Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 132, 1 (2016)	4-Dec-2015

Q(β^-)=−2592 *24*; S(n)=6967 *5*; S(p)=6623 *6*; Q(α)=1033 *5* 2017Wa10
Q(ε)=1339 *5*; S(2n)=16412 *5*; S(2p)=11933 *6* 2017Wa10
Additional information 1.

The following model or theory calculations may be of interest: Nilsson-state energies (1975Hi01); energy level spectrum (1974Jo06,1979Ka11,1980Al06,1989Sa09,1994Mu10); configuration mixing in states at 161 and 147 keV, and the hindrance of the E1 γ between them (1979Ka16); configuration mixing in positive-parity states (1971Ga34,1973Kl03,1974Ny01,1975Gr38,1980Al06,1983Ch22,1985Ma43); μ (1973Ba85,1980Al07); yrast states (1984Mu24); occupation numbers for 11/2$^-$[505] state (1984Pe03); and β decay (1994Dz03).

There is a well-studied positive-parity band with highly mixed $i_{13/2}$ based Nilsson states and irregular energy sequence. Several calculations have been made of the mixtures in these states. They agree that the signature=+1/2 states have significant contributions of 3/2[651], 5/2[642] and 1/2[660] and at the lower energies the largest component is 3/2[651] and at the higher energies the largest component is 1/2[660]. The signature=−1/2 states have approximately equal contributions of 3/2[651] and 5/2[642]. These calculated mixtures are given in the Gd(α,xnγ) (1973Kl03) and (d,p) (1974Ny01,1975Gr38) data and also 1979Ka16 and 1980Al06.

^{157}Dy Levels

Additional information 2.

Cross Reference (XREF) Flags

A	^{157}Dy IT decay (21.6 ms)	D	Gd(α,xnγ)
B	^{157}Ho ε decay	E	^{156}Dy(d,p),^{158}Dy(d,t),(^{3}He,α)
C	^{150}Nd(^{12}C,5nγ),^{124}Sn(^{36}S,3nγ)		

E(level)†	J$^\pi$‡	$T_{1/2}$	XREF	Comments
0.0#	3/2$^-$	8.14 h *4*	ABCDE	%ε+%β^+=100 μ=−0.301 *2*; Q=+1.30 *2* J$^\pi$: J measured by atomic-beam magnetic resonance (1970Ro21) and π from assignment as 3/2[521] state. $T_{1/2}$: Weighted average of 8.2 h *1* (1953Ha81), 8.06 h *8* (1963Pe20), 8.2 h *2* (1963Ra15), 8.2 h *1* (1964Ma10), 8.3 h *3* (1967Ha12), and 8.1 h *1* and 8.1 h *2* (1970Ro21). Others: 8.5 h *5* (1958Do61) and ≈ 8 h (1957Go72). μ: From 1989Ra17 evaluation and 2011StZZ compilation and based on priv. comm. (Neugart 1987) and 1972Ro36. Other: 0.32 *2* (1961Na04,1962Na15). Q: From 1989Ra17 evaluation and 2011StZZ compilation and based on priv. comm. (Neugart 1987) and 1972Ro36. RMS charge radius <r^2>$^{1/2}$=5.1709 fm *2936* (2013An02).
61.141@ *13*	5/2$^-$	0.3 ns	ABCDE	J$^\pi$: From M1 γ to 3/2$^-$ level and band structure. $T_{1/2}$: From ^{157}Ho ε decay as quoted in 1980Al07; others: 90 ps *30* (preliminary value of 1979AbZZ) and ≤0.8 ns (1972Ki21).
147.724# *9*	7/2$^-$	≤0.3 ns	ABCDE	J$^\pi$: From M1 γ to 5/2$^-$ level and band structure. $T_{1/2}$: From ^{157}Ho ε decay as quoted in 1980Al07; other: ≤50 ps (preliminary value of 1979AbZZ).
161.99& *3*	9/2$^+$	1.3 μs *2*	ABCDE	J$^\pi$: from E1 γ to 7/2$^-$ level and interpretation of charged-particle reaction data. $T_{1/2}$: from Gd(α,xnγ) by $\gamma\gamma$(t) (1974An11).
188.035& *16*	5/2$^+$	1.00 ns *15*	B DE	J$^\pi$: From E1 γ to 3/2$^-$ level and E2 γ to 9/2$^+$. $T_{1/2}$: From Gd(α,xnγ) by $\gamma\gamma$(t) (1974An11); other: 1.1 ns from ^{157}Ho ε decay

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Adopted Levels, Gammas (continued)

^{157}Dy Levels (continued)

E(level)†	Jπ‡	$T_{1/2}$	XREF	Comments
				as quoted in 1980Al07.
199.38[b] *7*	11/2⁻	21.6 ms *16*	ABCDE	%IT=100 Jπ: from (E1) γ to 9/2⁺ level, (E2) γ to 7/2⁻, interpretation of the charged-particle reaction data, and expected presence of 11/2⁻,11/2[505] state. $T_{1/2}$: from IT decay (21.6 ms) by γ(t) and beam pulse-γ(t).
211.174[a] *18*	7/2⁺		BCDE	Jπ: From E1 γ to 5/2⁻ level and M1+E2 γ to 9/2⁺.
234.652[g] *20*	(3/2)⁺		B DE	Jπ: From E1 γ′s to 3/2⁻ and 5/2⁻ levels and interpretation of charged-particle reaction data.
238.7[&] *9*	13/2⁺		CDE	Jπ: from interpretation of charged-particle reaction data and band structure.
257.578[@] *18*	9/2⁻		BCDE	Jπ: from E2 γ to 5/2⁻ level and interpretation of charged-particle reaction data.
273.72? *10*			B	
297.1[a] *9*	11/2⁺		CD	Jπ: From γ to 9/2⁺ level, γ to 7/2⁺ level, and band structure.
308.0[f] *10*	3/2⁺		DE	Jπ: From γ to 3/2⁻ level and interpretation of charged-particle reaction data.
341.118[h] *14*	5/2⁻	≤0.3 ns	B E	Jπ: From E1 γ′s to 3/2⁺ and 7/2⁺ levels. The log *ft*=4.86 ^{157}Ho ε decay gives Nilsson orbital assignment uniquely. $T_{1/2}$: From ^{157}Ho ε decay as quoted in 1980Al07.
350[j] *3*	(3/2⁻)		E	Jπ: From interpretation of charged-particle reaction data.
374.9[c] *8*	13/2⁻		CD	Jπ: From γ to 11/2⁻ level and band structure.
388[i] *3*	1/2⁺		E	Jπ: From interpretation of charged-particle reaction data.
400.93[#] *10*	11/2⁻		BCDE	Jπ: From γ′s to 7/2⁻ and 9/2⁻ levels, band structure, and interpretation of charged-particle reaction data.
401.20? *7*			B	
419.930[h] *22*	7/2⁻		B E	Jπ: from E2 γ to 3/2⁻ level and M1 γ to 9/2⁻.
428.43 *7*			B	
432[j] *3*	(5/2⁻)		E	Jπ: From interpretation of charged-particle reaction data.
435.6[&] *9*	17/2⁺	<2 ns	CD	Jπ: From E2 γ to 13/2⁺ level and band structure. $T_{1/2}$: From Gd(α,xnγ) by α pulse-γ(t) (1975Be34).
455.94 *11*	(7/2⁻)		B E	Jπ: γ′s to 5/2⁺, 5/2⁻ and 11/2⁻ levels.
464[k] *3*	1/2⁻		E	Jπ: From interpretation of charged-particle reaction data.
506 *3*			E	Jπ: Assigned as (5/2⁺) from interpretation of charged-particle data; however, configuration is not adopted.
508.23 *5*	7/2⁻,5/2⁻		B	Jπ: From E1 γ′s to 5/2⁺ and 7/2⁺ levels and M1,E2 γ to 3/2⁻.
511.7[a] *9*	15/2⁺		CD	Jπ: From γ′s to 11/2⁺ and 17/2⁺ levels and band structure.
518[k] *3*	3/2⁻		E	Jπ: From interpretation of charged-particle reaction data.
518.56[h] *10*	9/2⁻		B E	Jπ: From M1,E2 γ to 7/2⁻ and interpretation of charged-particle reaction data.
525.3?			D	
526.95 *5*	5/2⁻,7/2⁻		AB DE	Jπ: from M1 γ to 5/2⁻ level and log *ft*=6.6 from 7/2⁻ level. If 379 γ has E0 component, $J^{\pi}=(7/2)^{-}$.
548.2[@] *7*	13/2⁻		CD	Jπ: From γ′s to 9/2⁻ and 11/2⁻ and band structure.
554[j] *3*	7/2⁻		E	Jπ: From interpretation of charged-particle reaction data, but same data used to support 3/2⁻ assignment.
565[k] *3*	5/2⁻		E	Jπ: From interpretation of charged-particle reaction data.
570.9[b] *8*	15/2⁻		CD	Jπ: From γ′s to 11/2⁻ and 13/2⁻ levels and band structure.
607 *3*			E	
611.22 *7*	(7/2,9/2)⁻		B	Jπ: From E1 γ to 7/2⁺ level and γ to (11/2⁻).
628.87?[o] *7*	3/2⁻		B	Jπ: From γ to 3/2⁻, (3/2)⁺, and 5/2⁻ levels and band structure.
672 *3*			E	
688.11 *10*	(7/2)⁻		B E	Jπ: From (M1) γ to 9/2⁻ level and M1,E2 to 3/2⁻.
704 *3*			E	
712 *3*			E	
730 *3*			E	

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Adopted Levels, Gammas (continued)

^{157}Dy Levels (continued)

E(level)†	Jπ‡	$T_{1/2}$	XREF	Comments
746.7& *10*	21/2+	10.3 ps *18*	CD	Jπ: From E2 γ to 17/2+ level and band structure. $T_{1/2}$: From in-beam study (1984Em02).
749.4# *8*	15/2−		CD	Jπ: From (E2) γ to 11/2− level, M1+E2 γ to 13/2− level, and band structure.
754 *3*			E	
769k *3*	(7/2−)		E	Jπ: From interpretation of charged-particle reaction data.
785 *3*			E	
785.2c *10*	17/2−		CD	Jπ: From γ to 13/2− level and 15/2− level and band structure.
826 *3*			E	
844.3a *10*	19/2+		CD	Jπ: From γ′s to 15/2+ and 21/2+ levels and band structure.
863 *3*			E	
881 *3*			E	
896.57l *4*	(5/2)−		B E	XREF: E(901). Jπ: From E1 γ′s to (3/2)+, 5/2+, and 7/2+ levels.
920.5@ *9*	17/2−		CD	Jπ: From γ′s to (13/2−) and 15/2− levels and band structure.
934 *3*			E	
965 *3*			E	
990.13l *6*	7/2−		B E	XREF: E(985). Jπ: From E1 γ to 7/2+, M1 γ to 5/2− level, strong γ to 9/2+, and interpretation of charged-particle reaction data.
1013 *5*			E	
1016.5b *11*	19/2−		CD	Jπ: From γ′s to 15/2− and 17/2− levels and band structure.
1049 *5*			E	
1072 *5*			E	
1085 *5*			E	
1101 *5*			E	
1123l *5*	9/2−		E	Jπ: From interpretation of charged-particle reaction data.
1145 *5*			E	
1157.4& *10*	25/2+	4.2 ps *7*	CD	Jπ: From E2 γ to 21/2+ level and band structure. $T_{1/2}$: From Gd(α,xnγ) (1984Em02).
1172 *5*			E	
1174.1# *10*	19/2−		CD	Jπ: From γ′s to 15/2− and 17/2− levels and band structure.
1211.13 *5*	5/2−,7/2−		B	Jπ: From M1 γ to 5/2− level and log*ft*=5.5 from 7/2−.
1233 *5*			E	
1245 *5*			E	
1262.9c *12*	21/2−		CD	Jπ: From γ′s to 17/2− and 19/2− levels and band structure.
1280.9a *11*	23/2+		CD	Jπ: From γ to 19/2+ level and band structure.
1296 *5*			E	
1328 *5*			E	
1346 *5*			E	
1359.1@ *11*	21/2−		CD	Jπ: From γ to 17/2− level and band structure.
1380.24 *11*	(5/2,7/2−)		B E	Jπ: From γ′s to 3/2−, 7/2−, and 7/2+ levels.
1420 *5*			E	
1452 *5*			E	
1484 *5*			E	
1505 *5*			E	
1522.3b *13*	23/2−		CD	Jπ: From γ′s to 19/2− and 21/2− levels and band structure.
1524 *5*			E	
1569m *5*	3/2−		E	Jπ: From interpretation of charged-particle reaction data.
1602 *5*			E	
1632m *5*	5/2−		E	Jπ: From interpretation of charged-particle reaction data.
1652.6& *10*	29/2+	1.28 ps *21*	CD	Jπ: From E2 γ to 25/2+ level and band structure. $T_{1/2}$: From Gd(α,xnγ) (1984Em02).
1653 *5*			E	

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Adopted Levels, Gammas (continued)

^{157}Dy Levels (continued)

