Table 20.17 from (1987AJ02): Resonances in ^{16}O(α, γ)^{20}Ne [a]

E_α (MeV ± keV)	$\Gamma_{\rm c.m.}$ (keV)	$\omega\gamma$ [b] (eV)	$E_{\rm x}$ (MeV ± keV)	J^π; T
1.116 ± 4	2.6×10^{-6} [d]	$(1.7 \pm 0.3) \times 10^{-3}$	5.627 ± 4	3^-; 0
1.3174 ± 2.2 [c]	$(2.8 \pm 0.3) \times 10^{-2}$ [d]	$(1.7 \pm 0.3) \times 10^{-2}$ [l]	5.7877 ± 3.0	1^-; 0
2.490 ± 8	20 ± 3 [d,m]	$(7.1 \pm 1.2) \times 10^{-2}$ [m]	6.726 ± 6	0^+; 0
3.0359 ± 2.3 [c]	8.2 ± 0.3 [l]		7.1563 ± 0.5	3^-; 0
3.069	4	$(4.4 \pm 0.8) \times 10^{-3}$	7.189 ± 3	0^+; 0
3.359	8	0.146 ± 0.019	7.421 ± 1	2^+; 0
3.868	2.4	0.343 ± 0.035	7.828 ± 3	2^+; 0
(4.647 ± 3)			(8.451 ± 3)	$(5^-$; 0)
4.969 ± 9	2.1 ± 0.8	0.21 ± 0.05	8.708 ± 7	1^-; 0
5.05	< 3	1.35 ± 0.15	8.776 ± 3.2	6^+; 0
5.364	3.2	3.05 ± 0.38	9.024 ± 3	4^+; 0
5.477 ± 4	< 4	0.18 ± 0.02	9.114 ± 3	3^-; 0
5.94 ± 30	29 ± 15	1.3 ± 0.5	9.48 ± 24	2^+; 0
6.61 ± 30	155 ± 30	8 ± 3	10.02 ± 24	(4^+); 0
6.924 ± 7 [k]	≤ 1	19.5 ± 1.5 [e]	10.271 ± 7 [f]	2^+; 1
7.948 ± 4	< 1	30.2 ± 3.5	11.090 ± 3	4^+; 1
8.180 ± 5 [g]	< 1	2.06 ± 0.25 [h]	11.276 ± 4	1^-; 1
8.535 ± 6	1.3 ± 0.8	0.41 ± 0.05	11.559 ± 6	0^+; 0 [j]
8.994 ± 8	< 1	0.23 ± 0.05 [i]	11.926 ± 6	4^+; 0
9.02		0.131 ± 0.018	11.950 ± 4	8^+; 0
(9.05 ± 50)	< 40		(11.97)	
(9.15 ± 50)	< 40		(12.05)	
9.362 ± 5	< 1	1.41 ± 0.23	12.221 ± 4	2^+; 1
9.406 ± 4	< 1	6.6 ± 0.8 [g]	12.256 ± 3	3^-; 1
9.57 ± 10	33 ± 4	1.94 ± 0.15	12.39	3^-; (1)
9.70 ± 30	≤ 10	0.17 ± 0.05	12.49	

[a] For complete references see Tables 20.22 in (1978AJ03) and 20.20 in (1983AJ01). See also Table 20.18 here.

[b] $\omega\gamma = (2J+1)\Gamma_\alpha\Gamma_\gamma/\Gamma$.

[c] The strength of the γ-decay of ^{20}Ne*(7.16) to ^{20}Ne*(5.79) (see Table 20.14) is strong evidence that these two states are members of the $K^\pi = 0^-$ band.

[d] This is also Γ_α.

[e] Other values are $\omega\gamma = 19.2 \pm 1.9$ eV; $\Gamma_\alpha = 116 \pm 20$ eV; $\Gamma_\gamma = 4.26 \pm 0.23$ eV: see (1983AJ01).

[f] The measurements of the decay of this state lead to $E_x = 4247.9 \pm 1.3$, 4966.0 ± 1.9, 5621.0 ± 3.5, 7423.1 ± 3.0, 7828.1 ± 3.8 and 8776.7 ± 2.3 keV.

[g] See also Table 20.20 in (1983AJ01).

[h] The γ-decay is partly (see Table 20.14) to a state at $E_x = 9318 \pm 2$ keV. The strength of this transition and the subsequent decay to ^{20}Ne*(1.63) (and not to the ground state) favor 2^- for ^{20}Ne*(9.32). The other M1 transition [$11.27 \rightarrow 8.85$] is also strong suggesting similar structures for ^{20}Ne*(8.85, 9.32) (1980FI01).

[i] Also observed as a resonance in the yield of 6.13 MeV γ-rays with $(2J+1)\Gamma_{\alpha_0}\Gamma_{\alpha_2}/\Gamma = 5.2 \pm 0.9$ eV (1980FI01).

[j] From (α, α_0): see (1984RI07).

[k] See also (1984RO04).

[l] Best value including the recent work by (1987HA24).

[m] (1987HA24).