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

Additional information 1.

Data are primarily from 2006Ap01, which are more extensive than those of 1982Fi15. Where these two studies differ, this is noted. Other $(\alpha, 2n\gamma)$ studies include those of 1963Mo14, 1972Ew02, 1981Wa22.

Related studies include: 1985Ra07 and 1986Re18 (163 Dy(d,t γ)); and 1986Bo27 (159 Tb(α ,p γ)).

2006Ap01: $E\alpha$ =20 MeV. Self-supporting target, 10 mg/cm² thick, 98% enriched in ¹⁶⁰Gd. Measured E γ , I γ , $\gamma\gamma$, $\gamma\gamma(\theta)$ (DCO) using the HERA array of 21 Compton-suppressed Ge detectors.

1982Fi15: $E\alpha=24$ and 28 MeV. Enriched (\geq 98% ¹⁶⁰Gd) target. Measured γ singles, $\gamma\gamma$ coin, and $\gamma\gamma(\theta)$ using Ge detectors and ce using Si(Li) detector and mini-orange spectrometer.

1997Al04: $(\alpha, 2n\gamma)$ reactions on a metallic target of natural Gd. $E(\alpha)=27$ MeV. Measured precession of the directional correlations of the $8+\rightarrow 6+\rightarrow 4+\rightarrow 2^+$ cascade in the g.s. band, with the target in a strong external magnetic field parallel to the beam direction. γ radiation detected in a ring of 12 Ge detectors mounted perpendicular to the beam direction. Deduced g factors for the 4⁺, 6⁺, and 8⁺ members of the g.s. band.

¹⁶²Dy Levels

1982Fi15 propose the existence of a K^{π} =(6⁻) band with the levels: 6⁻ (1807); 8⁻ (1949); 9⁻ (2189); 10⁻ (2320); 11⁻ (2512); 12⁻ (2671); and 14⁻ (3132). The existence of this band has not been established by 2006Ap01 and in other studies, as well. The evaluator has not adopted it.

1982Fi15 report population of the 1⁻ and 3⁻ members of the $K^{\pi}=0^{-}$ octupole band in their study. This is based primarily on the existence of a (doubly placed) 1277 γ . These placements are not confirmed by 2006Ap01. Although these two levels are well established in other studies and the 3⁻ level here, too, the evaluator has assumed that the 1⁻ level is not observably populated in (α ,2n γ).

Other levels reported by 1982Fi15 but not confirmed in (α ,2n γ) by 2006Ap01 include: 1453.0, 2⁺; 1807.4, (6⁻); 1949.84, (8⁻); 2189.0, (9⁻); 2320.4, (10⁻); 2512.8, (11⁻); and 3132.3, (14⁻). Note that these latter, negative-parity levels are all members of the proposed K^{π} =6⁻ band, whose existence (at least at the listed energies) has not been confirmed. Note, also, that the data from 1982Fi15 do not extend to levels above 3138.8 keV.

E(level) [†]	$J^{\pi \#}$	Comments
0.0 [@]	0^{+}	
80.75 [@] 8	2^{+}	
265.79 [@] 10	4^{+}	g=+0.28 3
0		g: From 1997Al04, who report $g=+0.285 31$.
548.67 [@] 11	6+	$g=+0.28 \ 3$
		g: g factor as reported by 1997Al04 is +0.301 31, computed assuming $T_{1/2}$ =17.4 ps 5 (quoted by 1997Al04). The listed value has been corrected to take into account the different $T_{1/2}$ value (18.4 ps 10, from Adopted Levels, Gammas) used in this evaluation. Note, however, that this μ value has not been adopted.
888.25 ^{&} 8	2+	
921.20 [@] 12	8+	g=+0.45 <i>12</i> g: g factor as reported by 1997Al04 is +0.43 <i>12</i> , computed assuming $T_{1/2}$ =4.39 ps <i>12</i> (quoted by 1997Al04). The listed value has been corrected to take into account the different $T_{1/2}$ value (4.2 ps 2, from Adopted Levels, Gammas) used in this evaluation. Note, however, that this μ value has not been adopted.
963.02 ^{&} 10	3+	
1061.20 ^{&} 10	4+	
1148.35 ^a 13	2-	
1182.97 ^{&} 10	5+	

¹⁶²Dy Levels (continued)

E(level) [†]	J ^{π#}	Comments
1210.26 ^{<i>a</i>} 14	3-	
1297.18 ^{<i>a</i>} 12	4-	
1324.69 11	6+	
1357.69 ^b 23	3-	
1375.04 [@] 13	10^{+}	
1391.13 ^{<i>a</i>} 13	5-	
1485.92 ^{<i>a</i>} 12	5-	
1490.43° 11	7+	
1518.68 20	5-	
1530.32° 12 1535.82° 10	6 1+	
1574.2 [°] 4	4 4 ⁺	
1575.94^{d} 12	6-	
1634.63 ^e 11	5+	
1637.46 ^a 14	7-	
1670.42 ^{&} 12	8+	
1683.56 ^d 13	7-	
1691.42 [‡] 23	2-	E(level): possible member of the $K^{\pi} = 1^{-}$ band.
1745.8 [‡] <i>f</i> 4	1^{+}	
1752.12 ^e 10	6+	
1755.7 ^b 5	$(7)^{-}$	J^{π} : 2006Ap01 list (7 ⁻).
1767.36 ^c 20	6+	
1782.42+J 23	2+	
1807.70 ^{<i>a</i>} 12	8-	
1845.80° 15	ð 0+	
18/8.03 ^{cc} 12 1887 88 ^e 11	9 · 7+	
$1901.48^{@} 14$	12+	
1939.56^{d} 14	0-	
1959.00^a 15	9-	
1985.63 ^c 17	8+	
2041.17 ^{‡e} 12	8+	
2087.67 ^{&} 13	10^{+}	
2100.67 ^b 18	9-	
2110.91 ^d 14	10-	
2157.5? [‡] 4		
2187.88 14	(9 ⁻)	E(level): consistent with that proposed as the 9 ⁻ member of a $K^{\pi}=6^{-}$ band. But the existence of this band at the previously proposed location has not been confirmed. The two decaying γ 's are relocated by 2011Sw02 (160 Gd(9 Be, α 3n γ)) at (9 ⁻), 2188 isomeric level.
2211.83 ^{‡e} 13	9+	
2234.43 ^{<i>a</i>} 14	10-	
2262.39° 15	10+	
2281.02 ^{<i>a</i>} 16	11-	
2332.01° 10	11	
2537.30° 14	11 [⊤]	
2398.41 ^{+e} 19	10+	
2483.22 ^u 19	12-	

¹⁶⁰Gd(α ,2n γ) 2006Ap01,1982Fi15 (continued)