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$	XREF	Comments
1655.6[#] *12*	23/2$^-$		C	J$^\pi$: From γ's to 19/2$^-$ and 21/2$^-$ levels and band structure.
1682 *5*			E	
1701[m] *5*	7/2$^-$		E	J$^\pi$: From interpretation of charged-particle reaction data.
1723[n] *8*	11/2$^-$		E	J$^\pi$: From interpretation of charged-particle reaction data.
1792.8[c] *13*	25/2$^-$		CD	J$^\pi$: From γ's to 21/2$^-$ and 23/2$^-$ levels and band structure.
1797 *5*			E	
1807.4[a] *12*	27/2$^+$		C	J$^\pi$: From γ's to 23/2$^+$ and 25/2$^+$ levels and band structure.
1836 *5*			E	
1849.9[@] *15*	25/2$^-$		C	J$^\pi$: From γ to 21/2$^-$ level and band structure.
1978 *5*			E	
2003 *5*			E	
2072.7[b] *14*	27/2$^-$		C	J$^\pi$: From γ's to 23/2$^-$ and 25/2$^-$ levels and band structure.
2157 *5*			E	
2177.9[#] *16*	27/2$^-$		C	J$^\pi$: From γ to 23/2$^-$ level and band structure.
2218.9[&] *11*	33/2$^+$	0.69 ps *14*	CD	J$^\pi$: From E2 γ to 29/2$^+$ level and band structure. $T_{1/2}$: From Gd(α,xnγ) (1984Em02).
2359.7[c] *15*	29/2$^-$		C	J$^\pi$: From γ's to 25/2$^-$ and 27/2$^-$ levels and band structure.
2382.2[@] *18*	29/2$^-$		C	J$^\pi$: From γ to 25/2$^-$ level and band structure.
2410.9[a] *16*	31/2$^+$		C	J$^\pi$: From γ to 27/2$^+$ level and band structure.
2652.0[b] *15*	31/2$^-$		C	J$^\pi$: From γ's to 27/2$^-$ and 29/2$^-$ levels and band structure.
2686.7[e] *13*	(31/2$^-$)		C	J$^\pi$: From γ to 29/2$^+$ level, theoretical calculations, and band structure.
2735.6[#] *19*	31/2$^-$		C	J$^\pi$: From γ to 27/2$^-$ level and band structure.
2844.8[&] *11*	37/2$^+$	0.42 ps *8*	CD	J$^\pi$: From E2 γ to 33/2$^+$ level and band structure. $T_{1/2}$: From Gd(α,xnγ) (1984Em02).
2897.2[d] *21*	(33/2$^-$)		C	J$^\pi$: From γ to 29/2$^-$ level, theoretical calculations, and band structure.
2948.5[c] *16*	33/2$^-$		C	J$^\pi$: From γ's to 29/2$^-$ and 31/2$^-$ levels and band structure.
2979.0[@] *21*	33/2$^-$		C	J$^\pi$: From γ to 29/2$^-$ level and band structure.
3079.4[a] *19*	35/2$^+$		C	J$^\pi$: From γ to 31/2$^+$ level and band structure.
3157.8[e] *13*	(35/2$^-$)		C	J$^\pi$: From γ's to 33/2$^+$ and 31/2$^-$ levels and band structure.
3248.2[b] *17*	35/2$^-$		C	J$^\pi$: From γ's to 31/2$^-$ and 33/2$^-$ levels and band structure.
3318.4[#] *21*	35/2$^-$		C	J$^\pi$: From γ to 31/2$^-$ level and band structure.
3441.2[d] *23*	(37/2$^-$)		C	J$^\pi$: From γ to 33/2$^-$ level and band structure.
3521.2[&] *12*	41/2$^+$	0.32 ps *21*	CD	J$^\pi$: From E2 γ to 37/2$^+$ level and band structure. $T_{1/2}$: From Gd(α,xnγ) (1984Em02).
3551.7[c] *17*	37/2$^-$		C	J$^\pi$: From γ's to 33/2$^-$ and 35/2$^-$ levels and band structure.
3562.0[@] *23*	37/2$^-$		C	J$^\pi$: From γ to 33/2$^-$ level and band structure.
3713.8[e] *14*	(39/2$^-$)		C	J$^\pi$: From γ's to 37/2$^+$ and 35/2$^-$ levels and band structure.
3801.9[a] *21*	39/2$^+$		C	J$^\pi$: From γ to 35/2$^+$ level and band structure.
3862.3[b] *18*	39/2$^-$		C	J$^\pi$: From γ's to 35/2$^-$ and 37/2$^-$ levels and band structure.
3936.5[#] *24*	39/2$^-$		C	J$^\pi$: From γ to 35/2$^-$ level and band structure.
4032.2[d] *25*	(41/2$^-$)		C	J$^\pi$: From γ to 37/2$^-$ level and band structure.
4181.8[c] *18*	41/2$^-$		C	J$^\pi$: From γ's to 37/2$^-$ and 39/2$^-$ levels and band structure.
4202.5[@] *25*	41/2$^-$		C	J$^\pi$: From γ to 37/2$^-$ level and band structure.
4241.8[&] *13*	45/2$^+$	0.54 ps *24*	CD	J$^\pi$: From E2 γ to 41/2$^+$ level and band structure. $T_{1/2}$: From Gd(α,xnγ) (1984Em02).
4348.8[e] *17*	(43/2$^-$)		C	J$^\pi$: From γ to 39/2$^-$ level and band structure.
4513.1[b] *19*	43/2$^-$		C	J$^\pi$: From γ's to 39/2$^-$ and 41/2$^-$ levels and band structure.
4568.9[a] *24*	43/2$^+$		C	J$^\pi$: From γ to 39/2$^+$ level and band structure.
4596.8?[#]	(43/2$^-$)		C	J$^\pi$: From γ to 39/2$^-$ level and band structure.

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Adopted Levels, Gammas (continued)

^{157}Dy Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	$T_{1/2}$	XREF	Comments
4699[d] 3	(45/2$^-$)		C	J$^{\pi}$: From γ to 41/2$^-$ level and band structure.
4857.6[c] 20	45/2$^-$		C	J$^{\pi}$: From γ's to 41/2$^-$ and 43/2$^-$ levels and band structure.
4888[@] 3	45/2$^-$		C	J$^{\pi}$: From γ to 41/2$^-$ level and band structure.
5004.1[&] 15	49/2$^+$	<2 ns	CD	J$^{\pi}$: From E2 γ to 45/2$^+$ level and band structure. $T_{1/2}$: From Gd(α,xnγ) by α pulse-γ(t) (1975Be34).
5053.8[e] 20	(47/2$^-$)		C	J$^{\pi}$: From γ to 43/2$^-$ level and band structure.
5216.8[b] 20	47/2$^-$		C	J$^{\pi}$: From γ's to 43/2$^-$ and 45/2$^-$ levels and band structure.
5362[a] 3	47/2$^+$		C	J$^{\pi}$: From γ to 43/2$^+$ level and band structure.
5431[d] 3	(49/2$^-$)		C	J$^{\pi}$: From γ to 45/2$^-$ level and band structure.
5590.7[c] 21	49/2$^-$		C	J$^{\pi}$: From γ's to 45/2$^-$ and 47/2$^-$ levels and band structure.
5622[@] 3	49/2$^-$		C	J$^{\pi}$: From γ to 45/2$^-$ level and band structure.
5806.9[&] 18	53/2$^+$		C	J$^{\pi}$: From γ to 49/2$^+$ level and band structure.
5815.8[e] 22	(51/2$^-$)		C	J$^{\pi}$: From γ to 47/2$^-$ level and band structure.
5978.8[b] 23	51/2$^-$		C	J$^{\pi}$: From γ to 47/2$^-$ level and band structure.
6182[a] 3	51/2$^+$		C	J$^{\pi}$: From γ to 47/2$^+$ level and band structure.
6216[d] 3	(53/2$^-$)		C	J$^{\pi}$: From γ to 49/2$^-$ level and band structure.
6381.7[c] 23	53/2$^-$		C	J$^{\pi}$: From γ to 49/2$^-$ level and band structure.
6405[@] 3	53/2$^-$		C	J$^{\pi}$: From γ to 49/2$^-$ level and band structure.
6628.8[e] 24	(55/2$^-$)		C	J$^{\pi}$: From γ to 51/2$^-$ level and band structure.
6655.9[&] 20	57/2$^+$		C	J$^{\pi}$: From γ to 53/2$^+$ level and band structure.
6798.8[b] 25	55/2$^-$		C	J$^{\pi}$: From γ to 51/2$^-$ level and band structure.
7047[a] 3	55/2$^+$		C	J$^{\pi}$: From γ to 51/2$^+$ level and band structure.
7047[d] 4	(57/2$^-$)		C	Additional information 3. J$^{\pi}$: From γ to 53/2$^-$ level and band structure.
7227.7[c] 25	57/2$^-$		C	J$^{\pi}$: From γ to 53/2$^-$ level and band structure.
7236[@] 4	57/2$^-$		C	J$^{\pi}$: From γ to 53/2$^-$ level and band structure.
7494[e] 3	(59/2$^-$)		C	J$^{\pi}$: From γ to 55/2$^-$ level and band structure.
7549.9[&] 23	61/2$^+$		C	J$^{\pi}$: From γ to 57/2$^+$ level and band structure.
7675[b] 3	59/2$^-$		C	J$^{\pi}$: From γ to 55/2$^-$ level and band structure.
7923[d] 4	(61/2$^-$)		C	J$^{\pi}$: From γ to 57/2$^-$ level and band structure.
7957?[a] 3	59/2$^+$		C	J$^{\pi}$: From γ to 55/2$^+$ level and band structure.
8109?[@]	(61/2$^-$)		C	J$^{\pi}$: From γ to 57/2$^-$ level and band structure.
8134[c] 3	61/2$^-$		C	J$^{\pi}$: From γ to 57/2$^-$ level and band structure.
8414[e] 3	(63/2$^-$)		C	J$^{\pi}$: From γ to 59/2$^-$ level and band structure.
8488.9[&] 25	65/2$^+$		C	J$^{\pi}$: From γ to 61/2$^+$ level and band structure.
8602[b] 3	63/2$^-$		C	J$^{\pi}$: From γ to 59/2$^-$ level and band structure.
8848[d] 4	(65/2$^-$)		C	J$^{\pi}$: From γ to 61/2$^-$ level and band structure.
9037?[@]	(65/2$^-$)		C	J$^{\pi}$: From γ to 61/2$^-$ level and band structure.
9086[c] 3	65/2$^-$		C	J$^{\pi}$: From γ to 61/2$^-$ level and band structure.
9392[e] 3	(67/2$^-$)		C	J$^{\pi}$: From γ to 63/2$^-$ level and band structure.
9474[&] 3	69/2$^+$		C	J$^{\pi}$: From γ to 65/2$^+$ level and band structure.
9580[b] 3	67/2$^-$		C	J$^{\pi}$: From γ to 63/2$^-$ level and band structure.
9825[d] 4	(69/2$^-$)		C	J$^{\pi}$: From γ to 65/2$^-$ level and band structure.
10015?[@]	(69/2$^-$)		C	J$^{\pi}$: From γ to 65/2$^-$ level and band structure.
10088[c] 3	69/2$^-$		C	J$^{\pi}$: From γ to 65/2$^-$ level and band structure.
10430[e] 4	(71/2$^-$)		C	J$^{\pi}$: From γ to 67/2$^-$ level and band structure.
10506[&] 3	73/2$^+$		C	J$^{\pi}$: From γ to 69/2$^+$ level and band structure.

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Adopted Levels, Gammas (continued)

^{157}Dy Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	XREF	Comments
10614[b] 4	71/2$^-$	C	J$^{\pi}$: From γ to 67/2$^-$ level and band structure.
10857[d] 4	(73/2$^-$)	C	J$^{\pi}$: From γ to 69/2$^-$ level and band structure.
11525[e] 4	(75/2$^-$)	C	J$^{\pi}$: From γ to 71/2$^-$ level and band structure.
11588[&] 3	77/2$^+$	C	J$^{\pi}$: From γ to 73/2$^+$ level and band structure.
11698?[b]	(75/2$^-$)	C	J$^{\pi}$: From γ to 71/2$^-$ level and band structure.
11942[d] 4	(77/2$^-$)	C	J$^{\pi}$: From γ to 73/2$^-$ level and band structure.
12671[e] 4	(79/2$^-$)	C	J$^{\pi}$: From γ to 75/2$^-$ level and band structure.
12720[&] 4	81/2$^+$	C	J$^{\pi}$: From γ to 77/2$^+$ level and band structure.
13071[d] 4	(81/2$^-$)	C	J$^{\pi}$: From γ to 77/2$^-$ level and band structure.
13811?[e]	(83/2$^-$)	C	J$^{\pi}$: From γ to 79/2$^-$ level and band structure.
13905[&] 4	85/2$^+$	C	J$^{\pi}$: From γ to 81/2$^+$ level and band structure.
14055?	(85/2$^+$)	C	J$^{\pi}$: From γ to 81/2$^+$ level and band structure.
14258[d] 5	(85/2$^-$)	C	J$^{\pi}$: From γ to 81/2$^-$ level and band structure.
14880?[e]	(87/2$^-$)	C	J$^{\pi}$: From γ to 83/2$^-$ level and band structure.
15147[&] 4	89/2$^+$	C	J$^{\pi}$: From γ to 85/2$^+$ level and band structure.
15488[d] 5	(89/2$^-$)	C	J$^{\pi}$: From γ to 85/2$^-$ level and band structure.
16005?[e]	(91/2$^-$)	C	J$^{\pi}$: From γ to 87/2$^-$ level and band structure.
16448[&] 4	93/2$^+$	C	J$^{\pi}$: From γ to 89/2$^+$ level and band structure.
16769?[d]	(93/2$^-$)	C	J$^{\pi}$: From γ to 89/2$^-$ level and band structure.
17194?[e]	(95/2$^-$)	C	J$^{\pi}$: From γ to 91/2$^-$ level and band structure.
17821[&] 4	97/2$^+$	C	J$^{\pi}$: From γ to 93/2$^+$ level and band structure.
18106?[d]	(97/2$^-$)	C	J$^{\pi}$: From γ to 93/2$^-$ level and band structure.
19250[&] 4	101/2$^+$	C	J$^{\pi}$: From γ to 97/2$^+$ level and band structure.
20736?[&] 4	(105/2$^+$)	C	J$^{\pi}$: From γ to 101/2$^+$ level and band structure.

