^{56}Fe(α,^{2}He) 1990Fi07

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Caroline D. Nesaraja, Scott D. Geraedts and Balraj Singh	NDS 111, 897 (2010)	12-Jan-2010

All data are from 1990Fi07.
1990Fi07: Eα=55.7 MeV, FWHM≈200-300 keV; measured $\sigma(\theta)$ for θ(lab)=17.5°−40°; zero-range DWBA analysis.
1985Ja02: Eα=52 MeV, FWHM≈200 keV; measured $\sigma(\theta)$ for θ(lab)=15°−42°; zero-range DWBA analysis.

^{58}Fe Levels

E(level)	J$^{\pi}$[†]	L[‡]	S[#]	Comments
0		0	1.6×10^{3} *7*	
4650 *50*		7+5	160 *35*	J$^{\pi}$: 7^{-} and 5^{-} doublet, L=7 preferred for the dominant level at 4610. E(level): unresolved doublet of 4610 and 4840 levels. S: for $(f_{5/2},g_{7/2})_{7-}+(p_{1/2},g_{9/2})_{5-}$ doublet.
6310 *50*	(5)$^{-}$	5	120 *25*	Configuration=$(f_{5/2}d_{5/2})_{5-}$.
7380 *50*	(8)$^{+}$	8	150 *35*	J$^{\pi}$: 8^{+} preferred over 6^{+} because of better DWBA fit to data. Configuration=$(g^{2}_{9/2})_{8+}$.
8310 *50*	(6)$^{+}$	6	150 *35*	J$^{\pi}$: 6^{+} preferred over 8^{+} because of better DWBA fit to data. Configuration=$(g_{9/2}d_{5/2})_{6+}$.

[†] From $\sigma(\theta)$ and DWBA analysis, two neutrons are assumed to be in S=0 state.
[‡] From DWBA analysis.
[#] dσ/dΩ(exp)/dσ/dΩ(DWBA).