¹⁶²Dy Levels (continued)

E(level) [†]	J π #	Comments
2492.41 [@] 21	14+	
2504.15 ^b 23	11^{-}	
2535.21 ^c 15	12+	Band assignment is that of 2001Wu05 (162 Dy, 162 Dy' γ) and 2002Ju08 (7 Li,p4n γ). 2006Ap01 assign it as a member of the γ -vibrational band. See, also, the comment on the 2623 level.
2601.75 ^{‡e} 16	11^{+}	
2623.46 ^{‡&} 16	12+	Band assignment is that of 2001Wu05 (162 Dy, 162 Dy' γ) and 2002Ju08 (7 Li,p4n γ). 2006Ap01 assign it as a member of the S band. See, also, the comment on the 2535 level. J ^{π} : 2006Ap01 show this value in parentheses.
2625.29 [‡] 18		Level reported only by 2006Ap01. It is not included in the Adopted Levels.
2671.01 ^{<i>a</i>} 16	12^{-}	J^{π} : 2006Ap01 show this value in parentheses.
2683.10 ^d 19	13-	
2778.58 ^a 18	13-	J^{π} : 2006Ap01 show this value in parentheses.
2859.66 <mark>&</mark> 21	13+	
2935.33 ^{‡c} 19	14+	J ^{π} : assignment is that of the evaluator and is based on data from (⁷ Li,p4n γ). 2006Ap01 assign this tentatively as the 13 ⁻ member of the $K^{\pi}=0^{-}$ octupole band, but in (⁷ Li,p4n γ) this band member is placed at 2693.7 keV.
2964.16 ^{‡b} 22	13-	J^{π} : J^{π} and band assignment is that of the evaluator and is based on data from (⁷ Li,p4n γ). 2006Ap01 report this level but show its J^{π} value as questionable.
3139.6 [@] 3	16^{+}	
3146.06 ^{&} 21	14^{+}	J^{π} : 2006Ap01 enclose this value in parentheses.
3146.8? ^d 3	15-	J^{π} : J^{π} and band assignment is that of the evaluator and is based on data from (⁷ Li,p4n γ). 2006Ap01 report this level but show its J^{π} value as questionable.
3294.3? ^a 3	15-	J^{π} : J^{π} and band assignment is that of the evaluator and is based on data from (⁷ Li,p4n γ). 2006Ap01 report this level but show its J^{π} value as questionable.
3832.3 [@] 4	18+	
[†] From a leas [‡] Level and d	t-square eexcitir	es fit to the listed E γ values. g γ 's not reported by 1982Fi15.

- From the Adopted Values. Where these differ from those of 2006Ap01, this is noted.
- ^(a) Band(A): $K^{\pi} = 0^+$, g.s. band.
- [&] Band(B): $K^{\pi}=2^+$, γ -vibrational band. ^{*a*} Band(C): $K^{\pi}=2^-$ octupole-vibrational band.
- ^{*b*} Band(D): $K^{\pi}=0^{-}$ octupole-vibrational band.
- ^{*c*} Band(E): first excited $K^{\pi}=0^+$ band. S, or Super, band.
- ^d Band(F): $K^{\pi}=5^{-}$ band. ^e Band(G): $K^{\pi}=4^{+}$ band.
- ^{*f*} Band(H): $K^{\pi}=1^+$ band.

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

1982Fi15 list $\alpha(K)$ exp values for a number of their observed γ' s but do not list mults.

E_{γ}^{\dagger}	I_{γ}^{\dagger}	E_i (level)	\mathbf{J}_i^{π}	$E_f J_f^{\pi}$	Mult. [#]	Comments
80.8 1	19 <i>1</i>	80.75	2+	0.0 0+		DCO=1.20 7
90.1 2	2.3 2	1575.94	6-	1485.92 5-		DCO=2.8 4
98.8 <i>2</i>	0.3	1634.63	5+	1535.82 4+	M1+E2	Mult.: 2006Ap01 report %E2=20 2.
107.7 2	‡	1683.56	7-	1575.94 6-		

