

$^{56}\text{Fe}(\text{p,p}')(\text{pol p,p}')$ 1971Ma16,1969Pe02,1966Br05

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Huo Junde, Huo Su, Yang Dong		NDS 112, 1513 (2011)	29-Oct-2009

Others: 1990Ta38, 1966Ka04.

1996De16: E=65, 400 MeV, polarized proton, measured $\sigma(\text{E}(\text{p}'),\theta)$, coupled-channels analysis. Determined matrix elements for transitions from g.s. and first 2^+ state to 2^+ , 3^- , and 4^+ states. The isospin character of the transitions is deduced.

1990Ta38: E=65 MeV, polarized proton, measured $\sigma(\text{E}(\text{p}'),\theta)$.

1971Ma16: E=49.35 MeV, 70-keV FWHM; measured $\sigma(\text{E}(\text{p}'),\theta)$.

1967Hi10: E=7-8 MeV, measured $\sigma(\text{E}(\text{p}'))$.

1966Ka04: E=10.965 MeV, measured $\sigma(\text{E}(\text{p}'),\theta)$, $\theta=60^\circ$, 140° .

1969Pe02: E=17.5 MeV, 35-keV FWHM; measured $\sigma(\text{E}(\text{p}'),\theta)$.

1966Br05: E=12 MeV, measured $\sigma(\text{E}(\text{p}'))$.

See also 1977Va16, 1981No07, 1982Sa19, 1980Za04, 1984Me07.

 ^{56}Fe Levels

E(level) [†]	L&	β_L^a	E(level) [†]	L&	β_L^a	E(level) [†]	L&	β_L^a
0			4810 [‡] 5			5863 5	4	0.039
846 ^f 5	2	0.20 ^c	4866 5			5908 5		
2085 ^f 4	(4)		4877 5	4	0.071	5932 5		
2658 ^e 4	2	0.08 ^c	5023 5			5941 [#] 10		
2939 4	(0)		5032 7			5962 7		
2960 ^f 4	(2)	0.03 ^c	5046 [#] 10			5980 8		
3117 4			5123 5	5	0.041	6002 7		
3123 ^f 4	4	0.10 ^c	5140 6			6013 10		
3370 ^f 4	2	0.05 ^c	5181 8			6024 10		
3386 4	(6)	0.03	5188 5	(3+5)		6041 8		
3443 4			5219 [#] 10			6055 8		
3446 4			5229 [#] 10			6074 8	6	0.037
3598 4			5249 5	4	0.05	6089 10		
3602 ^f 4	2	0.05 ^b	5274 5			6118 10		
3748 [‡] 5	2	0.08	5296 5			6138 7		
3832 ^f 4	2	0.05 ^c	5386 7			6174 7		
3855 4			5444 8			6201 10		
4049 4			5476 5			6226 8		
4100 4			5496 5			6243 10		
4119 4	4	0.07 ^c	5503 8			6265 8	4	0.05
4299 4			5515 [#] 10	2	0.05	6289 10		
4394 4	(4)	0.053	5528 5			6306 10		
4401 4			5557 5			6316 8		
4459 4	4	0.074 ^b	5583 5			6351 8		
4510 4	3	0.17 ^c	5612 5			6363 7		
4540 4			5663 6			6382 8		
4545 [‡] 7			5673 8			6397 8	(3,4)	
4612 4	4	0.055 ^b	5684 5			6432 8		
4620 ^d 4			5697 8			6448 8		
4659 4			5725 5			6463 8		
4675 [‡] 5			5737 [#] 10			6489 10	(2)	0.055
4688 [‡] 8	4	0.084 ^b	5768 5	(4+6)		6509 8		
4729 4	(2)	0.05 ^b	5797 5			6527 10		
4743 [#] 5			5813 7			6543 10		

Continued on next page (footnotes at end of table)

$^{56}\text{Fe}(\text{p,p}'),(\text{pol p,p}')$ 1971Ma16,1969Pe02,1966Br05 (continued) ^{56}Fe Levels (continued)

<u>E(level)[†]</u>	<u>L&</u>	<u>β_L^a</u>	<u>E(level)[†]</u>	<u>L&</u>	<u>β_L^a</u>	<u>E(level)[†]</u>	<u>L&</u>	<u>β_L^a</u>
6555 10			6781 15			7055 15		
6563 10			6800 15			7077 15	(3,4)	
6593 12			6815 15			7090 15		
6613 10			6843 15			7102 15		
6630 12	(3)	0.08	6856 15			7124 15		
6652 10			6878 15	(3)		7154 15		
6662 10			6916 15			7166 15		
6670 12			6921 15			7189 15	(3,4)	
6695 12			6940 15			7204 15		
6700 12			6967 15	3	0.05	7214 15		
6709 15			6979 15			7244 15		
6725 15			6994 15			7267 15		
6742 15			7013 15			7312 [@] 15	(3,4)	
6767 15			7036 15			7475 [@] 15	(3)	0.051 [@]

[†] E(level)≤5023 keV from 1967Hi10, >6700 keV from 1966Br05, and the rest from 1966Ka04, except as noted.

[‡] From 1966Ka04.

[#] From 1966Br05.

[@] From 1971Ma16.

[&] Based on $\sigma(\theta)$ fits with DWBA. Values are from 1971Ma16 and 1969Pe02.

^a From DWBA. Values from 1969Pe02 and 1971Ma16, except as noted. Correlation of L-values from low resolution measurements and level energies from high resolution measurements may be incorrect for E(level)>3000.

^b From 1969Pe02.

^c Average value from 1969Pe02 and 1971Ma16.

^d 4612 level of 1966Br05 probably corresponds to level at 4620 since the values of these authors are approximately 8 keV lower than those of 1967Hi10.

^e From 1990Ta38.

^f From 1996De16.