^{20}Ne(α,α),(α,α'):Resonances 1991Ab05,1992Da10,1954Go70

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia, Anagha Chakraborty	NDS 186, 2 (2022)	31-Mar-2022

Other: 2018Ba38.

1991Ab05: ^{20}Ne(α,α) E=3.8-11 MeV in steps of ≤15 keV; measured $\sigma(\theta)$ vs E; deduced level energies, Γ_0/γ, Γ.
1992Da10: ^{20}Ne(α,α') E=5.6-11 MeV in steps of 10 and 15 keV; measured $\sigma(\theta)$ vs E; deduced level energies, spin, parity. The author of 1992Da10 is a coauthor in 1991Ab05.
1954Go70: ^{20}Ne(α,α) E=2.0-4.0 MeV; measured elastic α particles at 78.7°, 114.2°, 131.8°, and 167.3° with respect to the incident beam direction; deduced level energies, spin, parity, reduced width, etc.
2018Ba38: ^{4}He(^{20}Ne,α) E=13 MeV/nucleon; measured Eα, $\alpha(\theta)$, $\alpha\alpha$-coin, and differential $\sigma(\theta)$. Reconstructed ^{24}Mg excited state at about 34 MeV close to the predicted 33.42 MeV analogous to the ^{12}C Hoyle state in ^{24}Mg.

^{24}Mg Levels

E(level)[†]	Jπ[&]	$\Gamma_{c.m.}$[e]	Comments
11390 *5*	1^{-}[d]		Eα=2488 *5* (Lab) (1954Go70).
11460 *5*	0^{+}[d]		Eα=2573 *5* (Lab) (1954Go70).
11526 *5*	2^{+}[d]		Eα=2652 *5* (Lab) (1954Go70).
11735 *5*	0^{+}[d]		Eα=2903 *5* (Lab) (1954Go70).
11868 *5*	1^{-}[d]	8[f] keV *2*	Eα=3062 *5* (Lab) (1954Go70).
11969 *5*	2^{+}[d]		Eα=3184 *5* (Lab) (1954Go70).
12273 *5*	3^{-}[d]		Eα=3548 *5* (Lab) (1954Go70).
12466 *5*	[d]	5[f] keV *1*	Eα=3780 *5* (Lab) (1954Go70). Jπ: 1^{-} in 1954Go70. In Adopted Levels 2^{+}.
12484 *5*	2^{+}[d]		Eα=3801 *5* (Lab) (1954Go70).
12515 *5*	4^{+}[a]	≤8 keV	Eα=3839 *5* (Lab) (1954Go70). Other: Eα=3883 in Table I (1991Ab05) appears to be a typo, since excitation energy is listed as 12504. Eα=3883 and Q=9309 (in 1991Ab05) yields excitation energy of 12552. From the excitation energy of 12504, one gets Eα=3834.
12587 *2*	2^{+}	5.2 keV *9*	Eα=3922 *2* (Lab) (1991Ab05). Other: Eα=3923 *5* (Lab) (1954Go70). $\Gamma_{c.m.}$: Other value 6 keV 1 from 1954Go70. Γ_α/Γ=0.72 *4* (1991Ab05).
12658?			Eα=(4010) (Lab) (1991Ab05).
12733 *10*			Eα=4100 *10* (Lab) (1991Ab05).
12744 *1*	2^{+}	11 keV *2*	Eα=4114 *1* (Lab) (1991Ab05). Γ_α/Γ=0.74 *6* (1991Ab05).
12747 *2*	(4^{+})	2 keV *2*	Eα=4117 *2* (Lab) (1991Ab05). Γ_α/Γ=0.18 *4* (1991Ab05).
12777 *7*		34 keV *18*	Eα=4153 *7* (Lab) (1991Ab05). Γ_α/Γ=0.40 *14* (1991Ab05). Jπ: 0^{+} in 1991Ab05. In Adopted Levels 2^{+}.
12784 *2*	1^{-}	28 keV *4*	Eα=4161 *2* (Lab) (1991Ab05). Γ_α/Γ=0.66 *6* (1991Ab05).
12816?			Eα=(4200) (Lab) (1991Ab05). Jπ: (even) from visual inspection (1991Ab05).
12983 *10*	4^{+}[a]	≤8 keV	Eα=4400 *10* (Lab) (1991Ab05).
13005?[@]	(6^{+})[a]	≈10 keV	Eα=(4427) (Lab) (1991Ab05).
13048?		≤10 keV	Eα=(4478) (Lab) (1991Ab05). Jπ: (odd) from visual inspection (1991Ab05).
13095 *2*	2^{+}	14 keV *3*	Eα=4535 *2* (Lab) (1991Ab05). Γ_α/Γ=0.53 *7* (1991Ab05).

