

Table 9.10 from (2004TI06): Electromagnetic matrix elements for ${}^9\text{Be}(e, e')$ ^a

$E_{\text{expt.}}$ (MeV)	$E_{\text{theor.}}$ ^b (MeV)	J^π	Matrix element ^c	(e, e') ^d	Other	Theory ^e
0	0	$\frac{3}{2}^-$	$Q(\text{fm}^2)$	5.86 ± 0.06	5.3 ± 0.3 ^f	4.35
			$\mu (\mu_N)$	-1.16 ± 0.02	-1.1778 ± 0.0009 ^f	-1.27
			$B(\text{M3})$	4.4 ± 0.3		9.72
			$B(\text{C2})$	17.1 ± 0.3		9.43
1.68	1.68	$\frac{1}{2}^+$	$B(\text{C1})$	0.034 ± 0.003	0.027 ± 0.002 ^g	0.0045
			$B(\text{M2})$	0.023 ± 0.008	0.097 ± 0.017 ^g	0.022
2.43	2.64	$\frac{5}{2}^-$	$B(\text{C2})$	46.0 ± 0.5	41.6 ± 2.9 ^h	32.2
			$B(\text{M1})$	0.0090 ± 0.0003	0.0089 ± 0.0010 ^h	0.0068
			$B(\text{M3})$	0.5 ± 0.3		2.22
3.05	2.87	$\frac{5}{2}^+$	$B(\text{C1})$	0.029 ± 0.005	0.015 ± 0.013 ^h	0.0039
			$B(\text{M2})$	0.16 ± 0.02		0.018
			$B(\text{C3})$	0.9 ± 0.6		12.5
			$B(\text{M4})$	58 ± 3		127.6
6.38	6.19	$\frac{7}{2}^-$	$B(\text{C2})$	33 ± 1	25.6 ± 1.4 ⁱ	12.7
6.76	6.39	$(\frac{9}{2}^+)$ ^j	$B(\text{C3})$	216 ± 5		17.6
			$B(\text{M4})$	174 ± 16		223.8
11.28	7.52	$\frac{5}{2}^+$	$B(\text{C3})$			25.7
	8.17	$\frac{3}{2}^+$	$B(\text{C3})$			19.3
	8.46	$(\frac{7}{2}^+)$ ^j	$B(\text{C3})$	57 ± 6		26.5
			$B(\text{M4})$			35.9

^a Adapted from Table V of (1991GL02).

^b Normalized to the ground-state for negative-parity levels and to the $\frac{1}{2}^+$ state for positive-parity levels.

^c The units of $B(\text{CJ})$ and $B(\text{MJ})$ are both $e^2 \text{fm}^{2J}$.

^d Polynomial-Gaussian expansion (PGE) fits (1991GL02). The error is from the statistical error on the leading polynomial coefficient and is dependent on the number of terms in the polynomial.

^e Harmonic oscillator (HO) wave functions with $b = 1.765 \text{ fm}$, $e_p + \delta e_p + \delta e_n = 1.6e$, $e_p + \delta e_p - \delta e_n = 0.7e$, and bare nucleon g factors (1991GL02).

^f From (1988AJ01).

^g Low q (e, e') from (1987KU05).

^h Low q (e, e') from (1968CL08). Data from (1968CL08) is included in the fits of (1991GL02).

ⁱ Low q (e, e') from (1963NG01).

^j Suggested identifications (1991GL02).