

Table 3 from (2002TI10): Electromagnetic transitions in $A = 5 - 7$

Nucleus	$E_{xi} \rightarrow E_{xf}$ (MeV)	$J_i^\pi \rightarrow J_f^\pi$ ^a	Γ_γ (eV)	Mult.	S (W.u.) ^b
⁵ He	16.84 \rightarrow 0	$\frac{3}{2}^+ \rightarrow \frac{3}{2}^-$	2.1 ± 0.4	E1	$(2.2 \pm 0.4) \times 10^{-3}$
⁵ Li	16.87 \rightarrow 0	$\frac{3}{2}^+ \rightarrow \frac{3}{2}^-$	5 ± 1	E1	$(5 \pm 1) \times 10^{-3}$
⁶ Li ^c	2.19 \rightarrow 0	$3^+ \rightarrow 1^+$	$(4.40 \pm 0.34) \times 10^{-4}$	E2	16.5 ± 1.3
	3.56 \rightarrow 0	$0^+; 1 \rightarrow 1^+; 0$	8.19 ± 0.17	M1	8.62 ± 0.18
	4.31 \rightarrow 0	$2^+ \rightarrow 1^+$	$(5.4 \pm 2.8) \times 10^{-3}$	E2	6.8 ± 3.5
	5.37 \rightarrow 0	$2^+; 1 \rightarrow 1^+; 0$	0.27 ± 0.05	M1	$(8.3 \pm 1.5) \times 10^{-2}$
⁷ Li ^d	0.48 \rightarrow 0	$\frac{1}{2}^- \rightarrow \frac{3}{2}^-$	$(6.30 \pm 0.31) \times 10^{-3}$	M1	2.75 ± 0.14
			$(3.3 \pm 0.2) \times 10^{-7}$	E2	19.7 ± 1.2
	4.65 \rightarrow 0	$\frac{7}{2}^- \rightarrow \frac{3}{2}^-$	6×10^{-3}	E2	4.2
⁷ Be	0.43 \rightarrow 0	$\frac{1}{2}^- \rightarrow \frac{3}{2}^-$	$(3.43 \pm 0.45) \times 10^{-3}$	M1	2.07 ± 0.27

^a T shown in usual convention [$J^\pi; T$] only if transitions from the initial state involve a change in T .

^b The last column gives the γ -ray strengths expressed in Weisskopf units [see D.H. Wilkinson, in Nuclear Spectroscopy B, ed. F. Ajzenberg-Selove (Academic Press, NY, 1960)]. The Weisskopf estimates (Γ_W in eV, E_γ in MeV) are:

$$\begin{aligned} \Gamma_W(\text{E1}) &= 6.8 \times 10^{-2} A^{2/3} E_\gamma^3, & \Gamma_W(\text{E2}) &= 4.9 \times 10^{-8} A^{4/3} E_\gamma^5, \\ \Gamma_W(\text{E3}) &= 2.3 \times 10^{-14} A^2 E_\gamma^7, & \Gamma_W(\text{E4}) &= 6.8 \times 10^{-21} A^{8/3} E_\gamma^9, \\ \Gamma_W(\text{M1}) &= 2.1 \times 10^{-2} E_\gamma^3, & \Gamma_W(\text{M2}) &= 1.5 \times 10^{-8} A^{2/3} E_\gamma^5. \end{aligned}$$

The values for these γ -ray strengths are occasionally different from those listed in other tables of this paper because different values of r_0 were used. In this table $r_0 = 1.2$ fm is used consistently. The multiplicities in the next to the last column were used to calculate the Γ_W . See also (1979EN05). Except for the ⁵He, ⁵Li and ⁷Li transitions, the values in the table were obtained from Table 2 of (1988AJ01).

^c See Table 6.10.

^d See Table 7.5. See also (1984MO1D).