

$^{162}\text{Er}(\text{pol } t, \alpha)$ 1981Bu03

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The data are from the (pol t, α) reaction (1981Bu03) with enriched (20.4%) target and E(t)=17 MeV. α measured in magnetic spectrometer from 10° to 45° in 5° increments with FWHM of 20 keV typically. Authors give cross sections and analyzing power at 30°.

1981Bu03 define a “nuclear-structure factor” (denoted here as ‘S’) as the ratio of the measured cross sections to the results of a DWBA calculation (appropriately normalized). These S values are given for a number of levels and are listed here.

 ^{161}Ho Levels

Additional information 1.

E(level) [†]	J ^π [‡]	dσ/dΩ (μb/sr) [#]	Comments
0@	7/2 ⁻	10	S=0.03.
≈100@	9/2 ⁻	12	S=0.10.
222 4		230	J ^π : assigned as triplet composed of: 11/2 ⁻ , 7/2[523]; 1/2 ⁺ , 1/2[411]; and 3/2 ⁺ , 1/2[411]. dσ/dΩ (μb/sr): value includes 211, 221, and 222 levels. From analysis of cross-section and analyzing-power data, 1981Bu03 deduce S=1.40 10 and S=0.15 5, respectively, for the 11/2 ⁻ and 3/2 ⁺ levels.
253 ^a 4	7/2 ⁺	77	S=0.58.
≈296 ^b	3/2 ⁺	44	S=0.20.
317& 4	5/2 ⁺	190	S=0.79.
373 ^b 4	5/2 ⁺	125	S=0.52.
458 4		47	J ^π : assigned as doublet composed of 5/2 ⁺ , 5/2[402] and 7/2 ⁺ , 3/2[411]. If all the cross section is due to the 7/2 ⁺ level, S=0.36.
≈529@	15/2 ⁻	30	
≈585 ^c	9/2 ⁻	15	S≈0.15.
≈760 ^d	5/2 ⁺	17	S=0.07.
859 ^d 4	7/2 ⁺	140	S=1.11.
906 ^e 4	7/2 ⁻	53	S=0.14.
≈988		20	J ^π : assigned as doublet composed of 9/2 ⁺ , 5/2[413] and 9/2 ⁻ , 5/2[532]. If all the cross section is due to the 9/2 ⁺ level, S≈0.13. If it is due to 9/2 ⁻ , S≈0.19 (1981Bu03).
1128 ^e 4	11/2 ⁻	175	S=1.3.
1291 4		9	
1356 4		21	
1436 ^f 4	(1/2 ⁺)	41	S=(0.27).
1490 4		26	
1530 ^f 4		94	J ^π : assigned as doublet composed of 3/2 ⁺ , 1/2[420] and 5/2 ⁺ , 1/2[420]. 46. If all the cross section is due to the 5/2 ⁺ level, S=0.32.
1767 4		37	
1980 4	(5/2 ⁺)		J ^π : assignment not included in Adopted Levels. S=(0.12).

[†] Uncertainty assigned by evaluator from general statement of the authors.

[‡] J^π for excited levels and Nilsson orbital assignments are based on comparison of measured angular distributions and analyzing powers with calculated values, and rotational band considerations including Coriolis mixing. These agree with those in ^{161}Ho Adopted Levels, unless noted otherwise.

 $^{162}\text{Er}(\text{pol t},\alpha)$ **1981Bu03 (continued)**

 ^{161}Ho Levels (continued)

- # Measured at 30°.
- @ Band(A): 7/2[523] band.
- & Band(B): 1/2[411] band.
- ^a Band(C): 7/2[404] band.
- ^b Band(D): 3/2[411] band.
- ^c Band(E): 1/2[541] band.
- ^d Band(F): 5/2[413] band.
- ^e Band(G): 5/2[532] band.
- ^f Band(H): 1/2[420] band.

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Band(F): 5/2[413] band

7/2⁺ 8595/2⁺ ≈760

Band(E): 1/2[541] band

9/2⁻ ≈585

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

15/2⁻ ≈529

Band(D): 3/2[411] band

5/2⁺ 373

Band(B): 1/2[411] band

5/2⁺ 3173/2⁺ ≈296

Band(C): 7/2[404] band

7/2⁺ 2539/2⁻ ≈1007/2⁻ 0

 $^{162}\text{Er}(\text{pol t}, \alpha)$ **1981Bu03 (continued)**

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

1530(1/2⁺) 1436

Band(G): 5/2[532] band

11/2⁻ 11287/2⁻ 906 $^{161}_{67}\text{Ho}_{94}$