^{163}Dy(^{3}He,α) 1992An15

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

Additional information 1.

Configuration=ν 5/2[523] for the ^{163}Dy g.s..

^{161}Dy(α,^{3}He) at 50 MeV on enriched (96.85%) target with α measured in QMG/2 magnetic spectrometer with FWHM from 20 to 30 keV. $\alpha(\theta)$ shown in plots from 5° to 30°.

^{162}Dy Levels

E(level)†	Jπ‡	L@	dσ/dΩ (μb/sr)&	E(level)†	Jπ‡	L@	dσ/dΩ (μb/sr)&
0[a]	0+			1843[d]	3+	(4)	217
80[a]	2+	5,6	26	1955[c]	9−	5,6	178
265[a]	4+	5,6	71	2024		4	53
549[a]	6+	5,6	26	2079[d]	(6+)	5,6	127
920[a]	8+	5,6	5	2140		(3)	63
1364[b]	3−	(4)	11	2203[e]	(8+)	5,6	729
1397		(4)	10	2283[f]	(5+)	5,6	116
1461		(3)	16	2374[f]	(6+)	5,6	297
1493[c]	5−	(5)	14	2458		(4)	71
1529[b]	5−	(5)	122	2506		(4)	88
1581[c]	6−	(5)	114	2562[f]	(7+)	5,6	187
1644	5+	(4)	135	2704		5,6	141
1691[c]	7−	5,6	224	2848		5,6	145
1765[b]	(7)−#	5,6	202	3303		(4)	170
1816[c]	8−	5,6	238				

† Energies were calibrated with levels of known energy within the ground-state band. Total uncertainties vary from ≈5 keV at 1 MeV for the strongest peaks to ≈25 keV at 3 MeV.

‡ From the Adopted Values. The values from 1992An15 are in agreement with these, except for levels above 2.05 MeV, where the evaluator has included the values in parentheses. For those levels seen only in this reaction, the J^{π} values are based on the agreement between the measured cross sections and those calculated assuming the listed configuration and rotational-band assignments.

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@ Values are from comparison of the measured and DWBA calculated angular distributions.

& Values at θ=16° and normalized by comparison with elastic angular distributions.

[a] Band(A): $K^{\pi}=0^{+}$ ground-state band.

[b] Band(B): $K^{\pi}=0^{-}$ band, Configuration=(ν 5/2[523])-(ν 5/2[642]).

[c] Band(C): $K^{\pi}=5^{-}$ band, Configuration=(ν 5/2[523])+(ν 5/2[642]).

[d] Band(D): $K^{\pi}=1^{+}$ band, Configuration=(ν 5/2[523])-(ν 3/2[521]).

[e] Band(E): $K^{\pi}=8^{+}$ band, Configuration=(ν 5/2[523])+(ν 11/2[505]).

[f] Band(F): $K^{\pi}=3^{+}$ band, Configuration=(ν 5/2[523])-(ν 11/2[505]).

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Band(A): $K^{\pi}=0^{+}$ ground-state band

8^{+}	920
6^{+}	549
4^{+}	265
2^{+}	80
0^{+}	0

Band(B): $K^{\pi}=0^{-}$ band, Configuration=(ν 5/2[523])-(ν 5/2[642])

$(7)^{-}$	1765
5^{-}	1529
3^{-}	1364

Band(C): $K^{\pi}=5^{-}$ band, Configuration=(ν 5/2[523])+(ν 5/2[642])

9^{-}	1955
8^{-}	1816
7^{-}	1691
6^{-}	1581
5^{-}	1493

Band(D): $K^{\pi}=1^{+}$ band, Configuration=(ν 5/2[523])-(ν 3/2[521])

(6^{+})	2079
3^{+}	1843

Band(E): $K^{\pi}=8^{+}$ band, Configuration=(ν 5/2[523])+(ν 11/2[505])

(8^{+})	2203

Band(F): $K^{\pi}=3^{+}$ band, Configuration=(ν 5/2[523])-(ν 11/2[505])

(7^{+})	2562
(6^{+})	2374
(5^{+})	2283