

$^{164}\text{Er}(p,\alpha)$ 1982Ha17

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. W. Reich	NDS 112,2497 (2011)	1-Jun-2011

Data are from $^{164}\text{Er}(p,\alpha)$ reaction (1982Ha17) on enriched (>99%) target with $E(p)=17$ MeV. α measured in magnetic spectrometer at angles from 6.5° to 40° in 5° increments.

1982Ha17 list a "nuclear-structure factor" in their table of level properties (their table 2). This is as defined in earlier related transfer-reaction studies (1977Pa23, 1981Bu03). The values shown by 1982Ha17 are those for the (t,α) reaction as listed by 1981Bu03 and are not shown here. For this information, see 1981Bu03.

Additional information 1.

 ^{161}Ho Levels

Additional information 2.

E(level)	J^π [†]	L [‡]	$d\sigma/d\Omega$ ($\mu\text{b}/\text{sr}$) [#]	Comments
0 [@]	7/2 ⁻	3	1.1	
100 [@] 3	9/2 ⁻	5	3.5	
222 [@] 3	11/2 ⁻	5	22	J^π : The observed peak also contains contributions from the 1/2 ⁺ and 3/2 ⁺ levels of the 1/2[411] band, which are at 211 and 222 keV in the Adopted Levels. Cross-section includes 211, 221, and 222 levels.
251 ^a	7/2 ⁺		1.5	
299 ^b 3	3/2 ⁺		6.5	
317 ^{&} 3	5/2 ⁺	2	14	
373 ^b 3	5/2 ⁺	2	10	
463 ^b	7/2 ⁺	4,(2)	4.0	
521 ^{&}	9/2 ⁺		3.1	
536 [@] 3	15/2 ⁻		6.2	
597 ^b	9/2 ⁺		1.0	
730 ^b	11/2 ⁺		1.0	
762 ^c	5/2 ⁺	(2)	2.4	
825 ^d	5/2 ⁻		1.1	
862 ^c 3	7/2 ⁺	4	5.3	
909 ^d	7/2 ⁻	3	1.6	
939			0.8	
994 ^c	(9/2 ⁺)		1.3	
1030 ^d	(9/2 ⁻)		1.0	
1108			2.3	
1128 ^d 3	11/2 ⁻	5	8.5	
1353			1.1	
1435 ^e 3	(1/2 ⁺)	0	9.3	
≈1495			1.8	
1529 ^e	(5/2 ⁺)	2	5.0	
1545 ^e	(3/2 ⁺)		0.5	

[†] J^π for excited levels and band assignments are those quoted by author, but were taken from other studies (1977Pa23,1981Bu03); they agree with those of the Adopted Levels.

[‡] Values listed only in the angular-distribution graphs (figs. 2-7) of 1982Ha17.

[#] Measured at 30° .

[@] Band(A): 7/2[523] band.

Continued on next page (footnotes at end of table)

 $^{164}\text{Er}(\text{p},\alpha)$ **1982Ha17 (continued)**

 ^{161}Ho Levels (continued)

- $\&$ Band(B): 1/2[411] band.
- a Band(C): 7/2[404] bandhead.
- b Band(D): 3/2[411] band.
- c Band(E): 5/2[413] band.
- d Band(F): 5/2[532] band.
- e Band(G): 1/2[420] band.

$^{164}\text{Er}(\text{p},\alpha)$ 1982Ha17

								Band(F): 5/2[532] band
								<u>11/2⁻ 1128</u>
								Band(E): 5/2[413] band
								<u>(9/2⁻) 1030</u>
								<u>(9/2⁺) 994</u>
								<u>7/2⁻ 909</u>
								<u>7/2⁺ 862</u>
								<u>5/2⁻ 825</u>
								Band(D): 3/2[411] band
								<u>5/2⁺ 762</u>
								<u>11/2⁺ 730</u>
								<u>9/2⁺ 597</u>
Band(A): 7/2[523] band								Band(B): 1/2[411] band
<u>15/2⁻ 536</u>								<u>9/2⁺ 521</u>
								<u>7/2⁺ 463</u>
								<u>5/2⁺ 373</u>
								<u>5/2⁺ 317</u>
								Band(C): 7/2[404] bandhead
								<u>3/2⁺ 299</u>
								<u>7/2⁺ 251</u>
<u>11/2⁻ 222</u>								
<u>9/2⁻ 100</u>								
<u>7/2⁻ 0</u>								

$^{164}\text{Er}(p,\alpha)$ 1982Ha17 (continued)

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

(3/2⁺) 1545(5/2⁺) 1529(1/2⁺) 1435 $^{161}_{67}\text{Ho}_{94}$