^{172}Yb(d,d′) 1967Bu21

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

1967Bu21: E=12 MeV. Enriched target. FWHM≈0.1%. Cross sections measured at θ=90° and 125°.

Others:

1976TaZZ: E=12 MeV. Enriched target. Measured cross sections at 60°, 90° and 120° for 17 levels below 2050 keV. Uncertainties are≈20% on cross sections.

1974As05 (also 1974McZP,1973Mc03): E=12 MeV. Measured $\sigma(\theta)$ for g.s., 79 and 260 levels.

1969Ch09: (d,d) E=12 MeV. Measured $\sigma(\theta)$. Deduced optical-model parameters.

1966El07 (also 1960El07): E=12 MeV. Measured σ at 125°. First four members of g.s. band reported. Deduced β_4 parameter.

Cross section data from 1976TaZZ

Level	dσ/dΩ μb/sr	Level	dσ/dΩ μb/sr
78.9 5	6400	1632.2 15	23
261.0 5	55	1656.9 18	62
538.7 9	26	1711.9 12	37
1124.1 13	33	1749.1 21	18
1223.2 7	76	1787.4 25	18
1262.8 8	60	1822.4 8	144
1354.7 11	51	2030.4 8	45
1467.4 9	81	2047.4 23	47
1606.1 12	55		

1976TaZZ give relative cross sections at 60 ° and 120 °

^{172}Yb Levels

The quasi-particle configurations are from 1967Bu21. These should be considered as the main configurations deduced from (d,d′) data while other components are likely to contribute significantly.

E(level)[†]	Jπ[‡]	dσ/dΩ μb/sr At 90°[#]	Comments
0[&]	0+	63000	
79[&]	2+	6400	
260[&]	4+	61	
543[&]	6+	8.4	
1116[a]	2+	2.2	
1222	3− [@]	29	B(E3)=0.026, B(E3)(W.u.)=2.1.
1262[b]	4+	22	
1355		4.9	
1465[c]	2+	35	B(E2)=0.044, B(E2)(W.u.)=1.5.
1605[d]	2+	4.5	
1631		2.2	
1660[c]	4+	1.0	
1708	(3−) [@]	15	B(E3)=0.015, B(E3)(W.u.)=1.2.
1747		2.1	
1789[d]	4+	3.3	Cross section at 125°.
1820	3− [@]	54	B(E3)=0.053, B(E3)(W.u.)=4.2.
2032	3− [@]	21	B(E3)=0.022, B(E3)(W.u.)=1.8.
2050		7.0	

Continued on next page (footnotes at end of table)

^{172}Yb(d,d′) 1967Bu21 (continued)

^{172}Yb Levels (continued)

† From 1967Bu21. The uncertainties are 2-3 keV for the low-lying states and 6-7 keV for the states above 1.5 MeV (1966Bu16).
‡ Based on comparison between experimental and theoretical (DWBA) relative level intensity populations in (d,p) and (d,d′), and fit to rotational bands (1967Bu21).
# Cross section values at 125° are also given by 1967Bu21.
@ Octupole-vibrational state.
& Band(A): $K^\pi=0^+$ g.s. band.
a 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))).
b Band(C): $K^\pi=3^+$ band. contributing Configuration=((ν 1/2(521))(ν 5/2(512))). See Adopted Levels for contribution from other configurations.
c Band(D): $K^\pi=2^+$ γ band.
d Band(E): $K^\pi=2^+$ band. contributing Configuration=((ν 5/2(512))(ν 1/2(521))).

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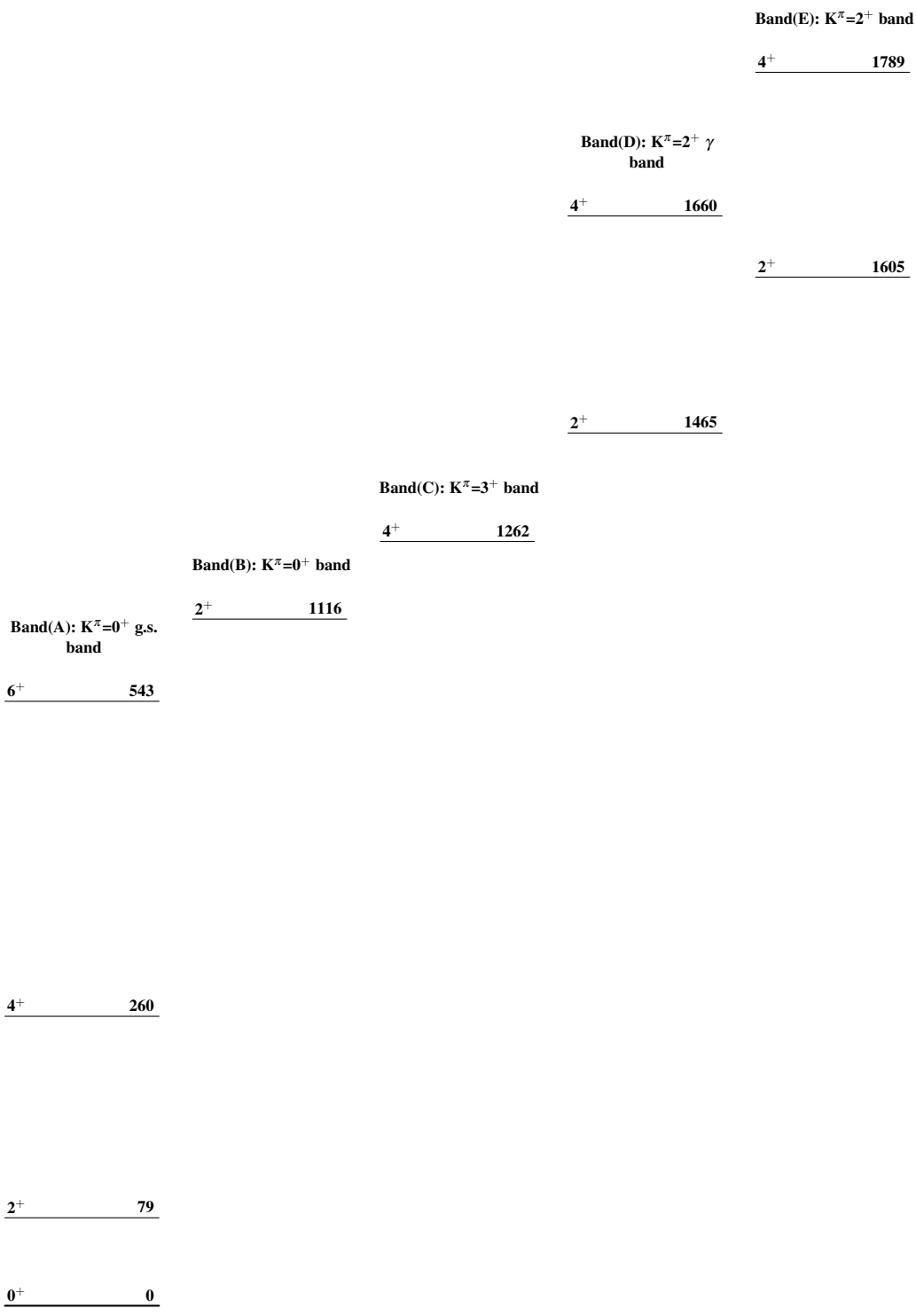

$^{172}_{70}Yb_{102}$