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^{20}Ne(α,α),(α,α'):Resonances 1991Ab05,1992Da10,1954Go70 (continued)

^{24}Mg Levels (continued)

E(level)[†]	J$^\pi$[&]	$\Gamma_{c.m.}$[e]	L	Comments
13194 *2*	2^+	12 keV *3*		Eα=4654 *2* (Lab) (1991Ab05). Γ_α/Γ=0.59 *8* (1991Ab05).
13206 *2*	4^+	14 keV *3*		Eα=4668 *2* (Lab) (1991Ab05). Γ_α/Γ=0.57 *6* (1991Ab05).
13344 *1*		42 keV *3*		Eα=4834 *1* (Lab) (1991Ab05). $\Gamma_\alpha/\Gamma \approx 1.00$ − strength actually exceeds 1 (1.3 *5*), but may be due to another resonance, 1991Ab05 noted. J$^\pi$: 0^+ for doublet (1991Ab05).
13420 *10*	(4^+)[a]	≈4 keV		Eα=4925 *10* (Lab) (1991Ab05).
13428 *10*		≈8 keV		Eα=4935 *10* (Lab) (1991Ab05). J$^\pi$: (odd) from visual inspection (1991Ab05).
13439?[@]				Eα=(4948) (Lab) (1991Ab05). J$^\pi$: (even) from visual inspection (1991Ab05). $\Gamma_{c.m.}$ narrow (1991Ab05).
13441 *10*		≈17 keV		Eα=4950 *10* (Lab) (1991Ab05).
13589 *2*	1^-	33 keV *5*		Eα=5128 *2* (Lab) (1991Ab05). Γ_α/Γ=0.44 *4* (1991Ab05).
13687 *10*		≤13 keV		Eα=5245 *10* (Lab) (1991Ab05). Γ_α/Γ weak (1991Ab05).
13708	(3^-)[a]	≈130 keV		Eα=5270 (Lab) (1991Ab05).
13738 *1*	2^+	13 keV *3*		Eα=5307 *1* (Lab) (1991Ab05). Γ_α/Γ=0.42 *5* (1991Ab05).
13786 *10*	(4^+)[a]	≈21 keV		Eα=5364 *10* (Lab) (1991Ab05).
13868 *10*	(6^+)[a]	<8 keV		Eα=5463 *10* (Lab) (1991Ab05).
13890 *3*	2^+	32 keV *8*		Eα=5489 *3* (Lab) (1991Ab05). Γ_α/Γ=0.26 *3* (1991Ab05).
13910 *1*	4^+	18 keV *3*		Eα=5513 *1* (Lab) (1991Ab05). Γ_α/Γ=0.42 *2* (1991Ab05).
14007 *10*				Eα=5630 *10* (Lab) (1991Ab05). J$^\pi$: (even, not 2^+,4^+) from visual inspection (1991Ab05).
