^{15}C β^- decay 1991Aj01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	F. Ajzenberg-selove	NP A523,1 (1991)	1-Jul-1990

Parent: ^{15}C: E=0; $J^\pi=1/2^+$; $T_{1/2}$=2.449 s *5*; Q(β^-)=9771.7 *8*; %β^- decay=100

Additional information 1.

Eγ values are from recoil-corrected E(level) differences, and the Iγ are deduced from the β feedings and γ branching ratios given in 1991Aj01 (M. J. Martin).

^{15}N Levels

E(level)	J^π
0	$1/2^-$
5270.155 *14*	$5/2^+$
5298.822 *14*	$1/2^+$
6323.78 *2*	$3/2^-$
7155.05 *2*	$5/2^+$
7300.83 *2*	$3/2^+$
8312.62 *3*	$1/2^+$
8571.40 *12*	$3/2^+$
9049.71 *7*	$1/2^+$

β^- radiations

E(decay)	E(level)	Iβ^-[†]	Log *ft*	Comments
(722.0 *13*)	9049.71	0.034 *3*	4.04 *4*	av Eβ=268.4 *4*
(1200.3 *13*)	8571.40	0.013 *2*	5.33 *7*	av Eβ=475.3 *4*
(1459.1 *13*)	8312.62	0.041 *5*	5.18 *6*	av Eβ=591.7 *4*
(2470.9 *13*)	7300.83	0.0074 *8*	6.89 *5*	av Eβ=1064.0 *4*
(3447.9 *13*)	6323.78	≤0.004	≥7.8	av Eβ=1533.5 *4*
(4472.9 *13*)	5298.822	63.2 *8*	4.109 *6*	av Eβ=2032.8 *4*
(9771.7 *16*)	0	36.8 *8*	5.930 *10*	av Eβ=4649.61

[†] Absolute intensity per 100 decays.

^{15}C β^- decay 1991Aj01 (continued)

$\gamma(^{15}N)$

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.	δ	Comments
977.02 *2*	<2.4×10^{-5}	7300.83	3/2$^+$	6323.78	3/2$^-$			
1011.75 *4*	0.0018 *4*	8312.62	1/2$^+$	7300.83	3/2$^+$			
1157.52 *4*	0.0005 *3*	8312.62	1/2$^+$	7155.05	5/2$^+$			
1416.28 *12*	0.00047 *10*	8571.40	3/2$^+$	7155.05	5/2$^+$			
1748.77 *7*	0.00041 *14*	9049.71	1/2$^+$	7300.83	3/2$^+$			
1884.77 *2*	0.0010 *3*	7155.05	5/2$^+$	5270.155	5/2$^+$	[M1+E2]	+0.014 *+15−12*	
1988.70 *4*	0.0018 *5*	8312.62	1/2$^+$	6323.78	3/2$^-$			
2001.86 *2*	1.9×10^{-5} *10*	7300.83	3/2$^+$	5298.822	1/2$^+$	[M1+E2]		δ: +0.31 *15* or-4.6 *34*.
2030.53 *2*	5.8×10^{-5} *12*	7300.83	3/2$^+$	5270.155	5/2$^+$	[M1+E2]		δ: −0.18 *15* or −2.5 *10*.
2247.44 *12*	0.00018 *8*	8571.40	3/2$^+$	6323.78	3/2$^-$			
2725.66 *7*	0.0015 *4*	9049.71	1/2$^+$	6323.78	3/2$^-$			
3013.47 *3*	0.0041 *10*	8312.62	1/2$^+$	5298.822	1/2$^+$			
3042.13 *3*	<0.0014	8312.62	1/2$^+$	5270.155	5/2$^+$			
3300.85 *12*	0.0084 *14*	8571.40	3/2$^+$	5270.155	5/2$^+$	[M1+E2]	+0.091 *7*	
3779.04 *7*	0.0012 *4*	9049.71	1/2$^+$	5270.155	5/2$^+$			
5269.161 *14*	0.0037 *9*	5270.155	5/2$^+$	0	1/2$^-$	[M2+E3]	−0.131 *13*	
5297.817 *14*	63.2 *8*	5298.822	1/2$^+$	0	1/2$^-$	[E1]		
6322.35 *2*	0.0055 *20*	6323.78	3/2$^-$	0	1/2$^-$	[M1+E2]	−0.132 *4*	
7298.92 *2*	0.0095 *10*	7300.83	3/2$^+$	0	1/2$^-$	[E1+M2]	−0.017 *+5−8*	
8310.15 *3*	0.032 *4*	8312.62	1/2$^+$	0	1/2$^-$			
8568.77 *12*	0.0043 *7*	8571.40	3/2$^+$	0	1/2$^-$	[E1+M2]	−0.085 *+5−9*	
9046.78 *7*	0.031 *3*	9049.71	1/2$^+$	0	1/2$^-$			

[†] Absolute intensity per 100 decays.

$^{15}_{7}N_{8}$-2

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Decay Scheme

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