

$^{23}\text{Na}(\text{p,p}'), ^{22}\text{Ne}(\text{p,p}')$ 1976Mo27,1968Ke11,1967Ka10

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia [#] , A. Chakraborty ^{##}		NDS 171,1 (2021)	1-Jun-2020

Other references: 1980Fa07, 1971Ri04.

1976Mo27: $^{23}\text{Na}(\text{p,p}')$ E=20 MeV. Measured $\sigma(E_{\text{p}'})$.

1968Ke11: $^{22}\text{Ne}(\text{p,p}')$ E=0.8-3.13 MeV. Measured $\sigma(E, \text{p}')$.

1967Ka10: $^{22}\text{Ne}(\text{p,p}')$, E=0.94-4.2 MeV; Measured $\sigma(E, \text{p}')$.

1971Ri04: $^{22}\text{Ne}(\text{p,p}')$ E=0.8-3.13 MeV. Measured $\sigma(E, \text{p}')$.

 ^{23}Na Levels

E(level)[†]

5376 3
5533 3
5741 3
5766 3
5929 3
5966 3
6044 3
6117 3
6197 3
6237 3
6310 3
6348 3
6576 3
6617 3
6734 3
6821 3
6868 3
6920 3
6946 3
7070 3
7080 3
7122 3
7131 3
7185 3
7267 3
7275 3
7393 3
7414 3
7453 3
7488 3
7565 3
7685 3
7720 3
7747 3
7833 3
7873 3
7889 3
7964 3
7990 3
8061 3
8260 3
8302 3
8329 3
8359 3
8416 3

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$^{23}\text{Na}(\text{p,p}'), ^{22}\text{Ne}(\text{p,p}') \quad \mathbf{1976\text{Mo}27, 1968\text{Ke}11, 1967\text{Ka}10}$ (continued) ^{23}Na Levels (continued)

E(level) [†]	J ^{π‡}	Γ [@]	Comments
8471 3			
8505 3			
8560 3			
8610 3			
8630 3			
8648 3			
8662 3			
8720 3			
8799 3			
8822 3			
8945 3			
8972 3			
9040 3			
9072 3			
9103 3			
9113 3			
9171 3			
9209 3			
9248 3			
9288 3			
9323 3			
9396 3			
9421 3			
9472 3			
9483 3			
9541 3			
9582 3			
9606 3	3/2 ⁺ , 5/2 ⁺ #	6 eV	E(level): Wt. ave. of 9604 3 (1976Mo27) and 9609 4 (Ep(Lab)=851.9 – 1968Ke11). Γ _p =6 eV.
9625 3			E(level): From 1976Mo27.
9650 3	1/2 ⁺ #	105 eV	E(level): Wt. ave. of 9647 3 (1976Mo27) and 9655 4 (Ep(Lab)=900.1 – 1968Ke11). Γ _p =105 eV.
9673 3			
9678 3			
9700 3	3/2 ⁺ , 5/2 ⁺ #	29 eV	E(level): Wt. ave. of 9699 3 (1976Mo27) and 9702 4 (Ep(Lab)=950.0 – 1968Ke11). Γ _p =29 eV.
9728 3			
9738 3			
9751 3			
9798 3			
9810 3			
9833 3	3/2 ⁺ #	47 eV	E(level): Wt. ave. of 9831 3 (1976Mo27), 9837 4 (Ep(Lab)=1090.5 – 1968Ke11), and 9855 10 (Ep(Lab)=1110 10 – 1967Ka10). Γ _p =47 eV.
9851 3	1/2 ⁺ #	150 eV	E(level): Wt. ave. of 9850 3 (1976Mo27) and 9852 4 (Ep(Lab)=1106.3 – 1968Ke11). Γ _p =150 eV.
9872 3			
9885 3			
9912 3			
9939 3			
9958 3			
9984 3			
10001 3	1/2 ⁻ #	475 eV	E(level): Wt. ave. of 10001 3 (1976Mo27) and 10001 4 (Ep(Lab)=1261.9 – 1968Ke11). Γ _p =475 eV.
10014 3	5/2 ⁺ #	69 eV	E(level): Wt. ave. of 10012 3 (1976Mo27), 10017 4 (Ep(Lab)=1278.2 – 1968Ke11), and

