^{56}Fe(p,t) 1974Su02

History

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

1974Su02: E=51.9 MeV, tritons analyzed with broad-range magnetic spectrometer, position detector consisting of 200 proportional counters, measured $\sigma(\theta$,ET), DWBA analysis.

See also 1970Su09,1980Or04.

1989Po15: ^{56}Fe(pol p,t), E=24.6 MeV, outgoing particles recorded by an array of four telescopes each consisting of a combination of a 200 um and a 2 mm thick silicon detector, measured $\sigma(\theta$,ET) and $\alpha(\theta$,ET) from 11° to 81°, compared with theoretical predictions.

All data are from 1974Su02, except as noted.

^{54}Fe Levels

E(level)	L[†]	Comments
0	0	σ=150 μb 30. See 1985Mi06 for absolute cross section measured at L=0, c.m. angle=20.7°, E(p)=51.9 MeV.
1410 *10*	2	σ=19 μb 4.
2560 *10*	0	σ=41 μb 8. Pure L=0 pattern shows weak 4^+ state at 2540 keV.
2950 *10*	2	σ=63 μb 13. Pure L=2 pattern shows weak 6^+ state at 2948 keV.
3150 *20*	2	σ=4.3 μb 8.
3290 *20*	4	σ=36 μb 7.
3820 *10*	4	σ=13.0 μb 26.
4030 *15*	4	σ=25 μb 5.
4260 *15*	4	σ=8.4 μb 17.
4780 *20*	(3)	σ=5.1 μb 10.
5200		E(level): multiplet with L=2 component. σ=34 μb 7.
5640 *15*	(3)	σ=10.2 μb 20.
6330 *15*		
6410? *20*		
6510 *15*		$\sigma(\theta)$ of the 6330+6410+6510 levels contains no L=0 contribution but is well reproduced by a superposition of L=2 and L=4. $\sigma(\theta)$ integrated from 6° to 52.5° is 28 *6*.
6700 *15*	3	σ=38 μb 8.
6970 *20*		σ=18 μb 4.
7580 *25*	2	σ=30 μb 6.

[†] From $\sigma(\theta)$.