^{27}Al(d,^{3}He) 1993Ve03

History

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

$J^{\pi}(^{27}Al)=5/2^{+}$.

Other references: 1977Ro17,1971Ar08,1969Wa01,1968Wi20.

Self-supporting ^{27}Al target (thickness 39±3 μg/cm^2); 29 MeV deuteron beam; Enge split-pole magnetic spectrograph; ^{3}He spectrum taken at 10° (lab), angular distribution was measured from 5° to 41° in steps of 4°, FWHM=16 keV, DWBA analysis; Deduce excited level energy, L value, and spectroscopic factors.

^{26}Mg Levels

E(level)[@]	Jπ[†]	L	S	Comments
0.0	0^+	2	0.45	
1808.74 *4*	2^+	0+2	0.009,1.5	
2938.34 *4*	2^+	0+2	0.023,0.33	
3588.56 *9*	0^+	2	0.009	
3941.55 *4*	3^+	0+2	0.008,0.03	
4318.88 *6*	4^+	(0+2)		
4332.57 *5*	2^+	(0+2)		
4350.08 *5*	3^+	0+2	0.09,0.18	
4835.13 *5*	2^+	0+2	0.14,0.12	
4901.30 *9*	4^+	2	(0.024)	
4972.29 *12*	0^+	2	0.003	
5291.74 *5*	2^+	0+2	0.024,0.017	
5476.11 *7*	4^+	2	0.032	
5691.11 *17*	1^+[‡]	2	0.045	
5715.60 *10*	4^+	2	0.11	
6124 *5*	3^+	0+2	0.039,0.11	
6626 *5*	(0 to 4)$^+$[‡]	(2)	0.044	
6744 *5*	2^+	0+2	0.002,0.020	
6874 *5*	3^-	1	0.065	
6976 *5*	(5^+)	2	0.057	
7059 *5*	1^-			
7099 *5*	2^+	2	0.09	
7247 *5*	(2,3)$^+$[‡]	0+2	0.035,0.14	
7282 *5*	(4^-)			
7350 *5*	3^-			
7372 *5*	2^+	2	0.077	
7397 *5*	(5^+)	2	0.13	
7543 *5*				
7677 *5*	(3,4)$^+$[‡]	2	0.10	
7697 *5*	1^-[‡]	1	0.14	
7724 *5*	3^+	2	0.072	
7771 *5*		2	(0.04)	
7828 *5*		1	1.2	E(level): Doublet.
7954 *5*	5^-			
8030 *5*				
8053 *5*	(1 to 4)$^-$[‡#]	1	0.11[#]	
8188 *5*				
8204 *5*	(6^+)			
8228 *5*				
8253 *5*				
8458 *5*	(0 to 5)$^+$[‡]	2	0.044	
8474 *5*	(6^+)			

Continued on next page (footnotes at end of table)

^{27}Al(d,^{3}He) 1993Ve03 (continued)

^{26}Mg Levels (continued)

E(level)[@]	Jπ[†]	L	S	Comments
8503 *5*				
8530 *5*				
8579 *5*				
8626 *5*	5^-			
8668 *5*	(3,5)			
8702 *5*	$(2\text{ to }4)^+$[‡]	2	0.18	
8860 *5*	2^+	2	(0.03)	
8899 *5*	$(1\text{ to }4)^-$[‡#]	1	0.048[#]	
8930 *5*	4^+			
8956 *5*				
9043 *5*	$(1\text{ to }4)^-$[‡#]	1	0.75[#]	Jπ: $3^{(+)}$ in Adopted Levels.
9060 *5*	5^+[‡]			
9113 *5*				
9174 *5*				
9241 *5*	$(1\text{ to }4)^-$[#]	1	0.17[#]	
9381 *5*				
9427 *5*				
9473 *5*	$(0\text{ to }5)^+$[‡]	2	0.13	
9541 *5*				
9574 *5*				
9576 *5*				
9622 *5*	$(1\text{ to }4)^-$[‡#]	1	0.17[#]	
9683 *5*	$(1\text{ to }5)^+$[‡]	2	0.068	

[†] From Adopted Levels, except otherwise noted.
[‡] Proposed by 1993Ve03.
[#] Assignment from L=1. Spectroscopic factors deduced assuming a $1p_{1/2}$ transfer.
[@] From Adopted Levels for E<6100.