

${}^{21}\text{O}$ β^- decay 1981A107

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	R. B. Firestone	NDS 127, 1 (2015)	15-Jan-2015

Parent: ${}^{21}\text{O}$: $E=0.0$; $J^\pi=(5/2^+)$; $T_{1/2}=3.42$ s 10; $Q(\beta^-)=8110$ 12; $\% \beta^-$ decay=100.0

${}^{21}\text{O}$ was produced by the ${}^9\text{Be}({}^{18}\text{O},2p\alpha)$ reaction, $E({}^{18}\text{O})=80$ -110 MeV. He Jet Recoil Transfer. $\gamma\gamma$ and $\beta\gamma$ coincidence measurements.

 ${}^{21}\text{F}$ Levels

E(level)	J^π	$T_{1/2}$
0.0	$5/2^+$	4.158 s 20
279.93 6	$1/2^+$	
1730.40 6	$3/2^+$	
1754.83 8		
3459.64 9	$(3/2,5/2)^+$	
3517.67 7	$(3/2,5/2)^+$	
3638.95 12		
4572.38 25	$(1/2$ to $7/2)^+$	
4584.0 3	$(1/2,3/2)^+$	

 β^- radiations

E(decay)	E(level)	$I\beta^{-\dagger\ddagger}$	Log ft	Comments
(3526 12)	4584.0	5.3 6	4.89 6	av $E\beta=$ 1568 6
(3538 12)	4572.38	10.5 8	4.60 4	av $E\beta=$ 1574 6
(4471 12)	3638.95	1.0 8	6.1 7	av $E\beta=$ 2029 6
(4592 12)	3517.67	29.6 8	4.66 2	av $E\beta=$ 2088 6
(4650 12)	3459.64	12.3 10	5.06 4	av $E\beta=$ 2116 6
(6355 12)	1754.83	4.5 8	6.13 9	av $E\beta=$ 2955 6
(6380 12)	1730.40	37.2 12	5.22 2	av $E\beta=$ 2967 6

\dagger Calculated assuming no beta feeding to the g.s. $I\beta(\text{g.s.})=0.4\%$ from shell model calculations of Chung and Wildenthal (unpublished) reported in 1981A107.

\ddagger Absolute intensity per 100 decays.

 $\gamma({}^{21}\text{F})$

E_γ	I_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.
279.92 6	324 12	279.93	$1/2^+$	0.0	$5/2^+$	(E2)
933.2 3	127 12	4572.38	$(1/2$ to $7/2)^+$	3638.95		
1450.5 2	216 12	1730.40	$3/2^+$	279.93	$1/2^+$	
1729.2	90 12	3459.64	$(3/2,5/2)^+$	1730.40	$3/2^+$	
1730.28 8	1000 12	1730.40	$3/2^+$	0.0	$5/2^+$	
1754.74 8	248 12	1754.83		0.0	$5/2^+$	
1787.16 8	311 12	3517.67	$(3/2,5/2)^+$	1730.40	$3/2^+$	
1884.01 9	150 12	3638.95		1754.83		
3179.43 10	115 12	3459.64	$(3/2,5/2)^+$	279.93	$1/2^+$	
3459.38 13	65 12	3459.64	$(3/2,5/2)^+$	0.0	$5/2^+$	
3517.40 10	338 12	3517.67	$(3/2,5/2)^+$	0.0	$5/2^+$	
4572.2 4	104 12	4572.38	$(1/2$ to $7/2)^+$	0.0	$5/2^+$	
4583.5 3	116 12	4584.0	$(1/2,3/2)^+$	0.0	$5/2^+$	

\dagger For absolute intensity per 100 decays, multiply by 0.0456 6.

${}^{21}\text{O} \beta^-$ decay 1981AI07

Decay Scheme

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

Legend

