

Table 20.19 from (1978AJ03): Radiative decays in ^{20}Ne ^a

E_i (MeV)	$J_i^\pi; T$	E_f (MeV)	Branch (%)	Γ_γ (meV)	$ M ^2$ (W.u.)	Refs.
1.63	$2^+; 0$	0	100		17.8 ± 2.5 (E2)	(1971HA26)
4.25	$4^+; 0$	1.63	≈ 100		21.9 ± 2.1 (E2)	(1971HA26)
4.97	$2^-; 0$	0	0.6 ± 0.2		$(2.5 \pm 0.9) \times 10^{-3}$ (M2)	(1967BR22, 1971HA26)
		1.63	99		$(7.0 \pm 1.0) \times 10^{-6}$ (E1)	(1971HA26)
					$(1.7 \pm 0.7) \times 10^{-2}$ (M2) ^b	(1971HA26)
					6 ± 5 (E3) ^c	(1971HA26)
5.62	$3^-; 0$	0	7.6 ± 1.0		10.6 ± 2.7 (E3)	(1964BR18, 1971HA26)
		1.63	87.6 ± 1.0		$(6.6 \pm 1.5) \times 10^{-6}$ (E1)	(1964BR18, 1971HA26)
		4.97	4.8 ± 1.6		35 ± 9 (E2)	(1971HA26)
5.78	$1^-; 0$	0	18 ± 5		7.2×10^{-6} (E1)	(1965VA14)
		1.63	82 ± 5	4.0	9.2×10^{-5} (E1)	(1965VA14)
6.72	$0^+; 0$	0			7.4 ± 2.0 fm ² ^o	(1972MI06)
		1.63	100	33	3.8 (E2)	(1965VA14)
7.00	$4^-; 0$	1.63	0.5 ± 0.2			(1967BR22)
		4.25	63.5		$(1.7 \pm 0.4) \times 10^{-5}$ (E1)	(1967BR22, 1971HA26)
		4.97	11		10.4 ± 1.8 (E2)	(1967BR22, 1971HA26)
		5.62	25		24 ± 5 (E2)	(1967BR22, 1971HA26)
7.19	$0^+; 0$	0		$\Gamma_\pi = 3.9 \times 10^{-2}$	6.9 ± 1.4 fm ² ^o	(1972MI06, 1973SI31)
		1.63	100	4.35 ± 0.75	0.37 ± 0.07 (E2)	(1972AL32)
7.42	$2^+; 0$	0	$\leq 9.4 \pm 1.4$	$\leq 3.0 \pm 0.6$	$\leq 0.05 \pm 0.01$ (E2) ^p	(1972AL32)
		1.63	$\geq 90.6 \pm 1.4$ ^d	29 ± 4	1.65 ± 0.27 (E2)	(1972AL32)
					$(1.0 \pm 0.3) \times 10^{-4}$ (M1)	(1972AL32)
		4.25	≤ 7.6		< 2.6 (E2)	(1972AL32)
7.83	$2^+; 0$	0	83 ± 1	57 ± 7	0.73 ± 0.09 (E2) ^p	(1972AL32)

Table 20.19 from (1978AJ03): Radiative decays in ^{20}Ne ^a (continued)

E_i (MeV)	$J_i^\pi; T$	E_f (MeV)	Branch (%)	Γ_γ (meV)	$ M ^2$ (W.u.)	Refs.
		1.63	17 ± 1	11.7 ± 1.6	0.48 ± 0.07 (E2)	(1972AL32)
		4.25	< 3	< 2	< 1.3 (E2)	(1972AL32)
8.45	$5^-; 0$	5.62	100	13 ± 3	26 ± 6 (E2)	(1971RO33)
8.78	$6^+; 0$	4.25	100	100 ± 15	20.4 ± 2.4 (E2)	(1971DI08, 1971RO13)
9.03	$4^+; 0$	1.63	100	340 ± 42	5.8 ± 0.7 (E2)	(1972AL32)
		4.25	< 2	< 6.8	< 1 (E2)	(1972AL32)
9.51	$2^+; 0$	0		$\lesssim 60$	$\lesssim 0.3$ (E2)	(1964PE05)
		1.63	(100)	260 ± 100	3.2 (E2)	(1964PE05)
					0.03 (M1)	(1964PE05)
9.87	$3^+; 0$	0	< 0.5			(1977MA07)
		1.63	78	e		(1977MA07)
		4.25	12 ± 3			(1977MA07)
		4.97	≤ 5			(1977MA07)
		5.63	≈ 7			(1977MA07)
		7.42	≈ 3			(1977MA07)
9.92	$(1^+); 0$	1.63	78 ± 5			(1976FI10)
		4.97	22 ± 5			(1976FI10)
9.99	$4^+; 0$	0		$\lesssim 70$		(1964PE05)
		1.63	(100)	900 ± 400	6.9 (E2)	(1964PE05)
10.27 ^f	$2^+; 1$	0	0.65 ± 0.14	29 ± 8	0.10 ± 0.03 (E2)	(1977FI08)
		1.63	88.9 ± 0.5	4080 ± 440	0.31 ± 0.03 (M1)	(1977FI08)
		4.97	1.3 ± 0.1	60 ± 8	$(8.3 \pm 1.0) \times 10^{-4}$ (E1)	(1977FI08)
		5.62	2.1 ± 0.2	97 ± 14	$(2.0 \pm 0.3) \times 10^{-3}$ (E1)	(1977FI08)
		7.42	6.9 ± 0.4	310 ± 40	0.65 ± 0.008 (M1)	(1977FI08)

Table 20.19 from (1978AJ03): Radiative decays in ^{20}Ne ^a (continued)