14037 *2*	1^-	21 keV *4*		Eα=5665 *2* (Lab) (1991Ab05). Γ_α/Γ=0.57 *7* (1991Ab05).
14060 *10*	$(0^+,4^+)$[a]	<4 keV		Eα=5693 *10* (Lab) (1991Ab05). Γ_α/Γ weak (1991Ab05).
14077?	$2^+,4^+$[c]	≈17 keV	2[c]	Eα=(5713) (Lab) (1991Ab05); Other: 14079 from Eα=5715 (Lab) (1992Da10). J$^\pi$: even (not 2^+) from visual inspection (1991Ab05). $\Gamma_{c.m.}$: Other: 21 keV (1992Da10 − α_1). Γ_α/Γ weak (1991Ab05).
14091?[@]		≈4 keV		Eα=(5730) (Lab) (1991Ab05).
14097?		≈21 keV		Eα=(5737) (Lab) (1991Ab05).
14165 *1*	4^+	11.1 keV *19*	2[c]	Eα=5819 *1* (Lab) (1991Ab05); Other: 14142 from Eα=5790 (Lab) (1992Da10). $\Gamma_{c.m.}$: Other: ≤13 keV (1992Da10 − α_1). Γ_α/Γ=0.39 *5* (1991Ab05).
14264 *1*	4^+	16 keV *2*	2[c]	Eα=5938 *1* (Lab) (1991Ab05); Other: 14246 from Eα=5915 (Lab) (1992Da10). $\Gamma_{c.m.}$: Other: ≤13 keV (1992Da10 − α_1). Γ_α/Γ=0.69 *5* (1991Ab05).
14355 *12*	(3^-)	112 keV *29*		Eα=6047 *12* (Lab) (1991Ab05); Other: 14325 from Eα=6010 (Lab) (1992Da10). $\Gamma_{c.m.}$: Other: ≈167 keV (1992Da10 − α_1). Γ_α/Γ=0.33 *5* (1991Ab05).
14397 *2*	4^+	12 keV *3*	2[c]	Eα=6097 *2* (Lab) (1991Ab05); Other: 14369 from Eα=6063 (Lab) (1992Da10). $\Gamma_{c.m.}$: Other: ≤13 keV (1992Da10 − α_1). Γ_α/Γ=0.42 *7* (1991Ab05).
14461 *10*	4^+[a]	46 keV	2[c]	Eα=6174 *10* (Lab) (1991Ab05); Other: 14432 from Eα=6138 (Lab) (1992Da10). $\Gamma_{c.m.}$: Other: 42 keV (1992Da10 − α_1). Γ_α/Γ=0.40-0.50 (1991Ab05).
14568 *10*	$(3^-,5^-)$[c]	<13 keV	(3)[c]	Eα=6303 *10* (Lab) (1991Ab05); Other: 14608 from Eα=6350 (Lab) (1992Da10).