[†] From least-squares fit to γ energies for levels with depopulating γ's, but the questionable γ are excluded.
[‡] The J^{π} and band assignments that are noted as from "charged-particle reaction data" are based on comparison of measured and theoretical DWBA cross sections; for levels below 1200 keV these calculations include Coriolis coupling.
[#] Band(A): $\nu h_{9/2}$,3/2[521], α=−1/2 band. A=12.24, B=+0.0023, A3=−0.0063 from the lowest four levels; other: from least-squares fit to ten levels, A=12.5, B=−0.0042, A3=−0.0223 (1974Jo06).
[@] Band(a): $\nu h_{9/2}$,3/2[521] α=+1/2 band.
[&] Band(B): $\nu i_{13/2}$,3/2[651] α=+1/2 band Positive-parity band with mixture of 3/2[651], 5/2[642], and 1/2[660].
[a] Band(b): $\nu i_{13/2}$,3/2[651] α=−1/2 band Positive-parity band with mixture of 3/2[651], 5/2[642], and 1/2[660].
[b] Band(C): $\nu h_{11/2}$,11/2[505] α=−1/2 band A=14.88, B=−0.0162.
[c] Band(c): $\nu h_{11/2}$,11/2[505] α=+1/2 band.
[d] Band(D): Possible 3-quasiparticle band, α=+1/2.
[e] Band(d): Possible 3-quasiparticle band, α=−1/2.
[f] Band(E): K^{π}=3/2$^+$ band based on 3/2[651] with 3/2[402] admixture.
[g] Band(F): K^{π}=3/2$^+$ band based on 3/2[402] with 3/2[651] admixture.
[h] Band(G): 5/2[523] band, A=11.72, B=−0.0187.
[i] Band(H): 1/2[400] bandhead.
[j] Band(I): 3/2[532] band, A=15.3, B=+0.086.
[k] Band(J): 1/2[521] band, A=13.70, a=0.314.
[l] Band(K): 5/2[512] band, A=13.36.
[m] Band(L): 1/2[510] band, A=11.23, a=−0.12.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{157}Dy Levels (continued)

[n] Band(M): Possible 9/2[514] band member.
[o] Band(N): $K^{\pi}=3/2^{-}$ band, quadrupole vibration based on $3/2^{-}[521]$ g.s.

Adopted Levels, Gammas (continued)

γ(^{157}Dy)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]	δ[@ b]	α[a]	$I_{(\gamma+ce)}$	Comments
61.141	5/2$^-$	61.11 *2*	100	0.0	3/2$^-$	M1+E2	0.20 *2*	10.25 *16*		α(K)=8.10 *13*; α(L)=1.67 *9*; α(M)=0.377 *22* α(N)=0.086 *5*; α(O)=0.0119 *6*; α(P)=0.000509 *8* B(M1)(W.u.)=0.0275 *4*; B(E2)(W.u.)=1.5×10^2 *3*
147.724	7/2$^-$	86.55 *2*	100 *10*	61.141	5/2$^-$	M1+E2	0.19 *2*	3.66		α(K)=3.00 *5*; α(L)=0.518 *16*; α(M)=0.115 *4* α(N)=0.0265 *9*; α(O)=0.00376 *11*; α(P)=0.000186 *3* B(M1)(W.u.)>0.020; B(E2)(W.u.)>40
		147.73 *1*	35 *4*	0.0	3/2$^-$	E2		0.665		α(K)=0.387 *6*; α(L)=0.214 *3*; α(M)=0.0508 *8* α(N)=0.01143 *16*; α(O)=0.001408 *20*; α(P)=1.718×10^{-5} *24* B(E2)(W.u.)>35 I_γ: other: 53 Gd(α,xnγ).
161.99	9/2$^+$	14.23 *5*	100	147.724	7/2$^-$	E1		11.53 *20*		α(L)=8.99 *16*; α(M)=2.05 *4* α(N)=0.441 *8*; α(O)=0.0456 *8*; α(P)=0.001028 *17* B(E1)(W.u.)=5.0×10^{-6} *8*
188.035	5/2$^+$	26.07 *4*		161.99	9/2$^+$	E2		1059 *17*	73 *11*	B(E2)(W.u.)=3.4×10^2 *8* ce(L)/(γ+ce)=0.770 *9*; ce(M)/(γ+ce)=0.183 *4* ce(N)/(γ+ce)=0.0408 *9*; ce(O)/(γ+ce)=0.00476 *11*; ce(P)/(γ+ce)=1.39×10^{-6} *4* α(L)=817 *13*; α(M)=194 *4* α(N)=43.3 *7*; α(O)=5.05 *8*; α(P)=0.001477 *24* I_γ: Measured value is ≤ 1.1 (from ^{157}Ho ε decay, 1984Af01). From I(γ+ce) and α one deduces 0.07. From the latter I_γ one deduces BE2W=335. $I_{(\gamma+ce)}$: Deduced by evaluator from ce data in ^{157}Ho ε decay.
		126.95 *4*	7.1 *11*	61.141	5/2$^-$	E1		0.1629		B(E1)(W.u.)=4.3×10^{-6} *10* α(K)=0.1367 *20*; α(L)=0.0206 *3*; α(M)=0.00451 *7* α(N)=0.001027 *15*; α(O)=0.0001418 *20*; α(P)=6.52×10^{-6} *10*
		188.05 *4*	100 *10*	0.0	3/2$^-$	E1		0.0572		B(E1)(W.u.)=1.9×10^{-5} *4* α(K)=0.0482 *7*; α(L)=0.00702 *10*; α(M)=0.001535 *22* α(N)=0.000351 *5*; α(O)=4.93×10^{-5} *7*; α(P)=2.42×10^{-6} *4*
199.38	11/2$^-$	37.36 *8*	100	161.99	9/2$^+$	(E1)		0.804 *13*		α(L)=0.629 *10*; α(M)=0.1392 *22* α(N)=0.0310 *5*; α(O)=0.00387 *6*; α(P)=0.0001278 *19* B(E1)(W.u.)=4.7×10^{-11} *4*
		51.7 *1*	7	147.724	7/2$^-$	(E2)		36.3 *7*		α(L)=27.9 *5*; α(M)=6.70 *12* α(N)=1.50 *3*; α(O)=0.176 *3*; α(P)=0.000187 *3* B(E2)(W.u.)=2.24×10^{-5} *18* I_γ: Deduced from intensity balance at 148 level in IT decay of this level.
211.174	7/2$^+$	23.11 *5*		188.035	5/2$^+$	M1+E2	≈0.23	≈123.6	81 *16*	ce(L)/(γ+ce)≈0.767; ce(M)/(γ+ce)≈0.179 ce(N)/(γ+ce)≈0.0402; ce(O)/(γ+ce)≈0.00494;

$^{157}_{66}Dy_{91}$-8

Adopted Levels, Gammas (continued)

γ(^{157}Dy) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]	δ[@b]	α[a]	Comments
									ce(P)/(γ+ce)≈7.13×10^{-5} α(L)≈95.6; α(M)≈22.3 α(N)≈5.01; α(O)≈0.615; α(P)≈0.00888 I_γ: Measured value is < 8; from I(γ+ce) and α one deduces 0.03 ≤ I_γ ≤ 1.2. Mult.: The assignment and δ value are from ^{157}Ho ε decay (1984Af01). However, the data they present are, in fact, compatable with any E2 content from 2.5% to 100%; therefore, α can range from ≈ 80 to 1980.
211.174	7/2$^+$	49.15 *4*	97 *24*	161.99	9/2$^+$	M1+E2	0.14 *4*	3.8 *6*	$I_{(\gamma+ce)}$: Deduced by evaluator from ce data of ^{157}Ho ε decay. α(L)=3.0 *4*; α(M)=0.67 *10* α(N)=0.154 *22*; α(O)=0.021 *3*; α(P)=0.000976 *17*
		150.05 *2*	100 *10*	61.141	5/2$^-$	E1		0.1042	α(K)=0.0876 *13*; α(L)=0.01299 *19*; α(M)=0.00284 *4* α(N)=0.000648 *9*; α(O)=9.02×10^{-5} *13*; α(P)=4.28×10^{-6} *6*
		210.5[d]	58	0.0	3/2$^-$				E_γ: A γ of 210.5 with I_γ=58 is reported in Gd(α,xnγ) from this level. Intensity is too large to be missed in ^{157}Ho decay and multipolarity would need to be M2; so γ is misplaced or level is doublet.
234.652	(3/2)$^+$	173.52 *2*	64 *7*	61.141	5/2$^-$	E1		0.0707	α(K)=0.0596 *9*; α(L)=0.00873 *13*; α(M)=0.00191 *3* α(N)=0.000436 *7*; α(O)=6.11×10^{-5} *9*; α(P)=2.96×10^{-6} *5*
		234.61 *5*	100 *11*	0.0	3/2$^-$	E1		0.0321	α(K)=0.0271 *4*; α(L)=0.00389 *6*; α(M)=0.000850 *12* α(N)=0.000195 *3*; α(O)=2.76×10^{-5} *4*; α(P)=1.397×10^{-6} *20*
238.7	13/2$^+$	76.6	100	161.99	9/2$^+$				
257.578	9/2$^-$	109.86 *2*	97 *10*	147.724	7/2$^-$	M1,E2		1.87 *5*	α(K)=1.21 *33*; α(L)=0.51 *29*; α(M)=0.120 *71* α(N)=0.027 *16*; α(O)=0.0034 *18*; α(P)=6.6×10^{-5} *30* I_γ: other: 36 from Gd(α,xnγ).
		196.41 *4*	100 *10*	61.141	5/2$^-$	E2		0.251	α(K)=0.1674 *24*; α(L)=0.0646 *9*; α(M)=0.01515 *22* α(N)=0.00342 *5*; α(O)=0.000432 *6*; α(P)=7.96×10^{-6} *12*
273.72?		273.8[d] *2*	100	0.0	3/2$^-$				
297.1	11/2$^+$	57.8[d]	≤35[&]	238.7	13/2$^+$				
		85.4[d]	123[&]	211.174	7/2$^+$				
		135.2	100[&]	161.99	9/2$^+$				
308.0	3/2$^+$	308.0	100	0.0	3/2$^-$				
341.118	5/2$^-$	67.4 *1*		273.72?					I_γ: "Very weak" (1972To05) and < 0.3 (1984Af01) in ^{157}Ho ε decay.
		106.48 *4*	4.0 *4*	234.652	(3/2)$^+$	E1		0.261	α(K)=0.218 *3*; α(L)=0.0336 *5*; α(M)=0.00736 *11* α(N)=0.001671 *24*; α(O)=0.000229 *4*; α(P)=1.015×10^{-5} *15* B(E1)(W.u.)>9.7×10^{-6}
		129.95 *2*	3.9 *4*	211.174	7/2$^+$	E1		0.1530	α(K)=0.1284 *18*; α(L)=0.0193 *3*; α(M)=0.00423 *6* α(N)=0.000963 *14*; α(O)=0.0001331 *19*; α(P)=6.15×10^{-6} *9* B(E1)(W.u.)>5.2×10^{-6}
		153.09 *1*	13.5 *14*	188.035	5/2$^+$	E1		0.0987	α(K)=0.0830 *12*; α(L)=0.01229 *18*; α(M)=0.00269 *4* α(N)=0.000614 *9*; α(O)=8.55×10^{-5} *12*; α(P)=4.06×10^{-6} *6* B(E1)(W.u.)>1.1×10^{-5}

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Adopted Levels, Gammas (continued)