E_i (MeV)	$J_i^\pi; T$	E_f (MeV)	Branch (%)	Γ_γ (meV)	$ M ^2$ (W.u.)	Refs.
10.61 ^g	$6^-; 0$	7.83	0.22 ± 0.06	8 ± 2	0.027 ± 0.006 (M1)	(1977FI08)
		7.00	95.5 ± 1.2		17_{-4}^{+7} (E2)	(1971HA26)
		8.45	4.5 ± 1.2		10 ± 4 (E2)	(1971HA26)
10.69	$4^-, 3^+; 0$	4.25	25 ± 4			(1976FI10)
		4.97	75 ± 4			(1976FI10)
10.89	$3^+; 1$	1.63	26 ± 3			(1971HA26, 1976FI10)
		4.25	74 ± 3	h		(1971HA26, 1976FI10)
11.07	$4^+; 1$	1.63	≤ 2	$\lesssim 80$	$\lesssim 0.4$ (E2)	(1964PE05)
		4.25	(100)	4800 ± 500	0.72 (M1), 7.3 (E2)	(1964PE05)
				3400 ± 300	0.50 (M1)	(1978ST08)
11.26 ^f	$1^-; 1$	7.00		$\lesssim 1400$	$\lesssim 0.04$	(1964PE05)
		0	≈ 70	190 ± 20	2.8×10^{-4} (E1)	(1978ST08)
11.53 ⁱ	$3^+, 4^-; 0$	1.63	≈ 30			(1978ST08)
		4.25	30 ± 3 ⁿ			(1971HA26, 1976FI10)
11.55	$(2^+, 0^+)$	4.97	70 ± 3 ⁿ			(1971HA26, 1976FI10)
		7.00	j			
		1.63	≈ 70	80 ± 10 ⁿ	3.9×10^{-3} (M1)	(1978ST08)
11.56 ⁱ	$1^+, 2^-, 3^+; 0$	4.25	≈ 30			(1978ST08)
		1.63	j,n			(1976FI10)
11.66	(3^+)	7.00	j,n			(1976FI10)
		1.63	14 ± 3			(1976FI10)
11.95	$8^+; 0$	4.25	86 ± 3			(1976FI10)
		8.78	100	12 ± 3	7.5 ± 2.5 (E2)	(1972AL05)
12.22	$2^+; 1$	1.63	100	k		(1964PE05, 1977MA07)

Table 20.19 from (1978AJ03): Radiative decays in ^{20}Ne ^a (continued)

E_i (MeV)	$J_i^\pi; T$	E_f (MeV)	Branch (%)	Γ_γ (meV)	$ M ^2$ (W.u.)	Refs.		
12.39	$3^-; (1)$	0	≈ 1	280 ± 20	1.1×10^{-3} (E1)	(1978ST08)		
		1.63	≈ 29			(1978ST08)		
		4.25	≈ 70			(1978ST08)		
12.49	$1^+; 1$	1.63	100	$\approx 5000^1$	< 1.3 (E2) ¹	(1978ST08)		
13.48		1.63	95			(1961GO21)		
		4.97	5			(1961GO21)		
13.89		1.63	20			(1961GO21)		
		4.97	80			(1961GO21)		
16.73	$0^+; 2$	1.63		$\approx 5000^1$	$< 4.2 \times 10^{-3}$ (E1) ¹	(1976MA01)		
		5.78				(1976MA01)		
18.43	$2^+; 2$	11.23	(100)	$\approx 5000^1$	$< 1.4 \times 10^{-3}$ (E2)	(1967KU06)		
		0				m	(1976MA01)	
		1.63				m	(1976MA01)	
		4.25					$< 5.4 \times 10^{-4}$ (M1)	(1976MA01)
		4.97					$< 2.9 \times 10^{-2}$ (E2)	(1976MA01)
		5.62					$< 5.1 \times 10^{-5}$ (E1)	(1976MA01)
		5.78					$< 6.6 \times 10^{-5}$ (E1)	(1976MA01)
		7.19					$< 5.8 \times 10^{-5}$ (E1)	(1976MA01)
		7.42					$< 9.9 \times 10^{-5}$ (E1)	(1976MA01)
	12.22	(100)	≈ 300	$< 3.7 \times 10^{-3}$ (M1)	(1976MA01)			
					(1972KU24)			

- ^a See also [Table 20.17 in \(1972AJ02\)](#) and [Tables 20.22 and 20.26](#) here.
- ^b From $\delta(M2/E1) = 0.076 \pm 0.011$ ([1967BR22](#)).
- ^c From $\delta(E3/E1) = 0.043 \pm 0.016$ ([1967BR22](#)).
- ^d $\delta(E2/M1) = -8.36^{+1.0}_{-1.5}$.
- ^e $\Gamma_{\gamma}(\text{total})/\Gamma = 0.82 \pm 0.27$. See also ([1976FI10](#)).
- ^f See also ([1964PE05](#), [1976IN05](#)).
- ^g See also ([1976FI10](#)).
- ^h $\Gamma_{\gamma}(\text{total})/\Gamma < 0.3$ ([1977MA07](#)).
- ⁱ See also ([1977MA07](#)).
- ^j See discussion in ([1976FI10](#)).
- ^k $\Gamma_{\gamma}(\text{total})/\Gamma \geq 0.25$; upper limits for transitions to $^{20}\text{Ne}^*(0, 4.25, 4.97)$ are 1.5, 3 and 4% ([1977MA07](#)). See also ([1978ST08](#)).
- ^l See, however, footnote ^a in [Table 2 of \(1976MA01\)](#).
- ^m See also ([1972KU24](#)).
- ⁿ If $J = 2$.
- ^o Monopole matrix element.
- ^p See also ([1972MI06](#)).