γ ⁽¹⁶²Dy) (continued)</sup>

E_{γ}^{\dagger}	I_{γ}^{\dagger}	E _i (level)	\mathbf{J}_i^{π}	$E_f = J_f^{\pi}$	Mult. [#]	Comments
114.4 2	‡	1297.18	4-	1182.97 5+		
117.5 1	1.4 2	1752.12	6+	1634.63 5+	E2+M1	DCO=3.5 8
						Mult.: 2006Ap01 report %M1<16.
124.1 <i>1</i>	2.9 3	1807.70	8-	1683.56 7-		DCO=6.0 7
135.9 <i>1</i>	1.3 <i>I</i>	1887.88	7+	1752.12 6+	E2+M1	DCO=4.1 7
149.1 <i>3</i>	‡	1210.26	3-	1061.20 4+		
151.7 2	1.4 2	2110.91	10^{-}	1959.00 9-		DCO=3.5 6
153.4 <i>1</i>	1.3 4	2041.17	8+	1887.88 7+	E2+M1	DCO=3.0 5
170.7 2	1.7 2	2211.83	9+	2041.17 8+	E2+M1	DCO=4.0 8
171.3 <i>1</i>	4.0 4	2110.91	10^{-}	1939.56 9-		DCO=0.30 7
		10/1 00	.+			DCO is for $\Delta J=1$, dipole gated.
173.13	0.8 2	1061.20	4+	888.25 2+	E2	DCO=1.0 4
185.0 1	100 4	265.79	4'	80.75 21		DCO=0.99 4
186.6	+	2398.41	10^{+}	2211.83 9+		
197.4 2	0.2	1683.56	7-	1485.92 5-		
202.2 1	1.1 1	2483.22	12-	2281.02 11		DCO=2.6 8
203.4 2	1.8 2	2601.75	11'	2398.41 10		DCO=3.2 I
216 2 1	150	1752 12	6+	1525.00 4+	E2	γ not reported in the neavy-ion studies.
210.5 I 220.1 I	1.32	1/32.12	5+	$1353.62 4^{\circ}$	E2 E2	DC0=1.14 14
220.11	0.41 361	1102.97	5 8-	903.02 5 1575.04 6 ⁻	EΖ	DCO-1.00.7
231.01	001	1530.32	6- 6-	$1373.94 \ 0$ 1207 18 Λ^{-}		DCO = 1.007
236.0.2	0.91	1297 18	Δ^{-}	1257.10^{-4} 1061 20 4 ⁺		DC0-1.15 15
247.1.3	0.3	1210.26	3-	963.02 3+		
253.2.1	1.6 1	1887.88	7 ⁺	$1634.63 5^+$	E2	DCO=1.01.12
260.1 1	2.7 2	1148.35	2-	888.25 2+		DCO=0.99 9
263.5 2	0.5 1	1324.69	6+	1061.20 4+	E2+M1	DCO=0.86 13
						Mult.: 2006Ap01 report %E2=96.7, but placement requires pure
27562	0.2	1/85 02	5-	1210.26 3-		Е2.
275.0 2	+	1405.92	10+	1210.20 5		DC0 1 00 22
2/0.8 1	071	2202.39	10.	1985.05 8		$DCO=1.00\ 25$
211.5 2	0.71	548.67	o 6+	$1350.32 \ 0$ 265.70 4^+		$DCO=0.98\ 10$
282.91	112	2041.17	0 8+	203.79 4 1752.12 6 ⁺	F2	DCO=0.00 15
303 3 1	263	2110.91	10-	1807 70 8-	L2	DCO = 1.00.6
307.7.2	1.7.2	1490.43	7+	$1182.97 5^+$	E2	DCO=0.98.9
315.6 1	2.1.2	1845.86	8-	1530.32 6		DCO=1.04 //
						DCO=1.73 11 (Δ J=1, dipole gated).
317.7 <i>1</i>	1.0 1	1807.70	8-	1490.43 7+		DCO=1.40 24
322.0 3	0.3	1210.26	3-	888.25 2+		
323.9 1	2.7 2	2211.83	9+	1887.88 7+	E2	DCO=0.99 18
329.4 <i>3</i>	0.2	1391.13	5-	1061.20 4+		
333.6 2	0.4	2671.01	12-	2337.30 11+		
333.9 2	0.8 1	2211.83	9+	1878.03 9+	E2+M1	DCO=1.52 21
334.1 <i>1</i>	1.3 2	1297.18	4-	963.02 3+		DCO=1.94 24
345.7 1	1.5 2	1670.42	8-	1324.69 6+	E2	DCO=1.00 13
347.4 I	5.1 5	1530.32	6	1182.97 5*		DCU=1./4 9 DCO_1.75_12
333.4 I	5.5 5	1845.80	8 10	1490.43 /'		DCO=1.75 13 DCO=1.75 12
357 2 2	1.01 172	2234.43	10+	10/0.03 9		DCO=1.73 13 DCO=0.07 10
262.0.1	+	2370.41	10	20+1.1/0		
302.9 I	+	2625.29	10-	2202.39 IU ⁺		DCU=1.1 4
312.4°	45.2	2483.22	12	2110.91 10 ⁻ 549.67 4+		DCO = 1.00.2
312.0 1	43 2	921.20	0	346.07 0		DCO=1.00 3 DCO=1.54 13, (Δ J=1, dipole gated).

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

E_{γ}^{\dagger}	I_{γ}^{\dagger}	E_i (level)	\mathbf{J}_i^{π}	$\mathbf{E}_f = \mathbf{J}_f^{\pi}$	Mult. [#]	Comments
380.3 <i>1</i>	1.5 2	2187.88	(9 ⁻)	1807.70 8-		DCO=0.96 8
						γ ray relocated by 2011Sw02 (¹⁶⁰ Gd(⁹ Be, α 3n γ)) at (9 ⁻), 2188 isometric level.
387.5 1	2.2	1878.03	9+	1490.43 7+	E2	$DCO=1.03 \ 10$
388.6 1	3.1.3	2234.43	10-	1845.86 8-		$DCO=1.03 \ 10$
389.9 1	1.4 1	2601.75	11+	2211.83 9+		DCO=0.97 10
392.8 1	1.17	1575.94	6-	$1182.97 5^+$		DCO=1.6.3
397.4 3	0.8 1	1887.88	7+	1490.43 7+	E2	DCO=1.3 3
400.0 2	1.3 4	2935.33	14^{+}	2535.21 12+		DCO=1.17 12
402.2 2	1.0 2	2683.10	13-	2281.02 11-		DCO=1.8 3
						DCO is for $\Delta J=1$, dipole gated.
417.2 <i>1</i>	1.8 <i>1</i>	2087.67	10^{+}	1670.42 8+		DCO=1.01 10
427.6 2	1.2 1	1752.12	6+	1324.69 6+	E2+M1	DCO=1.5 3
						Mult.: 2006Ap01 report %E2=63 23.
430.4 2	0.3	2332.01	11-	1901.48 12+		DCO=1.6 4
436.6 1	2.1 3	2671.01	12^{-}	2234.43 10-		DCO=1.03 13
443.0 2	0.8 2	2935.33	14^{+}	2492.41 14+		DCO=0.81 18
447.5 1	1.6 <i>1</i>	2535.21	12^{+}	2087.67 10+		DCO=0.94 8
451.8 2	0.5 1	1634.63	5+	1182.97 5+	E2+M1	Mult.: 2006Ap01 report %M1<24.
453.8 1	21 <i>I</i>	1375.04	10^{+}	921.20 8+		DCO=1.01 3
						DCO=1.74 16, (Δ J=1, dipole gated).
459.2 1	2.4 3	2337.30	11^{+}	1878.03 9+		DCO=1.03 13
463 6 3	‡	3146.06	14^{+}	2683 10 13-		DCO=1.8.3
474 9 2	03	1535.82	4+	$1061\ 20\ 4^+$	E2+M1	Mult : $2006Ap01$ report %E2=73.8
502.9.2	0.3	1878.03	9+	$1375.04 \ 10^+$	$E_{2}(+M_{1})$	DCO=1.55.24
504.2.1	374	2187.88	(9^{-})	1683 56 7	L2(1111)	DCO=0.99.12
501.21	5.7 1	2107.00	())	1005.50 7		γ ray relocated by 2011Sw02 (¹⁶⁰ Gd(⁹ Be, α 3n γ)) at (9 ⁻),
51050	122	1061 20	4+	510 (7 (+	E2 · M1	2188 isomeric level.
512.5 2	1.3 3	1061.20	4.	548.67 6	E2+M1	I_{γ} : this relative I_{γ} value is much larger than that reported in other studies, e.g., from 2006Ap01 in (n,γ) , who give $I_{\gamma}(512.4\gamma)/I_{\gamma}(795.3\gamma)=0.0158 \ 10$. The evaluator has assumed that most of the listed intensity for this γ belongs elsewhere in the level scheme.
500.0.0	150	2050 ((10+	2227.20.11+		Mult.: 2006Ap01 report %E2=96.9.
522.3 3	1.5 3	2859.66	13+	2337.30 11		DCO=0.977
526.5 1	/ 1	1901.48	12	13/5.04 10'		DCO=1.0 3
535.72	1.0 2	2623.46	12'	2087.67 10		DCO=0.99 22
541.4 2	0.3	2211.83	9 ⁺	16/0.42 8		
562.0.1	0.2	2041.17	8 · 7+	1490.45 /*	E2	DCO 1 00 20
56462	0.5 I	1887.88	0-	$1324.09 0^{\circ}$ 1275.04 10 ⁺	E2	DCO=1.52
560 1 1	0.4 I	1959.50	9 6+	$13/3.04 \ 10^{\circ}$ $1182.07 \ 5^{+}$		DCO=1.40.22
309.1 1	2.4 1	1732.12	0	1182.97 5		Mult.: 2006Ap01 report %M1<7.
569.3 <i>1</i>	1.1 <i>1</i>	1490.43	7+	921.20 8+	E2(+M1)	DCO=1.58 12
572.8 1	0.8 1	1535.82	4+	963.02 3+	E2(+M1)	DCO=1.28 18
						Mult.: 2006Ap01 report %M1<11.
573.4 1	1.2 1	1634.63	5+	1061.20 4+	E2+M1	DCO=1.5 3 Mult.: 2006Ap01 report %M1<17.
583.9 1	0.8 1	1959.00	9-	1375.04 10+		DCO=1.8 3
591.0 2	2.7 4	2492.41	14^{+}	1901.48 12+		DCO=1.00 11
602.7 2	0.5 1	2504.15	11^{-}	1901.48 12+		DCO=1.9 7
610.7 2	0.3	3146.06	14^{+}	2535.21 12+		
633.6 2	1.5 2	2535.21	12^{+}	1901.48 12+		DCO=0.92 9
634.1 <i>1</i>	1.9 <i>1</i>	1182.97	5+	548.67 6+	E2	DCO=1.23 9
647.2 2	0.4 1	3139.6	16^{+}	2492.41 14+		DCO=1.09 14

