

Table 10.18 from (2004TI06): Energy levels of ^{10}B ^a

E_x (MeV \pm keV)	$J^\pi; T$	τ_m or Γ_{cm} (keV)	Decay	Reactions
g.s.	$3^+; 0$	stable ^b		1, 4, 5, 10, 12, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 51, 52, 53, 54, 55, 56, 58, 59
0.71835 ± 0.04	$1^+; 0$	$\tau_m = 1.020 \pm 0.005$ nsec ^c	γ	1, 4, 5, 10, 12, 17, 18, 19, 20, 22, 24, 25, 26, 27, 28, 30, 31, 36, 42, 44, 45, 46, 47, 50, 51, 52, 53, 55, 58
1.74015 ± 0.17	$0^+; 1$	7 ± 3 fsec	γ	1, 4, 10, 12, 17, 18, 19, 20, 24, 25, 26, 27, 30, 42, 43, 44, 45, 46, 47, 51, 52, 56
2.1543 ± 0.5	$1^+; 0$	2.13 ± 0.20 psec	γ	1, 4, 12, 17, 18, 19, 20, 24, 25, 26, 27, 28, 30, 31, 36, 44, 45, 46, 47, 50, 51, 52, 53, 54, 55
3.5871 ± 0.5	$2^+; 0$	153 ± 12 fsec	γ	1, 4, 5, 12, 17, 18, 19, 24, 25, 26, 27, 28, 30, 31, 43, 44, 46, 51, 52, 53, 55, 58
4.7740 ± 0.5	$3^+; 0$	$\Gamma = 7.8 \pm 1.2$ eV ^d	γ, α	1, 4, 5, 11, 17, 18, 19, 24, 25, 26, 27, 28, 31, 46, 51, 52, 53, 58, 60
5.1103 ± 0.6	$2^-; 0$	0.98 ± 0.07 keV	γ, α	1, 11, 12, 17, 18, 24, 25, 27, 31, 46, 52
5.1639 ± 0.6	$2^+; 1$	1.8 ± 0.4 eV ^d	γ, α	1, 12, 17, 18, 24, 25, 27, 28, 43, 46, 51
5.180 ± 10	$1^+; 0$	110 ± 10 keV	γ, α	1, 3, 11, 12, 17, 18, 28, 31, 46
5.9195 ± 0.6	$2^+; 0$	5.82 ± 0.06 ^e	γ, α	1, 3, 11, 12, 17, 18, 19, 24, 27, 28, 30, 31, 46, 51, 52, 53
6.0250 ± 0.6	$4^+; 0$	0.054 ± 0.024 ^e	γ, α	1, 3, 11, 17, 18, 19, 24, 25, 26, 27, 28, 30, 31, 44, 46, 52, 53, 56, 58
6.1272 ± 0.7	$3^-; 0$	1.52 ± 0.08 ^e	α	3, 11, 17, 18, 19, 24, 25, 27, 28, 30, 44, 46, 52
6.560 ± 1.9 ^f	$4^-; 0$	25.1 ± 1.1	α	3, 11, 17, 18, 19, 24, 25, 27, 28, 30, 31, 44, 46, 51, 52, 60
6.873 ± 5	$1^-; 0 + 1$	120 ± 5	$\gamma, \text{p}, \text{d}, \alpha$	1, 11, 12, 14, 16, 17
7.002 ± 6	$(3^+); 0$ ^g	100 ± 10	$\text{p}, \text{d}, \alpha$	3, 11, 16, 17, 19, 25, 27, 28, 30, 46, 52, 58

Table 10.18 from (2004TI06): Energy levels of ^{10}B ^a (continued)

E_x (MeV \pm keV)	$J^\pi; T$	τ_m or Γ_{cm} (keV)	Decay	Reactions
7.430 \pm 10	1 ⁻ ; 1 + 0 ^h	100 \pm 10	γ , p, d, α	1, 12, 14, 16
7.469 \pm 6 ^{h,i}	2 ⁺ ; 1 ⁱ	65 \pm 10 ⁱ	γ , p	12, 14, 17, 19, 24, 46, 51, 56
7.480 \pm 4 ^{h,i}	2 ⁻ ; 0 + 1 ⁱ	80 \pm 8 ⁱ	γ , p, d, α	12, 14, 16, 19, 28
7.5599 \pm 0.6	0 ⁺ ; 1	2.65 \pm 0.18	γ , p	12, 14, 17, 46
(7.67 \pm 30)	(1 ⁺ ; 0)	250 \pm 20	p, (d), α	14, 16, 25
7.75 \pm 30 ^h	2 ⁻ ; 0 + 1 ⁱ	210 \pm 60 ^h	γ , p, d, α	12, 14, 16, 17, 19, 25, 46
7.96 \pm 70 ^j	$T = 0$	285 \pm 91	α , $^6\text{Li}(3^+)$	11
8.07	2 ⁺ ; (0)	800 \pm 200	p, d, α	14, 16, 17, 24, 25
8.68 ^k	(3 ⁺); 0 ^k		p	16, 58
8.889 \pm 6	3 ⁻ ; 1	84 \pm 7	n, p, α	13, 14, 16, 17, 19, 24, 25, 51
8.894 \pm 2	2 ⁺ ; 1	40 \pm 1	p, α	14, 16, 19, 24, 25, 51
9.58 \pm 60 ^j	$T = 0$	257 \pm 64	α , $^6\text{Li}(3^+)$	11
10.84 \pm 10	(2 ⁺ , 3 ⁺ , 4 ⁺)	300 \pm 100	γ , n, p	12, 13, 14, 16, 24, 25, 46
11.52 \pm 35		500 \pm 100	(γ), α	16, 24, 25, 44, 46
12.56 \pm 30	(0 ⁺ , 1 ⁺ , 2 ⁺)	100 \pm 30	γ , p	12, 24, 46
13.49 \pm 5	(0 ⁺ , 1 ⁺ , 2 ⁺)	300 \pm 50	γ , p	12, 24, 46
14.4 \pm 100		800 \pm 200	γ , p, α	3, 12, 44, 46
(18.2 \pm 200)		(1500 \pm 300)		46
18.43	2 ⁻ ; 1	340	γ , ^3He	5, 7
18.80	2 ⁺	< 600	γ , ^3He , α	5, 9
19.29	2 ⁻ ; 1	190 \pm 20	γ , n, p, ^3He , α	5, 6, 7, 9
20.1 \pm 100	1 ⁻ ; 1	broad	γ , n, p, t, ^3He , α	5, 6, 7, 8, 9, 23
(21.1)			γ , ^3He	5
23.1 \pm 100		broad	γ , n	23

^a See footnotes on level parameters changed since (1988AJ01). See also Tables 10.19, 10.20, 10.21 and 10.24.

^b $\mu = 1.80064475 \pm 0.00000057 \mu_N$, $Q = 84.72 \pm 0.56$ mb.

^c $\mu = +0.63 \pm 0.12 \mu_N$.

^d See Table 10.22.

^e See Table 10.23.

^f See (1971YO05).

^g See (1971YO05, 1979OE01).

^h See Table 10.24 and reaction 12.

ⁱ From (1969MO29); see reaction 14 and Table 10.25.

^j New levels since (1988AJ01).

^k Energy and tentative spin assignment from (1979OE01). If this is the same level as seen in reaction 16, the width is ≈ 220 keV (see Table 10.26) and decay modes of p, d, α are likely.