^{58}Fe(t,^{3}He) 1985Aj02

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

1985Aj02, 1984Aj03: E=25 MeV, enriched ^{58}Fe≈82%, measured $\sigma(\theta)$ for θ(lab)=5.5°−50°, DWBA and CCBA analysis. FWHM≈20 keV.

1977Fl03: E=23 MeV, enriched (82.48%) target, measured $\sigma(\theta)$ at θ(lab)=25,30,35 ΔE γ, FWHM≈30 keV (1977Fl03).

Tentative groups reported at 1595 *20*, 1776 *20* and 1872 *20* (1977Fl03) were not confirmed in authors′ later work (1985Aj02).

In the 1997 Nuclear Data Sheets (1997Bh02) all the energies from 1985Aj02 were were shifted upwards by 72 keV by associating g.s., (2^+,3^+) group with 3^+ proposed by 1993ScZS for the 72-keV isomer. With the revised assignment of (4^+) for this isomer the adjustment In energy levels seems No longer required.

^{58}Mn Levels

dσ/dΩ listed under comments are at 25° (1977Fl03).

E(level)	J^{π}†	L†	Relative GT strength	Comments
0	2^+,3^+	2,2+4		E(level),L: broad group, possibly two unresolved levels with a spacing of 35 keV *15* (1985Aj02) or 30 keV *10* (1977Fl03)). J^{π}: 2^+,3^+ is inconsistent with (1^+) in 'Adopted Levels'. This inconsistency may be due to unresolved structure of the lowest group in (t,^{3}He). dσ/dΩ=3.7 μb/sr (1977Fl03).
88 *10*				E(level): unresolved states with possible spacing of ≈30 keV. Possibly corresponds to the 65.4-s isomer, J^{π}=(4^+). Additional information 1. dσ/dΩ=2.8 μb/sr (1977Fl03).
183 *10*	1^+	0+2	0.082	σ(0°−53°)/σ(DW)=1.1 *3* (1984Aj03), dσ/dΩ=6.4 μb/sr (1977Fl03).
303 *10*	1^+	0+2	0.060	σ(0°−53°)/σ(DW)=0.82 *22* (1984Aj03), dσ/dΩ=5.4 μb/sr (1977Fl03).
466 *15*				dσ/dΩ=11.8 μb/sr (1977Fl03).
651 *15*	1^+	0+2	0.11	σ(0°−53°)/σ(DW)=1.5 *3* (1984Aj03), dσ/dΩ=6.4 μb/sr for 665 level (1977Fl03) that corresponds to 651+679 (1985Aj02).
679 *10*	5^+	4+6	0.076	dσ/dΩ=6.4 μb/sr for 723+751 levels (1977Fl03).
748 *10*	1^+	0+2	0.11	σ(0°−53°)/σ(DW)=1.0 *3* (1984Aj03), dσ/dΩ=4.9 μb/sr (1977Fl03).
817 *10*	1^+	0+2	0.10	σ(0°−53°)/σ(DW)=1.5 *3* (1984Aj03), dσ/dΩ=6.0 μb/sr (1977Fl03).
1044 *15*	1^+	0+2	0.15	σ(0°−53°)/σ(DW)=1.4 *4* (1984Aj03), dσ/dΩ=5.7 μb/sr (1977Fl03).
1250 *20*	2^+	2		dσ/dΩ=10.6 μb/sr (1977Fl03).
1275 *20*	1^+	0+2		σ(0°−53°)/σ(DW)=2.0 *5* (1984Aj03).
1350 *15*	3^+	2+4		dσ/dΩ=17 μb/sr (1977Fl03).
1385 *15*	5^+	4+6		
1413 *15*				
1470 *15*	4^+	4		
1535 *20*	4^+	4		
2259 *15*	3^+,4^+	4,2+4		
2282 *15*	5^+,4^+	4,4+6		
2368 *10*	2^+,3^+,4^+	2,2+4,4		
2412 *10*	2^+,3^+	2,2+4		
2487 *10*	2^+,3^+	2,2+4		
2506 *15*	NOT 1^+			L: not 0+2.
2564 *10*				
2988 *10*				
3040 *10*	NOT 1^+			L: not 0+2.
3218 *10*				
3258 *15*				
3415 *20*				

Continued on next page (footnotes at end of table)

^{58}Fe(t,^{3}He) 1985Aj02 (continued)

^{58}Mn Levels (continued)

† From $\sigma(\theta)$ and coupled-channels analysis (1985Aj02). For Levels above 2200, assignments are without angular distribution data at θ <15° (1985Aj02). Except for g.s., the assignments are the same in 'Adopted Levels'.