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$^{23}\text{Na}(p,p'), ^{22}\text{Ne}(p,p')$ 1976Mo27,1968Ke11,1967Ka10 (continued) ^{23}Na Levels (continued)

E(level) [†]	J ^{π‡}	Γ [@]	L ^a	Comments
				10017 10 (Ep(Lab)=1280 10 – 1967Ka10). Γ _p =69 eV.
10036 3				
10070 3				
10086 4	1/2 ^{+#}	1270 eV		E(level): Ep(Lab)=1351.3 (1968Ke11). Other: 10090 10 (Ep(Lab)=1355 10 – 1967Ka10). Γ _p =1270 eV.
10113 3	1/2 ^{+#}	4200 eV		E(level): Wt. ave. of 10112 3 (1976Mo27) and 10115 4 (Ep(Lab)=1380.9 – 1968Ke11). Γ _p =4200 eV.
10122 3				E(level): Other: 10125 10 (Ep(Lab)=1392 10 – 1967Ka10).
10160 3				
10173 4	5/2 ^{+#}	65 eV		E(level): For Ep(Lab)=1442.2 from (1968Ke11). Γ _p =65 eV.
10183 3				E(level): Other: (10183) (Ep(Lab)=(1453) – 1967Ka10).
10214? 3				E(level): Level seen at only one angle (1976Mo27).
10221 3				
10234 3	3/2 ⁺ , 5/2 ^{+#}	4 eV		E(level): Wt. ave. of 10232 3 (1976Mo27) and 10236 4 (Ep(Lab)=1508.0 – 1968Ke11). Γ _p =4 eV.
10250 3	1/2 ^{+#}	2450 eV	0	E(level): Wt. ave. of 10253 3 (1976Mo27), 10245 4 (Ep(Lab)=1517.8 – 1968Ke11), and 10251 5 (Ep(lab)=1524 5 – 1967Ka10). Γ _p =2450 eV (1968Ke11); Γ=3 keV and Γ _p =2.1 keV (1967Ka10).
10272 3				
10296 3				E(level): Other: (10292) (Ep(Lab)=(1567) – 1967Ka10).
10313 3	3/2 ^{-#}	2000 eV		E(level): Wt. ave. of 10310 3 (1976Mo27) and 10317 4 (Ep(Lab)=1593.0 – 1968Ke11). Γ _p =2000 eV.
10328 3				E(level): Other: 10324 10 (Ep(Lab)=1600 10 – 1967Ka10).
10336 3	1/2 ^{-#}	190 eV		E(level): Wt. ave. of 10336 3 (1976Mo27) and 10336 4 (Ep(Lab)=1612.5 – 1968Ke11). Γ _p =190 eV.
10343 3	3/2 ⁺ , 5/2 ^{+#}			E(level): Wt. ave. of 10342 3 (1976Mo27) and 10343 4 (Ep(Lab)=1620.2 (1968Ke11). T _{1/2} =14 eV, Γ _p =14 eV for 3/2 ⁺ . T _{1/2} =8 eV, Γ _p =8 eV for 5/2 ⁺ .
10351 4	3/2 ^{+#}	210 eV		E(level): Ep(Lab)=1627.9 (1968Ke11). Other: 10357 10 (Ep(Lab)=1635 10 – 1967Ka10). Γ _p =210 eV.
10401 3				
10434 3				
10439 3	5/2 ^{+#}	25 eV		E(level): Wt. ave. of 10439 3 (1976Mo27) and 10438 4 (Ep(Lab)=1718.9 – 1968Ke11). Other: 10456 10 (Ep(Lab)=1738 10 – 1967Ka10) – possible doublet. Γ _p =25 eV.
10472 3	3/2 ^{+#}	470 eV		E(level): Wt. ave. of 10469 3 (1976Mo27) and 10477 4 (Ep(Lab)=1759.5 – 1968Ke11). Other: 10487 10 (Ep(Lab)=1770 10 – 1967Ka10) – possible doublet. Γ _p =400 eV.
10496 3				
10501 3	3/2 ^{-#}	920 eV		E(level): Wt. ave. of 10502 3 (1976Mo27) and 10499 4 (Ep(Lab)=1783.4 – 1968Ke11). Γ _p =880 eV.
10506 4	1/2 ^{+#}	560 eV		E(level): Ep(Lab)=1789.8 (1968Ke11). Γ _p =560 eV.
10514 3	5/2 ^{+#}	100 eV		E(level): Wt. ave. of 10513 3 (1976Mo27), 10517 4 (Ep(Lab)=1801.9 –

