^{170}Er(d,^{3}He) 1976SuZR

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

E(d)=35 MeV; enriched (>96%) ^{170}Er targets; measured E(level) (mag spect, FWHM=35-45 keV), angular distributions (10° to 30°); interpreted levels in terms of the Nilsson model, including pairing and Coriolis coupling.

Agreement with the results from ^{170}Er(pol t,α) (1979Lo02) is fair. 1979Lo02 state that poor resolution in 1976SuZR led to some incorrect conclusions.

^{169}Ho Levels

E(level)[†]	J$^\pi$[‡]	L[#]	S[&]	Comments
0.0[a]	7/2$^-$	(3)	0.06	Bandhead was placed at centroid of unresolved multiplet; the nature of an additional nearby transition is unknown (possibly from a contaminant).
106[a] *10*	9/2$^-$	5	0.22	
213[a] *10*	11/2$^-$	5	0.81	S: large value attributed to Coriolis mixing with higher π=− states.
253[b] *10*	3/2$^+$	2	0.05	
320[b] *10*	5/2$^+$	2	0.63	
359[c] *10*	3/2$^+$	2	0.21	Multiplet; peak probably includes weak component from 1/2$^+$ 1/2[411] state.
385[b] *10*	7/2$^+$	4	0.27	Partially resolved from larger peak; population strength attributed to strong Coriolis mixing.
457[d] *10*	(5/2$^+$)[@]	2[@]	0.03	
497[d] *10*	(7/2$^+$)	4	0.47	J$^\pi$: strong population favors 7/2$^+$ 5/2[413] assignment over 7/2$^+$ 1/2[411]; overlap with expected 9/2$^+$ 3/2[411] state increases uncertainty of assignment.
529[c] *10*	(7/2$^+$)	4	0.16	
768[e] *10*	5/2$^-$		0.08	
860[e] *10*	9/2$^-$		0.07	
1069[f] *15*	1/2$^+$	(0)	0.10[h]	
1137?[f] *15*	(3/2$^+$)		0.02[h]	Partially resolved from larger peak.
1176[f] *15*	5/2$^+$[@]	2[@]	0.09[h]	
1270[f] *15*	7/2$^+$	4	0.20[h]	
1343?[f] *15*	(9/2$^+$)		0.10[h]	Partially resolved from larger peak.
1357[g] *15*	3/2$^+$[@]	2[@]	0.11	
1410[g] *15*	5/2$^+$	2	0.04	
1524[g] *15*	7/2$^+$		0.40	
1618 *15*				
1673 *15*		(2)	≈0.06	
1768 *15*	[@]	(3)[@]	≈0.09	
1844 *15*	11/2$^-$	5	0.68	J$^\pi$: possibly 11/2$^-$ 5/2[532] state (analogous level observed in ^{165}Ho).

[†] See ^{169}Ho Adopted Levels for monotonically increasing discrepancies between these values and the corresponding adopted energies.

[‡] From angular distributions and level structure (authors′ values). Inconsistencies with values adopted from ^{170}Er(pol t,α) are noted.

[#] From DWBA analysis of angular distributions.

[@] Inconsistent with adopted J$^\pi$.

[&] Values for multiplets were calculated by assigning the entire multiplet level strength to the dominant member (J$^\pi$ indicated).

[a] 7/2[523] band member.

[b] 3/2[411] band member.

[c] 1/2[411] band member; assignment uncertain because of possible band mixing.

[d] 5/2[413] band member; assignment uncertain because of possible band mixing.

[e] 1/2[541] band member (tentative).

Continued on next page (footnotes at end of table)

^{170}Er(d,^{3}He) 1976SuZR (continued)

^{169}Ho Levels (continued)

[f] 1/2[420] band member; low spectroscopic factors throughout band, even with Coriolis mixing considered, suggest possible band mixing with a K-2 γ-vibrational band built on either the $3/2^+$ 3/2[411] or $5/2^+$ 5/2[413] state.
[g] 3/2[422] band member.
[h] See comment with band assignment.