γ(^{157}Dy) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]	δ[@ b]	α[a]	Comments
341.118	5/2⁻	193.41 *4*	32 *3*	147.724	7/2⁻	M1		0.372	α(K)=0.314 *5*; α(L)=0.0457 *7*; α(M)=0.01004 *14* α(N)=0.00232 *4*; α(O)=0.000340 *5*; α(P)=1.95×10^{-5} *3* B(M1)(W.u.)>0.0012
		279.97 *1*	100 *5*	61.141	5/2⁻	M1		0.1359	α(K)=0.1147 *16*; α(L)=0.01655 *24*; α(M)=0.00363 *5* α(N)=0.000840 *12*; α(O)=0.0001231 *18*; α(P)=7.09×10^{-6} *10* B(M1)(W.u.)>0.0013
		341.16 *6*	77 *8*	0.0	3/2⁻	M1+E2		0.062 *19*	α(K)=0.051 *18*; α(L)=0.0088 *9*; α(M)=0.00197 *16* α(N)=0.00045 *4*; α(O)=6.4×10^{-5} *9*; α(P)=3.0×10^{-6} *12*
374.9	13/2⁻	175.7	100	199.38	11/2⁻	M1+E2	−0.39 *+50−18*	0.470 *16*	α(K)=0.386 *22*; α(L)=0.065 *6*; α(M)=0.0146 *14* α(N)=0.0034 *3*; α(O)=0.00048 *3*; α(P)=2.35×10^{-5} *18* δ: From Gd(α,xnγ) dataset.
400.93	11/2⁻	143.5 *5*	49 *17*	257.578	9/2⁻	M1+E2	−0.9 *+19−7*	0.80 *4*	α(K)=0.59 *9*; α(L)=0.17 *4*; α(M)=0.039 *10* α(N)=0.0088 *21*; α(O)=0.00115 *22*; α(P)=3.3×10^{-5} *8*
		253.2 *1*	100 *3*	147.724	7/2⁻				
401.20?		340.5 *5*	100 *33*	61.141	5/2⁻				
		401.6 *3*	13 *4*	0.0	3/2⁻				
419.930	7/2⁻	78.89 *5*	1.2 *3*	341.118	5/2⁻	M1,E2		5.7 *10*	α(K)=2.9 *11*; α(L)=2.1 *16*; α(M)=0.51 *38* α(N)=0.114 *84*; α(O)=0.0140 *96*; α(P)=1.65×10^{-4} *85*
		162.35 *2*	33 *3*	257.578	9/2⁻	M1(+E2)		0.54 *7*	α(K)=0.40 *11*; α(L)=0.109 *35*; α(M)=0.0251 *87* α(N)=0.0057 *19*; α(O)=7.5×10^{-4} *20*; α(P)=2.25×10^{-5} *92*
		208.70 *6*	30 *3*	211.174	7/2⁺	E1		0.0435	α(K)=0.0367 *6*; α(L)=0.00531 *8*; α(M)=0.001160 *17* α(N)=0.000266 *4*; α(O)=3.74×10^{-5} *6*; α(P)=1.87×10^{-6} *3* E_γ: This is placement of 1972To05; 1977AnYX suggest alternate; both from ^{157}Dy ε decay.
		272.17 *8*	100 *10*	147.724	7/2⁻	M1+E2		0.117 *30*	α(K)=0.094 *30*; α(L)=0.0179 *3*; α(M)=0.00404 *14* α(N)=0.000925 *23*; α(O)=0.000128 *6*; α(P)=5.5×10^{-6} *22*
		358.75 *10*	16 *3*	61.141	5/2⁻	M1,E2		0.054 *17*	α(K)=0.044 *15*; α(L)=0.0076 *10*; α(M)=0.00169 *18* α(N)=0.00039 *5*; α(O)=5.5×10^{-5} *9*; α(P)=2.6×10^{-6} *11*
		420.0 *1*	6.5 *6*	0.0	3/2⁻	E2		0.0242	α(K)=0.0191 *3*; α(L)=0.00395 *6*; α(M)=0.000897 *13* α(N)=0.000205 *3*; α(O)=2.78×10^{-5} *4*; α(P)=1.049×10^{-6} *15*
428.43		367.2 *1*	100 *21*	61.141	5/2⁻				
		428.2 *2*	54 *11*	0.0	3/2⁻				
435.6	17/2⁺	196.9 *3*	100	238.7	13/2⁺	E2		0.249	α(K)=0.1662 *25*; α(L)=0.0639 *10*; α(M)=0.01500 *23* α(N)=0.00339 *6*; α(O)=0.000428 *7*; α(P)=7.90×10^{-6} *12* B(E2)(W.u.)>15
455.94	(7/2⁻)	55.6[d]		400.93	11/2⁻				
		269.3[cd] *1*	≤314[c]	188.035	5/2⁺				E_γ: Very poor energy fit.
		395.6 *3*	100 *24*	61.141	5/2⁻				
508.23	7/2⁻,5/2⁻	251.5 *5*	5.3 *23*	257.578	9/2⁻				
		297.00 *10*	27 *3*	211.174	7/2⁺	E1		0.01764	α(K)=0.01494 *21*; α(L)=0.00211 *3*; α(M)=0.000461 *7*

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Adopted Levels, Gammas (continued)

γ(^{157}Dy) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]	α[a]	Comments
								α(N)=0.0001058 *15*; α(O)=1.509×10^{-5} *22*; α(P)=7.87×10^{-7} *11*
508.23	7/2$^-$,5/2$^-$	320.2 *1*	61 *15*	188.035	5/2$^+$	E1	0.01464	α(K)=0.01241 *18*; α(L)=0.001747 *25*; α(M)=0.000381 *6* α(N)=8.75×10^{-5} *13*; α(O)=1.251×10^{-5} *18*; α(P)=6.58×10^{-7} *10*
		360.54 *10*	19.7 *23*	147.724	7/2$^-$	M1,E2	0.053 *16*	α(K)=0.044 *15*; α(L)=0.0075 *10*; α(M)=0.00167 *18* α(N)=0.00038 *5*; α(O)=5.4×10^{-5} *9*; α(P)=2.6×10^{-6} *11*
		447.3 *5*	3.0 *15*	61.141	5/2$^-$			
		508.3 *2*	100 *10*	0.0	3/2$^-$	E2(+M1)	0.0215 *70*	α(K)=0.0179 *63*; α(L)=0.0028 *7*; α(M)=0.00062 *13* α(N)=0.00014 *3*; α(O)=2.0×10^{-5} *5*; α(P)=1.06×10^{-6} *41* Mult.: Any M1 contribution would be inconsistent with J^π=7/2$^-$.
511.7	15/2$^+$	76.1	19[&]	435.6	17/2$^+$			
		214.6	100[&]	297.1	11/2$^+$			
		273.0	67[&]	238.7	13/2$^+$			
518.56	9/2$^-$	98.7 *1*	100 *50*	419.930	7/2$^-$	M1(+E2)	2.67 *19*	α(K)=1.63 *47*; α(L)=0.80 *50*; α(M)=0.19 *13* α(N)=0.043 *27*; α(O)=0.0053 *31*; α(P)=8.9×10^{-5} *42*
		260.7 *2*	68 *22*	257.578	9/2$^-$			
525.3?		150.4[d]	100	374.9	13/2$^-$			
526.95	5/2$^-$,7/2$^-$	71.1 *1*	22 *5*	455.94	(7/2$^-$)	M1(+E2)	8.2 *19*	α(K)=3.8 *16*; α(L)=3.4 *27*; α(M)=0.81 *64* α(N)=0.18 *15*; α(O)=0.022 *17*; α(P)=2.2×10^{-4} *12*
		125.76 *5*	62 *11*	401.20?		E2	1.175	α(K)=0.612 *9*; α(L)=0.434 *7*; α(M)=0.1034 *15* α(N)=0.0232 *4*; α(O)=0.00283 *4*; α(P)=2.62×10^{-5} *4* E_γ: in ^{157}Ho ε decay (1984Af01), this γ is placed to the (3/2$^-$) level at 401.20 keV *7* and in Gd(α,xnγ) (1973Kl03) a γ of this energy is tentatively placed to the (11/2$^-$) level at 400.93 keV *10*.
		269.3[c] *1*	≤123[c]	257.578	9/2$^-$			
		379.12 *8*	89 *9*	147.724	7/2$^-$	(M1+E0)		α: In ^{157}Ho ε decay, from 1977AnYX $α_K$(exp)=0.59 *16* compared to $α_K$(M1)=0.060, but $α_K$(exp) could be in error since 1972To05 indicate this ce line contains other contributions and 1984Af01 do not report a value.
		466.0 *1*	100 *14*	61.141	5/2$^-$	M1	0.0356	α(K)=0.0301 *5*; α(L)=0.00428 *6*; α(M)=0.000936 *14* α(N)=0.000217 *3*; α(O)=3.18×10^{-5} *5*; α(P)=1.84×10^{-6} *3*
		527.4 *6*	27	0.0	3/2$^-$			
548.2	13/2$^-$	146.8	34[&]	400.93	11/2$^-$			
		291.0	100[&]	257.578	9/2$^-$	(E2)	0.0708	α(K)=0.0527 *8*; α(L)=0.01402 *20*; α(M)=0.00323 *5* α(N)=0.000734 *11*; α(O)=9.63×10^{-5} *14*; α(P)=2.73×10^{-6} *4* Mult.: From Gd(α,xnγ) dataset.
570.9	15/2$^-$	195.9	100[&]	374.9	13/2$^-$			
		371.4	≤79[&]	199.38	11/2$^-$			
611.22	(7/2,9/2)$^-$	210.5 *5*	36 *10*	400.93	11/2$^-$			
		353.80 *10*	100 *10*	257.578	9/2$^-$	E2,M1	0.056 *17*	α(K)=0.046 *16*; α(L)=0.0079 *10*; α(M)=0.00177 *17* α(N)=0.00041 *5*; α(O)=5.7×10^{-5} *9*; α(P)=2.7×10^{-6} *11*
		400.2 *2*	85 *8*	211.174	7/2$^+$	E1	0.00856	α(K)=0.00727 *11*; α(L)=0.001010 *15*; α(M)=0.000220 *3* α(N)=5.06×10^{-5} *8*; α(O)=7.28×10^{-6} *11*; α(P)=3.91×10^{-7} *6*
		463.3[c] *1*	≤149[c]	147.724	7/2$^-$			

$^{157}_{66}Dy_{91}$-11

Adopted Levels, Gammas (continued)

γ(^{157}Dy) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]	δ[@b]	α[a]	Comments
611.22	(7/2,9/2)$^-$	550.1 *2*	85 *26*	61.141	5/2$^-$				
628.87?	3/2$^-$	394.2 *1*	40 *11*	234.652	(3/2)$^+$				
		567.7 *2*	100 *20*	61.141	5/2$^-$				
		628.2 *5*	107	0.0	3/2$^-$				
688.11	(7/2)$^-$	347.1 *2*	19 *10*	341.118	5/2$^-$				
		430.3 *2*	30 *9*	257.578	9/2$^-$	(M1)		0.0437	α(K)=0.0370 *6*; α(L)=0.00527 *8*; α(M)=0.001153 *17* α(N)=0.000267 *4*; α(O)=3.92×10^{-5} *6*; α(P)=2.27×10^{-6} *4*
		540.5 *2*	25 *4*	147.724	7/2$^-$				
		626.8[d] *3*	38 *10*	61.141	5/2$^-$				Mult.: Assigned (M1+E0) by 1977AnYX, but I_γ in question.
		688.1 *2*	100 *14*	0.0	3/2$^-$	E2		0.00691	α(K)=0.00570 *8*; α(L)=0.000941 *14*; α(M)=0.000209 *3* α(N)=4.81×10^{-5} *7*; α(O)=6.79×10^{-6} *10*; α(P)=3.26×10^{-7} *5*
746.7	21/2$^+$	311.1 *3*	100	435.6	17/2$^+$	E2		0.0578	B(E2)(W.u.)=3.5×10^2 *7* α(K)=0.0436 *7*; α(L)=0.01100 *16*; α(M)=0.00253 *4* α(N)=0.000575 *9*; α(O)=7.59×10^{-5} *11*; α(P)=2.29×10^{-6} *4*
749.4	15/2$^-$	201.3	21[&]	548.2	13/2$^-$	M1+E2	−0.9 *+12−6*	0.29 *4*	α(N)=0.0025 *4*; α(O)=0.00034 *4*; α(P)=1.30×10^{-5} *37* α(K)=0.22 *5*; α(L)=0.049 *7*; α(M)=0.0111 *18*
		348.6	100[&]	400.93	11/2$^-$	(E2)		0.0411	α(K)=0.0317 *5*; α(L)=0.00737 *11*; α(M)=0.001685 *24* α(N)=0.000383 *6*; α(O)=5.12×10^{-5} *8*; α(P)=1.693×10^{-6} *24*
785.2	17/2$^-$	213.8	100	570.9	15/2$^-$				
		410.5		374.9	13/2$^-$				
844.3	19/2$^+$	97.5	4.4[&]	746.7	21/2$^+$				
		332.7	100[&]	511.7	15/2$^+$	(E2)		0.0472	α(K)=0.0361 *5*; α(L)=0.00867 *13*; α(M)=0.00199 *3* α(N)=0.000452 *7*; α(O)=6.00×10^{-5} *9*; α(P)=1.91×10^{-6} *3*
		408.7	41[&]	435.6	17/2$^+$	M1+E2	+0.22 *5*	0.0489 *9*	α(K)=0.0413 *8*; α(L)=0.00595 *10*; α(M)=0.001304 *20* α(N)=0.000302 *5*; α(O)=4.42×10^{-5} *7*; α(P)=2.53×10^{-6} *5*
896.57	(5/2)$^-$	377.7[d] *1*	0.17 *6*	518.56	9/2$^-$				
		388.4 *1*	11.4 *11*	508.23	7/2$^-$,5/2$^-$	M1+E2		0.044 *14*	α(N)=0.00031 *5*; α(O)=4.4×10^{-5} *8*; α(P)=2.12×10^{-6} *85* α(K)=0.036 *13*; α(L)=0.0060 *9*; α(M)=0.00134 *18*
		468.0 *1*	3.8 *6*	428.43					
		476.7 *1*	13.8 *14*	419.930	7/2$^-$	M1,E2		0.0254 *82*	α(K)=0.0211 *74*; α(L)=0.0033 *7*; α(M)=0.00074 *15* α(N)=0.00017 *4*; α(O)=2.4×10^{-5} *6*; α(P)=1.25×10^{-6} *49*
		555.5 *2*	74 *7*	341.118	5/2$^-$	M1		0.0227	α(K)=0.0193 *3*; α(L)=0.00272 *4*; α(M)=0.000594 *9* α(N)=0.0001375 *20*; α(O)=2.02×10^{-5} *3*; α(P)=1.174×10^{-6} *17*
		661.9 *1*	8.0 *11*	234.652	(3/2)$^+$	E1		0.00281	α(K)=0.00240 *4*; α(L)=0.000324 *5*; α(M)=7.05×10^{-5} *10* α(N)=1.624×10^{-5} *23*; α(O)=2.36×10^{-6} *4*; α(P)=1.322×10^{-7} *19*
		685.4 *2*	20 *3*	211.174	7/2$^+$	E1		0.00261	α(K)=0.00223 *4*; α(L)=0.000301 *5*; α(M)=6.55×10^{-5} *10* α(N)=1.508×10^{-5} *22*; α(O)=2.19×10^{-6} *3*; α(P)=1.232×10^{-7} *18*
		708.6 *1*	34 *3*	188.035	5/2$^+$	E1		0.00244	α(K)=0.00208 *3*; α(L)=0.000281 *4*; α(M)=6.11×10^{-5} *9* α(N)=1.407×10^{-5} *20*; α(O)=2.05×10^{-6} *3*;

