^{49}Ti(d,p) 1965Ba22,1964Bj01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen and Balraj Singh	NDS 157, 1 (2019)	15-Apr-2019

$J^{\pi}(^{49}\text{Ti g.s.})=7/2^-$.

1965Ba22: E=6 MeV. Measured $\sigma(\theta(\text{c.m.})\approx 30^\circ-160^\circ)$. DWBA.

1964Bj01: E=3-4.3 MeV beam from an electrostatic generator at University of Copenhagen. Measured alpha spectrum with a magnetic spectrograph. Deduced levels. Extension of 1961Ha41 (E=2.3-4.2 MeV; 4 excited states).

Other:

1985Fu10: E=60 MeV. Measured $\sigma(\theta=21^\circ)$; magnetic spectrometer, position-sensitive proportional counters, two ΔE proportional counters, and scintillation detectors, FWHM=15-22 keV. DWBA.

All data are from 1965Ba22, except as noted. Based on a comparison with their own (d,pγ) results, 1984So08 suggest that all excitation energies above 4 MeV reported by 1965Ba22 should be systematically lowered by about 15 keV; however, the evaluators believe that not enough data are available to justify such an adjustment over the whole region. Others: 1970Al04 and 1963Yn01.

^{50}Ti Levels

E(level)	L	C^2S'[†]	Comments
0	3	0.76	
1551[‡] *4*	1+3	0.08+0.32	E(level): weighted average of 1549 *4* (1964Bj01) and 1555 *6* (1965Ba22).
2688[‡] *4*	1	0.04	E(level): weighted average of 2689 *4* (1964Bj01) and 2686 *6* (1965Ba22).
3208 *20*	[#]		
3771?[&] *8*			
3879 *20*	[#]		
4155[@] *8*	1	0.74	
4180[@] *8*	1	0.93	
4322[@] *8*	1	0.02	
4415[@] *8*	0+2	0.003+0.009	
4536 *20*			
4576 *20*			
4805[‡] *6*	1	0.05	E(level): weighted average of 4799 *8* (1964Bj01) and 4808 *6* (1965Ba22).
4896[‡] *6*	1	0.81	E(level): weighted average of 4892 *8* (1964Bj01) and 4898 *6* (1965Ba22).
5106[&] *8*			
5202[‡] *6*	1	0.20	E(level): weighted average of 5199 *8* (1964Bj01) and 5203 *6* (1965Ba22).
5346[@] *8*	[#]		
5395[‡] *6*	1	0.23	E(level): weighted average of 5394 *8* (1964Bj01) and 5395 *6* (1965Ba22).
5440[‡] *6*	1+3	0.01+0.06	
5561[‡] *6*	1	0.03	
5600[‡] *6*	1+3	0.01+0.08	
5717[‡] *6*	[#]		
5821 *20*	1+3	0.004+0.08	
5851 *20*	1+3	0.02+0.13	
5956[‡] *6*	1	0.29	
6079 *20*	1	0.02	
6138[‡] *6*	1+3	0.15+0.50	
6176 *20*	1	0.02	
6210 *20*	(2)	0.04	
6250[‡] *6*			
6325 *20*			
6392[‡] *6*	1	0.07	

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^{49}Ti(d,p) 1965Ba22,1964Bj01 (continued)

^{50}Ti Levels (continued)

E(level)	L	C^2S'[†]	E(level)	L	C^2S'[†]	E(level)	L	C^2S'[†]
6498[‡] *6*	1	0.04	6986 *20*	[#]		7387[‡] *6*	2+4	0.005+0.56
6536[‡] *6*	1+3	0.09+0.47	7025 *20*	1	0.05	7407 *20*	1	0.02
6592 *20*			7049 *20*	1	0.03	7447 *20*		
6636[‡] *6*	3	0.26	7078 *20*	3	0.17	7471 *20*	1	0.04
6697 *20*	[#]		7094 *20*	2	0.03	7504 *20*	1+3	0.09+0.13
6726[‡] *6*	1	0.25	7132 *20*	2	0.05	7550 *20*		
6744 *20*	0	0.01	7229 *20*	1	0.02	7631 *20*	1	0.09
6863[‡] *6*	1+3	0.09+0.41	7249[‡] *6*	1	0.09	7663 *20*	(3)[a]	0.80
6913 *20*	[#]		7280 *20*	3	0.14			

[†] From 1968Wi02 (reanalysis of data from 1965Ba22; DWBA).
[‡] From single-gap spectrograph measurement; other energies are relative to these (1965Ba22).
[#] $\sigma(\theta)$ exhibits a non-stripping character.
[@] From 1964Bj01.
[&] Reported by 1964Bj01 only.
[a] $\sigma(\theta)$ could also fit L=2+4.