

Table 18.5 from (1983AJ01): Resonances in $^{14}\text{C}(\alpha, \gamma)^{18}\text{O}$, $^{14}\text{C}(\alpha, n)^{17}\text{O}$ and $^{14}\text{C}(\alpha, \alpha)^{14}\text{C}$ ^a

E_α (MeV \pm keV)	Γ_{lab} (keV)	Particles out	$^{18}\text{O}^*$ (MeV)	J^π
1.140 \pm 2		γ	7.114	4 ⁺
1.787 \pm 4	< 3	γ	7.618	1 ⁻
2.090 \pm 5		γ	7.853	(4 ⁺ , 5 ⁻)
2.327 \pm 3	< 3	γ, α_0	8.038	1 ⁻
2.435 \pm 3		γ	8.122	5 ⁻
2.553 \pm 3	1.3 \pm 1	γ, n, α_0	8.213	2 ⁺
2.644 \pm 3	10 \pm 1	γ, n, α_0	8.284	3 ⁻
2.800 \pm 7	10 \pm 7	n	8.405	
3.330 \pm 12	90 \pm 15	n, α_0	8.817	
3.508 \pm 4	55 \pm 3	n, α_0	8.956 ^h	
4.030 \pm 15	35 \pm 20	n, (α_0)	9.362	
4.07 \pm 40	\approx 150	n, (α_0)	9.39	
4.17 \pm 40	\approx 70	n, (α_0)	9.47	
4.434 \pm 10	80 \pm 40	n, (α_0)	9.676	
4.70 \pm 40	\approx 200	n, (α_0)	9.88	
5.004 \pm 10	21 \pm 5	n, α_0	10.119	3 ⁻
5.23 ^g	b	n, α_0	10.29	4 ⁺
5.34	b	n, α_0	10.38	3 ⁻
5.60	c	n, α_0	10.58	
5.90	d	n, α_0	10.82	
6.02	d	n, α_0	10.91	
6.13	d	n, α_0	10.99	
6.30	c	n, α_0	11.13	
6.64	b	n, α_0	11.39	(2 ⁺)
6.67	b	n, α_0	11.41	(4 ⁺)
6.93	b	n, α_0	11.62	5 ⁻
7.03	b	n, α_0	11.69	6 ⁺
7.19	d	n, α_0	11.82	(3 ⁻)
7.47	d	n, α_0	12.04	(2 ⁺)
7.75	c	n, α_0	12.25	(0 ⁺ , 1 ⁻)
7.85	b	n, α_0	12.33	5 ⁻
8.06	b	n, α_0	12.50	4 ⁺

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E_α (MeV \pm keV)	Γ_{lab} (keV)	Particles out	$^{18}\text{O}^*$ (MeV)	J^π
8.10	^b	n, α_0	12.53	6^+

^a For the first four states, see also [Table 18.3](#). For references see [Table 18.5 in \(1978AJ03\)](#).

^b Γ_α , large; Γ_n , large.

^c Γ_α , small; Γ_n , small.

^d Γ_α , small; Γ_n , large.

^e Γ_α , large; Γ_n , small.

^f ([1982GA1D](#); prelim.): $\theta_\alpha^2 = < 1, 0.8$ and 20%, respectively for $^{18}\text{O}^*(8.04, 8.21, 8.28)$. See also ([1978AJ03](#)).

^g $\pm 10 - 20$ keV for this and all higher resonances (G.E. Mitchell, private communication).

^h Two states with $E_x = 9.0$ to 9.2 MeV and $J^\pi = (2^+, 3^-)$ or $(4^+, 3^-)$ are reported by ([1958WE29](#)).