

¹⁶²Dy(t,α) 1992Ga15

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. W. Reich	NDS 112,2497 (2011)	1-Jun-2011

All data are from 1992Ga15 from (t,α) study with E(t)=17 MeV; α's measured in magnetic spectrograph at 5° steps from 10° to 45° with FWHM=16-19 keV. Other measurement: 1976St20.

¹⁶¹Tb Levels

Additional information 1.

E(level) [†]	J ^π [‡]	dσ/dΩ (μb/sr) [#]	Comments
0 [@]	3/2 ⁺	20	
57 [@] 2	5/2 ⁺	250	
133 [@]	7/2 ⁺	14	
237 [@]	9/2 ⁺	15	
315 ^{&}	5/2 ⁺	12	
395 ^{&} 2	7/2 ⁺	150	
421 ^b	7/2 ⁻	14	
486 ^b 2		36	J ^π : doublet assignment: 5/2 ⁻ ,5/2[532] and 9/2 ⁻ ,7/2[523]; Adopted Levels are at 480 (5/2 ⁻) and 488 (9/2 ⁻) keV.
498 ^{&}	9/2 ⁺	3	
521 ^c	1/2 ⁺	2.8	
558 ^c 2	3/2 ⁺	31	
584 ^b 2		215	J ^π : doublet assignment: 7/2 ⁻ ,5/2[532] and 11/2 ⁻ ,7/2[523]; Adopted Levels are at 584 (11/2 ⁻) and 585 (7/2 ⁻) keV.
600 ^c	5/2 ⁺	18	
690 ^c	7/2 ⁺	3.3	
705 ^a	9/2 ⁻	13	
847 ^a 2	11/2 ⁻	64	
919 ^d	1/2 ⁻	3.2	
948 ^d	5/2 ⁻	7.3	
980 ^e	1/2 ⁺	7	
996 ^f 2		37	J ^π : doublet assignment: 7/2 ⁺ ,7/2[404] and 3/2 ⁺ ,1/2[411].
1078 ^e 2		30	J ^π : doublet assignment: 9/2 ⁻ ,1/2[541] and 5/2 ⁺ ,1/2[411]. In the Adopted Levels this 9/2 ⁻ level is at 1064 keV and the 5/2 ⁺ state is associated with a 1080 level.
1109		6.7	
1131		5.3	
1179 ^d	7/2 ⁻	5.9	
1210 ^g 2	1/2 ⁺	56	J ^π : this J ^π and band assignment is not included in the ¹⁶¹ Tb Adopted Levels.
1231		13	
1253		17	
1281 ^g 2		114	J ^π : doublet assignment: 3/2 ⁺ ,1/2[420] and 5/2 ⁺ ,1/2[420]; this band assignment is not included in ¹⁶¹ Tb Adopted Levels.
1333		6.6	
1352		11	
1387		3.5	
1436 ^g 2		45	J ^π : doublet assignment: 7/2 ⁺ ,1/2[420] and 9/2 ⁺ ,1/2[420]; this band assignment is not included in ¹⁶¹ Tb Adopted Levels.
1524		3.9	
1550		8.9	

Continued on next page (footnotes at end of table)

$^{162}\text{Dy}(t,\alpha)$ 1992Ga15 (continued) ^{161}Tb Levels (continued)

<u>E(level)[†]</u>	<u>J^π[‡]</u>	<u>dσ/dΩ (μb/sr)[#]</u>
1655		6.8
1826		15
1845		21
1900 ^d 2	11/2 ⁻	40
1946		26
1979		16

[†] From authors' general statement, uncertainties are 2 keV for strong clean peaks. The evaluator has somewhat arbitrarily chosen peaks with cross sections ≥ 30 as "strong".

[‡] J^{π} and band assignments are those of 1992Ga15. They are based on agreement of measured and calculated $d\sigma/d\Omega$ values and the associated intensity patterns within a rotational band. These assignments agree with those in the ^{161}Tb Adopted Levels, except as noted otherwise.

[#] Measured at 40°.

[@] Band(A): 3/2[411] band.

[&] Band(B): 5/2[413] band.

^a Band(C): 5/2[532] band.

^b Band(D): 7/2[523] band.

^c Band(E): 1/2[411] band fragment with a component of the K-2 γ vibration built on the 3/2[411] g.s.

^d Band(F): 1/2[541] band.

^e Band(G): fragment of 1/2[411].

^f Band(H): 7/2[404] bandhead.

^g Band(I): 1/2[420] band.

$^{162}\text{Dy}(t,\alpha)$ 1992Ga15

		Band(F): 1/2[541] band	
		<u>11/2⁻</u>	<u>1900</u>

		<u>7/2⁻</u>	<u>1179</u>

		<u>1078</u>	

		<u>5/2⁻</u>	<u>948</u>
		<u>1/2⁻</u>	<u>919</u>

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$^{162}\text{Dy}(t,\alpha)$ 1992Ga15 (continued)

Band(I): 1/2[420] band

14361281Band(G): Fragment of
1/2[411]10781/2⁺ 1210Band(H): 7/2[404]
bandhead9969961/2⁺ 980 $^{161}_{65}\text{Tb}_{96}$