^{25}Mg(α,^{3}He) 1986Kr13,1990Ya07

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia and A. M. Hurst	NDS 134,1 (2016)	1-Feb-2016

$J^{\pi}(^{25}Mg)=5/2^{+}$.

1986Kr13: Self-supporting metallic 97.87% enriched ^{25}Mg target (thickness 0.44 mg/cm^2); 80.9 MeV α beam; Reaction products were momentum analyzed using magnetic spectrograph; Position sensitive proportional counter, two gas proportional counters as ΔE, and a plastic scintillation counter as stopping E detector. Deduced excited levels of ^{26}Mg, spectroscopic factors, DWBA analysis.

1990Ya07: Self-supporting metallic 97.9% enriched ^{25}Mg target (thickness 80 μg/cm^2); 50 MeV α beam; Reaction products were momentum analyzed using magnetic spectrograph; Single wire proportional counter, ΔE and E counters; FWHM 25 MeV; Deduced excited levels of ^{26}Mg, spectroscopic factors.

^{26}Mg Levels

E(level)[†]	J$^{\pi}$[#]	L[a]	S[c]	Comments
0.0	0$^+$		0.76[‡]	
1809	2$^+$		1.07[‡]	
2938	2$^+$		1.0[‡]	
3589	0$^+$		1.2[‡]	
3942	3$^+$		1.16[‡]	
4319	4$^+$		1.15[‡d]	J$^{\pi}$: 1990Ya07 list as 2$^+$.
4333	2$^+$		1.15[‡d]	J$^{\pi}$: 1990Ya07 list as 4$^+$.
4350	3$^+$		1.7[‡]	
4835	2$^+$		2.0[‡]	
4901	4$^+$		0.8[‡]	
4972	0$^+$		0.92[‡]	
5290	2$^+$		1.07[‡]	
5470	4$^+$		0.75[‡]	
5691[‡]	1$^+$[@]		0.20	
5720	4$^+$		0.68[‡]	
6125	3$^+$[@]		0.95[‡]	E(level): 6120 in 1990Ya07.
6256	0$^+$		0.98[‡]	
6622	4$^+$		5.5[‡]	
6745	2$^+$		1.8[‡]	E(level): 6760 in 1990Ya07.
6877[‡]	3$^-$		0.16,0.99[‡]	S: Assuming f7/2 and p3/2 transfer, respectively (1990Ya07).
7062[‡]	1$^-$		0.01,0.07[‡]	S: Assuming f7/2 and p3/2 transfer, respectively (1990Ya07).
7100	2$^+$		0.16[‡]	
7279[‡]	4$^-$		0.40[‡]	
7347	&			
7676	&			
7697[‡]	1$^+$[@]		0.14	J$^{\pi}$: 1$^{(-)}$ in Adopted Levels.
7775[‡]		3[b]		
7827	&			
7953[‡]	5$^-$		0.36[‡]	
8189[‡]		3[b]		
8247	&			
8616	&			

Continued on next page (footnotes at end of table)

^{25}Mg(α,^{3}He) 1986Kr13,1990Ya07 (continued)

^{26}Mg Levels (continued)

E(level)†	Jπ#	L[a]	S[c]	Comments
8698‡		3[b]		
8914‡		3[b]		
9048	&			
9169 *10*		3	0.123,0.13	S: Other: 0.18 (1990Ya07).
9256‡	1+		0.29	
9324‡		3[b]		
9568‡	1+		0.57	
9716‡		3[b]		
9774‡	1+		0.10	
10147‡	1+		0.26	
10340‡	1+		0.23	
10653‡	1+		0.57	
10697‡		3[b]		
10931	&			
11169‡	1+		0.43	
11945 *10*		3	0.031,0.02 *9*	
12512 *10*		3	0.063,0.05 *6*	
12865 *10*		3	0.015,0.01 *3*	
12958 *10*		3	0.006,0.00 *5*	
13958 *10*		3	0.020,0.01 *7*	
14542 *10*		3	0.014,0.01 *2*	
16580 *10*			0.009,0.00 *9*	

† Up to 7100 from Adopted Levels (rounded to nearest keV), above level energies are from 1986Kr13, except otherwise noted.
‡ From 1990Ya07.
# From Adopted Levels, except otherwise noted.
@ Proposed in 1990Ya07 from cross section measurement and DWBA calculations.
& Natural parity − proposed in 1990Ya07 from cross section measurement and DWBA calculations.
[a] From 1986Kr13, except otherwise noted.
[b] From 1990Ya07.
[c] From 1986Kr13, except otherwise noted. First value with zero-range and second value with exact-finite-range calculations.
[d] For doublet 4320 and 4330 levels (1990Ya07).