

$^{21}\text{Ne}(^3\text{He,p})$ 1978Fo15

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

$J^\pi(^{21}\text{Ne})=3/2^+$.

Target: Enriched (86.5%) ^{21}Ne in a rotating gas cell with Mylar window (thickness 522 $\mu\text{g}/\text{cm}^2$); Projectile: ^7Li , $E=18.0$ MeV; outgoing α particles were momentum analyzed in a multiangle spectrograph and detected in nuclear emulsion plates. Absorber foil stopped all particles except protons. Deduced excitation energy and differential cross section. DWBA calculations. FWHM ~ 42 keV.

 ^{23}Na Levels

E(level) [†]	J^π [@]	L [@]	$\sigma_{\text{exp}}/\sigma_{\text{th}}$ ^{&}	Comments
0.0	$3/2^+$		210	$\sigma_{\text{exp}}/\sigma_{\text{th}}$: 250.
443 3	$5/2^+$		335	$\sigma_{\text{exp}}/\sigma_{\text{th}}$: 405.
2072 6	$7/2^+$		190	$\sigma_{\text{exp}}/\sigma_{\text{th}}$: 225.
2390 6	$1/2^+$		640	$\sigma_{\text{exp}}/\sigma_{\text{th}}$: 900.
2640 10				E(level): Very weak.
2703 6	$9/2^+$		200	$\sigma_{\text{exp}}/\sigma_{\text{th}}$: 225.
2984 5	$3/2^+$		470	$\sigma_{\text{exp}}/\sigma_{\text{th}}$: 550.
3678 4		1+3		
3855 6		1+3		
3913 4	$5/2^+$		360	$\sigma_{\text{exp}}/\sigma_{\text{th}}$: 400.
4429 4	$1/2^+$		360	$\sigma_{\text{exp}}/\sigma_{\text{th}}$: 440.
4772 4	$7/2^+$		290	$\sigma_{\text{exp}}/\sigma_{\text{th}}$: 300.
5375 10		2(+0)		
5542 4	$11/2^+$		(1200)	E(level): Unresolved state with $J^\pi=(3/2,5/2,1/2)^+$. Not referenced in the Adopted Levels. $\sigma_{\text{exp}}/\sigma_{\text{th}}$: (1400).
5743 [#] 10				
5927 [‡] 12		(2)		

[†] From 1978Fo15.

[‡] Doublet (1978Fo15).

[#] Triplet (1978Fo15), not referenced in the Adopted Levels.

[@] From measured $d\sigma/d\Omega(\theta)$ and DWBA calculations (1978Fo15).

[&] For potential (n,n). Other value for potential (4,1) listed in comments section.