

Table 12.2 from (2017KE05): Energy levels of ^{12}Be

E_x (MeV \pm keV)	$J^\pi; T$	$T_{1/2}$ or Γ	Decay	Reactions
0	$0^+; 2$	$T_{1/2} = 21.46 \pm 0.05$ ms	β^-	1, 2, 3, 4, 5, 7, 10, 11, 13, 14, 15, 16, 17, 20, 21, 22, 23
2.109 ± 2	$2^+; 2$	1.73 ± 0.53 ps	γ	2, 3, 4, 5, 7, 10, 11, 13, 14, 20, 21, 23, 24
2.251 ± 1	0^+	247 ± 15 ns	γ, π	4, 6, 10, 11
2.715 ± 15^a	1^-	1.3 ± 0.4 fs	γ	2, 3, 4, 5, 11, 14, 20, 23, 24
(4.412 \pm 16)	(2^-)	$\Gamma = 634 \pm 60$ keV	n	8
4.580 ± 5	($2^+, 3^-$) ^b	101 ± 17 keV		2, 7, 11, 13, 20, 21
5.724 ± 6	($4^+, 2^+, 3^-$) ^b	85 ± 15 keV		2, 7, 9, 11, 12, 20, 21
6.275 ± 50				7, 9, 13
7.2 ± 100	(2^+)			7, 9, 20
(8.230)				7
8.600 ± 150		< 500 keV		2, 7
9.300		2 ± 0.3 MeV		9, 20
10.0		1.5 ± 0.2 MeV	α	2, 5, 7, 18
10.8	0^+		^6He	5, 7, 9
11.3	2^+			5, 7, 13
11.8	($0, 2^+$)	≈ 1 MeV	^6He	5, 18, 19
12.1	($2^+, 4$)		α	7, 18
13.2 ± 500	(4^+)	≈ 1 MeV	$\alpha, ^6\text{He}$	2, 18, 19
14.0			$\alpha, ^6\text{He}$	2, 18
14.9 ± 500	6^+		$\alpha, ^6\text{He}$	2, 7, 9, 18, 19
15.5		1.5 MeV	$\alpha, ^6\text{He}$	2, 18, 19
16.1 ± 500	$J = 6$		α	2, 7, 18
17.8 ± 500	$J = 6$	350 keV	$\alpha, (^6\text{He})$	2, 18
18.6 ± 500	$J = 6$		$\alpha, (^6\text{He})$	2, 18, 20
19.3 ± 500	$J = 6$		$\alpha, (^6\text{He})$	2, 9, 18
20.9 ± 500	8^+		$\alpha, (^6\text{He})$	2, 9, 18
22.8			($\alpha, ^6\text{He}$)	2, 18
(24)			($\alpha, ^6\text{He}$)	2, 18
25	($T = 3$)	370 keV	p	2, 18
28		2.7 MeV	p	2, 18

^a Limit of weighted means.^b (2011FO04, 2013FO30, 2014FO04) suggest $J^\pi = (3^-)$ and (4^+) for $^{12}\text{Be}^*(4.6, 5.7)$, respectively. But for $^{12}\text{Be}^*(4.6)$ $J^\pi = 2^+$ is indicated in reaction 7. $J^\pi = 4^+$ is preferred for $^{12}\text{Be}^*(5.7)$.