γ ⁽¹⁶²Dy) (continued)</sup>

	E_{γ}^{\dagger}	I_{γ}^{\dagger}	E _i (level)	\mathbf{J}_i^{π}	\mathbf{E}_{f}	\mathbf{J}_f^{π}	Mult. [#]	Comments
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	647.5 1	1.5 <i>1</i>	1535.82	4+	888.25	2+	E2(+M1)	DCO=1.04 13
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	(5110	0.0.0	2146.00	15-	2402.41	1.44		Mult.: 2006Ap01 report %M1<5.6.
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	654.4 2	0.8 2	3146.8?	15	2492.41	14'	50	DCO=1.51.23
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	6/1.4 2	1.3 2	1634.63	5'	963.02	3'	E2	$DCO=1.01\ 21$
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	691.0 <i>1</i>	1.8 1	1752.12	6'	1061.20	4'		DCO=1.07/25 E.: γ not reported by 2006Ap01 in $(n \gamma)$
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	692.7 2	‡	3832.3	18+	3139.6	16+		
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	697.2 1	0.9 1	963.02	3+	265.79	4+	E2+M1	DCO=0.98 9
704 9 0.4 1 187.88 7* 1182.97 5* E2 DCO=1.23 716 1 10 135.04 10* 135.04 10* DCO=1.30 16 716 1 0.7 163.746 7* 921.20 8* DCO=1.30 16 722.0 10 153.746 12* 1001.48 12* DCO=1.24 725.5 0.41 2100.67 9* 1375.04 10* DCO=1.36 728.4 2 169.142 2* 963.02 3* DCO=1.36 8 776.0 1.3.2 1324.69 6* 548.67 6* E2+MI DCO=1.47 DCO=1.47 776.0 1.3.2 1324.69 6* 548.67 6* DCO=1.47 DCO=1.41 DCO=1.41 DCO=1.41 DCO=1.09.3 Mult: 2006Ap01 report %E2=90. DCO=1.09.5 Mult: 2006Ap01 report %E2=90. DCO=1.02.2 S DCO=1.75 S S S S S S S S S S S S S S S S S S S								Mult.: 2006Ap01 report %E2=94.8.
712.6 1.6 1 2087.67 10" 1375.04 10" DCO=1.30.16 712.6 1 163.74 0.7 921.20 8" DCO=1.74 17 722.0 0.5 1 2623.46 12" 1901.48 12" DCO=1.2.4 725.2 0.4 1 210.67 9" 1375.04 10" DCO=1.2.4 725.2 0.4 1 1691.42 2" 963.02 3" DCO=1.30.68 776.0 1 3.2.3 1324.69 6" 548.67 F E2.411 DCO=1.47 Mult: :2006Ap01 report %E2=98, but placement requires pure E2. 781.8 2 2.4.3 2683.10 13" 1901.48 12" DCO=1.09.23 801.9 2 0.9 3294.3? 15" 2492.41 14" DCO=1.09.3 801.9 2 0.9 3294.3? 15" 2492.41 14" DCO=1.09.3 807.57 2.6.2 888.25 2" 80.75 4" DCO=1.09.3 807.57 2.6.2 1391.148 12" <t< td=""><td>704.9 <i>1</i></td><td>0.4 1</td><td>1887.88</td><td>7+</td><td>1182.97</td><td>5+</td><td>E2</td><td>DCO=1.2 3</td></t<>	704.9 <i>1</i>	0.4 1	1887.88	7+	1182.97	5+	E2	DCO=1.2 3
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	712.6 <i>1</i>	1.6 <i>1</i>	2087.67	10^{+}	1375.04	10^{+}		DCO=1.30 16
722.0 1 0.5 1 2623.46 12* DCO=1.2 4 725.2 1 0.4 1 200.6 7 95 135.04 10* DCO=1.7 5 782.4 2 \ddagger 1691.42 2* 963.02 3* DCO=1.7 6 762.1 2 1.1 2 1683.56 7 921.00 8* E2(+MI) DCO=1.47 7 762.1 2 1.1 2 1683.56 7 921.00 8* E2(+MI) DCO=1.47 7 761.1 2 1.32.3 1324.69 6* 548.67 6* E2(+MI) DCO=1.04 8 781.8 2 2.4.3 2.683.10 13* 1901.48 12* DCO=1.09 23 801.9 2 0.9 1 3294.32 15* 2492.41 14* DCO=2.2 5 807.5 1 2.6 2 888.25 2* 880.75 2* E2 MCO=1.3 3 842.6 1 1.2 2 1391.13 5* 548.67 6* DCO=1.3 3 842.6 1 1.2 2 2778.58 13* 1901.48 12* DCO=1.76 18 823.1 5.8 4 963.02 3* 80.75 2* E2+MI DCO=0.92 6<	716.3 <i>1</i>	0.7 1	1637.46	7-	921.20	8+		DCO=1.74 17
725.5 0.4 1 2100.67 9" 1375.04 10" DCO=1.7 5 728.4 2 1601.42 2" 960.02 3" DCO=1.36 8 749.2 1 2.6 1 1683.56 7" 921.20 8" E2(+M1) DCO=1.41 7 776.0 1 3.2 3 132.469 6" 548.67 6" E2+M1 DCO=1.09 6 Mult: 2006.64001 report %E2=98, but placement requires pure E2. 781.8 2 2.4.3 2683.10 13" 1901.48 12" DCO=1.09 5 801.9 2 0.9 1 32.43 15" 2492.41 14" DCO=0.20 5 801.9 2 0.7 1 76.36 6" DCO=1.09 18 Mult: 2006.64001 report %E2=90. 807.5 1 1782.42 2" 963.02 3" Mult: 2006.4601 report %E2=96.7. 819.4 2 1745.8 1" 888.25 2" DCO=1.36 Mult: 2006.4601 report %E2=96.7. <tr< td=""><td>722.0 1</td><td>0.5 1</td><td>2623.46</td><td>12^{+}</td><td>1901.48</td><td>12^{+}</td><td></td><td>DCO=1.2 4</td></tr<>	722.0 1	0.5 1	2623.46	12^{+}	1901.48	12^{+}		DCO=1.2 4