$^{157}_{66}Dy_{91}$-12

Adopted Levels, Gammas (continued)

$\gamma(^{157}Dy)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]	δ[@b]	α[a]	Comments
									α(P)=1.152×10^{-7} *17*
		749.0 *2*	5.1 *17*	147.724	7/2$^-$	(M1)		0.01076	α(K)=0.00913 *13*; α(L)=0.001275 *18*; α(M)=0.000278 *4* α(N)=6.44×10^{-5} *9*; α(O)=9.48×10^{-6} *14*; α(P)=5.54×10^{-7} *8*

$^{157}_{66}Dy_{91}$-13

Adopted Levels, Gammas (continued)

γ(^{157}Dy) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [‡]	E_f	J_f^π	Mult. [#]	δ [@ b]	α [a]	$I_{(\gamma+ce)}$	Comments
896.57	(5/2)$^-$	835.30 *10*	27 *3*	61.141	5/2$^-$	M1,E2		0.0063 *19*		α(K)=0.0054 *17*; α(L)=7.8×10^{-4} *20*; α(M)=0.00017 *5* α(N)=3.93×10^{-5} *99*; α(O)=5.7×10^{-6} *16*; α(P)=3.2×10^{-7} *11*
		896.6 *1*	100 *10*	0.0	3/2$^-$	M1,E2		0.0054 *16*		α(K)=0.0045 *14*; α(L)=6.5×10^{-4} *17*; α(M)=0.00014 *4* α(N)=3.3×10^{-5} *9*; α(O)=4.8×10^{-6} *13*; α(P)=2.70×10^{-7} *86*
920.5	17/2$^-$	171.4	17 [&]	749.4	15/2$^-$					
		372.2	≤100 [&]	548.2	13/2$^-$					
990.13	7/2$^-$	463.3 [c] *1*	≤61 [c]	526.95	5/2$^-$,7/2$^-$					
		570.2 *1*	100 *19*	419.930	7/2$^-$	M1		0.0213		α(K)=0.0180 *3*; α(L)=0.00254 *4*; α(M)=0.000556 *8* α(N)=0.0001286 *18*; α(O)=1.89×10^{-5} *3*; α(P)=1.099×10^{-6} *16*
		648.8 *4*	54 *12*	341.118	5/2$^-$	(M1)		0.01537		α(K)=0.01303 *19*; α(L)=0.00183 *3*; α(M)=0.000400 *6* α(N)=9.25×10^{-5} *13*; α(O)=1.360×10^{-5} *20*; α(P)=7.93×10^{-7} *12*
		779.0 *2*	78 *8*	211.174	7/2$^+$	E1		0.00202		α(K)=0.001723 *25*; α(L)=0.000231 *4*; α(M)=5.02×10^{-5} *7* α(N)=1.158×10^{-5} *17*; α(O)=1.686×10^{-6} *24*; α(P)=9.56×10^{-8} *14*
		801.7 *4*	8 *3*	188.035	5/2$^+$					
		828.1 *2*	100 *12*	161.99	9/2$^+$	(E1)		0.00179		α(K)=0.001528 *22*; α(L)=0.000204 *3*; α(M)=4.44×10^{-5} *7* α(N)=1.024×10^{-5} *15*; α(O)=1.492×10^{-6} *21*; α(P)=8.49×10^{-8} *12*
		842.4 *3*	42 *12*	147.724	7/2$^-$	M1,E2		0.0062 *19*		α(K)=0.0052 *16*; α(L)=7.6×10^{-4} *20*; α(M)=0.00017 *5* α(N)=3.84×10^{-5} *97*; α(O)=5.6×10^{-6} *15*; α(P)=3.1×10^{-7} *11*
		928.9 *1*	100 *12*	61.141	5/2$^-$	M1,E2		0.0049 *14*		α(N)=3.0×10^{-5} *8*; α(O)=4.4×10^{-6} *12*; α(P)=2.49×10^{-7} *78* α(K)=0.0042 *12*; α(L)=0.00060 *15*; α(M)=0.00013 *4*
1016.5	19/2$^-$	231.4	69 [&]	785.2	17/2$^-$	M1+E2	−0.46 +*44*−*21*	0.213 *15*		α(K)=0.176 *16*; α(L)=0.0288 *11*; α(M)=0.0064 *3* α(N)=0.00147 *7*; α(O)=0.000210 *5*; α(P)=1.07×10^{-5} *12*
		445.8	≤100 [&]	570.9	15/2$^-$					

Adopted Levels, Gammas (continued)

γ(^{157}Dy) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]	δ[@b]	α[a]	Comments
1157.4	25/2$^+$	410.7 *3*	100	746.7	21/2$^+$	E2		0.0257	B(E2)(W.u.)=2.2×10^2 *4* α(K)=0.0203 *3*; α(L)=0.00425 *6*; α(M)=0.000965 *14* α(N)=0.000220 *4*; α(O)=2.99×10^{-5} *5*; α(P)=1.110×10^{-6} *16*
1174.1	19/2$^-$	253.6[c]	≤147[c&]	920.5	17/2$^-$				
		424.5	100[&]	749.4	15/2$^-$	(E2)		0.0235	α(K)=0.0186 *3*; α(L)=0.00382 *6*; α(M)=0.000866 *13* α(N)=0.000198 *3*; α(O)=2.69×10^{-5} *4*; α(P)=1.022×10^{-6} *15*
1211.13	5/2$^-$,7/2$^-$	522.8[d] *1*	5.7 *9*	688.11	(7/2)$^-$				
		582.2 *1*	4.3 *16*	628.87?	3/2$^-$				
		600.4 *5*	5.4 *14*	611.22	(7/2,9/2)$^-$				
		703.0[d] *2*	8.3 *14*	508.23	7/2$^-$,5/2$^-$	M1,E2		0.0096 *30*	α(K)=0.0081 *27*; α(L)=0.00119 *31*; α(M)=0.00026 *7* α(N)=6.0×10^{-5} *15*; α(O)=8.8×10^{-6} *24*; α(P)=4.8×10^{-7} *17*
		791.0 *2*	10.9 *21*	419.930	7/2$^-$	M1,E2		0.0072 *22*	α(K)=0.0061 *19*; α(L)=8.9×10^{-4} *23*; α(M)=0.00019 *5* α(N)=4.5×10^{-5} *12*; α(O)=6.5×10^{-6} *18*; α(P)=3.6×10^{-7} *13*
		870.1 *1*	38 *4*	341.118	5/2$^-$	M1		0.00744	α(K)=0.00632 *9*; α(L)=0.000878 *13*; α(M)=0.000192 *3* α(N)=4.44×10^{-5} *7*; α(O)=6.53×10^{-6} *10*; α(P)=3.82×10^{-7} *6*
		1063.3 *3*	5.4 *10*	147.724	7/2$^-$				
		1150.0 *1*	35 *4*	61.141	5/2$^-$	M1,E2		0.0030 *8*	α(K)=0.00258 *65*; α(L)=0.00036 *9*; α(M)=7.9×10^{-5} *18* α(N)=1.8×10^{-5} *5*; α(O)=2.7×10^{-6} *7*; α(P)=1.53×10^{-7} *42*; α(IPF)=1.70×10^{-6} *13*
		1211.1 *1*	100 *10*	0.0	3/2$^-$	M1,E2		0.0027 *7*	α(N)=1.6×10^{-5} *4*; α(O)=2.4×10^{-6} *6*; α(P)=1.36×10^{-7} *36*; α(IPF)=7.0×10^{-6} *6* α(K)=0.0023 *6*; α(L)=0.00032 *8*; α(M)=7.0×10^{-5} *16*
1262.9	21/2$^-$	246.5	100[&]	1016.5	19/2$^-$	M1+E2	−0.12 *+6−5*	0.191	α(K)=0.1606 *25*; α(L)=0.0235 *4*; α(M)=0.00515 *8* α(N)=0.001191 *17*; α(O)=0.0001742 *25*; α(P)=9.92×10^{-6} *16*
		477.5	92[&]	785.2	17/2$^-$	(E2)		0.01710	α(K)=0.01370 *20*; α(L)=0.00264 *4*; α(M)=0.000596 *9* α(N)=0.0001363 *19*; α(O)=1.87×10^{-5} *3*; α(P)=7.63×10^{-7} *11*
1280.9	23/2$^+$	436.6		844.3	19/2$^+$				
		534.3		746.7	21/2$^+$				
1359.1	21/2$^-$	184.8		1174.1	19/2$^-$				
		438.8		920.5	17/2$^-$	(E2)		0.0215	α(K)=0.01704 *24*; α(L)=0.00344 *5*; α(M)=0.000778 *11* α(N)=0.0001778 *25*; α(O)=2.42×10^{-5} *4*; α(P)=9.40×10^{-7} *14*
1380.24	(5/2,7/2$^-$)	1039.0 *4*	29 *11*	341.118	5/2$^-$				

$^{157}_{66}Dy_{91}$-15

Adopted Levels, Gammas (continued)

