

Adopted Levels, Gammas 1993Ti07

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

$Q(\beta^-)=10420.9$ 23; $S(n)=2488.9$ 23; $S(p)=11478.2$ 25; $Q(\alpha)=-10110$ 3 [2012Wa38](#)

Note: Current evaluation has used the following Q record 10420.4 26 2489.4 26 11478.727-10110.4 30 [1997Au04](#).

See other reaction references in [1993Ti07](#).

 ^{16}N LevelsCross Reference (XREF) Flags

A	$^{16}\text{C} \beta^-$ decay	E	$^{14}\text{C}(\alpha, d)$	I	$^{16}\text{O}(t, ^3\text{He})$
B	$^{10}\text{B}(^7\text{Li}, p)$	F	$^{14}\text{N}(t, p)$	J	$^{16}\text{O}(^7\text{Li}, ^7\text{Be})$
C	$^{13}\text{C}(\alpha, p)$	G	$^{15}\text{N}(n, n)$ res	K	$^{17}\text{O}(d, ^3\text{He})$
D	$^{14}\text{C}(^3\text{He}, p)$	H	$^{15}\text{N}(d, p)$	L	$^{18}\text{O}(d, \alpha)$

E(level)	J $^\pi$	T $_{1/2}$	XREF	Comments
0.0	2 $^-$	7.13 s 2	ABCD F HI JKL	$\% \beta^- = 100$; $\% \beta^- \alpha = 0.0012$ 5 T=1 T $_{1/2}$: From 1970Al21 ; Others: 7.10 s 3 (1966Sc05), 7.090 s 16 (1967Ka29), 7.09 s 8 (1996Dr09).
120.42 12	0 $^-$	5.25 μ s 6	ABCD F HI J L	$\%IT=?$; $\% \beta^- = ?$
298.22 8	3 $^-$	91.3 ps 13	ABCDEF HI JKL	$\mu = 1.60$ 6 (1989Ra17)
397.27 10	1 $^-$	3.90 ps 4	ABCD F HI KL	$\mu = -1.83$ 13 (1989Ra17)
3353 3	(1 $^+$)	15 keV 5	ABCD FGH J L	$\%n=100$ May be a doublet.
3523 3	2 $^+$	3 keV	BCD FGH J L	$\%n=100$
3963 3	3 $^+$	≤ 2 keV	BCDEFGH J L	$\%n=100$
4320 3	1 $^+$	20 keV 5	AB D FGH	$\%n=100$
4391 3	1 $^-$	82 keV 20	BCD FGH	$\%n=100$
4760 50	1 $^-$	250 keV 50	FGH	$\%n=100$
4783 3	2 $^+$	59 keV 8	BCD FGH	$\%n=100$
5054 3	2 $^-$	19 keV 6	B D FGH	$\%n=100$
5129 7	≥ 2	$\leq 11^{\dagger}$ keV	BCD FGH	$\%n=100$
5150 7	(3 $^-$)	$\leq 11^{\dagger}$ keV	BCD FGH	$\%n=100$ T=1 Probable analog of 18029 level in ^{16}O .
5230 3	3 $^+$	≤ 4 keV	B D FGH L	$\%n=100$
5250 70	2 $^-$	320 keV 80	F H	$\%n=100$
5318 3	(0 $^-$, 1 $^+$)	260 keV	B G	$\%n=100$ T $_{1/2}$: value as given by original authors. Evaluator adopts (260).
5521.6 25	3 $^+$	$\leq 11^{\dagger}$ keV	BCD FGH JKL	$\%n=100$
5731.7 25	(5 $^+$)	$\leq 11^{\dagger}$ keV	BCDEFGH JKL	$\%n=100$ J $^\pi$: may be a 2 $^-$, 5 $^+$ doublet, the analogs of the 18454 and 18640 levels in ^{16}O .
6003 3	1 $^-$	270 keV 30	B FG L	$\%n=100$
6170.7 24	(4 $^-$)	$\leq 11^{\dagger}$ keV	BCD F H JKL	$\%n=100$ T=1
6374 3	(3 $^-$)	30 keV 6	BC FGH J L	$\%n=100$ T=(1)
6426 † 7		300 keV 30	F H	
6505 3	1 $^+$	34 keV 6	B FGH KL	$\%n=100$ Neutron decay mode is tentative.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas 1993Ti07 (continued) ^{16}N Levels (continued)