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^{20}Ne(α,α),(α,α′):Resonances 1991Ab05,1992Da10,1954Go70 (continued)

^{24}Mg Levels (continued)

E(level)†	Jπ&	Γc.m.e	L	Comments
				Jπ: odd (not 3) from visual inspection (1991Ab05).
				Γc.m.: Other: ≤13 keV (1992Da10 − α_1).
				Γα/Γ weak (1991Ab05).
14582 *10*		61 keV		Eα=6320 *10* (Lab) (1991Ab05).
				Jπ: odd (not 5) from visual inspection (1991Ab05).
14648 *6*	6^+	11 keV *9*	4^c	Eα=6399 *6* (Lab) (1991Ab05); Other: 14669 from Eα=6423 (Lab) (1992Da10).
				Γc.m.: Other: ≤15 keV (1992Da10 − α_1).
				Γα/Γ=0.05 *3* (1991Ab05).
14696 *1*	5^-	9 keV *1*	3^c	Eα=6456 *1* (Lab) (1991Ab05); Other: 14712 from Eα=6475 (Lab) (1992Da10).
				Γc.m.: Other: 21 keV (1992Da10 − α_1).
				Γα/Γ=0.78 *5* (1991Ab05).
14745 *10*	4^+[a]	13 keV		Eα=6515 *10* (Lab) (1991Ab05); Other: 14767 from Eα=6540 (Lab) (1992Da10).
				Γc.m.: Other: ≤21 keV (1992Da10 − α_1).
				Γα/Γ=0.40 (1991Ab05).
14870?@	(2^+)[a]	≤13 keV		Eα=(6665) (Lab) (1991Ab05).
14882?@		≈121 keV		Eα=(6680) (Lab) (1991Ab05).
14928 *10*	$(0^+,1^-)$[a]	≈10 keV		Eα=6735 *10* (Lab) (1991Ab05).
14995 *10*	$(4^+,5^-)$[a]	≈20 keV		Eα=6815 *10* (Lab) (1991Ab05); Other: 14977 from Eα=6793 (Lab) (1992Da10).
				Jπ: $3^-,5^-$ from L=3 in 1992Da10.
				Γc.m.: Other: ≤13 keV (1992Da10 − α_1).
15117 *10*	4^+[a]	15 keV		Eα=6962 *10* (Lab) (1991Ab05); Other: 15115 from Eα=6958 (Lab) (1992Da10).
				Γc.m.: Other: ≤13 keV (1992Da10 − α_1).
15141 *10*	4^+[a]	15 keV		Eα=6990 *10* (Lab) (1991Ab05).
15179 *3*	4^+	57 keV *7*		Eα=7036 *3* (Lab) (1991Ab05).
				Γα/Γ=0.44 *3* (1991Ab05).
15214 *1*	5^-	36 keV *3*		Eα=7078 *1* (Lab) (1991Ab05); Other: 15217 from Eα=7080 (Lab) (1992Da10).
				Γc.m.: Other: 33 keV (1992Da10 − α_1).
				Γα/Γ=0.73 *3* (1991Ab05).
15233 *3*	4^+	27 keV *6*		Eα=7101 *3* (Lab) (1991Ab05).
				Γα/Γ=0.24 *3* (1991Ab05).
15266 *10*	$(1^-,3^-)$	≈8 keV		Eα=7140 *10* (Lab) (1991Ab05).
15316?@				Eα=(7200) (Lab) (1991Ab05).
15354 *3*	4^+	21 keV *4*		Eα=7246 *3* (Lab) (1991Ab05); Other: 15372 from Eα=7267 (Lab) (1992Da10).
				Γc.m.: Other: 25 keV (1992Da10 − α_1).
				Γα/Γ=0.49 *5* (1991Ab05).
15385 *3*	4^+	31 keV *7*		Eα=7283 *3* (Lab) (1991Ab05).
				Γα/Γ=0.39 *5* (1991Ab05).
15443 *10*	(2^+)[a]	13 keV		Eα=7353 *10* (Lab) (1991Ab05).
15484 *10*	(2^+)[a]	15 keV		Eα=7402 *10* (Lab) (1991Ab05).
15533 *1*	6^+	18 keV *2*		Eα=7461 *1* (Lab) (1991Ab05); Other: 15517 from Eα=7440 (Lab) (1992Da10).
				Γc.m.: Other: 21 keV (1992Da10 − α_1).
				Γα/Γ=0.36 *2* (1991Ab05).
15566?@				Eα=(7500) (Lab) (1991Ab05).
15611 *3*	2^+	31 keV *8*		Eα=7554 *3* (Lab) (1991Ab05).
				Γα/Γ=0.25 *4* (1991Ab05).
15691 *10*	(0^+)[a]	≤15 keV		Eα=7650 *10* (Lab) (1991Ab05), (1992Da10).
				Γc.m.: Other: 21 keV (1992Da10 − α_1).
15716 *10*	(4^+)[a]			Eα=7680 *10* (Lab) (1991Ab05).
15793 *10*	4^+[a]	13 keV	2^c	Eα=7773 *10* (Lab) (1991Ab05); Other: 15783 from Eα=7760 (Lab) (1992Da10).
				Γc.m.: Other: 33 keV (1992Da10 − α_1).
15828 *10*		87 keV		Eα=7815 *10* (Lab) (1991Ab05), (1992Da10 − α_2).
				Jπ: odd from visual inspection (1991Ab05).
				Γc.m.: Other: 21 keV (1992Da10 − α_2).
15853 *10*		<13 keV		Eα=7845 *10* (Lab) (1991Ab05).
				Γα/Γ weak (1991Ab05).