γ(^{157}Dy) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]	δ[@b]	α[a]	Comments
1380.24	(5/2,7/2$^-$)	1169.9 *3*	70 *18*	211.174	7/2$^+$				
		1191.9 *2*	48 *10*	188.035	5/2$^+$				
		1232.6 *4*	25 *7*	147.724	7/2$^-$				
		1319.0 *3*	56 *11*	61.141	5/2$^-$				
		1380.2 *2*	100 *21*	0.0	3/2$^-$				
1522.3	23/2$^-$	259.3	40[&]	1262.9	21/2$^-$	M1+E2	−0.30 *+38−19*	0.162 *8*	α(K)=0.135 *8*; α(L)=0.0205 *4*; α(M)=0.00452 *9* α(N)=0.001043 *19*; α(O)=0.0001513 *22*; α(P)=8.3×10^{-6} *6*
		505.8	100[&]	1016.5	19/2$^-$	(E2)		0.01471	α(K)=0.01185 *17*; α(L)=0.00222 *4*; α(M)=0.000500 *7* α(N)=0.0001144 *16*; α(O)=1.580×10^{-5} *23*; α(P)=6.64×10^{-7} *10*
1652.6	29/2$^+$	495.2 *3*	100	1157.4	25/2$^+$	E2		0.01554	B(E2)(W.u.)=2.9×10^2 *5* α(K)=0.01250 *18*; α(L)=0.00237 *4*; α(M)=0.000533 *8* α(N)=0.0001220 *18*; α(O)=1.681×10^{-5} *24*; α(P)=6.99×10^{-7} *10*
1655.6	23/2$^-$	296.5		1359.1	21/2$^-$				
		481.5		1174.1	19/2$^-$				
1792.8	25/2$^-$	270.4	26[&]	1522.3	23/2$^-$				
		529.9	100[&]	1262.9	21/2$^-$	(E2)		0.01305	α(K)=0.01056 *15*; α(L)=0.00194 *3*; α(M)=0.000435 *6* α(N)=9.96×10^{-5} *14*; α(O)=1.380×10^{-5} *20*; α(P)=5.94×10^{-7} *9*
1807.4	27/2$^+$	526.6		1280.9	23/2$^+$				
		650.0		1157.4	25/2$^+$				
1849.9	25/2$^-$	490.8	100	1359.1	21/2$^-$				
2072.7	27/2$^-$	279.8		1792.8	25/2$^-$				
		550.5		1522.3	23/2$^-$				
2177.9	27/2$^-$	522.3	100	1655.6	23/2$^-$				
2218.9	33/2$^+$	566.3 *3*	100	1652.6	29/2$^+$	E2		0.01104	B(E2)(W.u.)=2.8×10^2 *6* α(K)=0.00898 *13*; α(L)=0.001599 *23*; α(M)=0.000358 *5* α(N)=8.21×10^{-5} *12*; α(O)=1.144×10^{-5} *17*; α(P)=5.08×10^{-7} *8*
2359.7	29/2$^-$	286.9		2072.7	27/2$^-$				
		567.0		1792.8	25/2$^-$				
2382.2	29/2$^-$	532.3	100	1849.9	25/2$^-$				
2410.9	31/2$^+$	603.5	100	1807.4	27/2$^+$				
2652.0	31/2$^-$	292.4		2359.7	29/2$^-$				
		579.3		2072.7	27/2$^-$				
2686.7	(31/2$^-$)	1034	100	1652.6	29/2$^+$				
2735.6	31/2$^-$	557.7	100	2177.9	27/2$^-$				
2844.8	37/2$^+$	625.9 *3*	100	2218.9	33/2$^+$	E2		0.00864	B(E2)(W.u.)=2.8×10^2 *6* α(K)=0.00709 *10*; α(L)=0.001211 *17*; α(M)=0.000270 *4* α(N)=6.20×10^{-5} *9*; α(O)=8.70×10^{-6} *13*; α(P)=4.03×10^{-7} *6*
2897.2	(33/2$^-$)	515	100	2382.2	29/2$^-$				
2948.5	33/2$^-$	296.4		2652.0	31/2$^-$				
		588.8		2359.7	29/2$^-$				
2979.0	33/2$^-$	596.8	100	2382.2	29/2$^-$				
3079.4	35/2$^+$	668.5	100	2410.9	31/2$^+$				

Adopted Levels, Gammas (continued)

$\gamma(^{157}Dy)$ (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [‡]	E_f	J_f^π	Mult.[#]	α[a]	Comments
3157.8	(35/2$^-$)	471		2686.7	(31/2$^-$)			
		939		2218.9	33/2$^+$			
3248.2	35/2$^-$	299.6		2948.5	33/2$^-$			
		596.2		2652.0	31/2$^-$			
3318.4	35/2$^-$	582.8	100	2735.6	31/2$^-$			
3441.2	(37/2$^-$)	544	100	2897.2	(33/2$^-$)			
3521.2	41/2$^+$	676.4 *3*	100	2844.8	37/2$^+$	E2	0.00719	B(E2)(W.u.)=2.5×10^2 *17* α(K)=0.00593 *9*; α(L)=0.000984 *14*; α(M)=0.000219 *3* α(N)=5.03×10^{-5} *7*; α(O)=7.09×10^{-6} *10*; α(P)=3.39×10^{-7} *5*
3551.7	37/2$^-$	303.5		3248.2	35/2$^-$			
		603.2		2948.5	33/2$^-$			
3562.0	37/2$^-$	583.0	100	2979.0	33/2$^-$			
3713.8	(39/2$^-$)	556		3157.8	(35/2$^-$)			
		869		2844.8	37/2$^+$			
3801.9	39/2$^+$	722.5	100	3079.4	35/2$^+$			
3862.3	39/2$^-$	310.5		3551.7	37/2$^-$			
		614.2		3248.2	35/2$^-$			
3936.5	39/2$^-$	618.1	100	3318.4	35/2$^-$			
4032.2	(41/2$^-$)	591	100	3441.2	(37/2$^-$)			
4181.8	41/2$^-$	319.5		3862.3	39/2$^-$			
		630.1		3551.7	37/2$^-$			
4202.5	41/2$^-$	640.5	100	3562.0	37/2$^-$			
4241.8	45/2$^+$	720.6 *5*	100	3521.2	41/2$^+$	E2	0.00621	B(E2)(W.u.)=1.1×10^2 *5* α(K)=0.00514 *8*; α(L)=0.000835 *12*; α(M)=0.000185 *3* α(N)=4.26×10^{-5} *6*; α(O)=6.03×10^{-6} *9*; α(P)=2.94×10^{-7} *5*
4348.8	(43/2$^-$)	635	100	3713.8	(39/2$^-$)			
4513.1	43/2$^-$	331.7		4181.8	41/2$^-$			
		650.7		3862.3	39/2$^-$			
4568.9	43/2$^+$	767.0	100	3801.9	39/2$^+$			
4596.8?	(43/2$^-$)	661.5[d]	100	3936.5	39/2$^-$			
4699	(45/2$^-$)	667	100	4032.2	(41/2$^-$)			
4857.6	45/2$^-$	344.6		4513.1	43/2$^-$			
		675.4		4181.8	41/2$^-$			
4888	45/2$^-$	685	100	4202.5	41/2$^-$			
5004.1	49/2$^+$	762.3 *7*	100	4241.8	45/2$^+$	E2	0.00546	α(K)=0.00454 *7*; α(L)=0.000724 *11*; α(M)=0.0001605 *23* α(N)=3.69×10^{-5} *6*; α(O)=5.24×10^{-6} *8*; α(P)=2.60×10^{-7} *4* B(E2)(W.u.)>0.022
5053.8	(47/2$^-$)	705	100	4348.8	(43/2$^-$)			
5216.8	47/2$^-$	359		4857.6	45/2$^-$			
		704		4513.1	43/2$^-$			
5362	47/2$^+$	793	100	4568.9	43/2$^+$			
5431	(49/2$^-$)	732	100	4699	(45/2$^-$)			
5590.7	49/2$^-$	374		5216.8	47/2$^-$			

$^{157}_{66}Dy_{91}$-17

Adopted Levels, Gammas (continued)

γ(^{157}Dy) (continued)

E_i(level)	J_i^π	E_γ †	I_γ ‡	E_f	J_f^π	E_i(level)	J_i^π	E_γ †	I_γ ‡	E_f	J_f^π
5590.7	49/2$^-$	733		4857.6	45/2$^-$	9580	67/2$^-$	978	100	8602	63/2$^-$
5622	49/2$^-$	734	100	4888	45/2$^-$	9825	(69/2$^-$)	977	100	8848	(65/2$^-$)
5806.9	53/2$^+$	802.8	100	5004.1	49/2$^+$	10015?	(69/2$^-$)	978[d]	100	9037?	(65/2$^-$)
5815.8	(51/2$^-$)	762	100	5053.8	(47/2$^-$)	10088	69/2$^-$	1002	100	9086	65/2$^-$
5978.8	51/2$^-$	762	100	5216.8	47/2$^-$	10430	(71/2$^-$)	1038	100	9392	(67/2$^-$)
6182	51/2$^+$	820	100	5362	47/2$^+$	10506	73/2$^+$	1032	100	9474	69/2$^+$
6216	(53/2$^-$)	785	100	5431	(49/2$^-$)	10614	71/2$^-$	1034	100	9580	67/2$^-$
6381.7	53/2$^-$	791	100	5590.7	49/2$^-$	10857	(73/2$^-$)	1032	100	9825	(69/2$^-$)
6405	53/2$^-$	783	100	5622	49/2$^-$	11525	(75/2$^-$)	1095	100	10430	(71/2$^-$)
6628.8	(55/2$^-$)	813	100	5815.8	(51/2$^-$)	11588	77/2$^+$	1082	100	10506	73/2$^+$
6655.9	57/2$^+$	849	100	5806.9	53/2$^+$	11698?	(75/2$^-$)	1084[d]	100	10614	71/2$^-$
6798.8	55/2$^-$	820	100	5978.8	51/2$^-$	11942	(77/2$^-$)	1085	100	10857	(73/2$^-$)
7047	55/2$^+$	865	100	6182	51/2$^+$	12671	(79/2$^-$)	1146	100	11525	(75/2$^-$)
7047	(57/2$^-$)	831	100	6216	(53/2$^-$)	12720	81/2$^+$	1132	100	11588	77/2$^+$
7227.7	57/2$^-$	846	100	6381.7	53/2$^-$	13071	(81/2$^-$)	1129	100	11942	(77/2$^-$)
7236	57/2$^-$	831	100	6405	53/2$^-$	13811?	(83/2$^-$)	1142[d]	100	12671	(79/2$^-$)
7494	(59/2$^-$)	865	100	6628.8	(55/2$^-$)	13905	85/2$^+$	1185	100	12720	81/2$^+$
7549.9	61/2$^+$	894	100	6655.9	57/2$^+$	14055?	(85/2$^+$)	1336[d]	100	12720	81/2$^+$
7675	59/2$^-$	876	100	6798.8	55/2$^-$	14258	(85/2$^-$)	1187	100	13071	(81/2$^-$)
7923	(61/2$^-$)	876	100	7047	(57/2$^-$)	14880?	(87/2$^-$)	1069[d]	100	13811?	(83/2$^-$)
7957?	59/2$^+$	910	100	7047	55/2$^+$	15147	89/2$^+$	1242	100	13905	85/2$^+$
8109?	(61/2$^-$)	874[d]	100	7236	57/2$^-$	15488	(89/2$^-$)	1230	100	14258	(85/2$^-$)
8134	61/2$^-$	906	100	7227.7	57/2$^-$	16005?	(91/2$^-$)	1124[d]	100	14880?	(87/2$^-$)
8414	(63/2$^-$)	920	100	7494	(59/2$^-$)	16448	93/2$^+$	1301	100	15147	89/2$^+$
8488.9	65/2$^+$	939	100	7549.9	61/2$^+$	16769?	(93/2$^-$)	1282[d]	100	15488	(89/2$^-$)
8602	63/2$^-$	927	100	7675	59/2$^-$	17194?	(95/2$^-$)	1189[d]	100	16005?	(91/2$^-$)
8848	(65/2$^-$)	925	100	7923	(61/2$^-$)	17821	97/2$^+$	1373	100	16448	93/2$^+$
9037?	(65/2$^-$)	928[d]	100	8109?	(61/2$^-$)	18106?	(97/2$^-$)	1337[d]	100	16769?	(93/2$^-$)
9086	65/2$^-$	952	100	8134	61/2$^-$	19250	101/2$^+$	1429	100	17821	97/2$^+$
9392	(67/2$^-$)	978	100	8414	(63/2$^-$)	20736?	(105/2$^+$)	1486	100	19250	101/2$^+$
9474	69/2$^+$	985	100	8488.9	65/2$^+$						

† The unplaced γ's from the decay of ^{157}Ho and Gd(α,xnγ) are not included here; see those data sets.
‡ Values are from ^{157}Ho ε decay, unless otherwise noted.
# From ce data in ^{157}Ho ε decay and γ(θ) from Gd(α,xnγ) studies. For decay of the high-spin levels, the Q transitions are assumed to be stretched E2's.
@ From ^{157}Ho ε decay (1984Af01).
& From Gd(α,xnγ).
[a] Additional information 4.
[b] If no value given it was assumed δ=1.00 for E2/M1, δ=1.00 for E3/M2 and δ=0.10 for the other multipolarities.

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$\gamma(^{157}Dy)$ (continued)

[c] Multiply placed with undivided intensity.
[d] Placement of transition in the level scheme is uncertain.

