^{170}Yb(d,p), ^{172}Yb(d,t) 1966Bu16,1979Ja23

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin, E. A. Mccutchan	NDS 151, 334 (2018)	30-Jun-2018

Data are from 1966Bu16, except where noted.
^{170}Yb(d,p): E(d)=12 MeV, θ=56°, 60°, 85°.
^{172}Yb(d,t): E(d)=12 MeV, θ=60°, 90°.
Enriched Yb targets (85.4% for ^{170}Yb, 97.15% for ^{172}Yb); measured E(level) (mag spect, resolution≈0.1%), differential cross sections.
Others: 1969Ga02, 1974Ba26, 1975Ja18, 1975Ja19, 1977TaZA.

^{171}Yb Levels

E(level)[†]	J$^\pi$[‡]	L[#]	C^{2}S[@]	Comments
0.0[b]	1/2$^-$	1	0.284	
72[b] 3	3/2$^-$ & 5/2$^-$		0.018	E(level): complex; composed of known 66.7 and 75.9 levels. J$^\pi$: both 3/2$^-$ and 5/2$^-$ states belong to g.s. band. C^{2}S: for 66.7 level (C^{2}S=0.142 for 75.9 level); division assumes 1:3, 3/2$^-$:5/2$^-$ intensity ratio, as for same levels in other odd-mass Yb isotopes.
121[d] 3	5/2$^-$		0.022	
168[c] 3	9/2$^+$		0.07	
208[d] 3	7/2$^-$		0.681	
230[b] 3	7/2$^-$		0.272	
≈250[b]	9/2$^-$		0.185	
318[d] 3	9/2$^-$		0.177	E(level): includes component from ^{172}Yb.
369[c] 3	13/2$^+$	6	0.93	
449[d] 3	11/2$^-$		0.120	
486[b] 3	11/2$^-$		0.097	
838[e] 3	7/2$^-$	3		E(level): Includes possible component from contaminant.
≈867				
876 3				
904[f] 3	3/2$^-$&			
945[e] 3	9/2$^-$			E(level): complex; may include component from 1/2$^-$ 1/2[510] state (+ γ-vibration) (expected at 954.2 keV; see ^{171}Yb Adopted Levels).
971 3				
≈987				
995[g] 3	3/2$^-$	1	0.34[a]	
1026 3				
≈1038				
1052[g] 3	5/2$^-$	3	0.31[a]	L: from angular distributions in (d,p) (1969Ga02).
1079[f] 3	7/2$^-$&			
≈1113				
1118 3				
1144[g] 3	7/2$^-$	3	0.10[a]	L: from angular distributions in (d,p) (1969Ga02).
1188 3				
1204 3				
≈1244				
1254[g] 3	9/2$^-$		0.24[a]	
1280 3				
1290 3				
≈1300				
1320 3				
1328 3				

Continued on next page (footnotes at end of table)

^{170}Yb(d,p), ^{172}Yb(d,t) 1966Bu16,1979Ja23 (continued)

^{171}Yb Levels (continued)

E(level)†	E(level)†	E(level)†	E(level)†
1348 *3*	1460 *3*	1599 *6*	1730 *6*
≈1356	1486 *3*	1627 *6*	1765 *6*
1387 *3*	1518 *6*	1638 *6*	1771 *6*
1395 *3*	1524 *6*	1662 *6*	
1402 *3*	1559 *6*	1671 *6*	
1432 *3*	1588 *6*	1715 *6*	

† Weighted average from (d,p) and (d,t).
‡ Authors′ values from systematics of Yb isotopes and comparison of relative level populations with predictions from stripping theory. See ^{171}Yb Adopted Levels for evaluator′s assignments.
# From DWBA analysis of angular distributions in (d,p) (1979Ja23), except where noted.
@ $d\sigma/d\Omega$(exp)/3 σ(DWBA) in (d,t), except where noted.
& Probable γ-vibration containing large fraction of single-particle state indicated.
a C^2S in (d,p).
b Band(A): 1/2[521] band.
c Band(B): 7/2[633] band.
d Band(C): 5/2[512] band.
e Band(D): 7/2[514] band.
f Band(E): 3/2[521] band (+ γ-vibration).
g Band(F): 1/2[510] band (+ γ-vibration).

