^{54}Fe(α,^{3}He) 1970Ro22

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Huo Junde	NDS 109, 787 (2008)	30-Apr-2007

E=44 MeV, 100-150 keV (FWHM); measured $\sigma(^{3}He,\theta)$; DWBA analysis.

^{55}Fe Levels

J(α),S(α) For L=3.

E(level)	J^{π}‡	L†	C^2S'	Comments
0.0	$(3/2^-)$	1	2.7	
410	$(1/2^-)$	1	1.0	
930	$5/2^-$	3	3.9	
1320	$7/2^-$	(1,3)	(0.78)	
1430	$7/2^-$	(1,3)	0.39	
2015	$1/2^-,3/2^-$	1	0.39	
2140	$5/2^-$	3	0.90	
2300	$9/2^+$	4	0.10	
2480	$1/2^-,3/2^-$	1	0.78	
2600	$9/2^+$	(4)	0.12	
2820		(3,4)	0.23,0.09	C^2S': C^2S'=0.23 for L=3, $J^{\pi}=5/2^-$; C^2S'=0.09 for L=4, $J^{\pi}=9/2^+$.
2930	$7/2^-$	(1,3)	(0.84)	
3080		(3,4)	0.26,0.10	C^2S': C^2S'=0.26 for L=3, $J^{\pi}=5/2^-$; C^2S'=0.10 for L=4, $J^{\pi}=9/2^+$.
3330		(3,4)	0.23,0.10	C^2S': C^2S'=0.23 for L=3, $J^{\pi}=5/2^-$; C^2S'=0.10 for L=4, $J^{\pi}=9/2^+$.
3550?				
3800	$9/2^+$	4	3.75	

† 1976Ko12 showed that $\sigma(\theta)$ were quite structureless, so that L assignments appeared to result mainly from qualitative fits to slope of angular distributions. Therefore, L assignments may be uncertain, especially for higher L values.

‡ Based on $\sigma(^{3}He,\theta)$ measurements, DWBA analysis and C^2S extractions.