

Table 11.18 from (2012KE01): Energy levels of ^{11}B

E_x (MeV \pm keV)	$J^\pi; T$	Γ_{cm} (keV)	Decay	Reactions
0	$\frac{3}{2}^-; \frac{1}{2}$	stable		2, 3, 7, 8, 11, 15, 16, 17, 18, 19, 22, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36, 37, 39, 40, 42, 44, 45, 46, 47, 48, 49, 50, 51, 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 67, 68, 69, 70, 71, 72, 73, 74
2.124693 ± 0.027	$\frac{1}{2}^-$	0.117 ± 0.004 eV	γ	2, 7, 8, 11, 15, 16, 17, 18, 19, 26, 27, 28, 30, 32, 33, 35, 36, 37, 39, 40, 42, 44, 51, 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 67, 68, 69, 70, 71, 72, 73, 74
4.44498 ± 0.07	$\frac{5}{2}^-$	0.55 ± 0.05 eV	γ	2, 3, 7, 8, 11, 15, 16, 17, 18, 19, 22, 26, 27, 28, 29, 30, 32, 33, 35, 36, 37, 39, 40, 42, 44, 51, 53, 54, 55, 56, 58, 59, 63, 67, 68, 69, 70, 71, 72, 73, 74
5.02030 ± 0.30	$\frac{3}{2}^-$	1.97 ± 0.07 eV	γ	2, 7, 8, 11, 16, 17, 18, 19, 26, 27, 28, 29, 30, 32, 33, 35, 36, 37, 39, 40, 42, 51, 53, 55, 56, 57, 58, 59, 61, 63, 67, 68, 69, 70, 71, 72, 74
6.74185 ± 0.08	$\frac{7}{2}^-$	0.030 ± 0.007 eV	γ	2, 3, 7, 11, 16, 17, 18, 19, 22, 26, 27, 28, 29, 32, 36, 37, 39, 40, 42, 51, 53, 59, 61, 67, 68, 69, 70, 71, 73, 74
6.79180 ± 0.30	$\frac{1}{2}^+$	0.39 ± 0.05 eV	γ	2, 3, 7, 11, 16, 17, 18, 19, 26, 27, 28, 30, 32, 36, 39, 40, 44, 51, 53, 56, 61, 68, 69, 71, 74

Table 11.18 from (2012KE01): Energy levels of ^{11}B (continued)

E_x (MeV \pm keV)	$J^\pi; T$	Γ_{cm} (keV)	Decay	Reactions
7.28551 ± 0.43	$\frac{5}{2}^+$	1.14 ± 0.08 eV	γ	2, 3, 7, 8, 15, 16, 17, 18, 19, 26, 27, 28, 30, 32, 33, 35, 36, 39, 40, 51, 53, 58, 59, 69, 71, 74
7.97784 ± 0.42	$\frac{3}{2}^+$	1.15 ± 0.15 eV	γ	2, 3, 7, 16, 18, 19, 26, 27, 30, 32, 33, 35, 36, 39, 42, 51, 53, 58, 59, 69, 71
8.5601 ± 1.7	$(\frac{3}{2}^-)$	1.00 ± 0.09 eV	γ	2, 7, 8, 15, 16, 18, 19, 26, 27, 32, 33, 35, 36, 37, 39, 40, 42, 51, 53, 59, 68, 69, 70, 71
8.92047 ± 0.11	$\frac{5}{2}^-$	4.374 ± 0.023 eV	γ, α	2, 3, 7, 15, 16, 18, 22, 26, 27, 29, 32, 33, 35, 36, 37, 39, 42, 59, 61, 67, 68, 70
9.1835 ± 1.0	$\frac{7}{2}^+$	$1.8_{-1.1}^{+1.5}$ eV	γ, α	2, 3, 8, 16, 18, 26, 27, 29, 31, 36, 39, 63, 72
9.2717 ± 1.0	$\frac{5}{2}^+$	≈ 4	γ, α	2, 3, 9, 16, 18, 26, 27, 33, 36, 39, 62, 63, 72
9.820 ± 25	$(\frac{1}{2}^+)$			53
9.873 ± 4	$\frac{3}{2}^+$	109 ± 14	α	6, 16, 30, 59, 72
10.262 ± 8	$\frac{3}{2}^-$	163 ± 22	γ, α	1, 3, 6, 9, 16, 39, 62, 63, 72
10.330 ± 8	$\frac{5}{2}^-$	112 ± 10	γ, α	1, 3, 6, 8, 16, 27, 62, 70
10.602 ± 4	$\frac{7}{2}^+$	91 ± 20	γ, α	1, 3, 6, 9, 16, 25, 33, 36, 39, 63, 72
(10.960 ± 50)	$\frac{5}{2}^-$	≈ 4500	α	6, 72
11.272 ± 14	$\frac{9}{2}^+$	110 ± 20	α	1, 6, 9, 16, 33, 39, 72
11.450 ± 17		93 ± 17	α	6, 8, 16, 18
11.600 ± 20	$\frac{5}{2}^+$	180 ± 20	n, α	4, 6, 16, 25, 70
11.893 ± 13	$\frac{5}{2}^-$	194 ± 6	n, α	4, 6, 9, 16, 25
12.040 ± 130	$\frac{7}{2}^+$	≈ 1000	n, α	6, 25
12.554 ± 13	$\frac{1}{2}^+; (\frac{3}{2})^a$	205 ± 20	γ, p, α	6, 8, 9, 16, 18, 20, 21, 31, 39

