

Table 12.7 from (1990AJ01): The decay of some ^{12}C levels ^a

E_x (MeV)	Widths	E_x (MeV)	Widths
4.44	$\Gamma_\gamma = 10.8 \pm 0.6 \text{ meV}$	15.11	$\Gamma_\gamma(15.11 \rightarrow 7.65) = 1.09 \pm 0.1 \text{ eV}^f$
7.65	$\Gamma_\pi/\Gamma = (6.8 \pm 0.7) \times 10^{-6}$		$\Gamma_\gamma(15.11 \rightarrow 12.71) = 0.59 \pm 0.14 \text{ eV}^f$
	$\Gamma_\pi = (60.5 \pm 3.9) \mu\text{eV}$		$\Gamma_\gamma = 41.8 \pm 1.2 \text{ eV}^f$
	$\Gamma_{\text{rad}}^b/\Gamma = (4.13 \pm 0.11) \times 10^{-4}$		$\Gamma_\alpha/\Gamma = 0.041 \pm 0.009^f$
	$\Gamma = 8.3 \pm 1.0 \text{ eV}$		$\Gamma_\alpha = 1.8 \pm 0.3 \text{ eV}$
	$\Gamma_{\text{rad}} = 3.7 \pm 0.5 \text{ meV}$		$\Gamma = 43.6 \pm 1.3 \text{ eV}$
9.64	$\Gamma_{\text{rad}}/\Gamma = < 4.1 \times 10^{-7}$	16.11 ^g	$\Gamma = 5.3 \pm 0.2 \text{ keV}$
	$\Gamma_{\text{rad}} < 14 \text{ meV}^c$		$\Gamma_{\gamma_0}/\Gamma_{\gamma_1} = (4.6 \pm 0.7)\%$
	$\Gamma_{\gamma_0} = (3.1 \pm 0.4) \times 10^{-4} \text{ eV}$		$\Gamma_{\gamma_1}/\Gamma = (2.42 \pm 0.29) \times 10^{-3}$
12.71	$\Gamma_{\gamma_0}/\Gamma = (1.93 \pm 0.12) \times 10^{-2}$		$\Gamma_\gamma(16.11 \rightarrow 9.64)/\Gamma_{\gamma_1} = (2.4 \pm 0.4)\%$
	$\Gamma_{\gamma_1}/\Gamma_{\gamma_0} = 0.150 \pm 0.018^d$		$\Gamma_\gamma(16.11 \rightarrow 12.71)/\Gamma_{\gamma_1} = (1.46 \pm 0.25)\%$
	$\Gamma_{\gamma_0} = 0.35 \pm 0.05 \text{ eV}$		$\Gamma_{\gamma_0} = 0.59 \pm 0.11 \text{ eV}$
	$\Gamma_{\gamma_1} = 0.053 \pm 0.010 \text{ eV}$		$\Gamma_{\gamma_1} = 12.8 \pm 1.5 \text{ eV}$
	$\Gamma = 18.1 \pm 2.8 \text{ eV}$		$\Gamma_\gamma(16.11 \rightarrow 9.64) = 0.31 \pm 0.06 \text{ eV}$
	$\Gamma_\alpha = 17.7 \pm 2.8 \text{ eV}^e$		$\Gamma_\gamma(16.11 \rightarrow 12.71) = 0.19 \pm 0.04 \text{ eV}$
15.11	$\Gamma_{\gamma_0} = 38.5 \pm 0.8 \text{ eV}^h$	16.57	$\Gamma_{\gamma_0} = (48 \pm 8) \times 10^{-3} \text{ eV}$
	$\Gamma_{\gamma_1} = 0.96 \pm 0.13 \text{ eV}^f$		

^a For references see [Table 12.8 in \(1980AJ01\)](#). See also [Tables 12.8, 12.11 and 12.15](#) here.

^b $\Gamma_{\text{rad}} \equiv \Gamma_\gamma + \Gamma_\pi$.

^c Based on $\Gamma = 34 \pm 5 \text{ keV}$: [Table 12.6](#).

^d The branching ratios for the $12.71 \rightarrow 4.44$ and $12.71 \rightarrow 0$ transitions are $(13.0 \pm 1.4)\%$ and $(87.0 \pm 1.4)\%$ respectively ([1977AD02](#)).

^e Assuming $\Gamma_\alpha + \Gamma_{\gamma_0} + \Gamma_{\gamma_1} = \Gamma$.

^f Based on Γ_{γ_0} of ([1983DE53](#)) and on branching ratios of ([1972AL03](#)): $^{12}\text{C}^*(15.11) \rightarrow ^{12}\text{C}^*(0, 4.4, 7.65, 12.71)$ are $(92 \pm 2)\%$, $(2.3 \pm 0.3)\%$, $(2.6 \pm 0.7)\%$ and $(1.4 \pm 0.4)\%$, respectively. In addition, an undetected branching of 1.6% to $^{12}\text{C}^*(10.3)$ is indicated by the β -decay work ([1972AL03](#)). See also ([1980AJ01](#)).

^g We are grateful to E.G. Adelberger for his comments.

^h ([1983DE53](#)).