

$^{21}\text{F} \beta^-$ decay [1981Wa06](#)

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

Parent: ^{21}F : E=0.0; $J^\pi=5/2^+$; $T_{1/2}=4.158$ s 20; $Q(\beta^-)=5684.2$ 18; $\% \beta^-$ decay=100.0

The data are from [1981Wa06](#). A previous work was done by [1970Ha09](#).

 ^{21}Ne Levels

E(level)	J^π	$T_{1/2}$
0.0	$3/2^+$	stable
350.727 8	$5/2^+$	
1745.910 19	$7/2^+$	
2794.16 4	$1/2^+$	
3735.59 14	$5/2^+$	
3884.96 21	$5/2^-$	
4525.84 24	$5/2^+$	
4684.56 15	$3/2^+$	

 β^- radiations

E(decay)	E(level)	$I\beta^-^\dagger$	Log ft	Comments	
(999.6 18)	4684.56	7.7×10^{-2} 40	4.5 3	av $E\beta=$	384 4
(1158.4 18)	4525.84	4.3×10^{-2} 3	5.02 3	av $E\beta=$	454 4
(1799.2 18)	3884.96	3.9×10^{-3} 3	6.85 4	av $E\beta=$	746 4
(1948.6 18)	3735.59	3.0×10^{-3} 3	7.11 5	av $E\beta=$	815 4
(3938.3 18)	1745.910	16.1 10	4.72 3	av $E\beta=$	1769 4
(5333.5 18)	350.727	74.1 22	4.65 1	av $E\beta=$	2452 4
(5684.2 18)	0.0	9.6 30	5.67 16	av $E\beta=$	2624 4

† Absolute intensity per 100 decays.

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

I γ normalization: Normalized so that $I\beta(\text{g.s.})/I\beta(351)=0.13$ 4.

E_γ	$I_\gamma^\dagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.	δ	Comments
350.725 8	100	350.727	$5/2^+$	0.0	$3/2^+$			
1395.131 17	1713 30	1745.910	$7/2^+$	350.727	$5/2^+$			
1745.8	86.4 15	1745.910	$7/2^+$	0.0	$3/2^+$			
1890.4 3	0.20 3	4684.56	$3/2^+$	2794.16	$1/2^+$			
1989 1	0.022 6	3735.59	$5/2^+$	1745.910	$7/2^+$			
2779.4 3	0.177 17	4525.84	$5/2^+$	1745.910	$7/2^+$			
(2793.94 5)	0.20 3	2794.16	$1/2^+$	0.0	$3/2^+$			
3384.6 2	0.039 6	3735.59	$5/2^+$	350.727	$5/2^+$	M1+E2	-0.55 10	Mult.: From adopted gammas.
3533.2 4	0.326 17	3884.96	$5/2^-$	350.727	$5/2^+$			
3735.2 5	0.278 26	3735.59	$5/2^+$	0.0	$3/2^+$			
3883.9	0.107 14	3884.96	$5/2^-$	0.0	$3/2^+$			
4174.1 3	3.57 7	4525.84	$5/2^+$	350.727	$5/2^+$			
4333.52 25	5.31 14	4684.56	$3/2^+$	350.727	$5/2^+$			
4525.84 24	1.06 3	4525.84	$5/2^+$	0.0	$3/2^+$			
4684.27 25	3.13 11	4684.56	$3/2^+$	0.0	$3/2^+$			

† For absolute intensity per 100 decays, multiply by 0.008955.

^{21}F β^- decay 1981Wa06**Decay Scheme**Intensities: $I_{(\gamma+ce)}$ per 100 parent decays**Legend**

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