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^{20}Ne(α,α),(α,α′):Resonances 1991Ab05,1992Da10,1954Go70 (continued)

^{24}Mg Levels (continued)

E(level)[†]	Jπ[&]	Γc.m.[e]	L	Comments
15886 *10*	4+[a]	42 keV		Eα=7885 *10* (Lab) (1991Ab05).
15978	1−,3−	≈35 keV	1[c]	Eα=7995 (Lab) (1991Ab05); Others: 15983 from Eα=8000 (Lab) and 15979 from Eα=7995 (Lab) (1992Da10 − α_1 and α_2, respectively). Two levels with same energy (1991Ab05). Jπ: odd from visual inspection (1991Ab05). Γc.m.: Others: 21 and ≤13 keV (1992Da10 − α_1 and α_2).
15978?				Eα=(7995) (Lab) (1991Ab05). E(level): Not referenced in Adopted Levels. Jπ: (even) from visual inspection (1991Ab05). Γc.m. narrow (1991Ab05).
16136 *10*	(3−)[a]	29 keV		Eα=8185 *10* (Lab) (1991Ab05).
16170 *10*	4+,6+[c]	<8 keV	4[c]	Eα=8225 *10* (Lab) (1991Ab05); Other: 16192 from Eα=8250 (Lab) (1992Da10). Γc.m.: Other: ≤13 keV (1992Da10 − α_1).
16203 *10*	6+[a]	8 keV		Eα=8265 *10* (Lab) (1991Ab05).
16278 *10*	4+[a]	30 keV		Eα=8355 *10* (Lab) (1991Ab05).
16309 *10*		10 keV		Eα=8392 *10* (Lab) (1991Ab05). Jπ: even from visual inspection (1991Ab05).
16333	4+,6+[c]		4[c]	Eα=8420 (Lab) (1992Da10); Other: 16324 from Eα=(8410) (Lab) (1991Ab05). Γc.m.: ≤8 keV (1992Da10 − α_1). Γc.m. narrow and Γ_α/Γ weak (1991Ab05). Γc.m. ≤8 keV (1992Da10 − α_1).
16343 *10*	(4+)[ab]	13 keV		Eα=8433 *10* (Lab) (1991Ab05).
16395 *4*	2+	37 keV *10*		Eα=8496 *4* (Lab) (1991Ab05). Γ_α/Γ=0.43 *6* (1991Ab05).
16440 *10*	7−[a]	10 keV		Eα=8550 *10* (Lab) (1991Ab05); Other: 16458 from Eα=8570 (Lab) (1992Da10 − α_2). Γc.m.: Other: 21 keV (1992Da10 − α_2).
16477 *1*	6+	8 keV *2*	(4)[c]	Eα=8594 *1* (Lab) (1991Ab05); Other: 16468 from Eα=8582 (Lab) (1992Da10). Γ_α/Γ=0.58 *6* (1991Ab05).
16529 *2*	6+	31 keV	4[c]	Eα=8656 *2* (Lab) (1991Ab05); Other: 16527 from Eα=8652 (Lab) (1992Da10). Γ_α/Γ=0.63 *5* (1991Ab05).
16564[‡] *10*				Eα=8699 *10* (Lab) (1992Da10 − α_1).
16605 *10*	4+[a]	30 keV		Eα=8747 *10* (Lab) (1991Ab05).
16611 *10*	(5−)[a]	≤8 keV		Eα=8755 *10* (Lab) (1991Ab05).
16674 *10*		30 keV		Eα=8830 *10* (Lab) (1991Ab05); Other: 16650 from Eα=8800 (Lab) (1992Da10 − α_2). Jπ: (even) for doublet from visual inspection (1991Ab05). Γc.m.: Other: 17 keV (1992Da10 − α_2).
16740?[@]		≤8 keV		Eα=(8910) (Lab) (1991Ab05). Jπ: (odd) from visual inspection (1991Ab05).
16782 *10*	(4+,6+)[ab]	30 keV		Eα=8960 *10* (Lab) (1991Ab05); Other: 16785 from Eα=8962 (Lab) (1992Da10 − α_2). Γc.m.: Other: 33 keV (1992Da10 − α_2).
16844 *10*	(6+)[ab]	22 keV		Eα=9035 *10* (Lab) (1991Ab05); Other: 16845 from Eα=9034 (Lab) (1992Da10). Γc.m.: Other: ≤8 keV (1992Da10 − α_1).
16874 *6*	(5−)	73 keV *17*		Eα=9071 *6* (Lab) (1991Ab05). Γ_α/Γ=(0.32 *4* (1991Ab05).
16929 *3*	6+	44 keV *6*		Eα=9137 *3* (Lab) (1991Ab05); Others: 16928 from Eα=9134 (Lab) and 16912 from Eα=9115 (Lab) (1992Da10 − α_1 and α_2, respectively). Γc.m.: Other: ≤8 keV (1992Da10 − α_1).

