

$^{167}\text{Er}(\text{d}, ^3\text{He})$ 2000Pr03

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 109, 1103 (2008)	1-Mar-2008

Target $J^\pi=7/2^+$.

E(d)=27 MeV; Q3d spectrograph with proportional chamber (cathode strip readout) and scin, FWHM $\approx$ 9 keV; 95.6% ^{167}Er target;
 $\theta(\text{lab})=30^\circ, 40^\circ, 50^\circ$; E(level) $\leq$ 1.2 MeV; DWBA and Nilsson model calculations.

 ^{166}Ho Levels

E(level)	I(^3He) (40°) [†]	Comments
5.7 [#] 3	4.8 6	
54.3 [‡] 9	1.3 3	
85 [‡] 3		
138.21 [#] 24	8.2 7	
171.6 [‡] 7	3.1 6	
180.2 [‡] 6	4.0 7	
190.8 [@] 6	2.8 6	
263.76 ^{&} 18	22.2 11	
273.1 16	2.2 6	
286.5 [#] 6	5.1 7	
296.8 ^a 12		
330.8 [‡] 7	2.2 4	
347.7 [@] 9	1.2 3	
380.2 ^{&} 5	12.4 9	
430.14 ^b 22	11.1 11	
454.5 [@] 13	0.7 4	intensity questionable.
481.65 ^b 20	12.1 11	
548.1 ^b 4	5.6 7	
558.5 ^d 4	4.0 7	
591.7 ^c 6	2.0 6	
635.1 ^b 6	2.4 6	
651.9 ^d 14	1.6 4	identification questionable.
670.8 ^c 6	1.6 4	
719.1 ^e 4	3.8 6	
730 ^b 3	1.2 4	
805.0 11	2.0 6	doublet.
820.7 13	1.8 4	
884.8 16	1.2 4	
926.5 13	1.9 4	
1010.2 22	0.8 4	
1093.7 19	0.4 2	
1142.2 21	0.6 2	

[†] Relative ^3He intensity At 40°. see 2000Pr03 for relative ^3He intensities At 30° and 50°.

[‡] Band(A): $K^\pi=0^-$, (π 7/2[523])-(ν 7/2[633]) band. J^π established by cross section fingerprint for J=2 through 5 members of this configuration.

[#] Band(B): $K^\pi=7^-$, (π 7/2[523])+(ν 7/2[633]) band. J^π established by cross section fingerprint for J=7 through 9 members of this configuration.

[@] Band(C): $K^\pi=3^+$, (π 7/2[523])-(ν 1/2[521]) band.

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 $^{167}\text{Er}(\text{d}, ^3\text{He})$ **2000Pr03** (continued)

 ^{166}Ho Levels (continued)

[&] Band(D): $K^\pi=5^+$, $(\pi\ 3/2[411]+\nu\ 7/2[633])+(\pi\ 7/2[523]+\nu\ 3/2[521])$ band.

^a Band(E): $K^\pi=6^+$, $(\pi\ 7/2[523])+(\nu\ 5/2[512])$ band.

^b Band(F): $K^\pi=2^+$, $(\pi\ 3/2[411]-\nu\ 7/2[633])+(\pi\ 7/2[523]-\nu\ 3/2[521])$ band. J^π established by cross section fingerprint for $J=3$ through 6 members of this configuration.

^c Band(G): $K^\pi=3^+$, $(\pi\ 1/2[411])-(\nu\ 7/2[633])$ band.

^d Band(H): $K^\pi=4^+$, $(\pi\ 7/2[523])+(\nu\ 1/2[510])$ band.

^e Band(I): $K^\pi=4^+$, $(\pi\ 1/2[411])+(\nu\ 7/2[633])$ band.

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		Band(F): $K^\pi=2^+$, (π 3/2[411]-ν 7/2[633])+(π 7/2[523]-ν 3/2[521]) band		<u>730</u>	
				<u>635.1</u>	
				<u>548.1</u>	
		Band(C): $K^\pi=3^+$, (π 7/2[523])-(ν 1/2[521]) band		<u>481.65</u>	
		<u>454.5</u>			
		Band(D): $K^\pi=5^+$, (π 3/2[411]+ν 7/2[633])+(π 7/2[523]+ν 3/2[521]) band		<u>430.14</u>	
		<u>380.2</u>			
Band(A): $K^\pi=0^-$, (π 7/2[523])-(ν 7/2[633]) band		<u>347.7</u>			
<u>330.8</u>				Band(E): $K^\pi=6^+$, (π 7/2[523])+(ν 5/2[512]) band	
				<u>296.8</u>	
				<u>263.76</u>	
		Band(B): $K^\pi=7^-$, (π 7/2[523])+(ν 7/2[633]) band			
		<u>286.5</u>			
		<u>190.8</u>			
<u>180.2</u>					
<u>171.6</u>					
		<u>138.21</u>			
<u>85</u>					
<u>54.3</u>					
		<u>5.7</u>			

$^{167}\text{Er}(\text{d}, ^3\text{He})$ 2000Pr03 (continued)

Band(G): $K^\pi=3^+$, (π $1/2[411])-(\nu\ 7/2[633])$ band	Band(I): $K^\pi=4^+$, (π $1/2[411])+(\nu\ 7/2[633])$ band 719.1
670.8	

Band(H): $K^\pi=4^+$, (π $7/2[523])+(\nu\ 1/2[510])$ band
651.9

591.7

558.5

$^{166}_{67}\text{Ho}_{99}$