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$^{23}\text{Na}(p,p'), ^{22}\text{Ne}(p,p')$ **1976Mo27,1968Ke11,1967Ka10** (continued)

^{23}Na Levels (continued)

E(level) [†]	J ^π [‡]	Γ [@]	Comments
10529 3			1968Ke11 and 10515 10 (Ep(Lab)=1800 10 – 1967Ka10). Γ _p =100 eV.
10545 3	5/2 ⁺ #	540 eV	E(level): Wt. ave. of 10543 3 (1976Mo27), 10546 4 (Ep(Lab)=1832.5 – 968Ke11), and 10553 10 (Ep(Lab)=1840 10 – 1967Ka10). Γ _p =380 eV.
10574 3	3/2 ⁻ #	1100 eV	E(level): Wt. ave. of 10574 3 (1976Mo27) and 10574 4 (Ep(Lab)=1861.5 – 1968Ke11). Other: 10582 10 (Ep(Lab)=1870 10 – 1967Ka10) – possible doublet. Γ _p =1010 eV.
10590 3			
10615 3	5/2 ⁺ ,3/2 ⁺ #	425 eV	E(level): Wt. ave. of 10613 3 (1976Mo27) and 10616 4 (Ep(Lab)=1905.1 – 1968Ke11), and 10625 10 (Ep(Lab)=1915 10 – 1967Ka10). Γ _p =275 eV for 5/2 ⁺ , Γ _p =360 eV for 3/2 ⁺ .
10665 3			
10677 3	3/2 ⁻ #	23000 eV	E(level): Wt. ave. of 10678 3 (1976Mo27) and 10675 4 (Ep(Lab)=1967.0 – 1968Ke11), 10681 7 (Ep(Lab)=1973 7 – 1967Ka10). Γ _p =22000 eV (1968Ke11). Γ=40 keV (1967Ka10).
10701 3	3/2 ⁻ #	400 eV	E(level): Wt. ave. of 10699 3 (1976Mo27) and 10705 4 (Ep(Lab)=1998.45 – 1968Ke11). Other: (10708) (Ep(Lab)=(2002) – 1967Ka10). Γ _p =340 eV.
10770 3	3/2 ⁺ ,5/2 ⁺ #	<5 eV	E(level): Wt. ave. of 10770 3 (1976Mo27) and 10770 4 – (Ep(Lab)=2066.2 – 1968Ke11). Other: (10771) (Ep(Lab)=(2068) – 1967Ka10).
10824 3	3/2 ⁺ #	1700 eV	E(level): Wt. ave. of 10825 3 (1976Mo27) and 10823 4 (Ep(Lab)=2121.2 – 1968Ke11). Γ _p =1000 eV.
10826 3	3/2 ⁻ #	26000 eV	E(level): Wt. ave. of 10823 4 (Ep(Lab)=2122.0 – 1968Ke11) and 10827 3 (Ep(Lab)=2126 3 – 1967Ka10). Γ _p =25000 eV (1968Ke11). Γ=12 keV (1967Ka10).
10838 3	3/2 ⁺ ,5/2 ⁺ #	100 eV	E(level): Wt. ave. of 10839 3 (1976Mo27) and 10837 4 (Ep(Lab)=2136.6 – 1968Ke11). Γ _p =30 eV.
10869 3	3/2 ⁻ #	21000 eV	E(level): Wt. ave. of 10867 3 (1976Mo27) and 10873 4 (Ep(Lab)=2174.0 – 1968Ke11). Other: 10888 3 (Ep(Lab)=2190 3 – 1967Ka10) – possible doublet. Γ _p =20000 eV (1968Ke11). Γ=22 keV (1967Ka10).
10903 4	1/2 ⁻ #	53 eV	E(level): Ep(Lab)=2206.0 from (1968Ke11). 10909 3 (doublet) (1976Mo27). Γ _p =3 eV.
10906.5 40	1/2 ⁻ #	2850 eV	E(level): Ep(Lab)=2209.2 from 1968Ke11 . Γ _p =2500 eV.
10906.8 40	5/2 ⁺ #	900 eV	E(level): Ep(Lab)=2209.5 (1968Ke11). Other: 10914 3 (Ep(Lab)=2217 3 – 1967Ka10) – possible doublet/triplet. Γ _p =200 eV (1968Ke11). Γ=9 KeV (1967Ka10).
10918 3	1/2 ⁺ #	55 eV	E(level): Wt. ave. of 10919 3 (1976Mo27) and 10916 4 (Ep(Lab)=2219.6 – 1968Ke11). Γ _p =5 eV.
10933 3	3/2 ⁺ #	3500 eV	E(level): Wt. ave. of 10933 3 (1976Mo27) and 10930 4 (Ep(Lab)=2233.4 – 1968Ke11), 10934 3 (Ep(Lab)=2238 3 – 1967Ka10). Γ _p =3000 eV.
10949 4	1/2 ⁺ #	5200 eV	E(level): Ep(Lab)=2253.6 from (1968Ke11). Others: 10956 3 (1976Mo27), 10957 3 (Ep(Lab)=2262 3 – 1967Ka10) – possible doublet. Γ _p =5000 eV.
10953 4	7/2 ⁻ #	65 eV	E(level): Ep(Lab)=2257.8 from 1968Ke11 . Γ _p =15 eV.

