^{161}Dy(n,γ) E=2 keV 1983Wa08

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

Additional information 1.

Data from resonance-averaged n capture on enriched (95.94%) target. Average E(n)=2 keV with neutron-energy spread, FWHM, ≈0.85 keV. γ's measured with Ge detector and pair spectrometer. Capture in two individual resonances also measured. No secondary γ's reported.

^{162}Dy Levels

E(level)[†]	J$^\pi$[‡]	Comments
0.0	0^+	E(level): This level was not observed.
80.6 *3*	$2^+,3^+$	
265.5 *4*	4^+	
888.6 *4*	$2^+,3^+$	
962.8 *4*	$2^+,3^+$	
1060.7 *4*	$4^+,(2^+)$	
1148.3 *3*	$2^-,3^-$	
1210.2 *3*	$2^-,3^-$	
1275.8 *3*	1^-	J$^\pi$: Population from 2^+ resonance at 3.68 eV used to eliminate 4^- assignment.
1297.1 *3*	4^-	
1358.0 *3*	$2^-,3^-$	
1453.8 *5*	$2^+,(3^+,4^+)$	
1535.8 *7*	$1^+,4^+,(2^+,3^+)$	
1571.0 *3*	$2^-,3^-$	
1575.6 *13*	$1^+,4^+,(2^+,3^+)$	
1637.2 *3*	$1^-,(4^-)$	
1669.0 *3*	4^-	
1691.4 *3*	$2^-,3^-$	
1728.2 *5*	$2^+,3^+$	
1739.1 *3*	$2^-,3^-$	
1746.2 *9*	$4^+,(1^+)$	
1766.5 *3*	$2^-,3^-$	E(level): Intensity in 24-keV capture indicates the possibility of an additional unresolved state.
1782.2 *5*	$2^+,3^+,(4^+)$	
1826.6 *4*	4^-	E(level): Intensity in 24-keV capture indicates the possibility of an additional unresolved state.
1840.3 *5*	$2^+,3^+,(4^+)$	
1851.9 *4*	4^-	J$^\pi$: Population from 3^+ resonance at 2.72 eV used to eliminate 1^- assignment.
1863.6 *3*	$2^-,3^-$	E(level): Reduced intensities indicate an unresolved doublet.
1887.1 *6*	$2^+,3^+,4^+$	
1895.2 *5*	$2^+,3^+$	
1910.7 *3*	$2^-,3^-$	
1951.7 *7*		E(level): Reduced intensities indicate an unresolved doublet.
1973.2 *4*	$1^-,4^-$	
1983.0 *4*		E(level): Reduced intensities indicate an unresolved doublet.
1999.4 *5*	$2^+,3^+,(4^+)$	
2080.1 *3*	$2^-,3^-$	E(level): Intensity in 24-keV capture indicates the possibility of an additional unresolved state.
2104.5 *6*	$2^+,3^+,(4^+)$	
2119.7 *4*	$1^-,4^-$	
2128.3 *4*	$1^-,4^-$	
2149.1 *6*	$2^+,3^+,(4^+)$	
8199.	$2^+,3^+$	E(level): This level represented the 2-keV neutron capture state (1967Ba34); it is primarily populated by s-wave capture.

[†] From 1983Wa08 and based on 2- and 24-keV primary capture data.

[‡] From 1983Wa08 and based only on primary γ's from 2- and 24-keV capture. See ^{162}Dy Adopted Levels for adopted J^π and band structure.