728.4 2 $\vec{3}$ 1601.42 2^- 963.02 3^+ 749.2 1 2.6 1 1670.42 8^+ 521.00 8^+ DCO=1.47 7 762.1 2 1.1 2 1683.56 7 921.20 8^+ DCO=1.36 8 776.0 1 3.2 3 1324.69 6^+ 548.67 6^+ E2+M1 DCO=1.36 8 781.8 2 2.4 3 2683.10 13^- 1901.48 12^+ DCO=1.09 3 795.4 1 3.0 3 1061.20 4^+ 265.79 4^+ E2+M1 DCO=1.09 5 801.9 2 0.9 1 3294.37 15^- 2492.41 14^+ DCO=2.2 5 8075.1 2 1.6 2 188.25 2^+ BCO=1.33 Mult: 2006Ap01 report %E2=90.7. 819.4 2 $\frac{1}{1767.36}$ 6^+ 921.20 8^+ E2 DCO=1.33 846.2 2 0.7 1 1767.36 6^+ 921.20 8^+ E2 DCO=1.76 18 887.5 3 $\frac{1}{7}$ 1745.8 13^- 157.40 DCO=0.292 6 DCO=0.92 6 <td>725.5 2</td> <td>0.4 1</td> <td>2100.67</td> <td>9-</td> <td>1375.04</td> <td>10^{+}</td> <td></td> <td>DCO=1.7 5</td>	725.5 2	0.4 1	2100.67	9-	1375.04	10^{+}		DCO=1.7 5
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	728.4 2	Ŧ	1691.42	2^{-}	963.02	3+		
762.1 2 1.1 2 1683.56 7 921.20 8* DCO=1.36 8 776.0 I 3.2 3 1324.69 6* 548.67 6* E2+M1 DCO=1.41 7 Mult:: 2006Ap01 report %E2=98, but placement requires pure E2. DCO=1.90 23 DCO=1.90 23 785.4 I 3.0 3 1061.20 4* 265.79 4* E2+M1 DCO=1.09 5 801.9 2 0.9 I 3294.37 15* 2492.41 14* DCO=2.2 5 807.5 I 2.6 2 888.25 2* 80.75 2* E2+M1 DCO=1.33 846.2 2 0.7 I 1767.36 6* 921.20 8* E2 DCO=1.76 18 877.5 3 1 1.2 2 1375.84 1901.48 12* DCO=0.92 6 DCO=0.82 10 888.21 2.4 2 888.25 2* DCO=0.92 6 DCO=0.92 6 888.21 2.4 2 888.25 2* DCO=0.92 6 DCO=0.92 6 917.2 I 6.7 3 1182.97 5* 265.79 4* E2+M1 DCO=0.13 3 917.2 I 6.7 1490.43 7* 548.67 6*	749.2 <i>1</i>	2.6 1	1670.42	8^{+}	921.20	8+	E2(+M1)	DCO=1.47 7
776.0 1 3.2 3 1324.69 6^+ 548.67 6^+ $E2+M1$ DCO=1.41 7 781.8 2 2.4 3 2683.10 $13^ 1901.48$ 12^+ DCO=1.90 23 795.4 1 3.0 3 1061.20 4^+ 265.79 4^+ E2+M1 DCO=1.90 23 801.9 2 0.9 1 3294.37 $15^ 2492.41$ 14^+ DCO=2.25 807.5 1 2.6 2 888.25 2^+ 80.75 2^+ E2+M1 DCO=0.93 18 Mult:: $2006Ap01$ report %E2=96.7. Mult:: $2006Ap01$ report %E2=96.7. 819.4 2 7177.58 $13^ 948.67$ 6^+ DCO=1.3 3 846.2 2 0.7 1767.36 921.20 8^+ E2+M1 DCO=0.93 18 875.3 3 1.51 2906.302 3^+ $B0.75$ 2^+ $DCO=1.3$ 876.3 1 5.2 777.58 $13^ 901.48$ 12^+ $DCO=0.82 10$ 887.3 1 5.7 242 888.25 2^+ 00.0^+ E2 $DCO=0.92 6$	762.1 2	1.1 2	1683.56	7-	921.20	8+		DCO=1.36 8
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	776.0 <i>1</i>	3.2 <i>3</i>	1324.69	6+	548.67	6+	E2+M1	DCO=1.41 7
781.8 2 2.4 3 2683.10 13 1901.48 12 ⁺ DCO=1.90 23 795.4 1 3.0 3 1061.20 4 ⁺ 265.79 4 ⁺ E2+M1 DCO=1.09 23 801.9 2 0.9 1 3294.37 15 ⁻ 2492.41 14 ⁺ DCO=2.2 5 807.5 1 2.6 2 888.25 2 ⁺ 80.75 2 ⁺ DCO=1.09 3 819.4 2 $^{+}$ 1782.42 2 ⁺ 963.02 3 ⁺ E2+M1 DCO=1.03 3 842.6 1 1.2 2 1391.13 5 ⁻ 548.67 6 ⁺ DCO=1.76 18 842.2 0.7 1 1767.36 6 ⁺ 921.20 8 ⁺ E2 DCO=1.4 3 875.5 3 $^{+}$ 1.5 1 2262.39 10 ⁺ 1375.04 10 ⁺ DCO=0.98 10 882.3 1 5.8 4 963.02 3 ⁺ E2+M1 DCO=0.98 10 Mult: 2006Ap01 report %E2=99.3. 887.5 1 1.5 1 226.39 10 ⁺ 1375.04 10 ⁺ DCO=0.98 10 906.0 1 2.9 1 2281.02 11 ⁻ 1375.04 10 ⁺ DCO=1.83 9 917.2 1 6.7 3								Mult.: 2006Ap01 report %E2=98, but placement requires pure
795.4 l 3.0 3 1061.204+265.794+E2+M1DCO=1.09 5 Mult: 2006Ap01 report %E2=90.801.9 2 0.9 l 3294.3715 ⁻ 2492.4114+DCO=2.2 5807.5 l 2.6 2 888.252 ⁺ 963.023 ⁺ 842.6 l 1.2 2 1391.135 ⁻ 548.676 ⁺ DCO=1.3 3 846.2 2 0.7 l 1767.366 ⁺ 921.208 ⁺ E2DCO=1.73 3 875.3 $\stackrel{1}{*}$ 1745.81 ⁺ 888.252 ⁺ DCO=0.92 6 877.1 l 2.0 2 2778.5813 ⁻ 1901.4812 ⁺ DCO=0.92 6 882.3 l 5.8 4 963.023 ⁺ 80.75 2^+ E2+M1DCO=0.82 $l0$ 906.0 l 2.9 l 2281.0211 ⁻ 1375.04 10^+ DCO=1.38 9 917.2 l 6.7 3 1182.975 ⁺ 548.67 6^+ DCO=1.30 6 941.9 l 6.8 7 1490.437 ⁺ 548.67 6^+ DCO=1.44 3 945.5 40.31210.263 ⁻ 265.79 4^+ DCO=1.41 4 945.4 0.3 1210.263 ⁻ 548.67 6^+ DCO=1.30 6 941.9 l 6.8 7 1490.437 ⁺ 548.67 6^+ DCO=1.88 9 957.0 l 2.5 l 2332.0111 ⁻ 1375.04 10^+ DCO=1.88 9 956.9 l 2.6 2 1878.03 9^+ 921.20 8^+ DCO=1.05 $l6$ 962.4 2 1.4 2 2337.0011 ⁺ 1375.04 10^+ 965.9 l 1.9 l 101.48 12^+	781.8 2	2.4 3	2683.10	13-	1901.48	12^{+}		DCO=1.90 23
