^{54}Fe(t,^{3}He)   **1985Aj03**

History

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

E=25 MeV, Q3D spectrometer, energy resolution 15-20 keV, measured dσ/dΩ, DWBA analyses and coupled-channels Born approximation (CCBA), deduced the strengths of the population of 1^+ states.

See also 1984Aj03.

^{54}Mn Levels

E(level)	J$^{\pi\dagger}$	L‡	σ(rel)$^\#$	Comments
0	(3^+)			
54 *3*	(2^+)			
160 *5*	4^+	4		
374 *8*	(5^+)			
414 *8*	(3^+)			
842 *8*	(4^+)			
1007 *10*	(3^+)			Angular distribution for the level is of unresolved group.
1040 *20*	(6^+)			Angular distribution for the level is of unresolved group.
1130 *10*	5^+	4+6		
1353^b *20*	2^+	2^e		
1377 *20*	1^+	0+2	0.74 *8*	
1430 *20*	(1^+)	0+2^f	0.65 *6*	
1454 *20*	$4^+,5^+$			
1506 *10*	(2^+)			
1538 *10*				
1632 *20*				
1679?^{c}				
1789 *15*				
1853^d				
1923^b *15*	1^+	0+2^e	1.1$^@$ *2*	
2051 *15*	$4^+,(5^+)$			
2112^b *15*	4^+	4		
2133?^{c}				
2140 *20*				
2270 *20*	$4^+,5^+$			
2300 *20*				
2320?^{c}				
2360 *15*				
2500 *15*	(4^+)			
2560 *15*	$4^+,5^+$			
2620 *15*				
2670 *15*				
2705 *15*				
2775 *15*	5^+			
2880 *20*	5^+			Angular distribution for the level is of unresolved group.
2905 *15*				
2985 *20*				
3015 *15*	4^+			
3067^d				
3115 *20*	5^+			
3200 *15*	5^+			
3220 *20*	5^+			
3300 *15*	5^+			
3335 *20*	5^+			

Continued on next page (footnotes at end of table)

^{54}Fe(t,^{3}He)   **1985Aj03 (continued)**

^{54}Mn Levels (continued)

E(level)	J$^{\pi\dagger}$	σ(rel)$^{\#}$	E(level)	E(level)
3422^d			3900 *30*	4290 *30*
3552^d			3950^a *30*	4320^a *30*
3600 *20*			4020^a *30*	4440^a *30*
3655 *15*			4050^a *30*	4490^a *30*
3707 *15*			4130^a *30*	4590^a *30*
3730 *20*	1$^+$,2$^+$	2.8$^{\&}$ *6*	4160^a *30*	4620^a *30*
3780 *30*			4220^a *30*	
3830^a *20*			4240^a *30*	

† The J$^\pi$ assignments were derived from CCBA calculations.

‡ L transfers assumed in CCBA. L transfers are not shown if more than one value of J$^\pi$ is possible.

$^\#$ Cross sections for population of the 1$^+$ states for 0°$<\theta<$53° (C.M.) divided by the total cross section over that angular range predicted by DWBA analyses, and relative to that for the 111 keV *1+* state of ^{56}Mn taken to be 1.

$^@$ The 1$^+$ state is dominant in an unresolved angular distribution. The value shown is an upper limit.

$^\&$ 1$^+$ assignment is uncertain.

^{a} Γ of this group indicates that it is due to unresolved states.

^{b} Angular distribution is of unresolved group.

^{c} Not observed, but contributions of weak groups are not excluded.

^{d} Observed at several angles: groups are weak.

^{e} Dominant.

^{f} Consistent with L=0+2, except for most forward angles.