^{16}C 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 A564,1 (1993)	31-Dec-1992

Parent: ^{16}C: E=0; $J^\pi=0^+$; $T_{1/2}$=0.747 s *8*; Q(β^-)=8012 *4*; %β^- decay=100.0

Additional information 1.

99.3% of the β decay feeds levels at 3353 and 4320 which are neutron unstable. No γ's from these levels have been observed.

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}N Levels

E(level)	J^π	$T_{1/2}$	Comments
0	2^-	7.13 s *2*	
120.42 *12*	0^-		
298.22 *8*	3^-		
397.27 *10*	1^-		
3353 *3*	(1^+)		%n=100
4320 *3*	1^+		%n=100

β^- radiations

E(decay)	E(level)	Iβ^-[†]	Log *ft*	Comments
(3692 *5*)	4320	15.6 *17*	3.82 *5*	av Eβ=1651.7 *24*
(4659 *5*)	3353	84.4 *17*	3.549 *11*	av Eβ=2124.0 *24*
(7615 *4*)	397.27	<0.1	>7.5	av Eβ=3580.8 *20*
(7714 *4*)	298.22	<0.5	>6.8	av Eβ=3629.8 *20*
(7892 *4*)	120.42	0.67 *10*	6.70 *+7−5*	av Eβ=3717.8 *20*
				Iβ^-: measured value is 0.68 *+9−11*.

[†] Absolute intensity per 100 decays.

$\gamma(^{16}N)$

Eγ	Iγ[‡]	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.
120.42 *12*	0.67 *10*	120.42	0^-	0	2^-	[E2]
276.85 *10*	<0.07[†]	397.27	1^-	120.42	0^-	[M1]
298.22 *8*	<0.5	298.22	3^-	0	2^-	[M1]
397.27 *10*	<0.03[†]	397.27	1^-	0	2^-	[M1]

[†] Iγ(276.85γ)/Iγ(397.27γ)=73.4/26.6.

[‡] Absolute intensity per 100 decays.

^{16}C β^- decay 1993Ti07

Decay Scheme

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