^{27}Al(^{3}He,d) 1968Ba07,1973Ka26,1982Na02

History

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

Others: 1969An08, 1969Bo18, 1978Ma42, 1981Ka20, 1982Bu15, 1982Dj03.
$J^\pi(^{27}Al)=5/2^+$ 1986Ch35, 1988Ch42, 1994Ve04.
1968Ba07: ^{27}Al(^{3}He,d) E=37.7 MeV. Measured $\sigma(\theta)$. Deduced spectroscopic factors.
1973Ka26: ^{27}Al(^{3}He,d) E=8 MeV. Measured σ(E,θ). Deduced spectroscopic factors.
1982Na02: ^{27}Al(^{3}He,d) E=35 MeV. Measured σ(E,θ). Deduced excited levels, parity, spectroscopic factors.

^{28}Si Levels

E(level)[†]	J^π[#]	$T_{1/2}$[@]	L[&]	S[a]	Comments
0.0	0^+			5.8[b]	S: Others: C^2S=3.13 (1994Ve04), 5.3 (1968Ba07).
1779.030 *11*	2^+	568 fs *130*		3.2,4.6[b]	S: Other: 0.8, 4.6 (1968Ba07). $T_{1/2}$: Also another value in 1969An08 is 693 fs *+416−104*.
4617.86 *4*	4^+	42 fs *13*		7.2[b]	S: Others: C^2S=0.29 (1994Ve04), 3.8 (1968Ba07).
4979.92 *8*	0^+		2	0.67	S: Other: 0.6 (1969Bo19,1968Ba07).
6276.20 *7*	3^+	0.90 ps *14*	0+2	1.6,2.8	S: Others: 2.0, 2.2 (1973Ka26), 1.7, 0.8 (1968Ba07).
6690.74 *15*	0^+			<0.08	
6878.79 *8*	3^-	>2.8 ps	1+3	0.22,1.5	S: Others: 0.28, 3.8 (1973Ka26), 5.5 (1968Ba07).
6887.65 *10*	4^+		2	5.5	S: Others: 0.28, 3.8 (1973Ka26), 6.0 (1968Ba07).
7380.59 *9*	2^+		0+2	0.02,0.65	S: Other: 1.4 (1968Ba07) for doublet.
7416.26 *9*	2^+		0+2	0.05,0.63	S: Other: 1.4 (1968Ba07) for doublet.
7799.01 *9*	3^+		0+2	0.99,0.74	S: Others: 1.0, 0.6 (1973Ka26), 0.7, 0.5 (1968Ba07).
7933.45 *10*	2^+	35 fs *17*	0+2	0.76,1.8	S: Others: 0.8, 2.0 (1973Ka26), 1.2, 0.8 (1968Ba07).
8258.74 *10*	$2^{(+)}$		0+2	0.07,2.1	S: Other: 0.06, 2.4 (1973Ka26).
8328.38 *12*	1^+		2	0.31	S: Other: <0.5 (1973Ka26).
8413.33 *10*	4^-		1+3	0.09,1.7	S: Other: 0.04, 1.7 (1973Ka26).
8588.71 *10*	3^+	<17 fs	0+2	3.7,4.4	S: Others: 2.8, 3.8 (1973Ka26), 2.4, 3.4 (1968Ba07).
8904.8 *4*	1^-		1+3	0.09,0.04	
8945.20 *13*	5^+		2	0.23	
9315.92 *10*	3^+		0+2	4.8,1.3	S: Other: 2.3, 3.4 (1973Ka26).
9381.55 *12*	2^+		0+2	2.4,2.5	S: Other: 2.2, 1.0 (1973Ka26).
9417.17 *14*	4^+				
9479.49 *11*	(2^+)		0+2	0.16,2.5[c]	
9496.04 *15*	(1^+)		0+2	0.16,2.5[c]	
9702.34 *12*	(5^-)		3	2.7	
9764.52 *11*	(3^-)		1+3	0.70,0.22	
9929.2 *17*	1^-		1+3	0.10,0.24	
10181.60 *12*	(3^-)		1+3	0.41,0.50	
10272.3 *8*	0^+		2	0.18	
10310.92 *13*	(4^+)		2	0.38	
10376.24 *12*	$(3^+,4^+)$		0+2	0.81,5.4	
10541.0 *8*	(3^-)		1+3	0.20,0.22	
10596.18 *15*	(1^+)		2	0.61	
10668.05 *13*	$(2,3)^+$		0+2	0.92,0.16[c]	
10668.34 *11*	4^+		0+2	0.92,0.16[c]	
10724.7 *4*	(1^+)		2	0.12	
10900.42 *15*	(1^+)		2	1.2	
10915.6 *7*	(3^-)		0+2	1.0,1.4	L: Presumably erroneous.
11576 *2*	(6^-)		3	6.2	
11658	2^+		2		E(level),J^π,L: From 1986Ch35.
11671	1^-		3		E(level),J^π,L: From 1986Ch35.
11778.7 *2*	(2^+)		2	0.22,1.6	L: From 1986Ch35. Other: 1+3 (1982Na02).
11801	$(1 \text{ to } 4)^-$		1+3		E(level),J^π,L: From 1986Ch35.