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^{20}Ne(α,α),(α,α′):Resonances 1991Ab05,1992Da10,1954Go70 (continued)

^{24}Mg Levels (continued)

E(level)[†]	Jπ[&]	Γc.m.[e]	Comments
			Γ_α/Γ=0.46 *3* (1991Ab05).
17017 *3*	7⁻	15 keV *10*	Eα=9242 *3* (Lab) (1991Ab05); Other: 17017 from Eα=9240 (Lab) (1992Da10). Γc.m.: Other: ≤8 keV (1992Da10 − α_1). Γ_α/Γ=0.15 *4* (1991Ab05).
17088 *3*	6⁺	44 keV *6*	Eα=9327 *3* (Lab) (1991Ab05); Others: 17100 from Eα=9340 (Lab) and 17075 from Eα=9310 (Lab) (1992Da10 − α_1 and α_2, respectively). Jπ: (5⁻,7⁻) from (5) (1992Da10). Γc.m.: Others: ≈42 and 37 keV (1992Da10 − α_1 and α_2). Γ_α/Γ=0.35 *3* (1991Ab05).
17140 *2*	5⁻	26 keV *6*	Eα=9390 *2* (Lab) (1991Ab05). Γ_α/Γ=0.24 *3* (1991Ab05).
17199?[@]		≤8 keV	Eα=(9460) (Lab) (1991Ab05). Jπ: (not 4⁺, not 6⁺, odd) from visual inspection (1991Ab05).
17227 *2*	4⁺	17 keV *3*	Eα=9494 *2* (Lab) (1991Ab05). Γ_α/Γ=0.29 *4* (1991Ab05).
17299?[@]		≈46 keV	Eα=(9580) (Lab) (1991Ab05). Jπ: odd (not 5) from visual inspection (1991Ab05). Γ_α/Γ weak (1991Ab05).
17407 *10*	6⁺[a]	20 keV	Eα=9710 *10* (Lab) (1991Ab05); Other: 17427 from Eα=9732 (Lab) (1992Da10 − α_2). Γc.m.: Other: 13 keV (1992Da10 − α_2).
17444 *10*	6⁺[a]	20 keV	Eα=9755 *10* (Lab) (1991Ab05); Other: 17505 from Eα=9826 (Lab) (1992Da10 − α_2) − note Eα_2 is widely separated.
17465[#] *10*			Eα=9780 *10* (Lab) (1992Da10 − α_1). Γc.m.: Other: 29 keV (1992Da10 − α_2).
17482?[@]		≈25 keV	Eα=(9800) (Lab) (1991Ab05). Jπ: (even) from visual inspection (1991Ab05).
17511?[@]		≈25 keV	Eα=(9835) (Lab) (1991Ab05).
17623 *3*	5⁻	23 keV *8*	Eα=9969 *3* (Lab) (1991Ab05); Other: 17608 from Eα=9950 (Lab) (1992Da10 − α_2). Γc.m.: Other: 13 keV (1992Da10 − α_2). Γ_α/Γ=0.17 *3* (1991Ab05).
17632?[@]	(2⁺)[a]	≈100 keV	Eα=(9980) (Lab) (1991Ab05).
17740 *10*	4⁺[a]	≈25 keV	Eα=10110 *10* (Lab) (1991Ab05), (1992Da10). Γc.m.: Other: ≤8 keV (1992Da10 − α_1).
17748 *10*		≈20 keV	Eα=10120 *10* (Lab) (1991Ab05).
17782 *10*		≈42 keV	Eα=10160 *10* (Lab) (1991Ab05); Other: 17808 from Eα=10190 (Lab) and 17821 from Eα=10205 (Lab) (1992Da10 − α_1 and α_2, respectively). Jπ: (not 4⁺) from visual inspection (1991Ab05). Γc.m.: Other: 21 keV (1992Da10 − α_1).
17840 *10*		≈42 keV	Eα=10230 *10* (Lab) (1991Ab05). Jπ: (not 4⁺) from visual inspection (1991Ab05).
17948 *3*	4⁺	56 keV *8*	Eα=10359 *3* (Lab) (1991Ab05). Γ_α/Γ=0.40 *3* (1991Ab05).
17990 *10*	6⁺[a]	≈17 keV	Eα=10410 *10* (Lab) (1991Ab05).
18038 *3*	5⁻	50 keV *8*	Eα=10467 *3* (Lab) (1991Ab05). Γ_α/Γ=0.29 *2* (1991Ab05).
18075[‡] *10*			Eα=10512 *10* (Lab) (1992Da10 − α_2).
18097 *10*		20 keV	Eα=10538 *10* (Lab) (1991Ab05) − doublet; Other: 18092 from Eα=10530 (Lab) (1992Da10). Γc.m.: Other: 33 keV (1992Da10 − α_1).
18157 *10*	5⁻[a]	20 keV	Eα=10610 *10* (Lab) (1991Ab05); Other: 18154 from Eα=10605 (Lab) (1992Da10 − α_2).
18169 *10*	7⁻[a]	<8 keV	Eα=10625 *10* (Lab) (1991Ab05).
18203 *10*		≈25 keV	Eα=10665 *10* (Lab) (1991Ab05). Jπ: (even), not 4⁺ from visual inspection (1991Ab05).
18253?[@]		≈8 keV	Eα=(10725) (Lab) (1991Ab05).