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	795.4 1	3.0 3	1061.20	4+	265.79	4+	E2+M1	DCO=1.09 5
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$								Mult.: 2006Ap01 report %E2=90.
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	801.9 2	0.9 1	3294.3?	15^{-}	2492.41	14^{+}		DCO=2.2 5
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	807.5 1	2.6 2	888.25	2^{+}	80.75	2+	E2+M1	DCO=0.93 18
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$								Mult.: 2006Ap01 report %E2=96.7.
842.6 <i>l</i> 1.2 <i>l</i> 1391.13 5 ⁻ 548.67 6 ⁺ DCO=1.3 3 846.2 2 0.7 <i>l</i> 1767.36 6 ⁺ 921.20 8 ⁺ E2 DCO=1.4 3 857.5 3 $\stackrel{+}{}$ 1745.8 1 ⁺ 888.25 2 ⁺ 877.1 <i>l</i> 2.0 2 2778.58 13 ⁻ 1901.48 12 ⁺ DCO=0.82 <i>l</i> 0 Mult: 2006Ap01 report %E2=99.3. 887.3 <i>l</i> 1.5 <i>l</i> 2262.39 10 ⁺ 1375.04 10 ⁺ DCO=0.92 6 888.2 <i>l</i> 2.4 2 888.25 2 ⁺ 0.0 0 ⁺ E2 DCO=0.98 <i>l</i> 0 906.0 <i>l</i> 2.9 <i>l</i> 2281.02 11 ⁻ 1375.04 10 ⁺ DCO=1.14 3 Mult: 2006Ap01 report %E2=96.2. 917.2 <i>l</i> 6.7 3 1182.97 5 ⁺ 265.79 4 ⁺ E2+M1 DCO=1.14 3 Mult: 2006Ap01 report %E2=96.2. 937.2 <i>l</i> 2.2 2 1485.92 5 ⁻ 548.67 6 ⁺ DCO=1.30 6 941.9 <i>l</i> 6.8 7 1490.43 7 ⁺ 548.67 6 ⁺ M1 DCO=1.44 Mult: from 1982Fi15, α (K)exp=0.0034 5, which gives mult=E2 with δ >1.2. 944.5 4 0.3 1210.26 3 ⁻ 265.79 4 ⁺ E2(+M1) DCO=1.58 9 957.0 <i>l</i> 2.5 <i>l</i> 2332.01 11 ⁻ 1375.04 10 ⁺ DCO=1.58 9 957.0 <i>l</i> 2.5 <i>l</i> 2332.01 11 ⁻ 1375.04 10 ⁺ DCO=1.58 9 957.0 <i>l</i> 2.5 <i>l</i> 2332.01 11 ⁻ 1375.04 10 ⁺ DCO=1.58 9 957.0 <i>l</i> 2.5 <i>l</i> 2332.01 11 ⁻ 1375.04 10 ⁺ DCO=1.58 9 957.0 <i>l</i> 2.5 <i>l</i> 2332.01 11 ⁻ 1375.04 10 ⁺ DCO=1.58 9 957.0 <i>l</i> 2.5 <i>l</i> 2332.01 11 ⁻ 1375.04 10 ⁺ DCO=1.73 <i>l</i> 0 962.4 2 1.4 2 2337.30 11 ⁺ 1375.04 10 ⁺ DCO=1.77 <i>l</i> 980.5 <i>l</i> 1.9 <i>3</i> 1061.20 4 ⁺ 80.75 2 ⁺ [E2] DCO=0.99 <i>l</i> 9 Mult: 2006Ap01 report %E2=93, but placement requires pure E2. 1018.3 <i>l</i> 2.5 <i>3</i> 1939.56 9 ⁻ 921.20 8 ⁺ DCO=1.72 <i>l</i> 4 1033.0 <i>l</i> 3.2 <i>4</i> 1939.05 9 ⁻ 921.20 8 ⁺ DCO=1.72 <i>l</i> 4 1033.0 <i>l</i> 3.2 <i>4</i> 1939.06 9 ⁻ 921.20 8 ⁺ DCO=1.75 <i>l</i> 3 1059.0 2 1.7 <i>l</i> 1324.69 6 ⁺ 265.79 4 ⁺ E2 DCO=0.92 6	819.4 2	Ŧ	1782.42	2^{+}	963.02	3+		
846.2 2 0,7 1 1767.36 6 ⁺ 921.20 8 ⁺ E2 DCO=1.4 3 857.5 3 ‡ 1745.8 1+ 888.25 2 ⁺ DCO=1.76 18 882.3 1 5.8 4 963.02 3 ⁺ 80.75 2 ⁺ E2+M1 DCO=0.82 10 882.3 1 5.8 4 963.02 3 ⁺ 80.75 2 ⁺ E2+M1 DCO=0.82 10 887.3 1 1.5 1 2262.39 10 ⁺ 1375.04 10 ⁺ DCO=0.92 6 888.2 1 2.4 2 888.25 2 ⁺ 0.0 0 ⁺ E2 DCO=1.83 9 906.0 1 2.9 1 2281.02 11 ⁻ 1375.04 10 ⁺ DCO=1.14 3 917.2 1 6.7 3 1182.97 5 ⁺ 265.79 4 ⁺ E2+M1 DCO=1.14 3 937.2 1 2.2 2 1485.92 5 ⁻ 548.67 6 ⁺ M1 DCO=1.30 6 941.9 1 6.8 7 1490.43 7 ⁺ 548.67 6 ⁺ M1 DCO=1.88 9 957.0 1 2.5 1 2332.01 11 ⁻ 1375.04 10 ⁺ DCO=1.87 10 DCO=1.87 10 958.2 2 0.7 1 2859.66 13 ⁺ 1901.48 12 ⁺	842.6 1	1.2 2	1391.13	5-	548.67	6+		DCO=1.3 3
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	846.2 2	0.7 1	1767.36	6+	921.20	8+	E2	DCO=1.4 3
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	857.5 <i>3</i>	Ŧ	1745.8	1^{+}	888.25	2^{+}		
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	877.1 <i>1</i>	2.0 2	2778.58	13-	1901.48	12^{+}		DCO=1.76 18
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	882.3 1	5.8 4	963.02	3+	80.75	2+	E2+M1	DCO=0.82 10
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	007.0.1	1 5 1	22(2.20)	10+	1275.04	10+		Mult.: 2006Ap01 report %E2=99.3.
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	88/.31	1.5 1	2262.39	10	13/5.04	10.	52	DCO = 0.92.0
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	888.2 1	2.4 2	888.25	2.	0.0	10^{+}	E2	$DCO=0.98 \ IO$
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	900.01	2.9 I 6 7 3	1182.07	5+	265 70	10 4+	E2 + M1	DCO=1.65.9
