

Table 10.5 from (2004TI06): Energy levels of ^{10}Be ^a

E_x (MeV \pm keV) ^b	$J^\pi; T$	τ or Γ_{cm} (keV)	Decay	Reactions
g.s.	$0^+; 1$	$\tau_{1/2} = (1.51 \pm 0.04) \times 10^6$ y	β^-	1, 3, 4, 6, 7, 9, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 41, 42, 43, 44, 46, 47, 50, 52, 53, 55
3.36803 ± 0.03	$2^+; 1$	$\tau_m = 180 \pm 17$ fsec	γ	3, 4, 5, 6, 7, 9, 13, 14, 15, 17, 18, 19, 20, 21, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 41, 42, 43, 44, 46, 47, 50, 51, 52, 55
5.95839 ± 0.05	$2^+; 1$	$\tau_m < 80$ fsec	γ	(3), 6, 9, 14, 15, 17, 18, (21), 22, 25, (26), 27, 28, 30, (31), 34, 42, 44, 46, 47, 50
5.9599 ± 0.6	$1^-; 1$		γ	(3), 6, 14, 15, 17, 18, 19, 21, (26), 27, (30), (31), 34, 42
6.1793 ± 0.7	$0^+; 1$	$\tau_m = 1.1_{-0.3}^{+0.4}$ psec	π, γ	(3), 6, 14, 30
6.2633 ± 5.0	$2^-; 1$		γ	(3), 6, 14, 15, 19, 21
7.371 ± 1	$3^-; 1$	$\Gamma = 15.7 \pm 0.5$ keV	n, γ	(3), 6, 7, 9, 10, 13, 14, 15, 17, 18, 27, 47
7.542 ± 1	$2^+; 1$	6.3 ± 0.8	n, α	(3), 6, 7, 10, 14, 15, 17, 26, 27, 42, 46, (47)
9.27	$(4^-); 1$	150 ± 20	n	6, 7, 10, (13), 14, 15, 18, 21, 27, (47)
<i>see</i> ^c				
9.56 ± 20 ^d	$2^+; 1$	141 ± 10 ^{e,f}	n, α	6, 7, 10, (13), 14, 15, 17, 18, 26, 27, 28, (30), 34, 42, 44, 46, 47, 54
10.15 ± 20	3^-	296 ± 15 ^f	α	3, 7, 17, 54
10.57 ± 30	$\geq 1; 1$		n, α	6, 7, 10, 14, 47
11.23 ± 50		200 ± 80 ^f	α	(3), 7
11.76 ± 20	(4^+)	121 ± 10 ^f	α	6, 7, 13, 14, 15, 17, 18, 42, 47
(11.93 ± 100)	(5^-) ^g	200 ± 80 ^f	α	7, (21), 45
13.05 ± 100		290 ± 130 ^f	α	7, (45)
13.80 ± 50		330 ± 150 ^f	α	7, 18
14.68 ± 100		310 ± 140 ^f	α	7, 45
15.3 ± 200	(6^-) ^g	800 ± 200 ^h		(18), (21), 47
17.12 ± 200	(2^-)	≈ 150		(4), 6, 45

Table 10.5 from (2004TI06): Energy levels of ^{10}Be ^a (continued)

E_x (MeV \pm keV) ^b	$J^\pi; T$	τ or Γ_{cm} (keV)	Decay	Reactions
17.79		112 ± 35	γ, n, t, α	4, 6, 7, (11)
18.15 ± 50	(0^-)	90 ± 30 ^f	t	7
18.55		310 ^f	n, t	4, 6, 7, 11
(19.8)			p	7
20.8 ± 100			α	7
21.216 ± 23	$(2^-; 2)$	sharp	n, p, t	4, 11
21.8 ± 100		≈ 200 ^f	p, (d)	7
22.4 ± 100		≈ 250 ^f	(n), p, t	7, (11)
23.0 ± 100			p	(4), 7
23.35 ± 50			(n), p, d, (t), α	7, (11)
23.65 ± 50			p, (t), α	7
24.0 ± 100		≈ 150 ^f	d, (t), α	7, 33
24.25 ± 50		≈ 200 ^f	(p), d, t, α	7
24.6 ± 100		≈ 150 ^f	p, d	7
24.8 ± 100		≈ 100 ^f	p, d	7
25.05 ± 100		≈ 150 ^f	d, α	7
25.6 ± 100			(p), d, α	7
25.95 ± 50		≈ 300 ^f	d	7
26.3 ± 100		≈ 100 ^f	d, (t)	7
26.8 ± 100			p, d, α	7
27.2 ± 200			p, d, t, α	7

^a See also [Table 10.12](#).

^b See [reactions 4, 45 and 47](#) for evidence of other levels.

^c A $J^\pi = 3^+$ state is predicted near 9 MeV, however, evidence is ambiguous: see [reaction 28](#).

^d Previously reported at 9.4 MeV.

^e 141 ± 10 keV from $^7\text{Li}(^7\text{Li}, \alpha)$; other value 291 ± 20 keV from $^9\text{Be}(d, p)$.

^f Not corrected for experimental system resolution and therefore upper limits.

^g From systematics in [reaction 21](#).

^h From (2001BO35): $^{12}\text{C}(^{15}\text{N}, ^{17}\text{F})$.