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^{27}Al(^{3}He,d) 1968Ba07,1973Ka26,1982Na02 (continued)

^{28}Si Levels (continued)

E(level)[†]	Jπ[#]	L[&]	S[a]	Comments
11869	4^+	2+4		E(level),Jπ,L: From 1986Ch35.
11899.9 *2*	4^+	2	4.7	
11975.7 *3*	$(3^-,4^+)$	1+3	0.22,1.5	L: Other: 2 (1986Ch35).
12073.3 *1*	(2^-)	1+3	0.36,0.65[c]	
12194.7 *1*	(3^-)	1	1.8	L: Other: 1+3 (1986Ch35).
12217	2^-	1		E(level),Jπ,L: From 1986Ch35.
12240.1 *1*	(3^+)	2	0.61[c]	
12240.9 *3*	(4^+)	2	0.61[c]	
12301.4 *1*	$(0^+,1^-,2^+)$	1+3	0.76,0.36	
12488.8 *1*	(3^-)	3	1.5	
12542	$(2,3)^+$	0+2		E(level),Jπ,L: From 1986Ch35.
12574	$(2,3)^+$	0+2		E(level),Jπ,L: From 1986Ch35.
12644	$(3,4)^-$	1+3		E(level),Jπ,L: From 1986Ch35. Jπ=(5^-) in Adopted Levels.
12663.7 *1*	(4^-)	3	6.7	L: Other: 1+3 (1986Ch35).
12742.5 *5*	(3^-)	1+3	2.8,0.22	
12802.7 *1*	(3^-)	3	0.81	
12855.1 *1*	(4^+)	1+3	0.11,0.36[c]	L: For doublet.
12859.1 *3*	$(6^+,4^+)$	0+2	0.11,0.36[c]	L: From 1986Ch35. Other: 1+3 (1982Na02).
12917.3 *1*	$(2,3)^+$	0+2	0.45	
12990.0 *2*	$4^-,(3^-)$	1	0.68	
13050.4 *2*	(2^-)	1+3	0.63,0.22	
13114.9 *10*	$(3,4^+)$	3	0.50	
13188.6 *5*	(2^+)	3	0.96[c]	
13190.0 *2*	(1^+)	3	0.96[c]	
13246.9 *6*	(5^-)	3	5.9[c]	
13247.7 *6*	(3^-)	3	5.9[c]	
13812.9 *8*	(1^-)	1	1.4	
13901.7 *11*	(1^-)	3	0.47	
13982.6 *7*	(6^-)	3	1.6	
14044[‡] *10*		1	1.9	
14096[‡] *10*		3	0.79	
14216[‡] *10*		1	2.6	
14257[‡] *10*		3	0.47	
14360[‡] *10*	(6^-)	3	5.0	
15053[‡] *10*		3	0.45	
15123[‡] *10*		3	0.81	
15494[‡] *10*		3	0.61	

[†] From Adopted Levels, except otherwise noted.
[‡] From 1982Na02 and not adopted because of poor resolution.
[#] From Adopted Levels, except otherwise noted.
[@] From 1969An08: ^{27}Al(^{3}He,dγ), measured using Doppler Shift Attenuation (DSA) method.
[&] From 1982Na02, except otherwise noted.
[a] From 1982Na02, except otherwise noted. Other values are quoted in the comment section.
[b] From 1973Ka26.
[c] For doublet.