^{167}Er(t,α) 1982De37

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 109, 1103 (2008)	1-Mar-2008

Target $J^\pi=7/2^+$.

1982De37: E(t)=17.0 MeV; 87.2% ^{167}Er target; Q3d magnetic spectrometer (FWHM≈20 keV), particle identification; θ(lab)= 25°, 30°, 35°, 40°, 50°; measured Eα, dσ/dΩ; DWBA calculations.

^{166}Ho Levels

E(level)	J^π[†]	L[‡]	dσ/dΩ(35°) μb/sr[#]	Comments
0.0[@]	0^-		≈1	dσ/dΩ(35°) μb/sr: estimated for unresolved doublet.
5[&] 5	7^-	5	≈21	dσ/dΩ(35°) μb/sr: estimated for unresolved doublet.
57[@] 7	2^-		4.6	
86.5[@] 25	1^-			
136.0[&] 7	8^-	5	37	
173.1[@] 14	3^-		23	
187.3[@] 21	4^-		14	
259.3[a] 12	5^+		58	
283.3[&] 13	9^-	5	27	
323[@] 4	5^-		21	
375.3[a] 14	6^+	2	≈38	E(level): for unresolved doublet.
375.3[@] 14	6^-		≈6	E(level): for unresolved doublet.
425.0[b] 20	2^+		34	
478[b] 3	3^+		38	
514.4[a] 17	7^+		5.1	
547[b] 3	4^+		≈33	
562[@] 4	7^-		3	
589.9 16			13	
636[b] 3	5^+		8.6	
718[c] 3	3^+[j]	2	29	
731.8[b] 25	6^+		0.9	
801[d] 4	0^+		2	
818[c] 3	4^+[j]		24	
856[d] 6	2^+	4	4.4	
884.0[e] 20	4^+[j]	2	14	
915[f] 3	7^+	4	15	
946[c] 4	5^+[j]		4.7	
974[d] 9	1^+		2.4	
1006[e] 4	5^+[j]		11	
1037 7			8.1	
1066[d] 5	3^+		1.9	
1091[c] 4	6^+[j]		2.5	
1126 8			1.1	
1146[e] 5	6^+[j]		13	E(level),dσ/dΩ(35°) μb/sr: for unresolved doublet.
1146[g] 5	1^+		13	E(level),dσ/dΩ(35°) μb/sr: for unresolved doublet.
1187[g] 6	2^+		11	
1205 18			2.8	
1238[g] 3	3^+	4	19	
1272.0[h] 20	6^+	4	32	

Continued on next page (footnotes at end of table)

^{167}Er(t,α) 1982De37 (continued)

^{166}Ho Levels (continued)

E(level)	Jπ†	L‡	dσ/dΩ(35°) μb/sr#	E(level)	Jπ†	dσ/dΩ(35°) μb/sr#
1305[g] *4*	4+	4	11	1604.0 *20*		3.8
1356 *5*			7.7	1628? *10*		
1379[g] *14*	5+		14	1645 *3*		26
1417[h] *3*	7+	4	24	1692[i] *4*	7−	21
1460 *17*			5.6	1743 *8*		19
1487 *11*			15	1790 *6*		25
1519 *11*			5.8	1834[i]	8−	26
1560[i] *5*	6−		12	1998[i] *6*	9−	16
1585 *8*			6.6	2160 *6*		34

† From 1982De37, based on comparison of measured cross sections with DWBA calculations for specific Nilsson orbitals, unless otherwise noted.
‡ From comparison of σ(θ)(exp) and σ(θ)(DWBA).
# dσ/dΩ At 35° In μb/sr.
@ Band(A): $K^\pi=0^-$, (π 7/2[523])-(ν 7/2[633]) band.
& Band(B): $K^\pi=7^-$, (π 7/2[523])+(ν 7/2[633]) band.
[a] Band(C): $K^\pi=5^+$ band. (π 3/2[411])+(ν 7/2[633]) and (π 7/2[523])+(ν 3/2[521]).
[b] Band(D): $K^\pi=2^+$ band. (π 3/2[411])-(ν 7/2[633]) and (π 7/2[523])-(ν 3/2[521]).
[c] Band(E): π=+ band 1. Configuration of (π 1/2[411])-(ν 7/2[633]) assigned to this band In 1982De37 is assigned to a different band In Adopted Levels.
[d] Band(F): $K^\pi=0^+$, (π 7/2[404])-(ν 7/2[633]) band. J^π established by cross section fingerprint for J=0 through 3 members of this configuration.
[e] Band(G): π=+ band 2. Configuration of (π 1/2[411])+(ν 7/2[633]) assigned to this band by 1982De37 is assigned to a different band In Adopted Levels.
[f] Band(H): $K^\pi=7^+$, (π 7/2[404])+(ν 7/2[633]) band.
[g] Band(I): $K^\pi=1^+$, (π 5/2[413])-(ν 7/2[633]) band. J^π established by cross section fingerprint for J=1 through 5 members of this configuration.
[h] Band(J): $K^\pi=6^+$, (π 5/2[413])+(ν 7/2[633]) band.
[i] Band(K): $K^\pi=6^-$, (π 5/2[532])+(ν 7/2[633]) band.
[j] Not adopted; configuration nominated In 1982De37 is now assigned to a different level sequence.

