^{52}Cr(^{3}He,p) E=15-18 MeV 1972Be07,1971Ga25

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Yang Dong, Huo Junde	NDS 121, 1 (2014)	20-Jun-2014

1972Be07: measured σ(E(p),θ) for E(^{3}He)=15, 16.5 MeV; FWHM≈20 keV, error on the excitation energies≈6 keV.
1972Be07 found Q=7788 keV *9*, Coulomb displacement energy: 8312 keV *30*.
1971Ga25: measured $\sigma(\theta)$ for E(^{3}He)=18 MeV.

^{54}Mn Levels

E(level)[‡]	J$^{\pi}$[†]	L[a]	Comments
0	3^{+}	2	
54 *6*	(1^{+}),2^{+},3^{+}	2	J$^{\pi}$: model calculation favors 2^{+}.
374 *6*	3^{+},4^{+},5^{+}	4	J$^{\pi}$: From (^{3}He,p) and (α,d) systematics favor 5^{+}.
814[#] *30*			
1014 *6*	(1^{+}),2^{+},3^{+}	2	
1143[#] *30*		(0)[#]	
1380 *6*	3^{+}	2	J$^{\pi}$: from Adopted Levels.
1457 *6*	1^{+}	0+2	
1512 *6*			
1543 *6*			
1649 *6*	1^{+}	0+2	
1788 *6*	(1^{+},2^{+},3^{+})	(2)	J$^{\pi}$: L in (d,α) not consistent with (^{3}He,p).
1930 *6*	1^{+}	0+2	
2060 *6*			
2119[@] *6*	0^{+},(1^{+})	0	
2140 *6*	1^{+}	0+2	
2282 *6*			
2366 *6*			
2504 *6*	1^{+}	0+2	
2564 *6*	1^{+},2^{+},3^{+}	2	
2679 *6*	1^{+}	0+2	
2881 *6*	(1^{+})	2	
2908 *6*	1^{+}	0+2	
3019 *6*	1^{+},2^{+},3^{+}	2	
3198 *6*			
3222 *6*			
3305 *6*			
3341 *6*			
3442 *6*	(0^{+}),1^{+}	0+(2)	
3544 *6*			
3680 *6*	(1^{+},2^{+},3^{+})	(2)	
3734 *6*	1^{+},2^{+},3^{+}	2	
3764 *6*			
3820 *6*	(1^{+},2^{+},3^{+})	(2)	
3868 *6*	1^{+},2^{+},3^{+}	2	
3946 *6*			
3976 *6*			
4038 *6*	(1^{+},2^{+},3^{+})	(2)	
4067 *6*	1^{+},2^{+},3^{+}	2	
4114 *6*			
4190 *6*			
4212 *6*	1^{+}	0+2	
4357 *6*	1^{+},2^{+},3^{+}	2	
4383 *6*	1^{+},2^{+},3^{+}	2	
4428 *6*			

Continued on next page (footnotes at end of table)

^{52}Cr(^{3}He,p) E=15-18 MeV 1972Be07,1971Ga25 (continued)

^{54}Mn Levels (continued)

E(level)‡	Jπ†	L[a]	E(level)‡	Jπ†	L[a]	E(level)‡	Jπ†	L[a]
4472 *6*			5379 *6*			6007 *6*		
4542 *6*	$1^+,2^+,3^+$	2	5411 *6*			6151& *6*	$0^+,(1^+)$	0
4610 *6*			5480 *6*			6255 *6*		
4717 *6*			5525 *6*			6332 *6*		
4753 *6*			5574 *6*			6394 *6*		
4799 *6*			5631 *6*	1^+	0+2	6441 *6*		
4869 *6*			5656 *6*			6490 *6*		
4915 *6*			5694 *6*			6535 *6*		
4976 *6*	(1^+)	(0+2)	5764 *6*			6629 *6*		
5079 *6*			5806 *6*			6672 *6*		
5152 *6*			5850 *6*			6710 *6*		
5208 *6*			5907 *6*			6990& *6*	$1^+,2^+,3^+$	2
5308 *6*			5943 *6*					
5343 *6*			5974 *6*					

† From σ(E(p),θ), 1972Be07.

‡ From 1972Be07, except as noted.

From 1971Ga25.

@ Anti-analog of ^{54}Cr g.s. from much less strength than expected from isobaric-spin coupling rules (1971Ha55).

& Analog state of ^{54}Cr g.s. From S(t,p)/S(^{3}He,p) and R(^{3}He,p), and predictions of the pairing vibration model (1969Sh03), where S is the reduced cross sections, R is cross section ratios relating the transitions to the second 0^+ states and to the g.s..

[a] From the systematics of the angular distribution shapes together with the predictions of distorted-wave calculations (1972Be07), except as noted.