E(level)	J^π	$T_{1/2}$	XREF	Comments
6608 $\ddagger$ 3	(4)	$\leq 11^\dagger$ keV	BC F H L	
6840?	≥ 2	> 140 keV	G	%n=100
6845 $\ddagger$ 4		$\leq 11^\dagger$ keV	CD F H L	
7020 20	1 ⁺	22 keV 5	FGH L	%n=100
7134 $\ddagger$ 7		$\leq 11^\dagger$ keV	D F H L	
7250 7	≥ 2	17 keV 5	C FGH L	%n=100
7572 4	≥ 3	$\leq 11^\dagger$ keV	CDEFGH L	%n=100
7637 $\ddagger$ 4	(3,4,5) ⁺	$\leq 11^\dagger$ keV	CDEF H L	
7674 4		$\leq 11^\dagger$ keV	CD FGH KL	%n=100
7877 9	≥ 4	100 keV 15	C FGH L	%n=100
8048 9		85 keV 15	FG L	%n=100
8199 $\ddagger$ 5	(3,2) ⁺	28 keV 8	D F L	
8282 $\ddagger$ 8		24 keV 8	F L	
8365 8	≥ 1	18 keV 8	C FG L	%n=100
8490 30	≥ 1	≤ 50 keV	G L	%n=100
8720	≥ 1	40 keV	G	%n=100
8819 15		≤ 50 keV	C G L	%n=100
9035 $\ddagger$ 15		≤ 50 keV	L	
9160 30	≥ 2	100 keV	G L	%n=100
9340 30		≤ 50 keV	G L	%n=100
9459 15	≥ 2	100 keV	C G KL	%n=100
9760 $\ddagger$ 10		15 keV 8	CD L	T=1
9813 $\ddagger$ 10			D	T=1
9928 $\ddagger$ 7	0 ⁺	< 12 keV	D	T=2
10055 15	≥ 3	30 keV	C G L	%n=100
10370 40	≥ 2	165 keV	C G	%n=100
10710	≥ 2	120 keV	G	%n=100
11160 $\ddagger$ 40			C	
11490	≥ 3		G	%n=100
11610	≥ 3	220 keV	G	%n=?; %d=?
11701 $\ddagger$ 7	2 ⁺	< 12 keV	D	T=2
11750 $\ddagger$ 40		< 50 keV	C	
11920?		390 keV		%n=?; %d=?
12090?			G	%n=100
12390 60		290 keV	C	%n=?; %p=?; %d=?
12570 60		180 keV	C	%n=?; %p=?; %d=?
12880		155 keV	G	%n=?; %p=?; %d=?
12970?		175 keV		%n=?; %d=?
13110 60			C G	%n=?; %d=?
				The deuteron decay mode is tentative.
13830			G	%n=100
14100 $\ddagger$	(7 ⁺)			T=(2)
14360 50	(3) ⁺	180 keV	C	%d=100

[†] Evaluator quotes $\Gamma \leq 7$ keV ± 4 .[‡] Decay mode not specified.

Adopted Levels, Gammas **1993Ti07** (continued)

$\gamma(^{16}\text{N})$							
$E_i(\text{level})$	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	Comments
120.42	0 ⁻	120.42	12	0.0	2 ⁻	[E2]	B(E2)(W.u.)=1.7 1
298.22	3 ⁻	298.22	8	0.0	2 ⁻	[M1]	B(M1)(W.u.)=0.00900 15
397.27	1 ⁻	276.85	10	120.42	0 ⁻	[M1]	B(M1)(W.u.)=0.193 4
		397.27	10	0.0	2 ⁻	[M1]	B(M1)(W.u.)=0.0236 8

Adopted Levels, Gammas **1993Ti07**

Level Scheme

Intensities: Relative photon branching from each level