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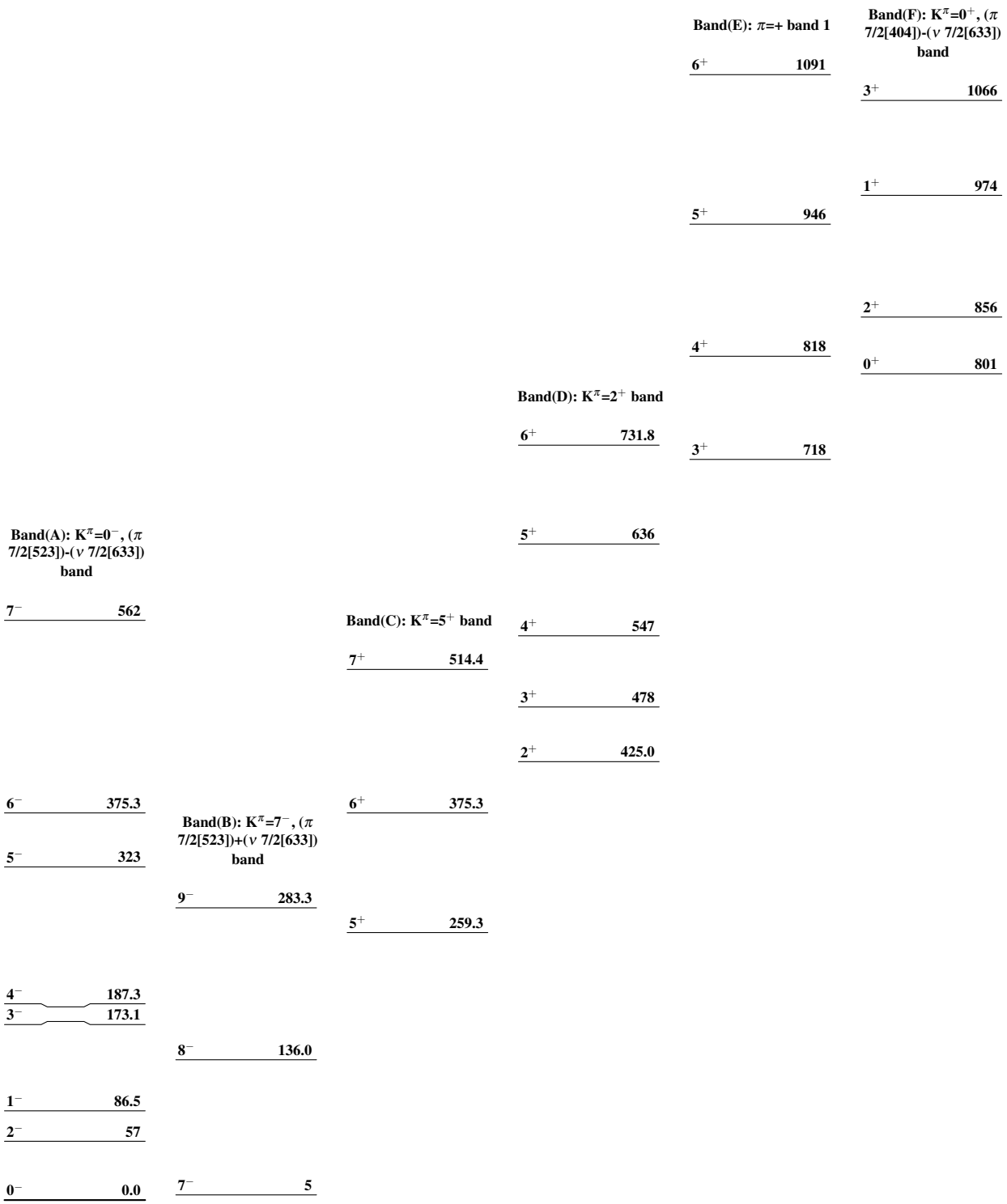

$^{166}_{67}Ho_{99}$

^{167}Er(t,α) 1982De37 (continued)

Band(K): $K^{\pi}=6^{-}$, (π 5/2[532])+(ν 7/2[633]) band

9^{-}	1998
8^{-}	1834
7^{-}	1692
6^{-}	1560

Band(J): $K^{\pi}=6^{+}$, (π 5/2[413])+(ν 7/2[633]) band

7^{+}	1417
6^{+}	1272.0

Band(I): $K^{\pi}=1^{+}$, (π 5/2[413])-(ν 7/2[633]) band

5^{+}	1379
4^{+}	1305
3^{+}	1238
2^{+}	1187
1^{+}	1146

Band(G): π=+ band 2

6^{+}	1146
5^{+}	1006
4^{+}	884.0

Band(H): $K^{\pi}=7^{+}$, (π 7/2[404])+(ν 7/2[633]) band

7^{+}	915

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