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	917.2 1	0.75	1102.97	5	205.19	7	L2+1V11	Mult : $2006Ap01$ report %F2=96.2
941.9 <i>I</i> 6.8 7 1490.43 7 ⁺ 548.67 6 ⁺ M1 DCO=1.41 <i>A</i> 944.5 4 0.3 1210.26 3 ⁻ 265.79 4 ⁺ 956.9 <i>I</i> 2.6 2 1878.03 9 ⁺ 921.20 8 ⁺ E2(+M1) DCO=1.58 9 957.0 <i>I</i> 2.5 <i>I</i> 2332.01 11 ⁻ 1375.04 10 ⁺ DCO=1.87 <i>I</i> 0 958.2 2 0.7 <i>I</i> 2859.66 13 ⁺ 1901.48 12 ⁺ DCO=1.05 <i>I</i> 6 962.4 2 1.4 2 2337.30 11 ⁺ 1375.04 10 ⁺ DCO=1.37 20 970.2 3 1.1 3 1518.68 5 ⁻ 548.67 6 ⁺ DCO=1.73 <i>B</i> 980.5 <i>I</i> 1.9 3 1061.20 4 ⁺ 80.75 2 ⁺ [E2] DCO=0.99 <i>I</i> 9 Mult.: 2006Ap01 report %E2=93, but placement requires pure E2. 1018.3 <i>I</i> 2.5 3 1939.56 9 ⁻ 921.20 8 ⁺ DCO=1.72 <i>I</i> 4 1033.9 2 0.8 2 2935.33 14 ⁺ 1901.48 12 ⁺ DCO=1.72 <i>I</i> 4 1038.0 <i>I</i> 3.2 4 1959.00 9 ⁻ 921.20 8 ⁺ E2(937.2 1	2.2.2	1485.92	5-	548.67	6^{+}		DCO=1.30.6
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	941.9 <i>1</i>	6.8 7	1490.43	7 ⁺	548.67	6+	M1	DCO=1.41 4
$944.5 4$ 0.3 1210.26 $3^ 265.79$ 4^+ $956.9 I$ $2.6 2$ 1878.03 9^+ 921.20 8^+ $E2(+M1)$ $DCO=1.58 9$ $957.0 I$ $2.5 I$ 2332.01 $11^ 1375.04$ 10^+ $DCO=1.87 I0$ $958.2 2$ $0.7 I$ 2859.66 13^+ 1901.48 12^+ $DCO=1.05 I6$ $962.4 2$ $1.4 2$ 2337.30 11^+ 1375.04 10^+ $DCO=1.37 20$ $970.2 3$ $1.1 3$ 1518.68 $5^ 548.67 6^+$ $DCO=1.7 3$ $980.5 I$ $1.9 3$ 1061.20 4^+ $80.75 2^+$ $[E2]$ $DCO=0.99 I9$ $Mult.:$ $2006Ap01$ report %E2=93, but placement requires pure $E2.$ $1018.3 I$ $2.5 3$ 1939.56 $9^ 921.20 8^+$ $DCO=1.72 I4$ $1033.9 2$ $0.8 2$ 2935.33 14^+ $1901.48 12^+$ $DCO=1.4 4$ $1038.0 I$ $3.2 4$ 1959.00 $9^ 921.20 8^+$ $DCO=1.75 I3$ $1059.0 2$ $1.7 I$ $1324.69 6^+$ $265.79 4^+$ $E2$ $DCO=0.92 6$								Mult.: from 1982Fi15, α (K)exp=0.0034 5, which gives mult=E2 with $\delta > 1.2$
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	944.5 <i>4</i>	0.3	1210.26	3-	265.79	4+		
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	956.9 <i>1</i>	2.6 2	1878.03	9+	921.20	8+	E2(+M1)	DCO=1.58 9
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	957.0 <i>1</i>	2.5 1	2332.01	11-	1375.04	10^{+}	. ,	DCO=1.87 10
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	958.2 2	0.7 1	2859.66	13+	1901.48	12^{+}		DCO=1.05 16
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	962.4 2	1.4 2	2337.30	11^{+}	1375.04	10^{+}		DCO=1.37 20
$980.5\ I$ $1.9\ 3$ 1061.20 4^+ $80.75\ 2^+$ [E2] $DCO=0.99\ I9$ $Mult.:$ $2006Ap01$ report %E2=93, but placement requires pure $1018.3\ I$ $2.5\ 3$ 1939.56 $9^ 921.20\ 8^+$ $DCO=1.72\ I4$ $1038.0\ I$ $3.2\ 4$ $1959.00\ 9^ 921.20\ 8^+$ $DCO=1.4\ 4$ $1059.0\ 2$ $1.7\ I$ $1324.69\ 6^+$ $265.79\ 4^+$ $DCO=0.92\ 6$	970.2 <i>3</i>	1.1 3	1518.68	5-	548.67	6+		DCO=1.7 3
E2. $1018.3 \ I$ $2.5 \ 3$ 1939.56 $9^ 921.20 \ 8^+$ $DCO=1.72 \ 14$ $1033.9 \ 2$ $0.8 \ 2$ $2935.33 \ 14^+$ $1901.48 \ 12^+$ $DCO=1.4 \ 4$ $1038.0 \ I$ $3.2 \ 4$ $1959.00 \ 9^ 921.20 \ 8^+$ $DCO=1.75 \ 13$ $1059.0 \ 2$ $1.7 \ I$ $1324.69 \ 6^+$ $265.79 \ 4^+$ $E2$ $DCO=0.92 \ 6$	980.5 1	1.9 3	1061.20	4+	80.75	2+	[E2]	DCO=0.99 <i>19</i> Mult.: 2006Ap01 report %E2=93, but placement requires pure
$1010.9 \ I$ $2.3 \ S$ $1059.50 \ S$ $9 \ I21.20 \ S$ $DCO=1.72 \ I4$ $1033.9 \ 2$ $0.8 \ 2$ $2935.33 \ 14^+$ $1901.48 \ 12^+$ $DCO=1.4 \ 4$ $1038.0 \ I$ $3.2 \ 4$ $1959.00 \ 9^ 921.20 \ 8^+$ $DCO=1.75 \ I3$ $1059.0 \ 2$ $1.7 \ I$ $1324.69 \ 6^+$ $265.79 \ 4^+$ $E2$ $DCO=0.92 \ 6$	1018 3 7	253	1030 56	0-	921.20	8+		E2. DCO-1 72 14
$1038.0 I$ $3.2 4$ 1959.00 $9^ 921.20$ 8^+ $DCO=1.75$ $I3$ $1059.0 2$ $1.7 I$ 1324.69 6^+ 265.79 4^+ $E2$ $DCO=0.92 6$	1033.9.2	0.8.2	2935 33	14 ⁺	1901 48	12^{+}		DCO=1.4.4
1059.0 2 1.7 <i>l</i> 1324.69 6 ⁺ 265.79 4 ⁺ E2 DCO=0.92 6	1038.0 1	3.2 4	1959.00	9-	921.20	8+		DCO=1.75 13
	1059.0 2	1.7 <i>1</i>	1324.69	6+	265.79	4+	E2	DCO=0.92 6

