^{56}Fe(^{7}Li,^{6}He) 1987En04

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. R. Bhat	NDS 85, 415 (1998)	24-Sep-1998

E= 38 MeV, FWHM= 42 keV; measured $\sigma(\theta)$ in 1° steps from 3° to 8°; and 2° steps from 8° to 20° in the lab system. Finite-range DWBA analysis.

^{57}Co Levels

E(level)	J^{π} †	C^2S	Comments
0	$7/2^-$	0.165	
1376	$3/2^-$	0.260	
1503	$1/2^-$	0.185	
1754	$3/2^-$	0.043	
2132	$5/2^-$	0.228	
2310	$7/2^-$	0.028	
2884	$3/2^-$	0.025	
3183	$7/2^-$	0.051	
3272	$5/2^-$	0.110	
3363	$1/2^-$	0.100	
3469	$3/2^-$	0.028	
3709	$(7/2^-)$	0.018	J^{π}: fits to the experimental data for $J^{\pi}=7/2^-$ or $5/2^-$ are not significantly different, although the rise in cross section at forward angles would tend to favor $J^{\pi}=7/2^-$.
3992	$7/2^-$	0.026	J^{π}: $7/2^-$ gives a better fit with a χ^2 less than by a factor of 3 compared to the fit with $J^{\pi}=5/2^-$. However, $J^{\pi}=5/2^-$ from Adopted Levels with a $C^2S=0.035$.
4248	$7/2^-$	0.045	
4295	$3/2^-$	0.033	
4502			
4586	$7/2^-$	0.213	
4673	$(3/2^+)$	0.060	J^{π}: $3/2^+$ preferred by comparison with (^{3}He,d) and (d,n) data of 1967Ro04 and 1976Ad05, respectively; $3/2^-$ cannot be ruled out.
7400			
9600			

† Assumed to extract spectroscopic factors; assignments based on J-dependence of small-angle cross section.