

muonic atom: pionic atom

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 195,1 (2024)	19-Sep-2023

Measurement are of x-ray energies in muonic atoms ([1970Hi03](#),[1974Da03](#)) and E_γ and I_γ following muon ([1984Mc07](#)) and pion capture ([1975Eb06](#),[1984Sh09](#),[1986Mc16](#)) in ^{165}Ho .

[Additional information 1.](#)

 ^{162}Dy Levels

E(level)	J^π [†]	Comments
0	0 ⁺	Q=7.55 Q: From 1974Da03 (reanalysis of muonic atom x-ray data of 1970Hi03 who gave Q=7.36 <i>10</i>).
80.66	2 ⁺	
265.59	4 ⁺	
548.39	6 ⁺	
920.95	8 ⁺	
1374	10 ⁺	
1901	12 ⁺	

[†] From ^{162}Dy Adopted Levels.

 $\gamma(^{162}\text{Dy})$

E_γ [†]	I_γ [‡]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Comments
(80.66)		80.66	2 ⁺	0	0 ⁺	
184.93 5	5.3 2	265.59	4 ⁺	80.66	2 ⁺	I_γ : Other 9.4 4 from 1975Eb06 .
282.80 6	2.5 1	548.39	6 ⁺	265.59	4 ⁺	I_γ : Other 5.2 3 from 1975Eb06 .
372.56 15	<1.5	920.95	8 ⁺	548.39	6 ⁺	I_γ : Other 2.6 3 from 1975Eb06 .
453 [#]	1.0 1	1374	10 ⁺	920.95	8 ⁺	
526.5 [@]	0.2 1	1901	12 ⁺	1374	10 ⁺	

[†] From [1975Eb06](#), unless otherwise noted.

[‡] From [1984Sh09](#) for pion capture in ^{165}Ho ; values of [1975Eb06](#) are given in comments.

[#] From [1986Mc16](#).

[@] From level energy difference in ^{162}Dy Adopted Levels.

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Legend

Level SchemeIntensities: γ 's per 100 stopped pions.

- $\longrightarrow$ $I_\gamma < 2\% \times I_\gamma^{max}$
- $\longrightarrow$ $I_\gamma < 10\% \times I_\gamma^{max}$
- $\longrightarrow$ $I_\gamma > 10\% \times I_\gamma^{max}$
- $-----\longrightarrow$ γ Decay (Uncertain)

