

Table 8.3 from (1979AJ01): Energy Levels of  ${}^8\text{Be}$  <sup>a</sup>

$E_x$ (MeV $\pm$ keV)	$J^\pi; T$	$\Gamma_{c.m.}$ (keV)	Decay	Reactions
g.s.	$0^+; 0$	$6.8 \pm 1.7$ eV	$\alpha$	1, 2, 4, 11, 12, 13, 14, 15, 21, 22, 23, 24, 25, 27, 30, 31, 32, 33, 34, 36, 38, 39, 40, 41, 42, 43, 45, 47, 48, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 64, 66, 68, 69
$2.94 \pm 30$	$2^+; 0$	$1560 \pm 30$	$\alpha$	2, 4, 12, 13, 14, 15, 21, 23, 24, 25, 27, 28, 29, 30, 31, 32, 33, 37, 38, 39, 40, 41, 42, 43, 45, 47, 48, 50, 51, 52, 53, 54, 57, 61
$11.4 \pm 300$	$4^+; 0$	$\approx 3500$ <sup>b</sup>	$\alpha$	4, 13, 21, 24, 31, 33, 40, 43, 45, 52, 53, 54
$16.626 \pm 3$	$2^+; 0 + 1$	$108.1 \pm 0.5$	$\gamma, \alpha$	2, 4, 12, 14, 15, 21, 23, 24, 29, 31, 32, 33, 38, 40, 45, 47, 48, 52, 53
$16.922 \pm 3$	$2^+; 0 + 1$	$74.0 \pm 0.4$	$\gamma, \alpha$	2, 4, 12, 14, 15, 21, 23, 24, 31, 32, 33, 38, 40, 45, 47, 48, 52, 53
$17.641 \pm 1.5$	$1^+; 1$	$10.7 \pm 0.5$	$\gamma, p$	5, 12, 15, 17, 21, 23, 31, 32, 33, 40, 45, 47, 53
$18.150 \pm 4$	$1^+; 0$	$138 \pm 6$	$\gamma, p$	12, 15, 17, 21, 31, 32, 33, 40, 45
18.91	$2^-$	$48 \pm 20$	$\gamma, n, p$	12, 15, 16, 17, 21, 31, 45
$19.069 \pm 10$	$3^+; (1)$	$270 \pm 20$	$\gamma, p$	12, 15, 17, 21, 32, 45
$19.24 \pm 25$	$3^+; (0)$	$230 \pm 30$	n, p	16, 17, 21, 31, 32, 33, 40
19.4	$1^-$	$\approx 650$	n, p	12, 16, 17
$19.86 \pm 50$	$4^+; 0$	$700 \pm 100$	p, $\alpha$	4, 12, 14, 20, 24, 32, 48
20.1	$2^+; 0$	$\approx 1100$	n, p, $\alpha$	3, 4, 16, 20, 24, 32, 48

Table 8.3 from (1979AJ01): Energy Levels of  ${}^8\text{Be}$  <sup>a</sup> (continued)

$E_x$ (MeV $\pm$ keV)	$J^\pi; T$	$\Gamma_{c.m.}$ (keV)	Decay	Reactions
20.2	$0^+; 0$	$< 1000$	$\alpha$	4
20.9	$4^-$	$1600 \pm 200$	p	17
21.5	$3^{(+)}$	1000	n, p	16, 31
22.0 <sup>c</sup>	$1^-; 1$	$\approx 4000$	$\gamma, p$	15
$22.05 \pm 100$		$270 \pm 70$		33
22.2	$2^+; 0$	$\approx 800$	n, p, d, $\alpha$	3, 4, 10, 17, 20
$22.63 \pm 100$		$100 \pm 50$		14, 33
$22.98 \pm 100$		$230 \pm 50$		31, 33
24.0 <sup>c</sup>	$(1, 2)^-; 1$	$\approx 7000$	$\gamma, p$	15
25.2	$2^+; 0$		p, d, $\alpha$	4, 10, 20, 33
25.5	$4^+; 0$	broad	d, $\alpha$	4, 10
$27.494 \pm 2$ <sup>d</sup>	$0^+; 2$	$5.5 \pm 2.0$	$\gamma, p, d, \alpha$	3, 5, 7, 8, 10, 35
(28.6)		broad	$\gamma, p$	15

<sup>a</sup> See also [Table 8.7](#).

<sup>b</sup> I am greatly indebted to Prof. F.C. Barker for enlightening discussions concerning the width of  ${}^8\text{Be}^*(11.4)$ .

<sup>c</sup> Giant resonance: see [reaction 15](#).

<sup>d</sup> See [Table 8.4](#).