^{29}Al β^- decay 1982Al27,1970Jo06,1969Ha51

History

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

Parent: ^{29}Al: E=0; $J^\pi=5/2^+$; $T_{1/2}$=6.56 min *6*; Q(β^-)=3679.7 *12*; %β^- decay=100.0

1982Al27: ^{29}Al produced from ^{27}Al(t,p)^{29}Al reaction, E=3.0 MeV; Ge(Li) detector; Measured Eγ, Iγ, deduced beta feeding, deduced logft.

1970Jo06: ^{29}Al produced from ^{27}Al(t,p)^{29}Al reaction, E=2.7−MeV; Ge(Li) detector; measured Eγ, Iγ, deduced beta feeding, logft values.

1969Ha51: ^{29}Al produced from ^{27}Al(t,p)^{29}Al reaction, E=3.1−MeV; Ge(Li), NaI(Tl) detectors; measured Eγ and γ-ray branching from levels, deduced beta feeding, logft values.

^{29}Si Levels

E(level)[†]	J^π[‡]	$T_{1/2}$
0	$1/2^+$	stable
1273.391 *9*	$3/2^+$	
2028.17 *4*	$5/2^+$	
2425.99 *3*	$3/2^+$	
3067.28 *8*	$5/2^+$	

[†] From a least-squares fit to γ-ray energies.
[‡] From Adopted Levels.

β^- radiations

E(decay)	E(level)	Iβ^-[†‡]	Log *ft*	Comments
(612.4 *12*)	3067.28	0.033 *5*	6.11 *7*	av Eβ= 215.7 *5*
(1253.7 *12*)	2425.99	6.3 *2*	5.026 *15*	av Eβ= 490.1 *6*
(1651.5 *12*)	2028.17	3.8 *1*	5.733 *13*	av Eβ= 670.4 *6*
(2406.3 *12*)	1273.391	89.9 *3*	5.050 *5*	av Eβ= 1023.7 *6*

[†] From 1982Al27. The data in 1982Al27, 1970Jo06, and 1969Ha51 are in good agreement.
[‡] Absolute intensity per 100 decays.

γ(^{29}Si)

Iγ normalization: Deduced by the evaluator from Σ Iγ to g.s.=100.

E$_\gamma$[†]	I$_\gamma$[†‡]	E$_i$(level)	J_i^π	E$_f$	J_f^π	Comments
397.85 *5*	0.032 *12*	2425.99	$3/2^+$	2028.17	$5/2^+$	I$_\gamma$: Reported as 6.032 in 1982Al27 (probably a typo). Adjusted by the evaluator based on the intensity balance and beta feeding to this state.
754.84 *7*	0.340 *7*	2028.17	$5/2^+$	1273.391	$3/2^+$	
1039.1	0.008 *4*	3067.28	$5/2^+$	2028.17	$5/2^+$	E$_\gamma$: deduced from level energy difference.
1152.57 *3*	1.13 *3*	2425.99	$3/2^+$	1273.391	$3/2^+$	
1273.361 *9*	100.0	1273.391	$3/2^+$	0	$1/2^+$	
1793.83 *8*	0.029 *4*	3067.28	$5/2^+$	1273.391	$3/2^+$	
2028.09 *7*	3.85 *3*	2028.17	$5/2^+$	0	$1/2^+$	
2425.73 *20*	5.73 *6*	2425.99	$3/2^+$	0	$1/2^+$	

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^{29}Al β^- decay 1982Al27,1970Jo06,1969Ha51 (continued)

$\gamma(^{29}Si)$ (continued)

† From 1982Al27, except otherwise noted.
‡ For absolute intensity per 100 decays, multiply by 0.9126 *6*.

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Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays