

$^{22}\text{Ne}(^3\text{He,p}),(^3\text{He,p}\gamma)$ 1978Fo30,1973St08

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

1978Fo30: The reaction $^{22}\text{Ne}(^3\text{He,p})$ with the projectile energy of 18 MeV was used. Measured $\sigma(E_p, \theta)$. Enriched gas target was used. Performed DWBA analysis. Extracted L, π , J values.

1973St08: The reaction $^{22}\text{Ne}(^3\text{He,p}\gamma)$ with the projectile energy of 9 MeV was used. Measured $\sigma(E, E_\gamma, \theta(p\gamma))$. Protons were detected by a silicon position-sensitive detector placed in the focal plane of a magnetic spectrometer. The de-exciting gamma rays in coincidence with the protons were detected by a Ge(Li) detector. Enriched gas target was used.

Others: **1971Be19**, **1976KeZL**, **1977Si07**.

 ^{24}Na Levels

E(level) [†]	J ^π [†]	T _{1/2} [#]	L [†]	Comments
0			4	
470.7 30			0+2	
563.4 30			2	
1342 5		97 fs 35	0+2	L: For triplet.
1513 5		28 fs 6	4	
1846 5		215 fs 49	2	
1888 5		28 fs 7	2(+4)	
2512 6	(3 ⁺)		2+4,3	
2566 7	(4) ⁺	<21 fs	(4)	
2907 5		35 fs 8	2(+4)	
2980 7	1 ⁺	<28 fs	(0+2)	J ^π : From 1977Si07.
3223 5		<55 fs	(4+2)	
3374 10	2 ⁻	<14 fs	1+3	
3415 3	1 ⁺	<14 fs	0	
3594 3	1 ⁺	<6 fs	0+2	
3634 5	(3 ⁺ , 2 ⁺)	<14 fs	2(+4)	
3683 7	(0, 1) ⁺	<14 fs	0	
3744 6			3	
3853 23	2 ⁻ , 1 ⁻		1(+3)	
3931 4		<17 fs	3, 4	
3976 12	(0, 1) ⁺	<14 fs	(0+2)	J ^π : From 1977Si07.
4138 7	(3, 4, 5) ⁺	<21 fs	4	
4190 5				E(level): Multiplet.
4441 5				
4527 8	2 ⁻ , 3 ⁻		3	
4564 7				
4622 6	0 ⁺ , 1 ⁺		0	
4694 7	(3, 4, 5) ⁺		4	
5477 2	(1, 2, 3) ⁺		2	E(level): Other: 5485 3 (1976KeZL), as quoted in 1990En08 – page 100.
5774 [‡] 5				
5966.7 [‡] 13			0	L: Listed in 1990En08 (p.104), possibly from 1976KeZL. 1990En08 noted the shape of the L=0 angular distribution is characteristically different.

[†] From 1978Fo30, unless otherwise stated.

[‡] From 1976KeZL, as quoted in 1990En08 – page 100.

[#] From Doppler Shift Attenuation method in 1976KeZL.

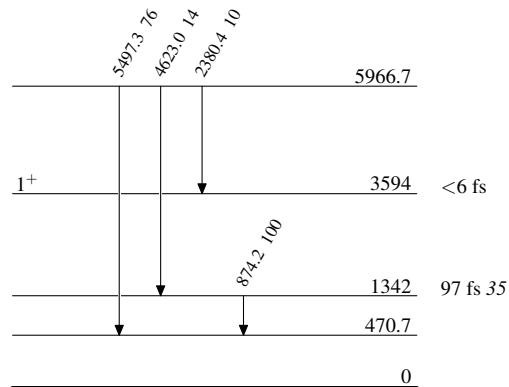
$^{22}\text{Ne}(^3\text{He,p),(}^3\text{He,p}\gamma)$ 1978Fo30,1973St08 (continued) $\gamma(^{24}\text{Na})$

$E_i(\text{level})$	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Comments
1342	874.2 9	100	470.7		I _γ : From 19 5 (1973St08).
5966.7	2380.4 14	10 2	3594	1 ⁺	
	4623.0 16	14 3	1342		
	5497.3 10	76 4	470.7		

† From 1973St08.

 $^{22}\text{Ne}(^3\text{He,p),(}^3\text{He,p}\gamma)$ 1978Fo30,1973St08Level Scheme

Intensities: % photon branching from each level



$^{24}_{11}\text{Na}_{13}$