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$^{23}\text{Na}(p,p'), ^{22}\text{Ne}(p,p')$ **1976Mo27,1968Ke11,1967Ka10** (continued)

^{23}Na Levels (continued)

<u>E(level)[†]</u>	<u>J^{π‡}</u>	<u>Γ[@]</u>	<u>L^a</u>	<u>Comments</u>
10967 4	5/2 ⁺ , 3/2 ⁺ #	400 eV		E(level): Wt. ave. of 10965 3 (1976Mo27) and 10971 4 (Ep(Lab)=2277.1 – 1968Ke11). Γ _p =200 eV.
10973 3	3/2 ⁺ #	18 eV		E(level): Wt. ave. of 10972 3 (1976Mo27) and 10974 4 (Ep(Lab)=2280.0 – 1968Ke11). Γ _p =3 eV.
10980 3	3/2 ⁻ #	6000 eV		E(level): Wt. ave. of 10981 3 (1976Mo27) and 10979 4 (Ep(Lab)=2285.0 – 1968Ke11). Γ _p =5800 eV.
10992 4	1/2 ⁺ #	20600 eV		E(level): Ep(Lab)=2299.0 (1968Ke11). 10993 3 (1976Mo27) – overlaps both 10992 and 10993. Γ _p =20000 eV.
10993 4	3/2 ⁺ #	60 eV		E(level): Ep(Lab)=2300.0 (1968Ke11). Other: 10993 (Ep(Lab)=2300 – 1967Ka10). Γ _p =10 eV.
11004 3				
11041 3	1/2 ⁺ #	500 eV		E(level): Wt. ave. of 11041 3 (1976Mo27), 11038 4 (Ep(Lab)=2346.2 – 1968Ke11), and 11043 3 (Ep(Lab)=2352 3 – 1967Ka10). Γ _p =200 eV.
11088 3	1/2 ⁻ #	800 eV		E(level): Wt. ave. of 11089 3 (1976Mo27), 11086 4 (Ep(Lab)=2397.4 – 1968Ke11), and 11089 3 (Ep(Lab)=2400 3 – 1967Ka10). Γ _p =500 eV.
11108 4	5/2 ⁺ #	135 eV		E(level): Ep(Lab)=2420.1 (1968Ke11). Γ _p =25 eV.
11112 3	3/2 ⁺ #	4100 eV	2	E(level): Wt. ave. of 11113 3 (1976Mo27) and 11110 4 (Ep(Lab)=2421.8 – 1968Ke11). Other: 11118 3 (Ep(Lab)=2430 3 – 1967Ka10). Γ _p =2450 eV (1968Ke11); Γ=7 keV and Γ _p =4.6 keV (1967Ka10).
11133 3				
11155 3				E(level): Other: (11161) (Ep(Lab)=(2475) – 1967Ka10).
11198 4	3/2 ⁺ #	800 eV		E(level): Wt. ave. of 11197 4 (Ep(Lab)=2512.8 – 1968Ke11) and 11200 5 (Ep(Lab)=2516 5 – 1967Ka10). Γ _p =700 eV.
11240 3	3/2 ⁻ #	12200 eV		E(level): Wt. ave. of 11237 4 (Ep(Lab)=2555.0 – 1968Ke11) and 11242 3 (Ep(Lab)=2560 3 – 1967Ka10). Γ _p =12000 eV (1968Ke11). Γ=16 keV (1967Ka10).
11250 4	3/2 ⁺ #	20000 eV		E(level): Wt. ave. of 11249 4 (Ep(Lab)=2567.0 – 1968Ke11) and 11253 7 (Ep(Lab)=2572 7 – 1967Ka10). Γ _p =19500 eV.
11266 4	3/2 ⁻ #	600 eV		E(level): Ep(Lab)=2585.2 from 1968Ke11. Γ _p =120 eV.
11273 4	3/2 ⁺ #	1750 eV		E(level): Ep(Lab)=2592.0 from 1968Ke11. Γ _p =250 eV.
11276 4	3/2 ⁺ #	500 eV		E(level): Ep(Lab)=2595.4 from 1968Ke11. Γ _p =150 eV.
11279 4	3/2 ⁺ #	4000 eV		E(level): Ep(Lab)=2598.6 from 1968Ke11. Γ _p =2000 eV.
11288 3	1/2 ⁺ #	11000 eV		E(level): Wt. ave. of 11285 4 (Ep(Lab)=2604.7 – 1968Ke11) and 11289 3 (Ep(Lab)=2609 3 – 1967Ka10). Γ _p =10000 eV (1968Ke11). Γ=18 keV (1967Ka10).
11302 4	3/2 ⁺ #	300 eV		E(level): Ep(Lab)=2623.0 from 1968Ke11. Γ _p =50 eV.
11328 4	1/2 ⁻ #	80000 eV		E(level): Ep(Lab)=2650.0 from 1968Ke11.

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$^{23}\text{Na}(p,p'), ^{22}\text{Ne}(p,p')$ **1976Mo27,1968Ke11,1967Ka10** (continued)

^{23}Na Levels (continued)

