^{170}Er(pol t,α) 1979Lo02

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 109, 2033 (2008)	15-Jun-2008

E(t)=17 MeV, polarization=0.78 (average value); metallic Er targets enriched to 96.9% in ^{170}Er; measured E(level) (Q3D mag spect, FWHM≈16 keV), angular distributions (9 angles from 10° to 50°), analyzing powers; interpreted levels in terms of the Nilsson model, including pairing and Coriolis coupling, aided by analogies with known levels in ^{165}Ho and ^{167}Ho.

^{169}Ho Levels

E(level)	J^{π}[†]	L[‡]	S[#]	Comments
0.0[@]	7/2$^-$	3	0.054	
97[@] *4*	9/2$^-$	5	0.19	
215[@] *4*	11/2$^-$	5	1.90	S: large value attributed to Coriolis mixing with other orbitals from the $h_{11/2}$ shell.
254[&] *4*	3/2$^+$	2	0.11	
314[&] *4*	5/2$^+$	2	0.79	
359[a] *4*	3/2$^+$	2	0.27	
381[&] *4*	7/2$^+$	4	≈0.15	L: angular distribution not shown, but L=4 determination implied in text.
460[&] *4*	9/2$^+$	4	0.16	
492[a] *4*	7/2$^+$	4	0.34	
518 *4*				
722 *4*				
776 *4*				
1017 *4*	(5/2$^+$)	(2)	0.018	
1079[b] *4*	7/2$^+$	4	0.78	S: See comment on S for 1179 level.
1179[c] *4*	7/2$^+$	4	0.52	S: value is much smaller than expected (level is dominant band member) because Coriolis coupling to the 7/2$^+$ 7/2[404] state moves strength to that level.
1277[c] *4*	9/2$^+$	4	0.15	
1366[d] *4*	7/2$^-$	3	0.20	
1421 *4*				
1536[d] *4*	11/2$^-$	5	0.76	S: large value attributed to origin of the 5/2[532] orbital in the $h_{11/2}$ shell-model state.
1651 *4*	(11/2$^-$)	5	0.57	
1693[f] *4*	5/2$^+$	2	0.070	
1745 *4*	(1/2$^+$)	(0)	0.029	
1786[e] *4*	1/2$^+$	0	0.077	
1850[e] *4*	5/2$^+$	2	0.13	S: value is smaller than predicted value (1/2[420] orbital has its origin in the $2d_{5/2}$ shell-model state) suggesting high-energy fragmentation of single-particle strength.
1865 *4*	(11/2$^-$)	(5)	0.76	

[†] From angular distributions and analyzing powers (authors′ values). these values are also the adopted ones.
[‡] From DWBA analysis of angular distributions.
[#] Nuclear structure factor calculated from dσ/dΩ(exp)/(2N dσ/dΩ(DWBA)) assuming N=32.5.
[@] Band(A): 7/2[523] band.
[&] Band(B): 3/2[411] band.
[a] Band(C): 1/2[411] band.
[b] Band(D): 7/2[404] band.
[c] Band(E): 5/2[413] band.
[d] Band(F): 5/2[532] band.
[e] Band(G): 1/2[420] band.
[f] Band(H): 5/2[402]? band.

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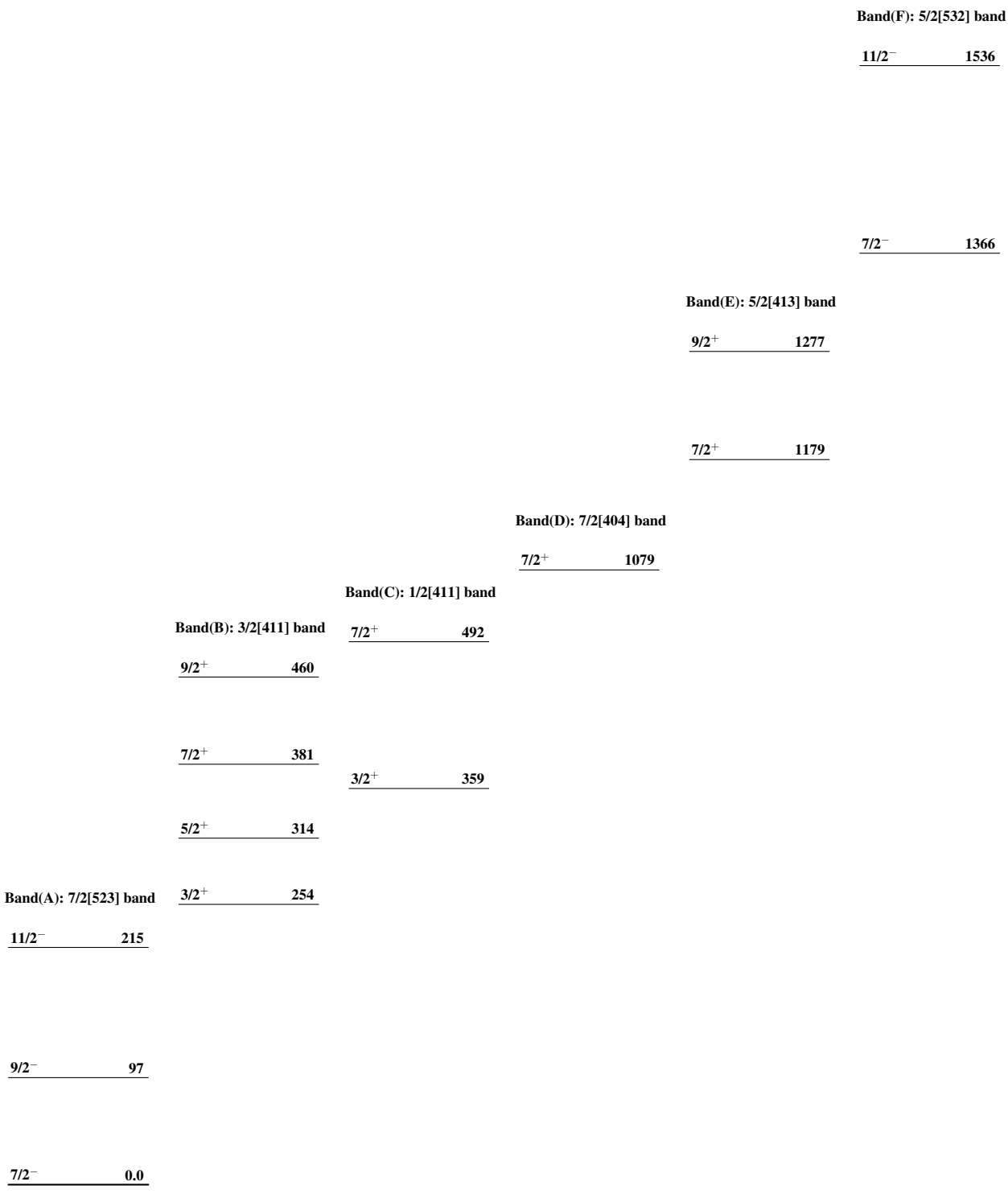

$^{169}_{67}Ho_{102}$

^{170}Er(pol t,α) 1979Lo02 (continued)

Band(G): 1/2[420] band

5/2$^+$	**1850**

1/2$^+$	**1786**

Band(H): 5/2[402]? band

5/2$^+$	**1693**

$^{169}_{67}Ho_{102}$