^{27}Al(^{3}He,p),(^{6}Li,α) 1969Me19,1986Dh01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 113, 909 (2012)	1-Jan-2012

$J^{\pi}(^{27}Al)=5/2^{+}$.
Others:
1982Be52: ^{27}Al(^{3}He,pγ), E=9 MeV; also ^{28}Si(d,pγ) and ^{26}Mg(α,nγ).
1982Bu15: ^{27}Al(^{3}He,p), E=34.8 MeV.
Other reactions:
^{27}Al(α,d): 1980Bl05, 1980Go20, 1981Be19, 1981Sk03.
^{27}Al(^{19}F,^{17}O), E=38 MeV: 1976Mc07.
1969Me19: ^{27}Al(^{3}He,p),(^{3}He,pγ): Target: ^{27}Al, projectile: ^{3}He, E=12 MeV; broad-range magnetic spectrograph, nuclear emulsion, Ge(Li) detector, Si telescope; measured proton energy spectrum, angular distribution between 5° and 61°, mostly in step of 8°, Eγ, p-γ coincidence; deduced level energy, L, J^{π}. The over-all energy resolution was about 40 keV (FWHM ≈ 40 keV).
1986Dh01: ^{27}Al(^{6}Li,α), E=32 MeV; deduced spectroscopic factors.

All data are from 1969Me19, except otherwise noted.

^{29}Si Levels

E(level)[†]	J^{π}	L	S_{JL}[‡]	Comments
0	$1/2^{+}$	2	0.117	S_{JL}: For L=2, J=3 and S=0.490 for L=4, J=3.
1271	$3/2^{+}$	0,2	0.219	S_{JL}: For L=0, J=1 and S=0.335 for L=2, J=2.
2026	$5/2^{+}$	0	0.047	S_{JL}: For L=2, J=2 and S=0.210 for L=4, J=5.
2425	$3/2^{+}$	0	0.125	S_{JL}: For L=2, J=2 and S=0.230 for L=4, J=3.
3070	$5/2^{+}$	0,2	0.029	S_{JL}: For L=0, J=1 and S=0.074 for L=2, J=1.
3623	$7/2^{-}$	1	0.034	S_{JL}: For L=1, J=2 and S=0.293 for L=3, J=3.
4085	$(^{+})$	(0,2)	0.037	S_{JL}: For L=4, J=4.
4753	$(1/2^{+})$	2		
4843				
4903	$5/2^{+}$	0		
4935	$(^{-})$			
5260				
5291	$(^{+})$	0		
5660	$(1/2^{+})$	2		
5822	$(^{+})$	0		
5962	$(^{+})$	0		
6120	$(^{-})$			
6206	$(^{-})$			
6387	$(^{-})$			
6433	$(^{+})$	0,2		
6505				
6531	$(^{+})$	0		
6628				
6723	$(^{+})$	0,2		
6797				
6928	$(^{+})$	0		
7020	$(^{-})$			
7085	$(^{+})$	0		
7150				
7200	$(^{+})$	0,2		
7536				
7635				
7794				
7907				
8010				

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^{27}Al(^{3}He,p),(^{6}Li,α) 1969Me19,1986Dh01 (continued)

^{29}Si Levels (continued)

E(level)†	Jπ	L	E(level)†	Jπ	E(level)†	Jπ	L	E(level)†	Jπ	L
8153			8362	(−)	8560	(+)	0,2	8778		
8220	(+)	0	8400		8630			8873	(+)	0
8310	5/2+	0	8520		8685					

† For levels from 4753 keV and above, excitation energies are higher between 3 to 12 keV than the Adopted Levels.

‡ From 1986Dh01. S_{JL} are cluster transfer spectroscopic factor, where J and L are transferred angular momentum and transferred orbital momentum, respectively.