^{27}Al(^{19}F,2αpγ) 1978Ba56

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	John Cameron, Jun Chen and Balraj Singh, Ninel Nica	NDS 113, 365 (2012)	15-Jan-2012

1978Ba56: E=45-80 MeV ^{19}F beams produced from the Strasbourg tandem accelerator. Target of 350 μg/cm^2 Al on Ta backings. Two Ge(Li) detectors. Measured Eγ, Iγ, γ(θ). Deduced levels, J, mixing ratios.

^{37}Cl Levels

E(level)[†]	Jπ[‡]
0	3/2$^+$
3103.3 *5*	7/2$^-$
4010.1 *5*	9/2$^-$
4545.9 *7*	11/2$^-$
5270.3 *8*	13/2$^-$
6000.5 *9*	13/2[#]
6046.1 *21*	
7020.3 *9*	15/2[#]
8177.5 *14*	

[†] From a least-square fit to Eγ's.
[‡] From Adopted Levels, unless otherwise noted.
[#] From γ(θ) in 1978Ba56.

γ(^{37}Cl)

Eγ[†]	Ei(level)	Jiπ	Ef	Jfπ	Mult.	δ[†]	Comments
535.8 *4*	4545.9	11/2$^-$	4010.1	9/2$^-$	Q+O	+0.09 *2*	A$_2$=−0.14 *2* (1978Ba56).
724.4 *4*	5270.3	13/2$^-$	4545.9	11/2$^-$	D+Q	+0.13 *3*	Mult.,δ: A$_2$=−0.22 *6*,A$_4$=+0.17 *8*,P=−0.44 *15*; 1978Ba56:A$_2$=−0.05 *7*.
906.7 *4*	4010.1	9/2$^-$	3103.3	7/2$^-$	D+Q	+0.51 *2*	A$_2$=+0.50 *2*,A$_4$=+0.08 *2* (1978Ba56).
1157.2 *10*	8177.5		7020.3	15/2			
1454.6 *6*	6000.5	13/2	4545.9	11/2$^-$	D(+Q)	−0.03 *15*	A$_2$=−0.39 *10* (1978Ba56).
1750.0 *4*	7020.3	15/2	5270.3	13/2$^-$	D(+Q)	−0.05 *7*	A$_2$=−0.42 *5* (1978Ba56).
2036 *2*	6046.1		4010.1	9/2$^-$			
3103.1 *5*	3103.3	7/2$^-$	0	3/2$^+$	Q+O	+0.12 *3*	A$_2$=−0.45 *2* (1978Ba56).
4010.0 *8*	4010.1	9/2$^-$	0	3/2$^+$			δ: δ(H/O)=−0.03 *16* (1978Ba56). A$_2$=+0.32 *5*,A$_4$=+0.18 *5* (1978Ba56).

[†] From 1978Ba56.

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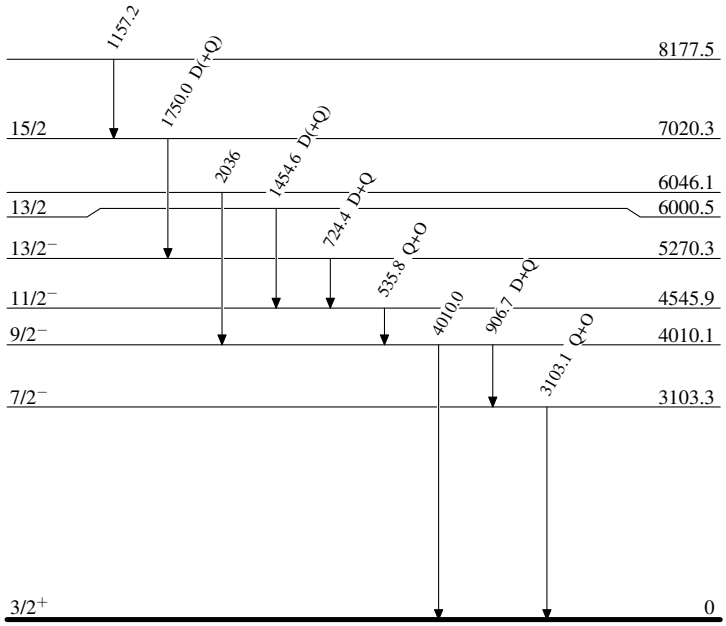
Level Scheme



$^{37}_{17}Cl_{20}$