E(level) [†]	J ^π [‡]	Γ [@]	L ^a	Comments
11333 4	5/2 ⁺ #	4000 eV		Γ _p =75000 eV. E(level): Ep(Lab)=2655.5 from 1968Ke11. Γ _p =2000 eV.
11333.7 40	3/2 ⁻ #	2000 eV		E(level): Ep(Lab)=2656.0 from 1968Ke11. Γ _p =1500 eV.
11335 4	3/2 ⁺ #	750 eV		E(level): Ep(Lab)=2657.3 from 1968Ke11. Other: 11342 3 (Ep(Lab)=2665 3 – 1967Ka10) – possible doublet. Γ _p =150 eV (1968Ke11). Γ=9 keV (1967Ka10) probably for doublet.
11350 4	1/2 ⁻ #	4000 eV		E(level): Ep(Lab)=2673.0 from 1968Ke11. Γ _p =3980 eV.
11354 4	1/2 ⁺ #	13500 eV		E(level): Ep(Lab)=2677.0 from 1968Ke11. Other: 11366 7 (Ep(Lab)=2690 7 – 1967Ka10). Γ _p =13000 eV.
11395?				E(level): Ep(Lab)=(2720) (1967Ka10).
11431 3	1/2 ⁻ #	35000 eV		E(level): Wt. ave. of 11425 4 (Ep(Lab)=2751.0 – 1968Ke11) and 11435 3 (Ep(Lab)=2762 3 – 1967Ka10). Γ _p =27000 eV.
11458?				E(level): Ep(Lab)=(2786) (1967Ka10).
11469?				E(level): Ep(Lab)=(2798) (1967Ka10).
11495 4	7/2 ⁻ #	5500 eV		E(level): Ep(Lab)=2825.0 from 1968Ke11. Other: 11506 3 (Ep(Lab)=2836 3 – 1967Ka10) – possible doublet. Γ _p =900 eV (1968Ke11). Γ=15 keV (1967Ka10) probably for doublet.
11519 4	5/2 ⁺ #	3050 eV		E(level): Ep(Lab)=2850.0 from 1968Ke11. Γ _p =550 eV.
11528 3	5/2 ⁺ #	6900 eV		E(level): Wt. ave. of 11525 4 (Ep(Lab)=2855.5 – 1968Ke11) and 11529 3 (Ep(Lab)=2860 3 – 1967Ka10). Γ _p =1700 eV (1968Ke11). Γ=19 keV (1967Ka10).
11538 4	5/2 ⁺ #	130 eV		E(level): Ep(Lab)=2869.5 from 1968Ke11. Γ _p =40 eV.
11556 3	1/2 ⁺ #	3100 eV		E(level): Wt. ave. of 11553 4 (Ep(Lab)=2885.0 – 1968Ke11) and 11557 3 (Ep(Lab)=2890 3 – 1967Ka10). Γ _p =2300 eV.
11580 3	5/2 ⁺ #	600 eV		E(level): Wt. ave. of 11584 4 (Ep(Lab)=2917.6 – 1968Ke11) and 11578 3 (Ep(Lab)=2912 3 – 1967Ka10). Γ _p =350 eV.
11612 4	3/2 ⁻ #	3200 eV		E(level): Ep(Lab)=2946.5 from 1968Ke11. Other: 11600 3 (Ep(Lab)=2934 3 – 1967Ka10). Γ _p =1000 eV.
11622 3				E(level): Ep(Lab)=2958 3 (1967Ka10).
11664 4	1/2 ⁻ , 3/2 ⁻ #	14000 eV		E(level): Ep(Lab)=3001.0 from 1968Ke11. 11682 7 (Ep(Lab)=3020 7 (2020 7 appears to be a typo – 1967Ka10) – possible doublet. Γ _p =500 eV if 1/2 ⁻ . Γ=9800 eV, Γ _p =800 eV if 3/2 ⁻ .
11691 4	1/2 ⁺ #	1900 eV		E(level): Ep(Lab)=3030.0 from 1968Ke11. Γ _p =500 eV.
11700 4	3/2 ⁻ #	7000 eV	1	E(level): Ep(Lab)=3039.5 (1968Ke11). Other: 11714 4 (Ep(Lab)=3054 4 – 1967Ka10). Γ _p =3000 eV (1968Ke11); Γ=12 keV and Γ _p =6.0 keV (1967Ka10).
11708 4	5/2 ⁺ #	3200 eV		E(level): Ep(Lab)=3047.4 (1968Ke11). Γ _p =200 eV.
11747 4	7/2 ⁻ #	2300 eV		E(level): Ep(Lab)=3088.5 (1968Ke11). Γ _p =700 eV.