$^{157}_{66}Dy_{91}$-19

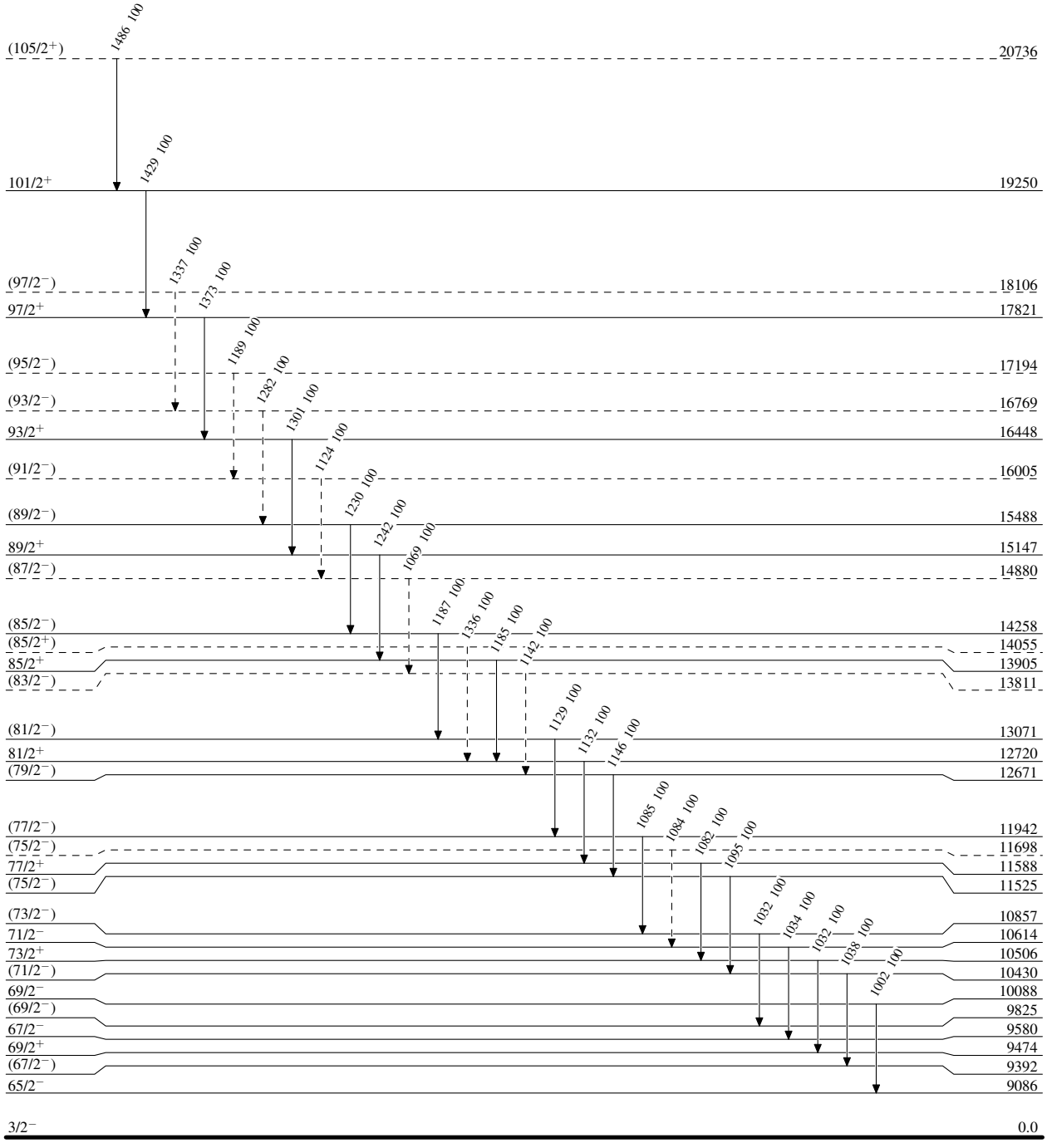
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{157}_{66}Dy_{91}$

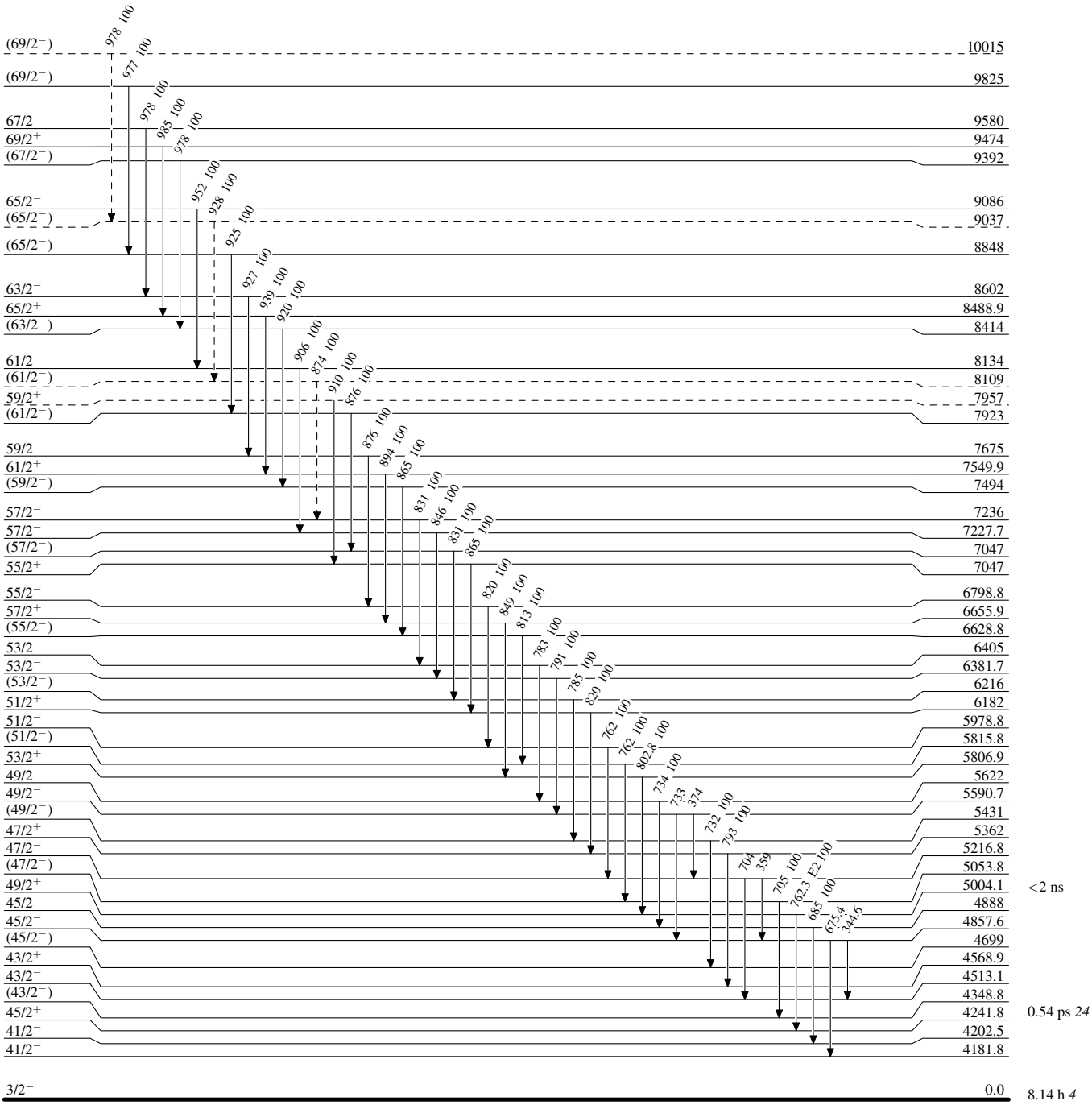
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{157}_{66}Dy_{91}$

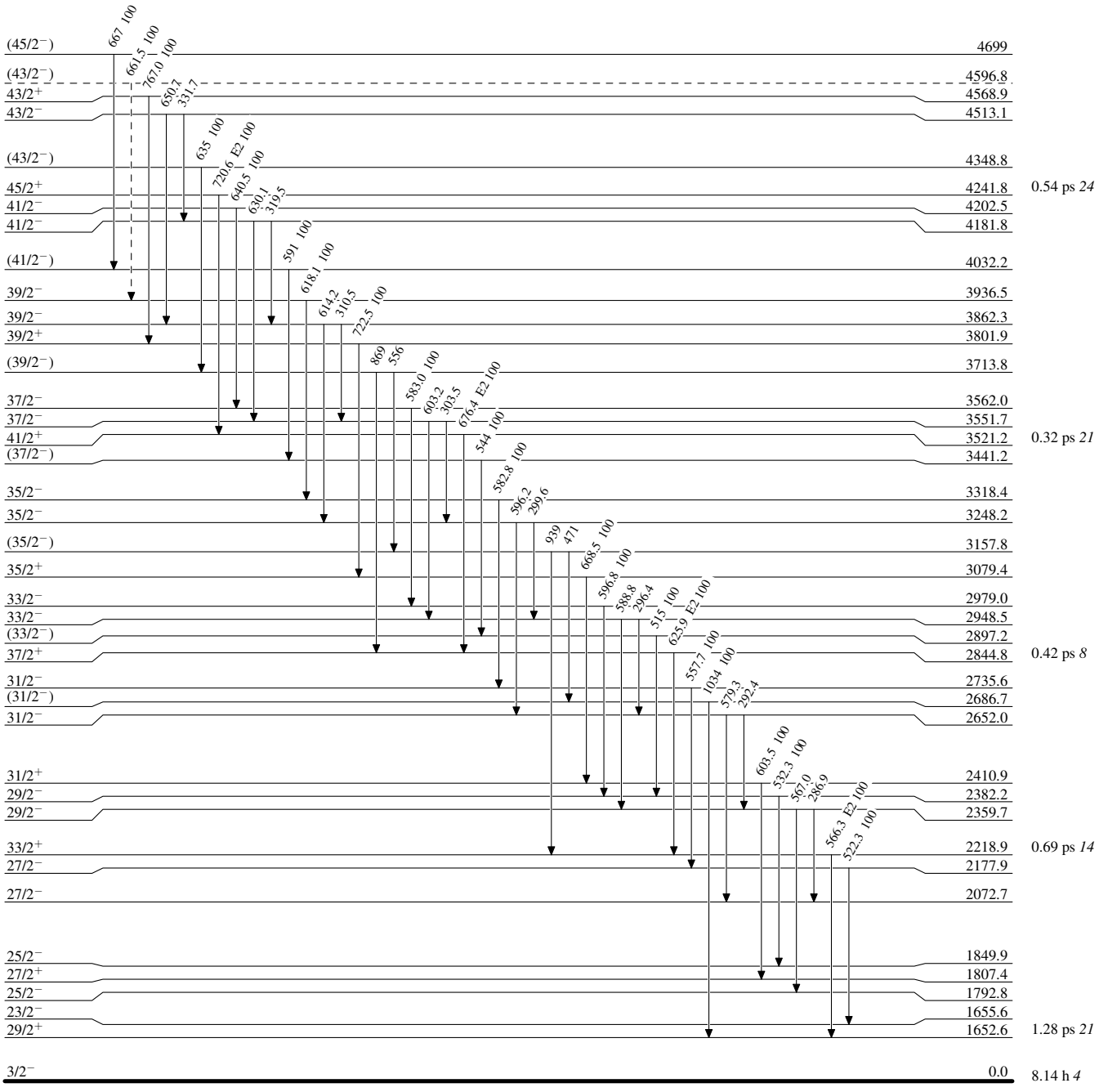
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{157}_{66}Dy_{91}$

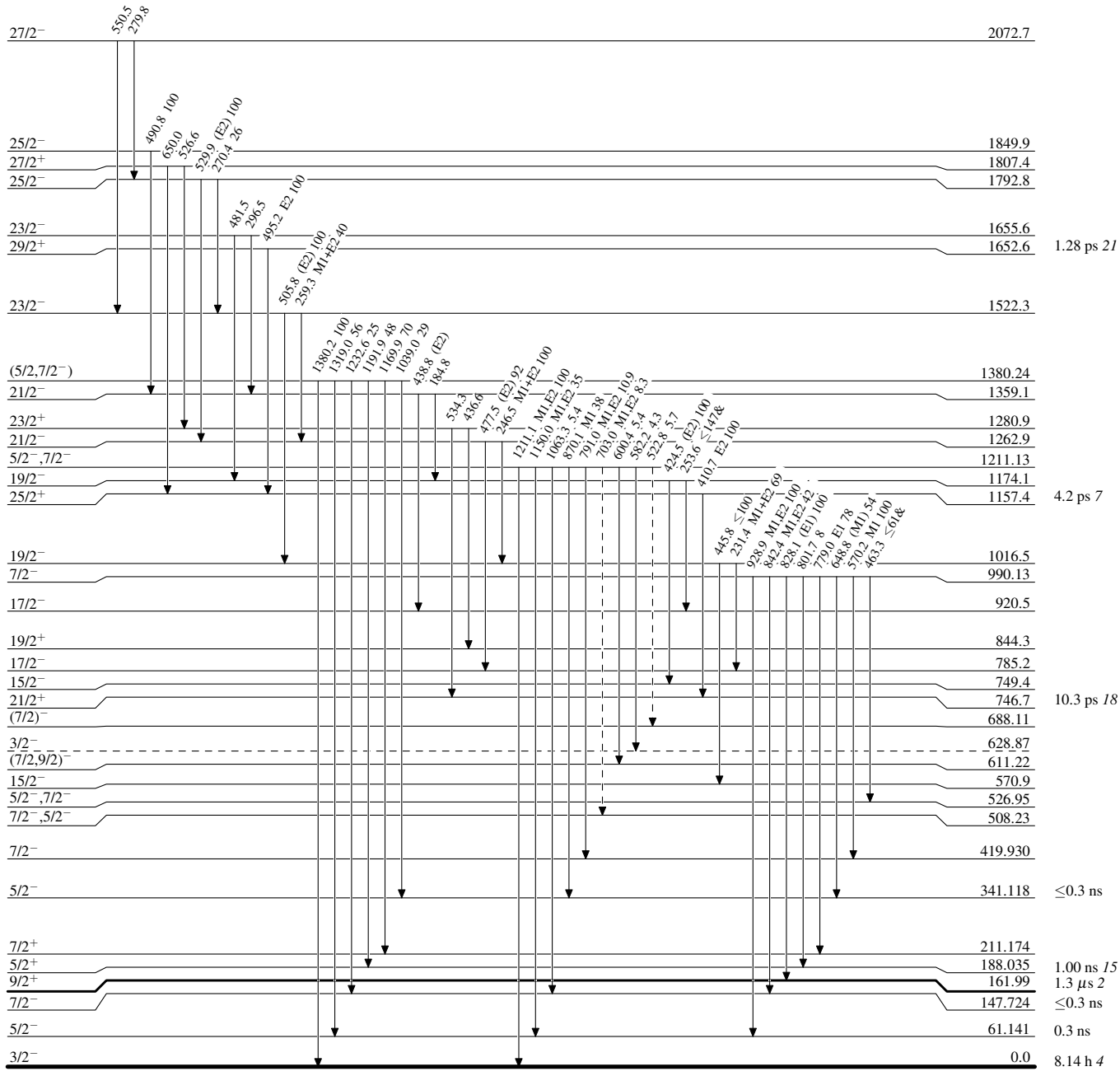
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

