^{16}N β^- decay 1993Ti07

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. H. Kelley, D. R. Tilley, H. R. Weller and C. M. Cheves	NP 564 1 (1993)	31-Dec-1992

Parent: ^{16}N: E=0; $J^\pi=2^-$; $T_{1/2}$=7.13 s *2*; Q(β^-)=10419.1 *23*; %β^- decay=100

Eγ values are from recoil-corrected E(level) differences, and the Iγ are deduced from the β feedings and γ branching ratios given in 1993Ti07 (M. J. Martin).

^{16}O Levels

E(level)	J^π	Comments
0	0^+	
6049.4 *10*	0^+	
6129.89 *4*	3^-	
6917.1 *6*	2^+	
7116.85 *14*	1^-	
8871.9 *5*	2^-	
9585 *11*	1^-	%IT=6.7×10^{-6} *10*, so γ decay from this level is negligible.
9844.5 *5*	2^+	%IT=0.0016 *3*, so γ decay from this level is negligible.

β^- radiations

E(decay)	E(level)	Iβ^-[†]	Log *ft*	Comments
(574.6 *26*)	9844.5	6.5×10^{-7} *20*	8.86 *14*	av Eβ=206.7 *10*
(834 *11*)	9585	0.0012 *5*	6.22 *19*	av Eβ=315 *5*
(1547.2 *26*)	8871.9	1.06 *7*	4.35 *3*	av Eβ=630.6 *11*
(3302.3 *25*)	7116.85	4.8 *4*	5.11 *4*	av Eβ=1461.6 *12*
(4289.2 *25*)	6129.89	66.2 *6*	4.482 *5*	av Eβ=1941.7 *12*
(4369.7 *27*)	6049.4	0.012 *4*	9.96[1u] *15*	av Eβ=1999.0 *13*
(10419.1 *27*)	0	28.0 *4*	9.071[1u] *7*	av Eβ=4979.8 *12*

[†] Absolute intensity per 100 decays.

$\gamma(^{16}O)$

Eγ	Iγ[‡]	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.	δ[†]	I$_{(\gamma+ce)}$[‡]	Comments
787.2 *6*	<3×10^{-6}	6917.1	2^+	6129.89	3^-	[E1]			
867.7 *1*	21.0×10^{-5} *2*	6917.1	2^+	6049.4	0^+	[E2]			
986.93 *15*	0.0034 *8*	7116.85	1^-	6129.89	3^-	[E2]			
1067.5 *10*	<3×10^{-5}	7116.85	1^-	6049.4	0^+	[E1]			
1754.9 *6*	0.121 *10*	8871.9	2^-	7116.85	1^-	[M1+E2]	2.1 *4*		
1954.7 *8*	0.038 *6*	8871.9	2^-	6917.1	2^+	[E1]			
2741.5 *5*	0.82 *6*	8871.9	2^-	6129.89	3^-	[M1+E2]	2.9 *2*		
2822.2 *12*	0.13 *4*	8871.9	2^-	6049.4	0^+	[M2]			
6048.2 *10*		6049.4	0^+	0	0^+	[E0]		0.14	I$_{(\gamma+ce)}$: decay is via internal pairs.
6128.63 *4*	67.0 *6*	6129.89	3^-	0	0^+	[E3]			
6915.5 *6*	0.038 *6*	6917.1	2^+	0	0^+	[E2]			
7115.15 *14*	4.9 *4*	7116.85	1^-	0	0^+	[E1]			
8869.3 *5*	0.076 *10*	8871.9	2^-	0	0^+	[M2]			

[†] The signature has been changed, where necessary, from that given in 1993Ti07 in order to conform to the convention used in the nuclear data sheets.

[‡] Absolute intensity per 100 decays.

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Decay Scheme

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