¹⁶⁰Gd(α ,2n γ) **2006Ap01,1982Fi15** (continued)

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

E_{γ}^{\dagger}	I_{γ}^{\dagger}	E_i (level)	\mathbf{J}_i^{π}	E_f J	$\int_{f}^{\pi} M$	lult.#	Comments
1062.9 2	0.9 1	2964.16	13-	1901.48 12	2+		DCO=1.7 4
1064.6 2	2.4 3	1985.63	8+	921.20 8	+		DCO=1.00 11
1088.6 2	2.0 2	1637.46	7^{-}	548.67 6	+ E1	1	DCO=1.66 11
							Mult.: from α (K)exp=0.0004 <i>l</i> (1982Fi15).
1091.9 2	0.6 2	1357.69	3-	265.79 4	+		DCO=1.30 24
1121.8 2	1.6 3	1670.42	8+	548.67 6	+ E2	2	DCO=1.04 7
1125.0 2	1.7 3	1391.13	5-	265.79 4	+		DCO=1.44 12
1129.0 4	1.4 2	2504.15	11-	1375.04 1	0^{+}		DCO=1.74 19
1129.5 2	0.6 2	1210.26	3-	80.75 2	+		DCO=1.5 4
1134.7 2	3.7 4	1683.56	7-	548.67 6	+		DCO=1.38 6
1160.3 <i>3</i>	0.6 1	2535.21	12^{+}	1375.04 1	0^{+}		DCO=1.06 17
1166.4 3	0.9 2	2087.67	10^{+}	921.20 8	+		DCO=0.93 9
1179.6 2	2.2 5	2100.67	9-	921.20 8	+		DCO=1.60 13
1207.0 4	< 0.3	1755.7	$(7)^{-}$	548.67 6	+		
1218.6 <i>3</i>	1.5 2	1767.36	6+	548.67 6	+ E2	2+M1	DCO=2.13 21
1220.2 2	4.4 5	1485.92	5-	265.79 4	+		DCO=1.35 7
1244.0 4	0.2	3146.06	14^{+}	1901.48 12	2+		
1252.8 2	1.0 3	1518.68	5-	265.79 4	+		DCO=1.38 20
1308.4 3	0.4 1	1574.2	4+	265.79 4	+ M	1,E2	
1588.6 <i>3</i>	‡	2964.16	13-	1375.04 1	0^{+}		
1608.8 <i>3</i>	0.6 2	2157.5?		548.67 6	+		DCO=1.5 3

[†] From Table 3 of 2006Ap01, unless noted otherwise.

[‡] Weak transition (2006Ap01).

[#] DCO ratios of 2006Ap01 measured by gating on $\Delta J=2$, Q transitions, unless noted otherwise. DCO ratios of 1.0 are expected for Q transitions gated on stretched Q transitions and for D transitions gated on stretched D transitions. 2006Ap01 use these data primarily to differentiate between stretched transitions and those of mixed multipolarity. The only mults shown are those listed explicitly by 2006Ap01 (in their tables 4 and 5). For the mults and δ values based on all the available data, see the Adopted Gammas data set.

[@] Placement of transition in the level scheme is uncertain.

$\frac{160}{\text{Gd}(\alpha,2n\gamma)} \begin{array}{c} 2006\text{Ap01,1982Fi15} \\ \hline \\ \underline{\text{Level Scheme}} \\ \text{Intensities: Relative I}_{\gamma} \end{array} \begin{array}{c} I_{\gamma} < 2\% \times I_{\gamma}^{max} \\ \hline \\ I_{\gamma} < 10\% \times I_{\gamma}^{max} \\ \hline \\ I_{\gamma} > 10\% \times I_{\gamma}^{max} \\ \hline \\ \gamma \text{ Decay (Uncertain)} \end{array}$



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



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



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



 $^{162}_{66}\mathrm{Dy}_{96}$

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¹⁶²₆₆Dy₉₆

$\frac{160}{6} Gd(\alpha, 2n\gamma) \qquad 2006 Ap01, 1982 Fi15 \text{ (continued)}$



¹⁶²₆₆Dy₉₆