^{161}Dy(n,γ) E=2 keV 1983Wa08 (continued)

$\gamma(^{162}Dy)$

E_γ [†]	I_γ [‡#]	E_i(level)	J_i^π	E_f	J_f^π
6049.7 *6*	26 *5*	8199.	$2^+,3^+$	2149.1	$2^+,3^+,(4^+)$
6070.5 *4*	73 *5*	8199.	$2^+,3^+$	2128.3	$1^-,4^-$
6079.1 *4*	67 *5*	8199.	$2^+,3^+$	2119.7	$1^-,4^-$
6094.3 *6*	28 *4*	8199.	$2^+,3^+$	2104.5	$2^+,3^+,(4^+)$
6118.7 *3*	178 *6*	8199.	$2^+,3^+$	2080.1	$2^-,3^-$
6199.4 *5*	29 *3*	8199.	$2^+,3^+$	1999.4	$2^+,3^+,(4^+)$
6215.8 *3*	95 *5*	8199.	$2^+,3^+$	1983.0	
6225.6 *3*	83 *5*	8199.	$2^+,3^+$	1973.2	$1^-,4^-$
6247.1 *7*	32 *5*	8199.	$2^+,3^+$	1951.7	
6288.1 *3*	189 *6*	8199.	$2^+,3^+$	1910.7	$2^-,3^-$
6303.6 *5*	37 *4*	8199.	$2^+,3^+$	1895.2	$2^+,3^+$
6311.7 *5*	31 *9*	8199.	$2^+,3^+$	1887.1	$2^+,3^+,4^+$
6335.2 *3*	307 *7*	8199.	$2^+,3^+$	1863.6	$2^-,3^-$
6346.9 *3*	100 *6*	8199.	$2^+,3^+$	1851.9	4^-
6358.5 *5*	32 *4*	8199.	$2^+,3^+$	1840.3	$2^+,3^+,(4^+)$
6372.2 *3*	91 *5*	8199.	$2^+,3^+$	1826.6	4^-
6416.6 *5*	33 *4*	8199.	$2^+,3^+$	1782.2	$2^+,3^+,(4^+)$
6432.3 *3*	209 *6*	8199.	$2^+,3^+$	1766.5	$2^-,3^-$
6452.6 *9*	10 *5*	8199.	$2^+,3^+$	1746.2	$4^+,(1^+)$
6459.7 *3*	163 *6*	8199.	$2^+,3^+$	1739.1	$2^-,3^-$
6470.6 *4*	42 *4*	8199.	$2^+,3^+$	1728.2	$2^+,3^+$
6507.4 *3*	229 *6*	8199.	$2^+,3^+$	1691.4	$2^-,3^-$
6529.8 *3*	124 *5*	8199.	$2^+,3^+$	1669.0	4^-
6561.6 *3*	109 *4*	8199.	$2^+,3^+$	1637.2	$1^-,(4^-)$
6621.6 *12*	19 *4*	8199.	$2^+,3^+$	1575.6	$1^+,4^+,(2^+,3^+)$
6627.8 *3*	228 *6*	8199.	$2^+,3^+$	1571.0	$2^-,3^-$
6663.0 *7*	17 *4*	8199.	$2^+,3^+$	1535.8	$1^+,4^+,(2^+,3^+)$
6745.0 *4*	39 *3*	8199.	$2^+,3^+$	1453.8	$2^+,(3^+,4^+)$
6840.8 *3*	278 *6*	8199.	$2^+,3^+$	1358.0	$2^-,3^-$
6901.7 *3*	174 *5*	8199.	$2^+,3^+$	1297.1	4^-
6923.0 *3*	152 *5*	8199.	$2^+,3^+$	1275.8	1^-
6988.6 *3*	280 *6*	8199.	$2^+,3^+$	1210.2	$2^-,3^-$
7050.5 *3*	314 *6*	8199.	$2^+,3^+$	1148.3	$2^-,3^-$
7138.0 *4*	37 *3*	8199.	$2^+,3^+$	1060.7	$4^+,(2^+)$
7236.0 *4*	53 *3*	8199.	$2^+,3^+$	962.8	$2^+,3^+$
7310.2 *3*	59 *3*	8199.	$2^+,3^+$	888.6	$2^+,3^+$
7933.3 *3*	54 *3*	8199.	$2^+,3^+$	265.5	4^+
8118.2 *3*	100 *4*	8199.	$2^+,3^+$	80.6	$2^+,3^+$

[†] From 1983Wa08.
[‡] Reported as as $I\gamma/E\gamma^5$ and converted to $I\gamma$ by evaluator.
[#] Intensity per 100 neutron captures.

