

$^{25}\text{Ne} \beta^-$ decay 1973Go11

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	R. B. Firestone	NDS 110, 1691 (2009)	1-Feb-2008

Parent: ^{25}Ne : $E=0.0$; $J^\pi=1/2^+$; $T_{1/2}=602$ ms 8; $Q(\beta^-)=7250$ 30; $\% \beta^-$ decay=100.0

Source produced by $^9\text{Be}(^{18}\text{O},2p)$ $E=44$ MeV.

 ^{25}Na Levels

E(level)	J^π	$T_{1/2}$
0	$5/2^+$	59.1 s 6
89.53 10	$3/2^+$	
1069.32 19	$1/2^+$	
2202 1	$3/2^+$	
3687 2	$(1/2,3/2,5/2)^+$	
4289 3	$1/2^+$	

 β^- radiations

E(decay)	E(level)	$I\beta^{-\dagger}$	Log ft	Comments
$(2.96 \times 10^3 \ddagger 3)$	4289	0.53 15	4.82 16	av $E\beta=$ 1293 14
$(3.56 \times 10^3 3)$	3687	1.2 3	4.82 14	av $E\beta=$ 1584 15
$(5.05 \times 10^3 3)$	2202	2.1 5	5.26 13	av $E\beta=$ 2309 15
$(6.18 \times 10^3 3)$	1069.32	19.5 20	4.70 6	av $E\beta=$ 2866 15
$(7.16 \times 10^3 3)$	89.53	76.6 20	4.41 2	av $E\beta=$ 3349 15

\dagger Absolute intensity per 100 decays.

\ddagger Existence of this branch is questionable.

²⁵Ne β⁻ decay **1973Go11** (continued)

γ(²⁵Na)

I_γ normalization: Calculated assuming Σγ(GS)=100.

E _γ	I _γ ^{†#}	E _i (level)	J _i ^π	E _f	J _f ^π	Mult.	δ	α [@]	Comments
89.53 10	95.4 6	89.53	3/2 ⁺	0	5/2 ⁺	M1(+E2)	<+0.15	0.00221 4	I _γ : Renormalized by evaluator to account for internal conversion.
979.77 16	18.1 19	1069.32	1/2 ⁺	89.53	3/2 ⁺				
1069.30 [‡] 19	2.34 38	1069.32	1/2 ⁺	0	5/2 ⁺	[E2]			
1132.8 10	0.4 3	2202	3/2 ⁺	1069.32	1/2 ⁺	M1+E2	+0.05 9		
2112.5 10	0.62 19	2202	3/2 ⁺	89.53	3/2 ⁺				
2202.0 10	1.1 3	2202	3/2 ⁺	0	5/2 ⁺				
3220 ^{&} 3	0.53 15	4289	1/2 ⁺	1069.32	1/2 ⁺				
3599 3	0.22 16	3687	(1/2,3/2,5/2) ⁺	89.53	3/2 ⁺				
3688 3	0.96 24	3687	(1/2,3/2,5/2) ⁺	0	5/2 ⁺				

[†] From **1973Go11**.

[‡] Calculated from γ-ray sums.

[#] For absolute intensity per 100 decays, multiply by 1.000 5.

[@] Total theoretical internal conversion coefficients, calculated using the BrIcc code (**2008Ki07**) with Frozen orbital approximation based on γ-ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

[&] Placement of transition in the level scheme is uncertain.

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Decay Scheme

Intensities: I_γ per 100 parent decays

Legend

- \longrightarrow $I_\gamma < 2\% \times I_\gamma^{\max}$
- \longrightarrow $I_\gamma < 10\% \times I_\gamma^{\max}$
- \longrightarrow $I_\gamma > 10\% \times I_\gamma^{\max}$
- \dashrightarrow γ Decay (Uncertain)

