^{35}Al β^-n decay (37.7 ms) 2001Nu01,2005Ti11,1988Mu08

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Ninel Nica, Balraj Singh	NDS 113, 1563 (2012)	28-May-2012

Parent: ^{35}Al: E=0; J^π=(5/2$^+$); $T_{1/2}$=37.7 ms *9*; Q(β^-n)=11666 *71*; %β^-n decay=38 *2*

^{35}Al-$T_{1/2}$: From timing of β and γ rays (2001Nu01,2005Ti11). Unweighted average of 36.8 ms *5* (2005Ti11) and 38.6 ms *4* (2001Nu01). Weighted average is 37.9 ms *9* but with reduced χ^2=7. Others: 30 ms *4* (1995ReZZ), 170 ms *70* (1989Le16), 130 ms *+100−50* (1988Mu08).

^{35}Al-Q(β^-n): From 2011AuZZ. Other: 11760 *180* (2003Au03).

^{35}Al-%β^-n decay: %β^-n=38 *2* (2005Ti11). Other %β^-n: 41 *13* (2001Nu01 from intensities of γ rays in the granddaughter nuclei ^{35}P and ^{34}P), 26 *4* (1995ReZZ), 40 *10* (1989Le16), 87 *+37−25* (1988Mu08).

The level scheme is from 2005Ti11 and 2001Nu01 (also 2002Nu02).

Additional information 1.

^{34}Si Levels

E(level)	J^π[†]
0	0$^+$
3326.96 *20*	2$^+$
4256.1 *5*	(3$^-$)
4380.3 *5*	(3$^-$)

[†] From Adopted Levels.

γ(^{34}Si)

Iγ normalization: Based on data from 2005Ti01.

E_γ[†]	I_γ[‡#]	E_i(level)	J_i^π	E_f	J_f^π	Mult.	α[@]	Comments
124.2 *3*	0.9 *2*	4380.3	(3$^-$)	4256.1	(3$^-$)	[M1+E2]	0.025 *23*	α(K)=0.023 *22*; α(L)=0.0017 *16* I_γ: 2.5 *9* (2001Nu01) relative to 100 for 64.0γ from ^{35}Al decay; absolute intensity=1.1 *4*.
929.1 *4*	2.0 *8*	4256.1	(3$^-$)	3326.96	2$^+$			I_γ: 5.8 *13* (2001Nu01) relative to 100 for 64.0γ from ^{35}Al decay; absolute intensity=2.6 *6*.
3326.96 *20*	5.5 *11*	3326.96	2$^+$	0	0$^+$	[E2]		I_γ: 18 *4* (2001Nu01) relative to 100 for 64.0γ from ^{35}Al decay; absolute intensity=8.1 *18*.

[†] From 2001Nu01.
[‡] From 2005Ti11, absolute values.
[#] Absolute intensity per 100 decays.
[@] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

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Decay Scheme

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