

Table 8.10 from (2004TI06): Electromagnetic transition strengths in ^8Be

| $E_i \rightarrow E_f$ (MeV) | $J_i^\pi; T_i \rightarrow J_f^\pi; T_f$ | Γ_γ (eV) | Mult. | Γ_γ/Γ_w |
|--|---|--------------------------------|-------|--------------------------------|
| 16.626 \rightarrow 0 ^a | $2^+; 0+1 \rightarrow 0^+; 0$ | $(7.0 \pm 2.5) \times 10^{-2}$ | E2 | $(7.1 \pm 2.5) \times 10^{-2}$ |
| 16.92 \rightarrow 0 ^a | $2^+; 0+1 \rightarrow 0^+; 0$ | $(8.4 \pm 1.4) \times 10^{-2}$ | E2 | $(7.8 \pm 1.3) \times 10^{-2}$ |
| (16.626 + 16.92) \rightarrow 3.03 ^b | $2^+; 1 \rightarrow 2^+; 0$ | 2.80 ± 0.18 | M1 | $(5.3 \pm 0.3) \times 10^{-2}$ |
| 17.64 \rightarrow 0 ^c | $1^+; 1 \rightarrow 0^+; 0$ | 15.0 ± 1.8 | M1 | 0.13 ± 0.02 |
| \rightarrow 3.03 ^{c,d} | $\rightarrow 2^+; 0$ | 6.7 ± 1.3 | M1 | 0.10 ± 0.02 |
| | | 0.12 ± 0.05 | E2 | 0.23 ± 0.10 |
| \rightarrow 16.626 ^{e,f} | $\rightarrow 2^+; 0+1$ | $(3.2 \pm 0.3) \times 10^{-2}$ | M1 | 1.5 ± 0.2 |
| \rightarrow 16.92 ^e | $\rightarrow 2^+; 0+1$ | $(1.3 \pm 0.3) \times 10^{-3}$ | M1 | 0.17 ± 0.04 |
| 18.15 \rightarrow 0 ^g | $1^+; 0 \rightarrow 0^+; 0$ | 1.9 ± 0.4 | M1 | $(1.5 \pm 0.3) \times 10^{-2}$ |
| \rightarrow 3.03 ^g | $\rightarrow 2^+; 0$ | 4.3 ± 1.2 | M1 | $(5.9 \pm 1.7) \times 10^{-2}$ |
| \rightarrow 16.626 ^e | $\rightarrow 2^+; 0+1$ | $(7.7 \pm 1.9) \times 10^{-2}$ | M1 | 1.0 ± 0.3 |
| \rightarrow 16.92 ^e | $\rightarrow 2^+; 0+1$ | $(6.2 \pm 0.7) \times 10^{-2}$ | M1 | 1.6 ± 0.2 |
| 18.91 \rightarrow 16.626 ^h | $2^-; 0 \rightarrow 2^+; 0+1$ | 0.17 ± 0.07 | E1 | $(5.3 \pm 2.0) \times 10^{-2}$ |
| \rightarrow 16.92 ^h | $\rightarrow 2^+; 0+1$ | $(9.9 \pm 4.3) \times 10^{-2}$ | E1 | $(4.6 \pm 2.0) \times 10^{-2}$ |
| 19.07 \rightarrow 3.03 ⁱ | $3^+; (1) \rightarrow 2^+; 0$ | 10.5 | M1 | 0.122 |
| 27.49 \rightarrow 17.64 ^j | $0^+; 2 \rightarrow 1^+; 1$ | 21.9 ± 3.9 | M1 | 1.10 ± 0.20 |

^a From (1995DE18).

^b From (1995DE18). The $T = 1$ centroid of the isospin-mixed 16.626 MeV and 16.92 MeV levels is at 16.80 MeV. For mixing ratios, see reaction 2 or (1995DE18).

^c $\sigma_{\gamma_0+\gamma_1} = 5.9 \pm 0.5$ mb and $\sigma_{\gamma_0}/\sigma_{\gamma_0+\gamma_1} = 0.69 \pm 0.05$ from (1995ZA03). Using $\Gamma_{\text{cm}} = 10.7 \pm 0.5$ keV from Table 8.10 gives $\Gamma_{\gamma_0+\gamma_1} = 21.8 \pm 2.1$ eV.

^d From (1961ME10), the mixing ratio is 0.133 ± 0.027 .

^e From (1969SW01).

^f From (1969SW02), the mixing ratio is -0.014 ± 0.013 .

^g From (1995ZA03).

^h From the cross sections and $\Gamma_{\text{cm}} = 131 \pm 44$ keV of (1969SW01).

ⁱ From (1976FI05).

^j From (1979FR04).