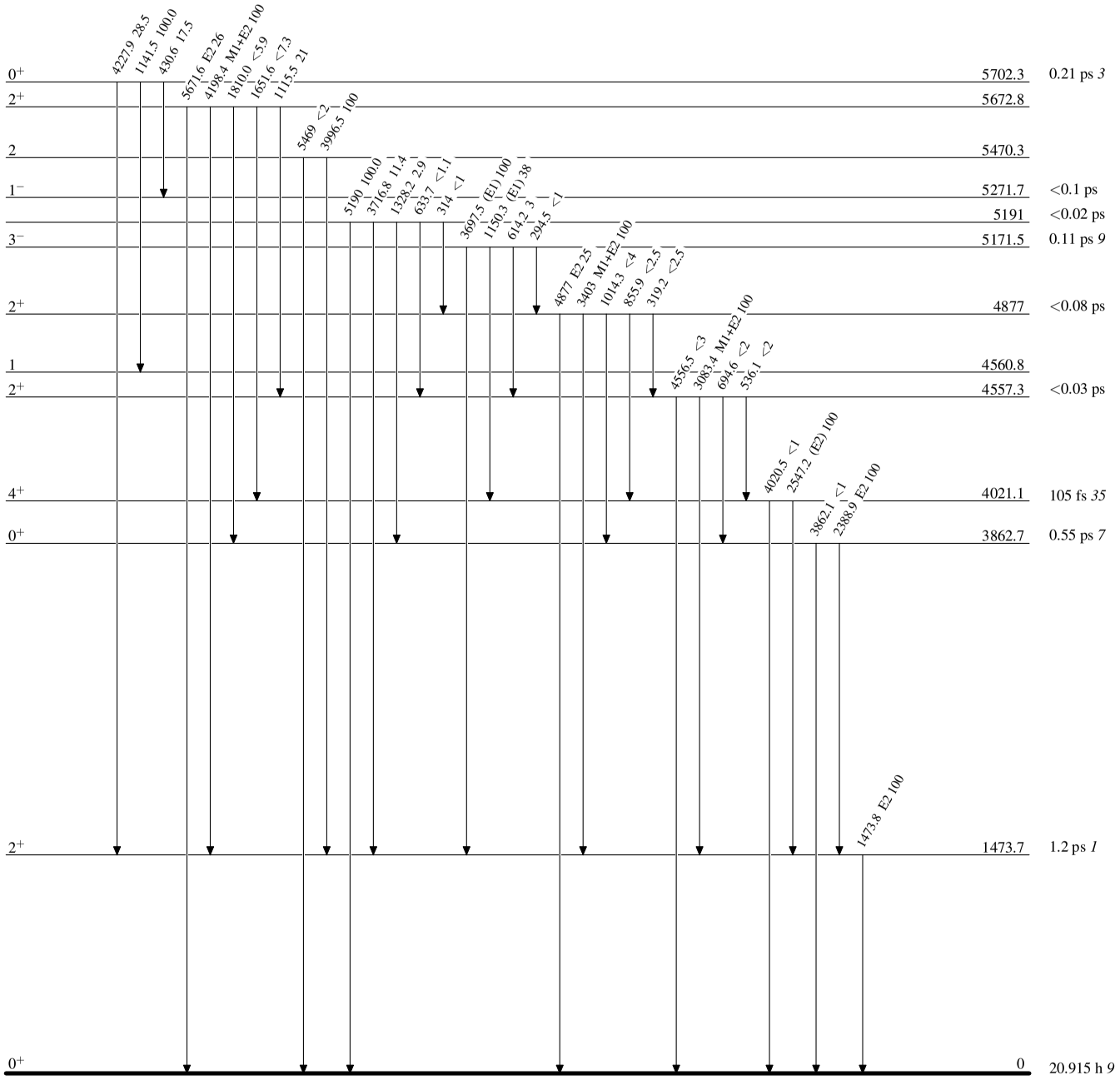
Level Scheme

Intensities: Relative photon branching from each level



$^{28}_{12}Mg_{16}$