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$^{23}\text{Na}(p,p'), ^{22}\text{Ne}(p,p')$ 1976Mo27,1968Ke11,1967Ka10 (continued) ^{23}Na Levels (continued)

E(level) [†]	J ^π [‡]	Γ [@]	L ^a	Comments
11762 4	1/2 ^{-#}	15000 eV		E(level): Wt. ave. of 11764 4 (Ep(Lab)=3106.0 – 1968Ke11) and 11760 4 (Ep(Lab)=3102 4 – 1967Ka10). Γ _p =13000 eV (1968Ke11). Γ=28 keV (1967Ka10).
11777?				E(level): Ep(Lab)=(3120) (1967Ka10).
11820 4				E(level): Ep(Lab)=3165 4 (1967Ka10).
11840 7				E(level): Ep(Lab)=3186 7 (1967Ka10).
11865 4	(3/2) ⁺	16 ^{&} keV	2	E(level): Ep(Lab)=3212 4 (1967Ka10). Γ: Γ _p =7.2 keV.
11897 4				E(level): Ep(Lab)=3245 4 (1967Ka10).
11980 4				E(level): Ep(Lab)=3332 4 (1967Ka10).
12018 4				E(level): Ep(Lab)=3372 4 (1967Ka10).
12074 4				E(level): Ep(Lab)=3430 4 (1967Ka10).
12105 4		16 ^{&} keV		E(level): Ep(Lab)=3463 4 (1967Ka10).
12129 7				E(level): Ep(Lab)=3488 7 (1967Ka10).
12189 4	(3/2) ⁺	12 ^{&} keV	2	E(level): Ep(Lab)=3550 4 (1967Ka10). Γ: Γ _p =4.2 keV.
12203 4		28 ^{&} keV		E(level): Ep(Lab)=3565 4 (1967Ka10).
12255?				E(level): Ep(Lab)=(3620) (1967Ka10).
12290 4				E(level): Ep(Lab)=3656 4 (1967Ka10).
12318 4				E(level): Ep(Lab)=3685 4 (1967Ka10).
12334?				E(level): Ep(Lab)=(3702) (1967Ka10).
12351 4				E(level): Ep(Lab)=3720 4 (1967Ka10).
12378 4		11 ^{&} keV		E(level): Ep(Lab)=3748 4 (1967Ka10).
12424 4		14 ^{&} keV		E(level): Ep(Lab)=3796 4 (1967Ka10).
12453 4		9 ^{&} keV		E(level): Ep(Lab)=3827 4 (1967Ka10).
12533 7				E(level): Ep(Lab)=3910 7 (1967Ka10).
12557?				E(level): Ep(Lab)=(3935) (1967Ka10).
12584 5		34 ^{&} keV		E(level): Ep(Lab)=3964 5 (1967Ka10).
12625 5		25 ^{&} keV		E(level): Ep(Lab)=4006 5 (1967Ka10).
12667?				E(level): Ep(Lab)=(4050) (1967Ka10).
12705?				E(level): Ep(Lab)=(4090) (1967Ka10).
12734 5		24 ^{&} keV		E(level): Ep(Lab)=4120 5 (1967Ka10).
12796 7				E(level): Ep(Lab)=4185 7 (1967Ka10).

[†] From 1976Mo27 and 1968Ke11, except otherwise noted. Resonance level energies deduced from Sp=8794.10 2 (2017Wa10) + Ep(c.m.) using Ep(Lab), m_p=1.00738 and m(²²Ne)=21.9914. ΔEp(Lab)=4 keV (1968Ke11).

[‡] From Adopted Levels, except otherwise noted.

[#] In 1968Ke11, based on measured σ(θ) mb/sr and fitting with single-level, Breit-Wigner formula for resonances <2.1 MeV and multilevel, multichannel R-matrix code for resonances above >2.1 MeV.

[@] From 1968Ke11. Γ_p listed in comments section.

[&] From 1967Ka10. Γ_p (if available) listed in comments section.

^a From 1967Ka10.