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^{20}Ne(α,α),(α,α′):Resonances 1991Ab05,1992Da10,1954Go70 (continued)

^{24}Mg Levels (continued)

E(level)[†]	Jπ[&]	Γc.m.[e]	Comments
			Jπ: (even) from visual inspection (1991Ab05).
18273 *10*	7−[a]	≈21 keV	Eα=10750 *10* (Lab) (1991Ab05), (1992Da10).
18332 *10*	(0+,6+)[ab]	≈17 keV	Eα=10820 *10* (Lab) (1991Ab05).
18423 *10*	(6+)[a]	≈17 keV	Eα=10930 *10* (Lab) (1991Ab05).
18465 *10*		≈13 keV	Eα=10980 *10* (Lab) (1991Ab05).
			Jπ: odd from visual inspection (1991Ab05).

† From Eα (c.m.) obtained from Eα (Lab) (1991Ab05, except where otherwise noted) using Sα=9316.55 keV, m(^{20}Ne)=19.99244 amu, and m(α)=4.0026 amu (2021Wa16). Less certain resonances are listed in parentheses. It appears that the excitation energy reported in 1991Ab05, 1992Da10 were computed using reaction Q value of 9309 keV (not mentioned by authors). Excitation values in 1992Da10 are listed in comments. The Eα uncertainty, not listed in Table I, is about 10 keV and a little worse for wider resonances, 1991Ab05 and 1992Da10 note. The evaluators assign 10 keV uncertainty for resonances Γc.m.<100 keV. Questionable levels not adopted if reported only in this dataset.

‡ From Eα (Lab) (1992Da10).

1992Da10 reports Eα=9780 (Lab) (α_1 as a separate state, although it is close to Eα=9800 (Lab)).

@ Less certain resonance (1991Ab05) − not adopted, reported in this dataset only.

& From fit of measured σ(θ) data (1991Ab05), except where otherwise noted.

a Assigned in 1991Ab05, based on excitation function trend (visual). Not adopted.

b For doublet.

c From 1992Da10. L from Legendre polynomial fits of measured σ(θ).

d From 1954Go70, based on measured σ(θ) and Legendre polynomial fits (not shown).

e From 1991Ab05, except where otherwise noted.

f From 1954Go70.