^{171}Yb(d,p) 1967Bu21

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 75,199 (1995)	31-May-1995

$J^\pi(^{171}Yb)=1/2^-[521]$.

1967Bu21: E=12 MeV. Enriched target. FWHM≈0.1%. Measured cross sections at 45° and 90°. DWBA calculations.

Others:

1974As05 (also 1974McZP,1973Mc03): E=11.2, 16.0 MeV. Measured $\sigma(\theta)$ for g.s. 0^+, 79 *2+*, 260 *4+*, 1043 *0+*, 1118 *2+* levels. DWBA and coupled-channel calculations. Deduced multi-step or inelastic contributions to $\sigma(\theta)$ distributions.

1966Sh14: E=12 MeV. FWHM≈14 keV. Measured cross sections at 27.5° and 55° for 0, 80, 262, 1467, 1554, 1664 levels.

Q(d,p)=5788.5 *50* (1966Sh14).

^{172}Yb Levels

The quasiparticle configurations are from 1967Bu21. These should be considered as the components deduced from (d,p) data (1967Bu21) while other configurations are likely to contribute, but not expected to be populated in this reaction.

E(level)[†]	J^π[‡]	dσ/dΩ μb/sr At 90°[#]	Comments
0[@]	0^+	37	dσ/dΩ (predicted)=36 μb/sr.
80[@]	2^+	17	dσ/dΩ (predicted)=20 μb/sr.
260[@]	4^+	20	dσ/dΩ (predicted)=27 μb/sr.
542[@]	6^+	2	dσ/dΩ (predicted)=3 μb/sr.
1046[&]	0^+	≈3	
1116[&]	2^+	≈4	
1170[a]	3^+	5	dσ/dΩ (predicted)=11 μb/sr.
1263[a]	4^+	49	dσ/dΩ (predicted)=66 μb/sr.
1349		≈2	
≈1373[a]	5^+	<2	dσ/dΩ (predicted)=3 μb/sr.
1466[b]	2^+	≈2	Cross section at 45°.
1508[a]	6^+	≈2	dσ/dΩ (predicted)=1 μb/sr.
1550[b]	3^+	20	
1604[c]	2^+	≈3	
≈1634		≈2	
1661[b]	4^+	20	
1702[c]	3^+	33	
1750		32	
1793[c]	4^+	≈6	J^π: from comparison of theoretical and experimental cross sections in (d,p) and (d,d′).
≈1853		≈3	
1893		4	
1921		12	
1967		12	
2097		2	
2121		6	
2173		5	
2218		38	
2279		24	
2325		≈8	
2344		19	
2371		80	

[†] From 1967Bu21. The uncertainties are 2-3 keV below 1500 and 6-7 keV for levels above (1966Bu16).

Continued on next page (footnotes at end of table)

^{171}Yb(d,p) 1967Bu21 (continued)

^{172}Yb Levels (continued)

‡ From Adopted Levels. Comparison of experimental and calculated (from DWBA) cross sections and that of of relative population in (d,p) and (d,d′) confirms such assignments.
# Cross-section data are also given at 45° by 1967Bu21.
@ Band(A): $K^\pi=0^+$ g.s. band.
& Band(B): $K^\pi=0^+$ band. contributing configurations are: Configuration=((ν 1/2(521))(ν 1/2(521))) and Configuration=((ν 5/2(512))(ν 5/2(512))).
a Band(C): $K^\pi=3^+$ band. contributing Configuration=((ν 5/2(512))(ν 1/2(521))). See Adopted Levels for contribution from other configurations.
b Band(D): $K^\pi=2^+$ γ band.
c Band(E): $K^\pi=2^+$ band. contributing Configuration=((ν 5/2(512))(ν 1/2(521))).

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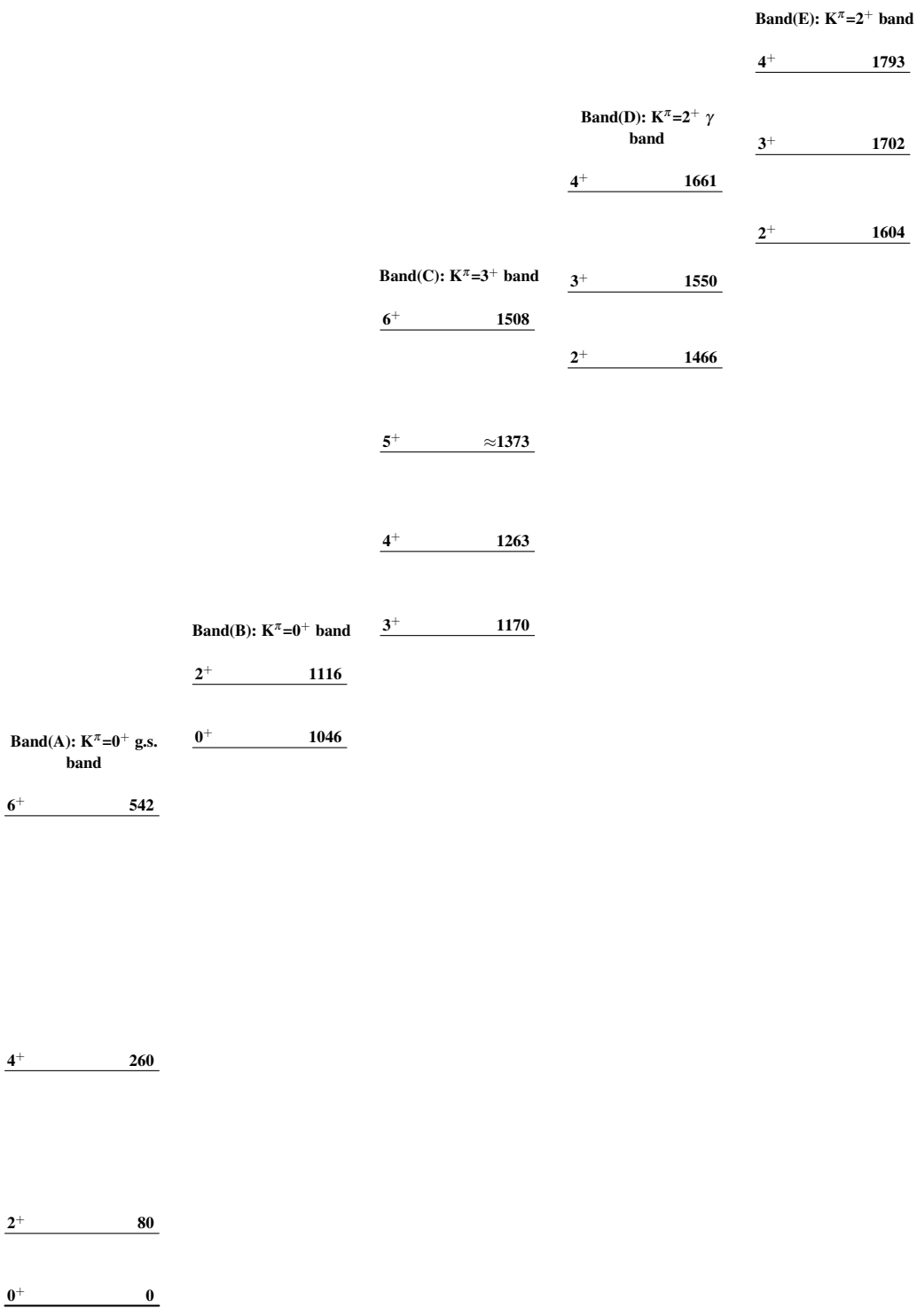

$^{172}_{70}Yb_{102}$