^{168}Er(^{3}He,d), (α,t) 1974Ch44

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

E(^{3}He)=24 MeV (nine angles used), E(α)=27 MeV (θ=45°, 60°); Er metal targets enriched to 99.989% in ^{168}Er; measured E(level) (mag spect, FWHM=16-18 keV), (^{3}He,d) angular distributions, (^{3}He,d) and (α,t) differential cross sections and cross-section ratios; interpreted level structure, comparing spectroscopic factors (DWBA analysis) with Nilsson-model predictions (pairing correlations and Coriolis coupling considered).

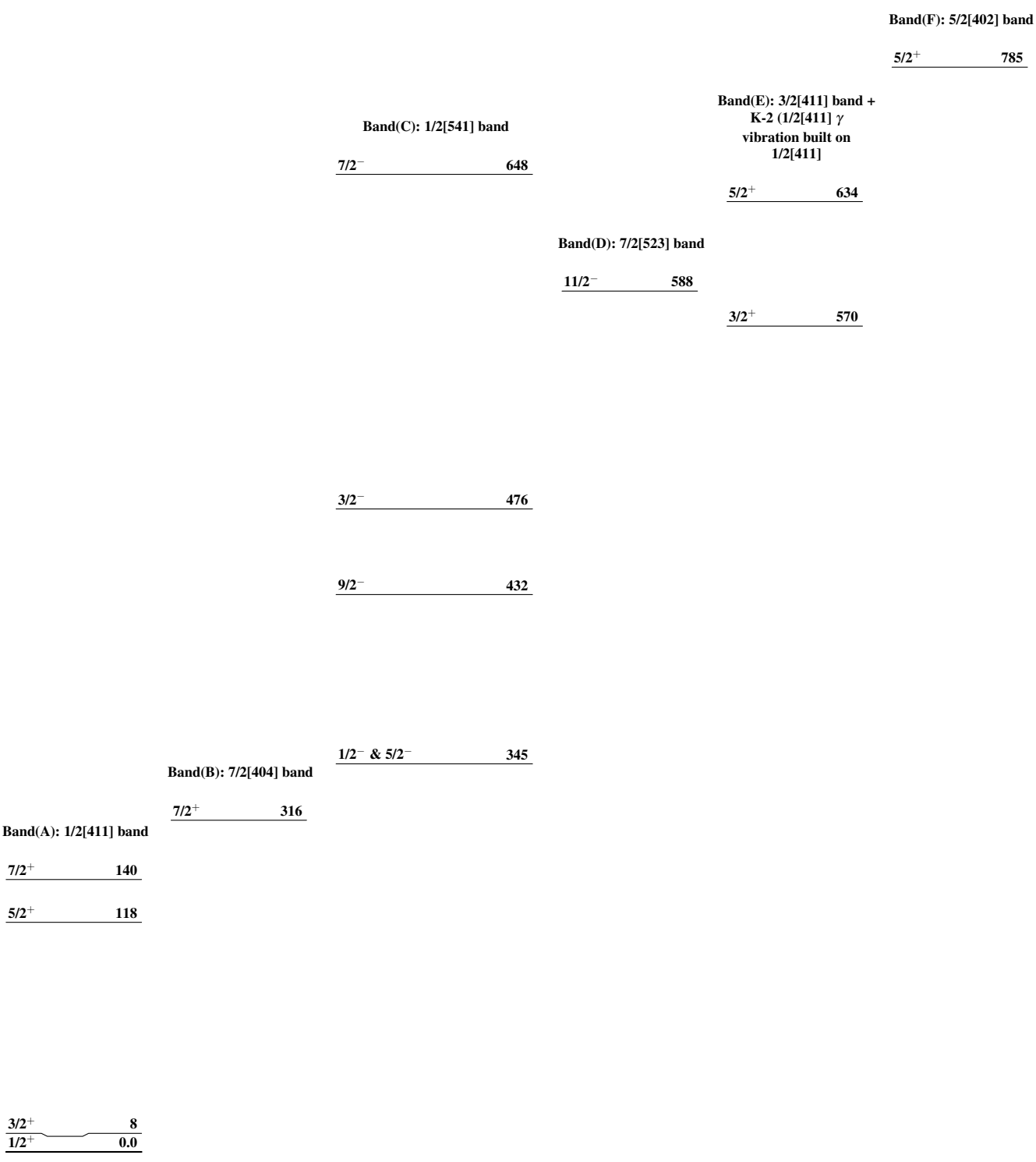
^{169}Tm Levels

All levels were observed in both (^{3}He,d) and (α,t).

E(level)[†]	J$^\pi$[‡]	L[#]	S[@]	Comments
0.0[&]	1/2$^+$			
8[&] *2*	3/2$^+$			S=0.64 if entire cross section for 0.0+8 levels is assumed to be for 8 level.
118[&] *2*	5/2$^+$		0.32	S: 1974Ch44 note that this value is about 2 to 3 times larger than that predicted for the 5/2$^+$ 1/2[411] state.
140[&] *2*	7/2$^+$		0.28	
316[a] *2*	7/2$^+$		1.19	
345[b] *2*	1/2$^-$ & 5/2$^-$			Complex peak composed of 341.9 ((1/2$^-$)) and 345.0 (5/2$^-$) states (adopted E(level) and J$^\pi$). S=0.71 if entire cross section is assumed to be for the 5/2$^-$ 1/2[541] state.
432[b] *2*	9/2$^-$		1.03	adopted J$^\pi$=(9/2)$^-$.
476[b] *2*	3/2$^-$	1	0.13	adopted J$^\pi$=(3/2)$^-$.
570[d] *2*	3/2$^+$		0.04	
588[c] *2*	11/2$^-$		0.57	
634[d] *2*	5/2$^+$		0.39	
648[b] *2*	7/2$^-$		0.09	adopted J$^\pi$=(7/2$^-$).
785[e] *2*	5/2$^+$	2	0.87	adopted J$^\pi$=(5/2)$^+$.
885 *2*				
938 *2*				
1152[f] *2*	11/2$^-$		1.13	adopted J$^\pi$=(11/2$^-$).
1243 *2*				
1372 *2*	1/2$^+$	0		
1400 *2*				
1515 *2*				

[†] From (^{3}He,d) (values from (α,t) agree within 1 keV).
[‡] Authors′ values from (^{3}He,d) angular distributions and (^{3}He,d)/(α,t) cross-section ratios. Values that are not identical to those In Adopted Levels are noted. for evaluator′s assignments.
[#] From DWBA analysis of angular distributions in (^{3}He,d).
[@] Nuclear structure factor from (^{3}He,d) (= dσ/dΩ(exp)/(2N dσ/dΩ(DWBA)), where N=4.42); see 1974Ch44 for nuclear structure factors from (α,t) (where N=50) and for measured dσ/dΩ At 25° and 60° for (^{3}He,d) and At 45° and 60° for (α,t).
[&] Band(A): 1/2[411] band.
[a] Band(B): 7/2[404] band.
[b] Band(C): 1/2[541] band. Strongly perturbed level order due to large (≈4) decoupling parameter.
[c] Band(D): 7/2[523] band.
[d] Band(E): 3/2[411] band + K-2 (1/2[411] γ vibration built on 1/2[411].
[e] Band(F): 5/2[402] band.
[f] Band(G): 9/2[514] band.

^{168}Er(^{3}He,d), (α,t) 1974Ch44



$^{169}_{69}Tm_{100}$

^{168}Er(^{3}He,d), (α,t) 1974Ch44 (continued)

Band(G): 9/2[514] band

11/2$^-$	**1152**

$^{169}_{69}Tm_{100}$