

Table 9.8 from (1984AJ01): Levels of ${}^9\text{Be}$ from ${}^9\text{Be}(e, e'){}^9\text{Be}^*$ ^a

E_x in ${}^9\text{Be}$ (MeV \pm keV)	$\Gamma_{\text{c.m.}}$ (keV)	Transition	J^π	Γ_{γ_0} (eV)
1.78 ± 30	150 ± 50	E1	$\frac{1}{2}^+$	0.30 ± 0.12
2.44 ± 20	< 30	M1	$\frac{5}{2}^-$	0.089 ± 0.010
		E2		$(1.89 \pm 0.14) \times 10^{-3}$ ^b
3.04 ± 20	450 ± 150	E1 ^c	$\frac{5}{2}^+$ ^c	0.30 ± 0.25 ^d
4.7 ± 200	700 ± 300	E(1)		2.4 ± 1.2 ^e
6.4 ± 100	1000 ± 300	E2	$\frac{7}{2}^-$	0.082 ± 0.035
13.84 ± 50 ^g				
14.388 ± 15 ^h	< 70	M1	$\frac{3}{2}^-$	6.9 ± 0.5 ^f
15.10 ± 50 ^g				
15.97 ± 30 ^g	≈ 300	M1		3.7 ± 0.8 ^e
16.631 ± 15 ^h	< 70	M2 ⁱ	$\leq \frac{7}{2}^+$	0.26 ± 0.02 ^e
		M1	$\leq \frac{5}{2}^-$	2.0 ± 0.5 ^e
16.961 ± 15 ^h	< 70	M1	$\frac{1}{2}^-$	11.5 ± 1.4 ^f
17.28		M1	$\leq \frac{5}{2}^-$	7.3 ± 1.3 ^e
17.480 ± 20 ^h	≈ 100	M2 ⁱ	$\leq \frac{7}{2}^+$	0.40 ± 0.03 ^e
18.02 ± 50 ^g				
18.62 ± 50 ^g				
19.51 ± 50 ^g				
20.76 ± 50 ^g				
j				

^a For references see [Table 9.8 in \(1979AJ01\)](#).

^b $B(\text{C}2, \omega) \uparrow = 45.7 \pm 3.5 e^2 \cdot \text{fm}^4$.

^c Assumed.

^d The group may consist of two unresolved states, the second one reached by an M1 transition [$J^\pi = (\frac{1}{2})^-$] with $\Gamma_{\gamma_0} = 0.18 \pm 0.09$ eV. I am indebted to Dr. L.W. Fagg for his help in understanding this point.

^e $g\Gamma_{\gamma_0}$; where $g = (2J_f + 1)/(2J_i + 1)$.

^f See [\(1974AJ01\)](#) and [Table 9.6](#) here.

^g Weak transition.

^h [\(1983LO11, 1983LOZZ\)](#) report transverse form factors for this state ($0.9 \leq q \leq 2.5 \text{ fm}^{-1}$).

ⁱ Or pure spin-flip E1.

^j States belonging to the E1 and E2 giant resonances are reported at $E_x = 19.2 \pm 0.2$ [4.0 ± 0.6], 28.7 ± 0.5 [8.9 ± 1.7], 36.3 ± 0.5 [2.8 ± 1.3], 41 ± 1 [7.2 ± 2.0] and 58.0 ± 0.4 MeV [3.1 ± 0.5] MeV [\(1979BU11\)](#) [Γ in brackets]. See also [\(1974AJ01\)](#) for other reported states.