Table 11.18 from (2012KE01): Energy levels of ^{11}B (continued)

E_x (MeV \pm keV)	$J^\pi; T$	Γ_{cm} (keV)	Decay	Reactions
12.917 \pm 11	$\frac{1}{2}^-$ b; $\frac{3}{2}$	230 \pm 20	γ, p, α	6, 9, 16, 20, 21, 36, 67, 70
13.137 \pm 40	$\frac{9}{2}^-$	426 \pm 40	n t, α	1, 4, 8, 9, 16, 23, 24, 25
13.16	$(\frac{5}{2}^+, \frac{7}{2}^+)$	363	n, α	18, 23, 25
14.040 \pm 80	$\frac{11}{2}^+$	500 \pm 200	n, α	4, 6, 9, 23, 25
14.340 \pm 20	$\frac{5}{2}^+; (\frac{3}{2})^a$	253 \pm 19	γ, p	9, 16, 17, 20, 39
14.563 \pm 11		≤ 30	n, t, α	4, 8, 16, 17, 23, 24, 39, 70
15.290 \pm 25	$(\frac{3}{2}^-)$ b; $(\frac{3}{2})$	282 \pm 15	$\gamma, \text{p}, \text{n}, \alpha$	20, 23, 25, 36, 70
16.432 \pm 10	$(\frac{5}{2}^-)$ b; $\frac{3}{2}$	≤ 30	p, d, α	11, 13, 16, 36, 70
17.31		≈ 1000	n, d, t, α	13, 24, 25
17.500 \pm 30	$T = (\frac{3}{2})^a$	116 \pm 25	$\gamma, \text{n}, \text{p}, \text{d}, \alpha$	4, 9, 11, 13, 16
18.000 \pm 100	$T = \frac{3}{2}$	870 \pm 100		16
18.370 \pm 50	$(\frac{1}{2}, \frac{3}{2}, \frac{5}{2})^+$	260 \pm 80	γ, d	11
19.125 \pm 26	$(\frac{7}{2}^-)$ b; $\frac{3}{2}$	115 \pm 25		16, 70
19.7	$(\frac{1}{2}^+)$	broad	γ, d	11, 21
21.270 \pm 50	$T = \frac{3}{2}$	300 \pm 30		16
23.7	$(\frac{1}{2}, \frac{3}{2}, \frac{5}{2})^+$		γ, d	11
26.5		broad	γ, n	31

^a See reactions 8(b) and 9(a).

^b From $^{14}\text{C}(\text{p}, \alpha)$, also see $J^\pi = (\frac{7}{2})^+$ for $^{11}\text{B}^*(15.290)$ from $^{10}\text{B}(\text{n}, \text{n})$; see (1975AJ02, 1985AR03, 1990SA24)