

<sup>46</sup>Ti(d,<sup>3</sup>He) 1979Do12,1971Oh02

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	T. W. Burrows	NDS 109, 171 (2008)	30-Oct-2007

710h02: E=19.5 MeV. Measured  $\sigma(\theta)$ ; split-pole mag spect, position-sensitive detectors. FWHM=20 keV. DWBA.  
 1979Do12,1972Ma33: E=52 MeV. Measured  $\sigma(\theta)$ . FWHM=100-115 keV. DWBA.

<sup>45</sup>Sc Levels

J( $\alpha$ ),S( $\beta$ ) 1979Do12 concluded that the 1d<sub>3/2</sub> hole strength is concentrated in the 12-keV, 3/2<sup>+</sup> state. This is in contrast to the assignment of transitions to the 1304- and 1799-keV states as probable 1d<sub>3/2</sub> proton pickup by 1971Oh02 and the resultant conclusion that the 1d<sub>3/2</sub> proton hole strength is not concentrated on the 12-keV state.

E(d),S(E) state reported only by 1971Oh02.

J(F),S( $\gamma$ ) 1971Oh02 favored 3/2<sup>+</sup>; 1979Do12, 5/2<sup>+</sup>. See footnote on J $^\pi$  and C<sup>2</sup>S for 12-keV state.

E(level) <sup>†</sup>	J $^\pi$ <sup>‡</sup>	L <sup>†</sup>	C <sup>2</sup> S <sup>#</sup>	Comments
0.0	7/2 <sup>-</sup>	3	1.8 4	
12 3	3/2 <sup>+</sup>	2	3.4 7	
381 5	3/2 <sup>-</sup>	1	0.12 3	
543 7	5/2 <sup>+</sup>	2	0.12 3	
726 10	5/2 <sup>-</sup>	3	0.32 7	
943 5	1/2 <sup>+</sup>	0	1.5 3	
1067 7	3/2 <sup>-</sup>	1	0.07 2	
1235 10				
1304 5		2		C <sup>2</sup> S: 0.90 18 (1979Do12), 0.56 (1971Oh02) if J $^\pi$ =3/2 <sup>+</sup> ; 0.62 13 (1979Do12), 0.35 (1971Oh02) if J $^\pi$ =5/2 <sup>+</sup> .
1417 10		(3)		C <sup>2</sup> S: C <sup>2</sup> S=0.25 if J $^\pi$ =5/2 <sup>-</sup> (1971Oh02; N=3.0). However, adopted J $^\pi$ =(7/2) <sup>-</sup> .
1556 7	1/2 <sup>-</sup>	1	0.04 1	
1799 5	5/2 <sup>+</sup>	2	0.26 1	C <sup>2</sup> S: 0.56 if J $^\pi$ =3/2 <sup>+</sup> , 0.39 if J $^\pi$ =5/2 <sup>+</sup> (1971Oh02).
2.29×10 <sup>3</sup>	3/2 <sup>-</sup>	1	0.04 1	
2.91×10 <sup>3</sup>	5/2 <sup>+</sup>	2	0.98 20	
3.48×10 <sup>3</sup>	5/2 <sup>+</sup>	2	≤0.40	
3.73×10 <sup>3</sup>	5/2 <sup>+</sup>	2	0.93 19	
3.98×10 <sup>3</sup>	5/2 <sup>+</sup>	2	0.31 7	
4.16×10 <sup>3</sup>				
4.34×10 <sup>3</sup>	5/2 <sup>+</sup>	2	0.39 7	
4.75×10 <sup>3</sup>				
5.34×10 <sup>3</sup>				
5.66×10 <sup>3</sup>	5/2 <sup>+</sup>	2	≤0.41	
6.39×10 <sup>3</sup>	5/2 <sup>+</sup>	2	0.30 6	
6.75×10 <sup>3</sup>	5/2 <sup>+</sup>	2	≤0.30	
7.65×10 <sup>3</sup>				

<sup>†</sup> From 1971Oh02 for E(level)<2 MeV and 1979Do12 for E(level)>2 MeV.

<sup>‡</sup> Assumed to calculate C<sup>2</sup>S. See 1979Do12 for summary of proton-hole configurations.

<sup>#</sup> From 1979Do12, except as noted. N=2.95.