^{31}P(^{3}He,α) 1974Va26

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia, A. Chakraborty	NDS 197,1 (2024)	31-May-2024

$J^{\pi}(^{31}P)=1/2^{+}$.

Other reaction:

^{31}P(d,t): 1988Bh09.

1974Va26: ^{31}P(^{3}He,α), E=15 MeV; slip-pole magnet with position sensitive detectors; measured α spectra; deduced excited level energies, L values, spectroscopic factors. FWHM=15-20 keV.

Others:

1973Ro18: ^{31}P(^{3}He,α), E=8 MeV.

1970Pe06: ^{31}P(^{3}He,α), E=10 MeV.

^{30}P Levels

E(level)[†]	J$^{\pi}$[†]	L[@]	S[#]	Comments
0	1^{+}	0+2	0.62	S: 0.13 for $d_{3/2}$.
677.10 *10*	0^{+}	0	0.74	
708.69 *7*	1^{+}	0+2	0.11	S: 0.46 for $d_{3/2}$.
1454.28 *5*	2^{+}	2		S: 0.57 for $d_{3/2}$.
1973.33 *8*	3^{+}	2		S: 0.76 for $d_{5/2}$.
2538.87 *18*	3^{+}	2		S: 0.69 for $d_{5/2}$.
2723.86 *25*	2^{+}	2		S: 0.77 for $d_{3/2}$, 0.50 for $d_{5/2}$.
2839.38 *8*	3^{+}			
2937.54 *9*	2^{+}	2		S: 3.6 for $d_{3/2}$, 2.3 for $d_{5/2}$.
3019.8 *8*	1^{+}	0+2	0.07	S: 0.12 for $d_{3/2}$.
3734.07 *20*	1^{+}	0+2	0.03	S: 0.06 for $d_{3/2}$.
3835.84 *18*	2^{+}	0+2	0.03	S: 0.41 for $d_{3/2}$.
4143.7 *5*	2^{-}	1		S: 0.01 for $p_{3/2}$.
4182.95 *19*	2^{+}	2		S: 1.2 for $d_{3/2}$, 0.76 for $d_{5/2}$.
4231.89 *12*	4^{-}	3		S: 0.12 for $f_{7/2}$.
4298.8 *4*	4^{+}	1		S: 0.01 for $p_{3/2}$.
4423.0 *11*	2^{+}	2		S: 0.65 for $d_{3/2}$, 0.44 for $d_{5/2}$.
4468.56 *10*	0^{+}	0	0.06	
4625.99 *11*	3^{-}	3		S: 0.05 for $f_{7/2}$.
4736.11 *21*	3^{+}	2		S: 0.09 for $d_{3/2}$, 0.06 for $d_{5/2}$.
4925.8 *3*	3^{-}			
4937.8 *6*	(1)	0	0.05	J$^{\pi}$: From 1974Va26. L: possibly for doublet.
5206.8 *1*	3^{+}	2		S: 0.36 for $d_{3/2}$, 0.24 for $d_{5/2}$.
5411.2 *3*		3		S: tentative value of 0.03 for $f_{7/2}$.
5506.6 *4*		0+2	0.05	S: 0.48 for $d_{3/2}$, 0.32 for $d_{5/2}$.
5599.27 *22*				
5701.2 *3*		0	0.10	L: As of p. 433 (1974Va26).
5809.7 *4*				
5890[‡] *12*		2		S: 3.1 for $d_{3/2}$, 2.0 for $d_{5/2}$.
5930[‡] *8*				
5996.6 *3*		2		S: 2.5 for $d_{3/2}$, 1.6 for $d_{5/2}$.
6050[‡] *10*		0	0.29	
6090[‡] *6*				

[†] From Adopted Levels, except otherwise noted.

[‡] From 1974Va26.

[#] For $s_{1/2}$. Values for other subshells are listed in comment section. All the values are from 1974Va26.

[@] From 19874Va26, based on $\sigma(\theta)$ and DWBA analyses.