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Level Scheme

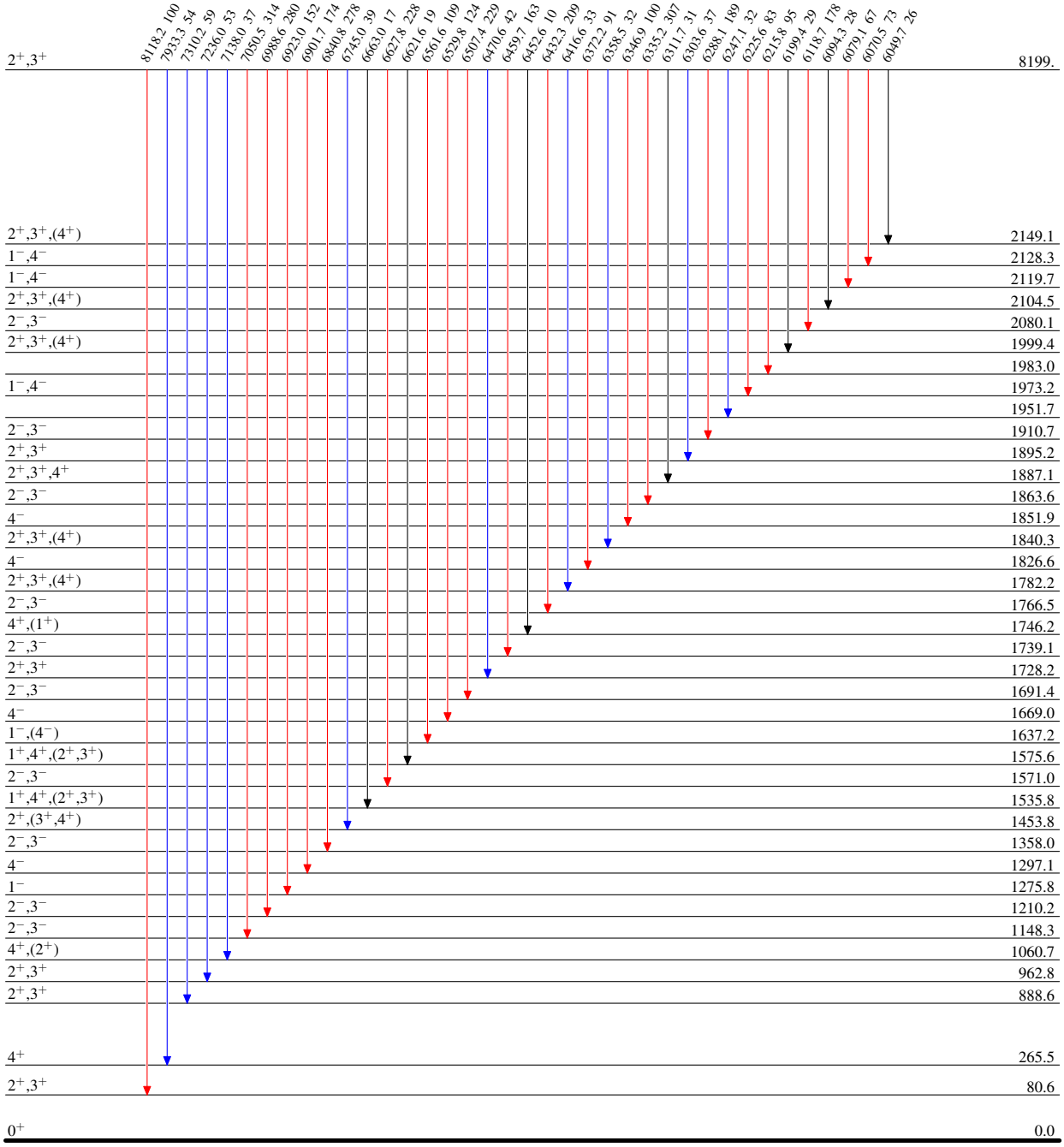
Intensities: Relative I_γ

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



$^{162}_{66}Dy_{96}$