

Table 18.13 from (1972AJ02): Resonances in  $^{14}\text{N} + \alpha$ 

$E_\alpha$ (MeV)	Particle out	$\Gamma_{\text{c.m.}}$ (keV)	$J^\pi; T$	$(2J+1)\Gamma_\gamma\Gamma_\alpha/\Gamma$ (eV)	$E_x$ (MeV)	Refs.
0.559	$\gamma$		1; 0	$(2.79 \pm 0.5) \times 10^{-4}$	4.851	(1971CO27)
$1.140 \pm 5$	$\gamma$		$4^+; 0$	$0.084 \pm 0.004^b$	5.303	(1968PA10, 1971CO27, 1971RO25)
$1.395 \pm 5$	$\gamma$			$0.027 \pm 0.003$	5.501	(1968PA10)
$1.531 \pm 2$	$\gamma, \alpha_0$	$< 1.2$	$1^-; 0, 1$	$4.80 \pm 0.40$	5.606	(1955PR1A, 1958AL03, 1958PH37, 1961SI09, 1968PA10, 1971CH1F)
$1.618 \pm 2$	$\gamma, \alpha_0$	$< 0.8$	$1^-; 0, 1$	$1.35 \pm 0.15$	5.674	(1955PR1A, 1958PH37, 1959WA16, 1961SI09, 1968PA10, 1971CH1F)
$2.165 \pm 3$	$\alpha_0$		2, 3, 4		6.100	(1961SI09)
$2.351 \pm 3$	$\gamma, \alpha_0$	$< 0.8$	$2^{(+)}; 1$	$\approx 9$	6.244	(1958HE54, 1958HE56, 1958PH37, 1959WA16, 1961SI09)
$2.372 \pm 3$	$\alpha_0$	$< 3$	1		6.261	(1961SI09)
$2.767 \pm 4$	$\gamma, \alpha_0$	$(< 0.8)$	$5^+; 0$	$c$	6.568	(1958HE54, 1958HE56, 1971RO25)
$2.870 \pm 4$	$\gamma, p_0$	$< 1.6$		$\approx 3$	6.648	(1958HE54, 1958HE56, 1958PH37)
$2.870 \pm 6$	$\alpha_0$	$93 \pm 5$	$1^-$	$\Gamma_\alpha/\Gamma = 0.85$	6.648	(1958HE54, 1958HE56, 1958KA32)
$3.080 \pm 6$	$p_0, \alpha_0$	$101 \pm 5$	$2^-$		6.811	(1958HE54, 1958HE56)
$3.576 \pm 4$	$\alpha_0$	$< 4$	$(4^+)$		7.197	(1958HE54, 1958HE56, 1958KA32)
3.67	$\alpha_0$	$45 \pm 10$	$(1^+)$		7.27	(1958HE54, 1958HE56, 1958KA32)
3.72	$p_0, \alpha_0$	$53 \pm 6$	$(3^-)$		7.31	(1958HE54, 1958HE56, 1958KA32)
4.00	$p_0, \alpha_0$	35	$(3^-)$		7.53	(1958KA32)
4.05	$p_0, \alpha_0$	60			7.57	(1958KA32)
4.11	$p_0, \alpha_0$	40			7.61	(1958KA32)
4.28	$p_0, \alpha_0$	120			7.74	(1958KA32)
4.50	$p_0, \alpha_0$	30	$(2^-)$		7.92	(1958KA32)
4.55	$p_0, \alpha_0$	70	$(1^+)$		7.95	(1958KA32)
5.2	$\alpha$				8.5	(1939BR1A, 1939DE1A)
$8.12 \pm 30$	$(n_1, p_1)$		$(2^-); 0$		10.73	(1969SC21)
9.5	$(n_1, p_1)$				11.8	(1969SC21)
$10.07 \pm 30$	$(n_1, p_1)$		$(2^-, 3); 0$		12.25	(1969SC21)
$10.376 \pm 15$	$\alpha_1^d$	75	$4^+$		12.484	(1966CH1E, 1970TO03)
$10.431 \pm 15$	$\alpha_1$	75	$3^-$		12.526	(1970TO03)

Table 18.13 from (1972AJ02): Resonances in  $^{14}\text{N} + \alpha$  (continued)

$E_\alpha$ (MeV)	Particle out	$\Gamma_{\text{c.m.}}$ (keV)	$J^\pi; T$	$(2J+1)\Gamma_\gamma\Gamma_\alpha/\Gamma$ (eV)	$E_x$ (MeV)	Refs.
$10.481 \pm 15^a$	$\alpha_1$	350	$2^+$		12.565	(1970TO03)
$10.632 \pm 15$	$\alpha_1$	54	$5^-$		12.683	(1970TO03)
$10.657 \pm 15$	$\alpha_1$	74	$3^-$		12.702	(1970TO03)
$11.110 \pm 15$	$\alpha_1$	37	$(4^+)$		13.054	(1970TO03)
$11.206 \pm 15$	$\alpha_1$	43	$(4^+)$		13.129	(1970TO03)
$11.295 \pm 15$	$\alpha_1$		$5^-$		13.198	(1970TO03)
$11.467 \pm 15$	$\alpha_1$	60	$5^-$		13.332	(1966CH1E, 1970TO03)
$11.553 \pm 15$	$\alpha_1$	85	$6^+$		13.398	(1970TO03)
$11.638 \pm 15$	$\alpha_1$	93	$4^+$		13.464	(1970TO03)
$11.809 \pm 15$	$\alpha_1$	100	$6^+$		13.597	(1970TO03)
$11.879 \pm 15$	$\alpha_1$	62	$3^-$		13.652	(1970TO03)
$11.904 \pm 15$	$\alpha_1$	62	$(2^+)$		13.671	(1970TO03)
$11.914 \pm 15$	$\alpha_1$	78	$4^+$		13.679	(1970TO03)
$12.044 \pm 15$	$\alpha_1$		$4^+$		13.780	(1970TO03)
$12.220 \pm 15$	$\alpha_1$		$(4^+, 2^+)$		13.917	(1970TO03)
$12.301 \pm 15$	$\alpha_1$		$5^-$		13.980	(1970TO03)
$12.535 \pm 15$	$\alpha_1$		$5^-$		14.162	(1966CH1E, 1970TO03)
$12.743 \pm 15$	$\alpha_1$	93	$4^+$		14.323	(1966CH1E, 1970TO03)
$15.56 \pm 15$	$\alpha_1$	$\approx 50$	$6^+(7^-)$		16.513	(1970TO03)
$15.68 \pm 15$	$\alpha_1$	$\approx 50$	$5^-$		16.606	(1970TO03)
$15.83 \pm 15$	$\alpha_1$	$\approx 150$	$6^+$		16.723	(1970TO03)
$16.02 \pm 15$	$\alpha_1$	$\approx 200$	$7^-$		16.870	(1970TO03)
$16.12 \pm 15$	$\alpha_1$	$\approx 150$	$6^+$		16.948	(1970TO03)
19.8	$\alpha$	broad			19.8	(1962JO14)

<sup>a</sup> May be a cluster of levels (1970TO03).

<sup>b</sup>  $\Gamma_\gamma = \Gamma_\alpha = 12 \pm 4$  meV (1971RO25).

<sup>c</sup>  $\Gamma_\gamma = 26 \pm 6$  meV,  $\Gamma_\alpha \gg \Gamma_\gamma$  (1971RO25).

<sup>d</sup> This and the following resonances are observed in the isospin-forbidden channel (H.T. Richards, private communication).