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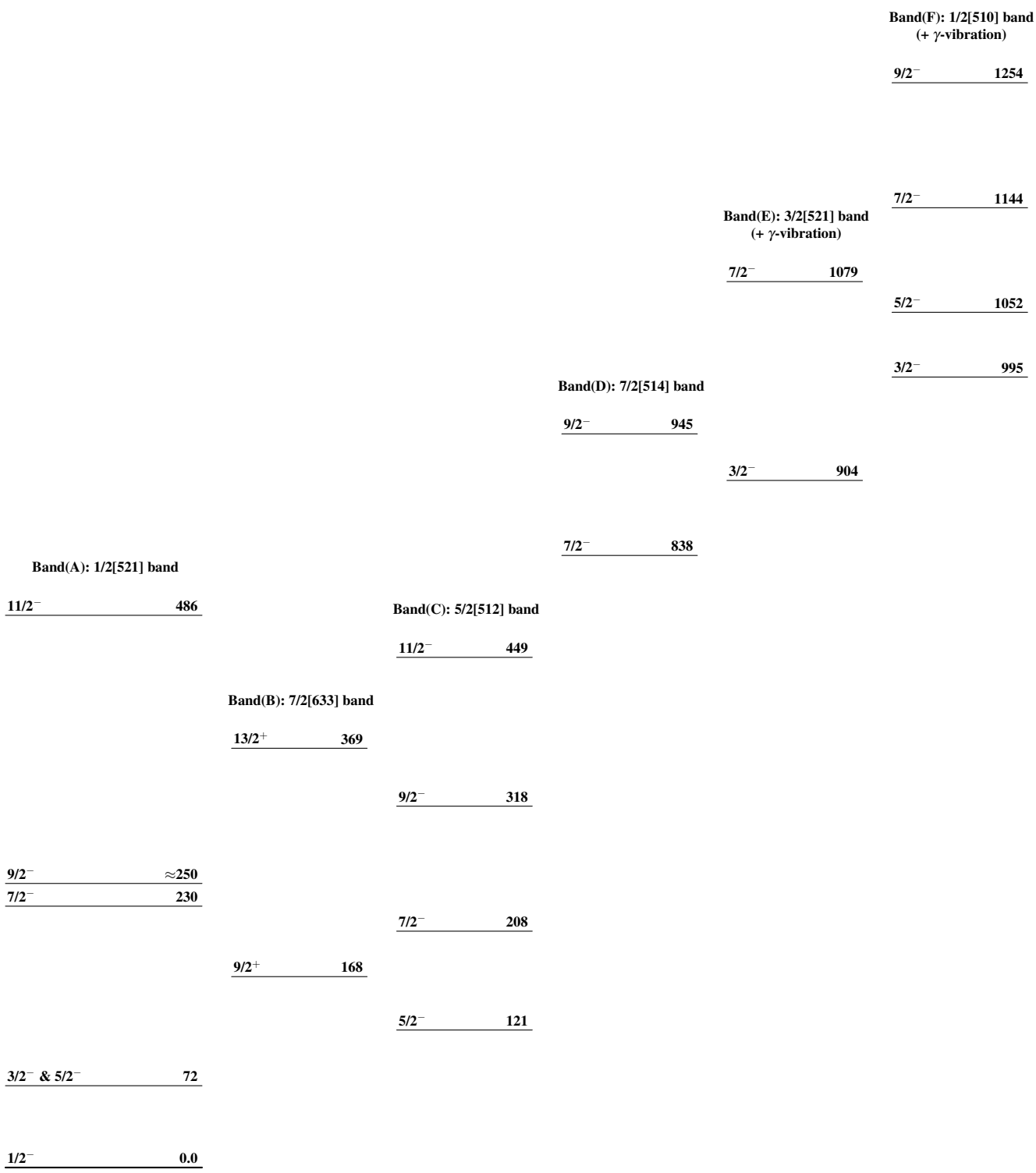

$^{171}_{70}Yb_{101}$