^{172}Yb(d,p) 1977Ta13

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	V. S. Shirley	NDS 75,377 (1995)	1-Oct-1993

E(d)=14 MeV, θ=16°−120° (4 angles used); enriched ^{172}Yb oxide targets (97.15%); measured E(level) (100-centimeter broad-range mag spect), differential cross sections, angular distributions. Others: 1966Bu16, 1969Ga02.
See ^{174}Yb(d,t) data for analysis of J^π values from (d,p) and (d,t) combined and for assignments of levels to rotational bands.

^{173}Yb Levels

E(level)	L†	S‡	Comments
0.0			
78.6 *8*			
180.6 *17*			
303.7 *23*			
402.0 *13*			
414.4 *19*			
464.6 *29*			
482.2 *27*			
603.7 *15*			
628.7 *14*			
748.2 *8*			
887.7 *23*			
1032.2 *18*			
1058.2 *12*			
1074.8 *9*	1	0.135	S: for $J^\pi=3/2^-$.
1121.6 *9*	3	0.139	S: for $J^\pi=5/2^-$.
1142.5 *14*			
1159.0 *18*			
1176.2 *21*			
1195.5 *21*			
1219.7 *9*	3	0.045	S: for $J^\pi=7/2^-$.
1233.8 *19*			
1306.0 *15*			
1340.9 *14*	1	0.029	S: for $J^\pi=3/2^-$.
1363.0 *14*			
1406.0 *9*	3	0.121	S: for $J^\pi=5/2^-$.
1442.7 *17*			
1494.4 *9*	3	0.039	L,S: angular distribution data for 1494.4 and 1506.7 levels not resolved (S deduced for $J^\pi=7/2^-$).
1506.7 *10*			L,S: see comment with 1494.4 level.
1578.2 *23*			
1604.0 *13*			
1619.6 *20*			
1634.6 *25*			
1665.1 *10*	1	0.250	S: for $J^\pi=1/2^-$; S=0.113 for $J^\pi=3/2^-$.
1707.2 *9*	(3)	0.141	L: a second, but less probable fit gives L=2. S: for $J^\pi=5/2^-$; S=0.087 for $J^\pi=7/2^-$.
1733.1 *12*	(1)	0.066	L: a second, but less probable fit gives L=2. S: for $J^\pi=1/2^-$; S=0.030 for $J^\pi=3/2^-$.
1759.8 *12*	(1,3)	0.042	L: a third, but less probable fit gives L=2. S: for $J^\pi=1/2^-$; S=0.019 for $J^\pi=3/2^-$, S=0.060 for $J^\pi=5/2^-$, and S=0.037 for $J^\pi=7/2^-$.
1787.4 *12*			
1839.1 *23*			
1853.3 *14*			
1869.3 *16*			
1894.8 *16*			
1912.1 *17*			
1927.9 *15*			

Continued on next page (footnotes at end of table)

^{172}Yb(d,p) 1977Ta13 (continued)

^{173}Yb Levels (continued)

E(level)	E(level)	E(level)	E(level)
1953.3 *18*	2072.6 *16*	2392.8 *16*	2503.5 *16*
1981.8 *13*	2126.5 *20*	2407.8 *11*	2515.8 *11*
1991.9 *15*	2202.7 *19*	2425.7 *13*	2539.2 *15*
2013.7 *18*	2225.9 *13*	2440.7 *21*	2577.4 *19*
2034.5 *20*	2254.9 *19*	2462.8 *17*	2605.2 *15*
2051.4 *18*	2327.3 *22*	2479.9 *11*	2627.4 *12*

† DWBA analysis of angular distributions.
‡ Relative spectroscopic factor.