

Table 9.13 from (2004TI06): Energy levels of ${}^9\text{B}$

E_x^a (MeV \pm keV)	$J^\pi; T$	$\Gamma_{\text{c.m.}}$ (keV)	Decay	Reactions
g.s.	$\frac{3}{2}^-; \frac{1}{2}$	0.54 ± 0.21	p	1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17
$\approx 1.6^b$			p, (α)	3, 4, 8, 13
2.361 ± 5	$\frac{5}{2}^-; \frac{1}{2}$	81 ± 5	p, α	1, 2, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17
2.75 ± 300^c	$\frac{1}{2}^-; \frac{1}{2}$	3130 ± 200	p	3, 7, 10
2.788 ± 30	$\frac{5}{2}^+; \frac{1}{2}$	550 ± 40	p, α	4, 7, 10, 11, 13, 15, 16
4.3 ± 200^d		1600 ± 200		7
6.97 ± 60	$\frac{7}{2}^-; \frac{1}{2}$	2000 ± 200	p	4, 7, 11, 14, 15, 16
11.65 ± 60^e	$(\frac{7}{2})^-; \frac{1}{2}$	800 ± 50	p	11, 13, 15, 16
12.19 ± 40^f	$\frac{5}{2}^-; \frac{1}{2}$	450 ± 20	p, α	4, 7, 10, 14
14.01 ± 70	$\pi = -; \frac{1}{2}$	390 ± 110	p, α	4, 7, 10, 14
14.6550 ± 2.5	$\frac{3}{2}^-; \frac{3}{2}$	0.395 ± 0.042	γ , p	4, 7, 8, 10, 14
14.7 ± 200^g	$(\frac{5}{2})^-; \frac{1}{2}$	1350 ± 200		11
15.29 ± 40	$T = \frac{1}{2}$			14
15.58 ± 40	$T = \frac{1}{2}$			14
16.024 ± 25	$T = (\frac{1}{2})$	180 ± 16		4, 14
16.71 ± 100^h	$(\frac{5}{2}^+); (\frac{1}{2})$			7
17.076 ± 4	$\frac{1}{2}^-; \frac{3}{2}$	22 ± 5	(γ , ${}^3\text{He}$)	1, 14
17.190 ± 25		120 ± 40	p, d, ${}^3\text{He}$	4, 5, 14
$17.54 \pm 100^{h,i}$	$(\frac{7}{2}^+); (\frac{1}{2})$			7
17.637 ± 10^i		71 ± 8	p, d, ${}^3\text{He}$, α	1, 4, 5, 14

^a See reactions 7 and 8 for additional states and other values.

^b A wide range of excitation energies and widths have been given from searches for the analog of the 1.68 MeV $\frac{1}{2}^+$ state of ${}^9\text{Be}$. See (1987BA54, 1992CA31, 1995TI06, 1996BA22, 1999EF01).

^c Analog to ${}^9\text{Be}^*(2.78)$. See (1985PU1A, 1995TI06, 2000GE09).

^d See (1985PU1A). A level listed at $E_x = 4.8$ MeV in (1988AJ01) was based on (1986AR14, 1987KA36).

^e See (1974AJ01, 1985PU1A). Width from (1968KU04).

^f See (1985PU1A, 2000GE09, 2001BE51).

^g From (1968KU04).

^h From (1985PU1A). See (1991DI03).

ⁱ These two levels may not be distinct.