^{26}Mg(^{3}He,p),(^{3}He,pγ) 1970Cl02,1971Be19,1972La34

History

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

$J^{\pi}(^{26}Mg)=0^{+}$.
Others: 1974Be07, 1973St08, 1971Bo36.
1970Cl02: ^{26}Mg(^{3}He,p) E=10.0 MeV. Measured σ(E(p),θ).
1971Be19: ^{26}Mg(^{3}He,p) E=15-18 MeV. Measured $\sigma(\theta)$.
1972La34: ^{26}Mg(^{3}He,pγ) E=10 MeV. Measured σ(E(p),θ).
1974Be07: ^{26}Mg(^{3}He,p) E=18 MeV. Measured σ(E(p),θ), from 7.5° to 67.5° in 7.5° intervals.
1973St08: ^{26}Mg(^{3}He,pγ), E=8.0 MeV, 99.2% enriched target; measured σ(E;Eγ, θ(pγ)). Deduced ^{28}Al levels, branching ratios, isospin.

^{28}Al Levels

E(level)†	J$^{\pi}$&	L@	Comments
0.0		2	
30.6383# *10*		2	Additional information 1.
972.21 *24*	0^{+}	0	
1021‡ *8*		2	
1372.8 *3*		0+2	
1620.32# *5*			
1620.7 *6*		2	E(level): Other: 1625 keV *8* in 1974Be07.
2145‡ *8*		2	
2201.8 *3*		0+2	E(level): Others: 2201 keV *1* (1972La34), 2209 keV *8* (1974Be07).
2275‡ *8*	3^{+}	2+4	
2494‡ *8*		2	
2586‡ *8*	4^{+}	4	
2664‡ *8*		4	
2999‡ *8*	$(0,1)^{+}$	0+2	J$^{\pi}$: $(3,1)^{+}$ in Adopted Levels. L: For doublet in 1974Be07.
3105‡ *1*	$(1\text{ to }3)^{+}$	(0,2)	E(level): From 1972La34. Other: 3112 keV *8* 1974Be07.
3305‡ *8*		2	
3355‡ *8*		2	
3473‡ *8*	3^{+}	2+4	
3542.0 *8*			E(level): Other: 3548 keV *8* (1974Be07).
3601‡ *8*			
3669‡ *8*			
3709‡ *8*		2	
3891‡ *8*			
3948‡ *8*			
4044‡ *8*	$(2\text{ to }4)^{-}$	3	L: Presumably erroneous.
4127‡ *8*	1^{+}	0+2	
4254‡ *8*		2	
4608‡ *8*	$(2,3)^{+}$	2	J$^{\pi}$: 3^{+} in Adopted Levels.
4699‡ *8*		(2)	
4768‡ *8*	2^{-}		
4854‡ *8*	1^{+}	0+2	
4915‡ *8*	2^{-}	1+3	
5010‡ *8*			

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^{26}Mg(^{3}He,p),(^{3}He,pγ) 1970Cl02,1971Be19,1972La34 (continued)

^{28}Al Levels (continued)

E(level)†	Jπ&	L@	Comments
5143‡ *8*	(1 to 3)$^+$	2	L: Presumably erroneous.
5452‡ *8*	(0$^-$,1$^+$,1$^-$,2$^-$)	1,0+2	
5530‡ *8*			
5752‡ *8*			
5810‡ *8*	(0$^-$,1$^+$,1$^-$,2$^-$)	1,0+2	
5869‡ *8*			
5915‡ *8*	(1 to 3)$^+$	2	
5992.5‡ *5*	0$^+$	0	E(level): Other: 6002 *8* (1974Be07).
6075‡ *8*	(0,1)$^+$	0+(2)	
6215‡ *8*			
6253‡ *8*	(0$^-$,1$^+$,1$^-$,2$^-$)	1,0+2	
6313‡ *8*			
6577‡ *8*			
6617‡ *8*			
6666‡ *8*			
6773‡ *8*			
6852‡ *8*			
6911‡ *8*			
7133‡ *8*		2	
7194‡ *8*			
7258‡ *8*			
7318‡ *8*			
7354‡ *8*			
7462‡ *8*			
7493‡ *8*			
7593‡ *8*			
7673‡ *8*			
7818‡ *8*			
7941‡ *8*			
8105‡ *8*			
8206‡ *8*			
8364‡ *8*			
8422‡ *8*			
8478‡ *8*			
8571‡ *8*			
8649‡ *8*			

† From a least-squares fit to γ-ray energies (with fixed 30.6383 keV *10* level energy), except otherwise noted. Resonance states above 7673-keV are reported in 1974Be07 and these states are not presented in the Adopted Levels. Please see 2006MuZX for resonance levels.
‡ From 1974Be07.
# From Adopted Levels.
@ From 1974Be07, based on distorted-wave analysis of the angular distributions of ^{26}Mg(^{3}He,p)^{28}Al transitions.
& From 1974Be07.

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$\gamma(^{28}Al)$

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Comments
972.21	0^+	941.6 *3*	100	30.6383		
1372.8		400.5 *4*	47 *6*	972.21	0^+	
		1342.3 *4*	53 *6*	30.6383		
1620.7		1621.9 *8*	100	0.0		E_γ: Also placed from a 1620.8 keV level in 1973St08.
2201.8		1229.8 *4*	15 *5*	972.21	0^+	
		2170.6 *4*	85 *5*	30.6383		
5992.5	0^+	2450.4 *6*	9 *2*	3542.0		
		3790.1 *4*	43 *4*	2201.8		
		4371.9 *5*	34 *4*	1620.32		
		4619.3 *12*	14 *3*	1372.8		

† From 1973St08.

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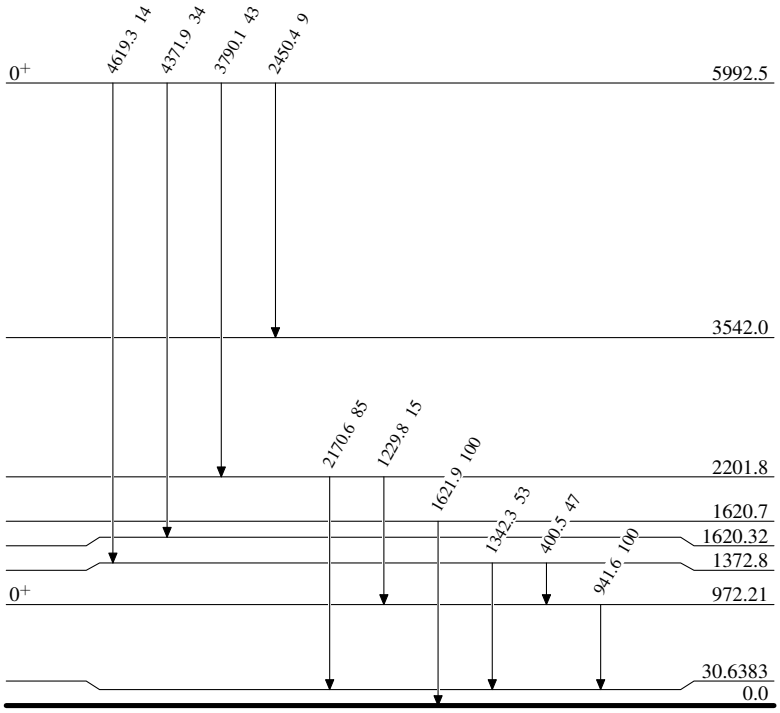
Level Scheme

Intensities: % photon branching from each level



$^{28}_{13}Al_{15}$