^{176}Yb(pol t,α) 1979Lo09

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 102, 719 (2004)	1-Jun-2004

E=17 MeV with polarization of≈78% target: 96.43% enriched ^{176}Yb measured α spectra with Q3D magnetic spectrometer. Typical energy resolution FWHM=24 keV.

Measured angular distribution and analyzing powers in the angular range θ=10°−50°. Relative uncertainties are≈5%; absolute uncertainties are about 20%.

^{175}Tm Levels

E(level)	J$^{\pi}$[†]	$T_{1/2}$	S[‡]	Comments
≈0[#]	(1/2$^+$ & 3/2$^+$)	15.2 min *5*	≤0.70	Probable doublet comprised of J=1/2 and J=3/2 members of the 1/2[411] rotational band. A small energy spacing between these levels is expected for typical values of the decoupling parameter in this region. S: the upper limit in spectroscopic factor assumes all the cross section is due to the 3/2 member of the band. J$^{\pi}$: g.s. 1/2$^+$ assignment from systematics in $^{169,\ 171}$Tm $T_{1/2}$: from Adopted Levels.
≈126[#]	(5/2$^+$ & 7/2$^+$)		≤0.72	Probable doublet. As for the ground state, the 5/2 and 7/2 members of the band are expected to lie close to each other. S: for J=7/2. S=0.12 for J=5/2.
353[#]	(9/2$^+$)		0.11	
439[@]	(7/2$^-$)		0.081	
532[@]	(9/2$^-$)		0.13	
611[&]	(3/2$^+$)		0.11	
645[@]	(11/2$^-$)		2.1	
672[&]	(5/2$^+$)		0.72	
756[&]	(7/2$^+$)		0.18	
870[&]	(9/2$^+$)		0.11	
941	(15/2$^-$)			Tentative assignment: 15/2$^-$, 7/2[523]. Level is probably populated through a multistep process.
1004				
1072				
1146	(7/2$^+$,3/2$^+$)		0.16	S: for J=7/2. S=0.072 for J=3/2.
1212	(7/2$^-$,5/2$^+$)		0.065	S: for J=7/2. S=0.066 for J=5/2.
1365	(7/2$^+$,3/2$^+$)		0.096	S: for J=7/2. S=0.047 for J=3/2.
1423[a]	(5/2$^+$)		0.23	
1495	(7/2$^-$,5/2$^+$)		0.048	S: for J=7/2. S=0.056 for J=5/2.
1583				
1706[b]	(5/2$^+$)		0.11	
1744				
1810[b]	(7/2$^+$)		0.42	
1916[c]	(7/2$^-$)		0.24	
1985	(5/2$^+$)		0.16	Energy systematics of the 1/2[420] Nilsson orbital in Ho isotopes suggests a 5/2$^+$,1/2[420] assignment.
2013				
2056				
2095[c]	(11/2$^-$)		1.3	
2216				
2310				

[†] Comparison with DWBA calculations permitted spin and parity assignments of several rotational bands. Weakly populated band

Continued on next page (footnotes at end of table)

^{176}Yb(pol t,α) 1979Lo09 (continued)

^{175}Tm Levels (continued)

members assignments rely on the Nilsson model and are based on energy patterns and comparison with neighboring nuclei.

‡ Experimental values of nuclear structure factors are given by (1/(2N))(dσ/dΩ(exp)/dσ/dΩ(DWBA)) with N=23.

1/2(411) band.

@ 7/2(523) band.

& 3/2(411) band.

a 5/2(402) band: tentative.

b 5/2(413) band.

c 5/2(532) band.