^{158}Dy(d,p) 1970Gr46

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. W. Reich	NDS 113, 157 (2012)	31-Dec-2010

Additional information 1.

(d,p) reaction at E_d=12.1 MeV. p from reaction detected at θ=60°, 90° and 125° using a magnetic spectrograph. FWHM ≈15 keV, as estimated by the evaluator from drawings of p spectra.

1970Gr46 also report data from the (d,t) reaction leading to levels in ^{159}Dy.

^{159}Dy Levels

E(level)[†]	Jπ[‡]	S[#@]	Comments
0[&]	3/2⁻	39	
136[&]	7/2⁻	105	
176[a]	5/2⁺	1.5	
206[a]	7/2⁺	2	
238[&]	9/2⁻	47	
309[b]	5/2⁻	20	
362[a]	13/2⁺,11/2⁻	54	peak interpreted as a doublet.
394[b]	7/2⁻	71	
416[c]	3/2⁺	43	
470		2	
504[b]	9/2⁻	17	
533[d]	1/2⁻	140	
560[e]	1/2⁺	68	
586[d]	3/2⁻	19	
621[d]	5/2⁻	52	
635[b]	(11/2⁻)	10	
688[f]	5/2⁻	12	
746[g]	7/2⁻,3/2⁻	120	peak interpreted as a doublet.
773[g]	5/2⁻,7/2⁻		peak interpreted as a doublet.
798		36	Jπ: Assigned as 9/2,1/2[521] by 1974Ny01.
825[g]	7/2⁻	8	
854		3	
983		11	
1089[h]	7/2⁻	86	
1150		16	
1189[h]	9/2⁻	9	Jπ: This 9/2,5/2[512] state is assigned to a 1213 level by 1974Ny01.
1213		≤11	Jπ: The 9/2,5/2[512] state is assigned to this level by 1974Ny01.
1283		≤107	
1341		13	
1391		7	
1411		20	
1431		41	
1473[i]	3/2⁻	80	
1515		14	
1535[i]	5/2⁻	18	
1558		30	
1590		24	
1621[i]	7/2⁻	21	
1643		97	
1673		19	
1696		34	

Continued on next page (footnotes at end of table)

^{158}Dy(d,p) 1970Gr46 (continued)

^{159}Dy Levels (continued)

E(level)[†]	S[#@]	Comments
1727	47	
1748	33	
1786	37	
1824	39	
1849	32	
1891	59	E(level): Peak reported in (^{3}He,α) at 1898, could include the 1918 level.
1918	29	
1961	18	
1989	25	
2016	39	

[†] Above 1727 keV, there are several unresolved peaks (1970Gr46).
[‡] J^π, band, and Nilsson-orbital assignments are those of the authors and are based on the angular distributions and on comparison of measured and theoretical cross sections. These assignments have been discussed by 1974Ny01 and 1975Gr38 and agree with those in the ^{159}Dy Adopted Levels.
[#] Label=dσ/dΩ(μb/sr).
[@] Measured at 90°.
[&] Band(A): $K^\pi=3/2^-$, ν3/2[521] band.
[a] Band(B): $K^\pi=5/2^+$, ν5/2[642] band.
[b] Band(C): $K^\pi=5/2^-$, ν5/2[523] band.
[c] Band(D): $K^\pi=3/2^+$, ν3/2[402] bandhead. Band contains an admixture of ν3/2[651].
[d] Band(E): $K^\pi=1/2^-$, ν1/2[521] band.
[e] Band(F): $K^\pi=1/2^+$, ν1/2[400] bandhead.
[f] Band(G): $K^\pi=3/2^-$, ν3/2[532] band member.
[g] Band(H): $K^\pi=1/2^-$, ν1/2[530] band member.
[h] Band(I): $K^\pi=5/2^-$, ν5/2[512] band member.
[i] Band(J): $K^\pi=1/2^-$, ν1/2[510] band member.

^{158}Dy(d,p) 1970Gr46

Band(A): $K^{\pi}=3/2^{-}$, $\nu 3/2[521]$ band

$13/2^{+},11/2^{-}$	362
$9/2^{-}$	238
$7/2^{-}$	136
$3/2^{-}$	0

Band(B): $K^{\pi}=5/2^{+}$, $\nu 5/2[642]$ band

$13/2^{+},11/2^{-}$	362
$7/2^{+}$	206
$5/2^{+}$	176

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

$(11/2^{-})$	635
$9/2^{-}$	504
$7/2^{-}$	394
$5/2^{-}$	309

Band(D): $K^{\pi}=3/2^{+}$, $\nu 3/2[402]$ bandhead

$3/2^{+}$	416

Band(E): $K^{\pi}=1/2^{-}$, $\nu 1/2[521]$ band

$7/2^{-},3/2^{-}$	746
$5/2^{-}$	621
$3/2^{-}$	586
$1/2^{-}$	533

$^{159}_{66}Dy_{93}$

^{158}Dy(d,p) 1970Gr46 (continued)

Band(J): $K^{\pi}=1/2^{-}$, $\nu 1/2[510]$ band member

$7/2^{-}$	1621
$5/2^{-}$	1535
$3/2^{-}$	1473

Band(I): $K^{\pi}=5/2^{-}$, $\nu 5/2[512]$ band member

$9/2^{-}$	1189
$7/2^{-}$	1089

Band(H): $K^{\pi}=1/2^{-}$, $\nu 1/2[530]$ band member

$7/2^{-}$	825
$5/2^{-},7/2^{-}$	773
$7/2^{-},3/2^{-}$	746

Band(G): $K^{\pi}=3/2^{-}$, $\nu 3/2[532]$ band member

$5/2^{-},7/2^{-}$	773
$5/2^{-}$	688

Band(F): $K^{\pi}=1/2^{+}$, $\nu 1/2[400]$ bandhead

$1/2^{+}$	560

$^{159}_{66}Dy_{93}$