^{159}Tb(pol t,α) 1981Bu10

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 141, 1 (2017)	1-Feb-2017

$J^\pi(^{159}Tb)=3/2^+$.

E=17 MeV. Measured $\sigma(\theta)$ from 10° to 45°, analyzing powers. Q3D magnetic spectrometer, FWHM=20-25 keV. DWBA calculations.

^{158}Gd Levels

E(level)[†]	J^π[‡]	S[#]	Comments
0[@]	0^+	2.6	
80[@]	2^+	88	
263[@]	4^+	18	
540[@]	6^+	1.0	
1041[&]	3^-&2^-	9	E(level),J^π: Peak would include 2^- level at 1023 keV.
1172[&]	5^-&4^-	28	E(level),J^π: Peak would include 4^- level at 1158 keV.
1265[a]	3^+&2^+	10	E(level),J^π: Peak would include 2^+ level at 1259 keV.
1385[b]	4^+&6^-,7^-	38	E(level),J^π: Peak would include 6^- and 7^- levels at 1371 and 1391 keV.
1493[b]	5^+	45	
1795[c]	2^+	21	
≈1904[c]	4^+	12	
1930[d]	1^+	13	
1964[d]	2^+	32	
2034[d]	3^+	84	E(level): Peak is a broad multiplet.
≈2090[d]	4^+	≈20	
2117		≈31	
2176[e]	5^-	44	
2224		18	
2282[e]	6^-	58	
2323		25	
2384		13	
2418[e]	7^-	49	
2485		22	

[†] ΔE=5 keV for levels between 250 and 1800 keV and can be larger outside that range.

[‡] For $K^\pi=4^-$ band, based on "fingerprint" method, angular distributions and analyzing powers compared to DWBA calculations for measured cross section (1981Bu10). For other band these data confirm earlier assignments from other modes of excitation.

[#] Label=dσ/dΩ (μb/sr).

[@] Band(A): $K^\pi=0^+$ ground-state band.

[&] Band(B): $K^\pi=1^-$ octupole band.

[a] Band(C): $K^\pi=2^+$ γ-vibrational band.

[b] Band(D): $K^\pi=4^+$ band with p,5/2(413)+p,3/2(411) component.

[c] Band(E): $K^\pi=0^+$ band with p,3/2(411)-p,3/2(411) component.

[d] Band(F): $K^\pi=1^+$ band with p,5/2(413)-p,3/2(411) component.

[e] Band(G): $K^\pi=4^-$ band with p,5/2(532)+p,3/2(411) component.

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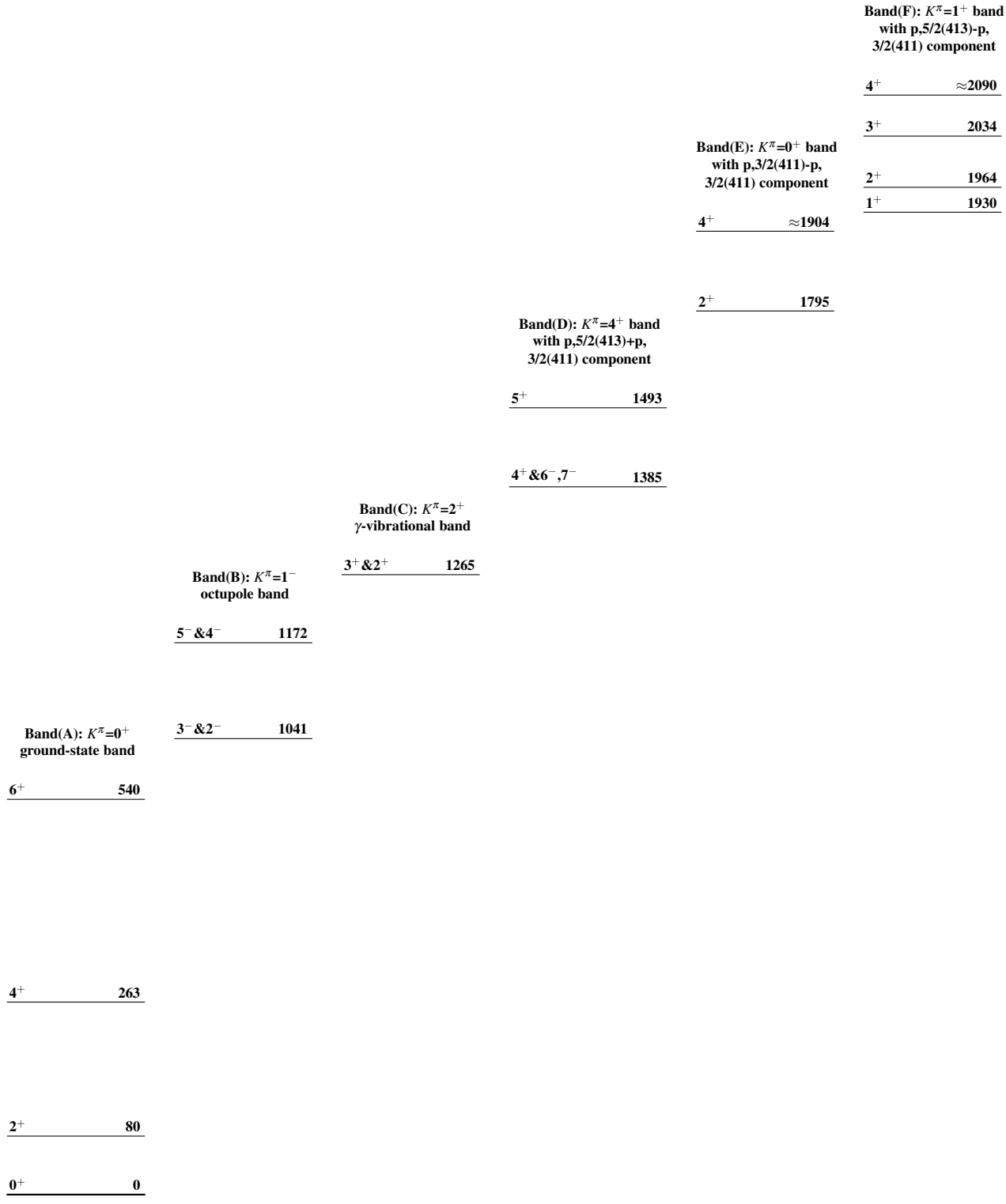

$^{158}_{64}Gd_{94}$

^{159}Tb(pol t,α) 1981Bu10 (continued)

Band(G): $K^{\pi}=4^{-}$ band with p,5/2(532)+p, 3/2(411) component

7^{-} 2418

6^{-} 2282

5^{-} 2176

$^{158}_{64}Gd_{94}$