– – – – – – ► γ Decay (Uncertain)



$^{157}_{66}Dy_{91}$

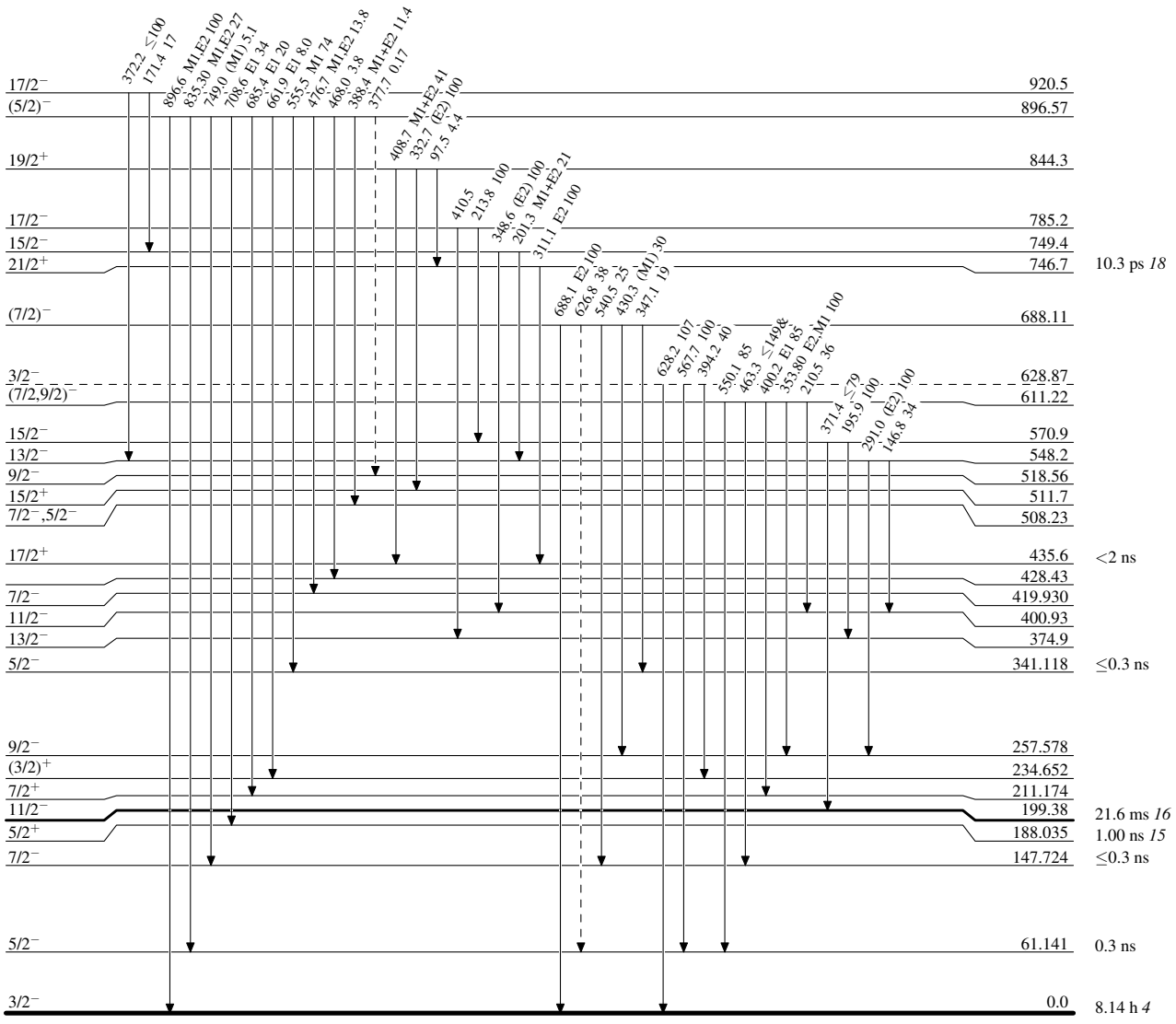
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

- - - - - - ► γ Decay (Uncertain)

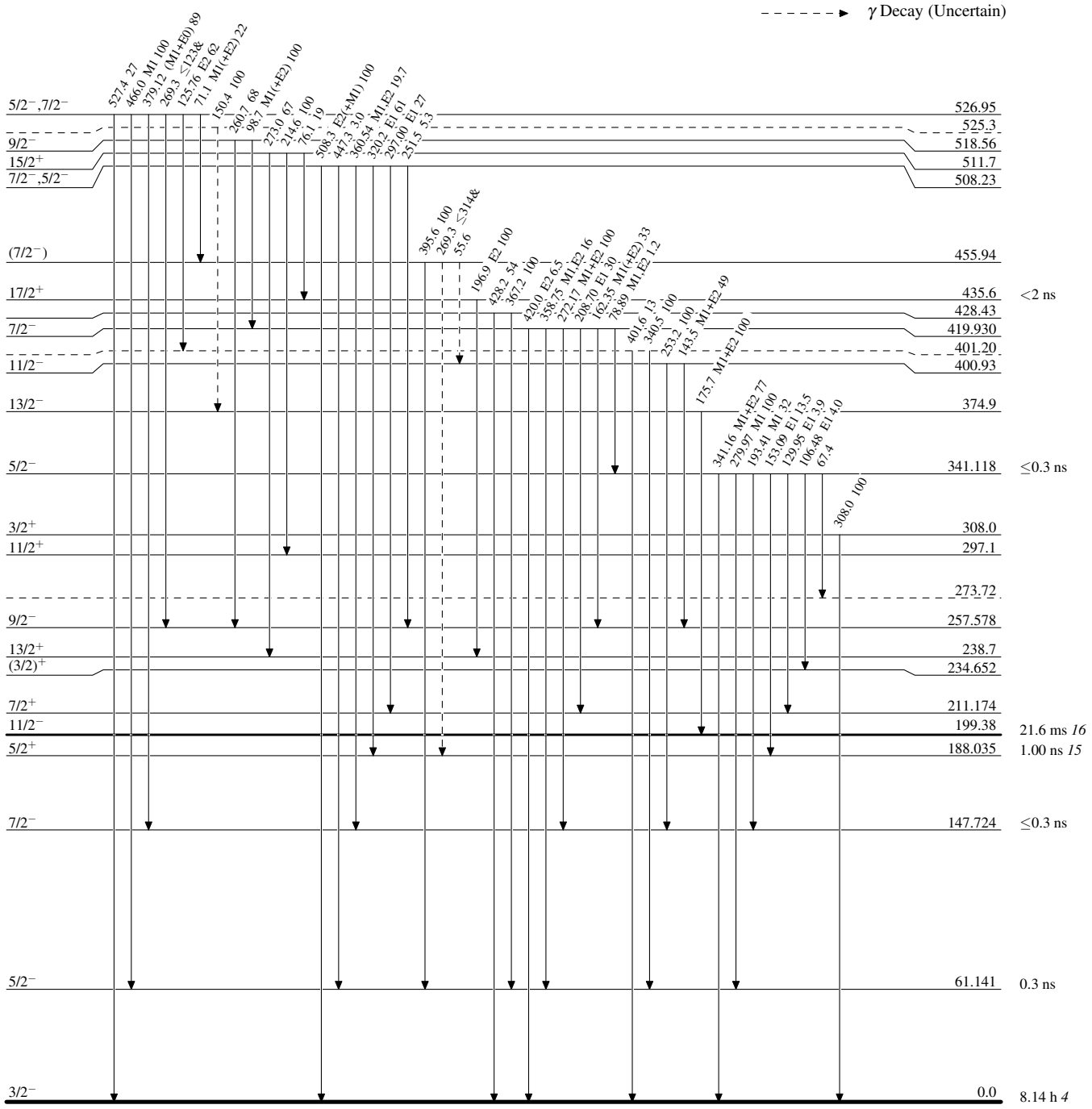


$^{157}_{66}Dy_{91}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given



$^{157}_{66}Dy_{91}$

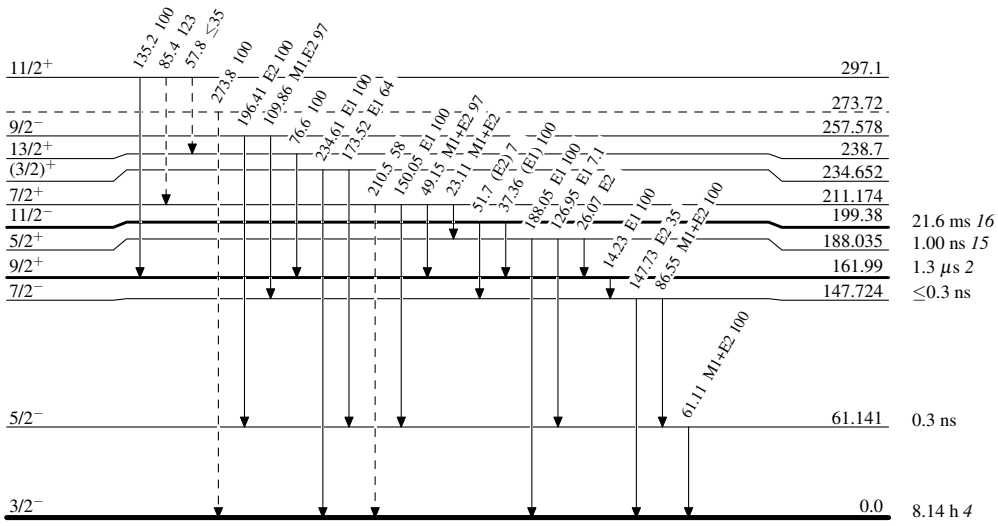
Adopted Levels, Gammas

Legend

Level Scheme (continued)

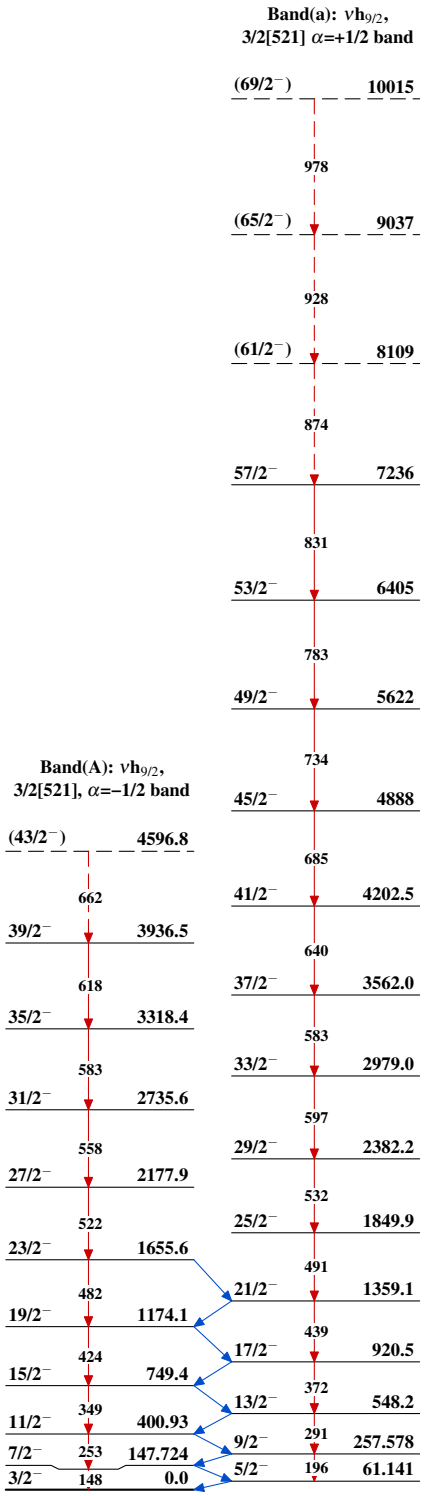
Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

- - - - - - ► γ Decay (Uncertain)



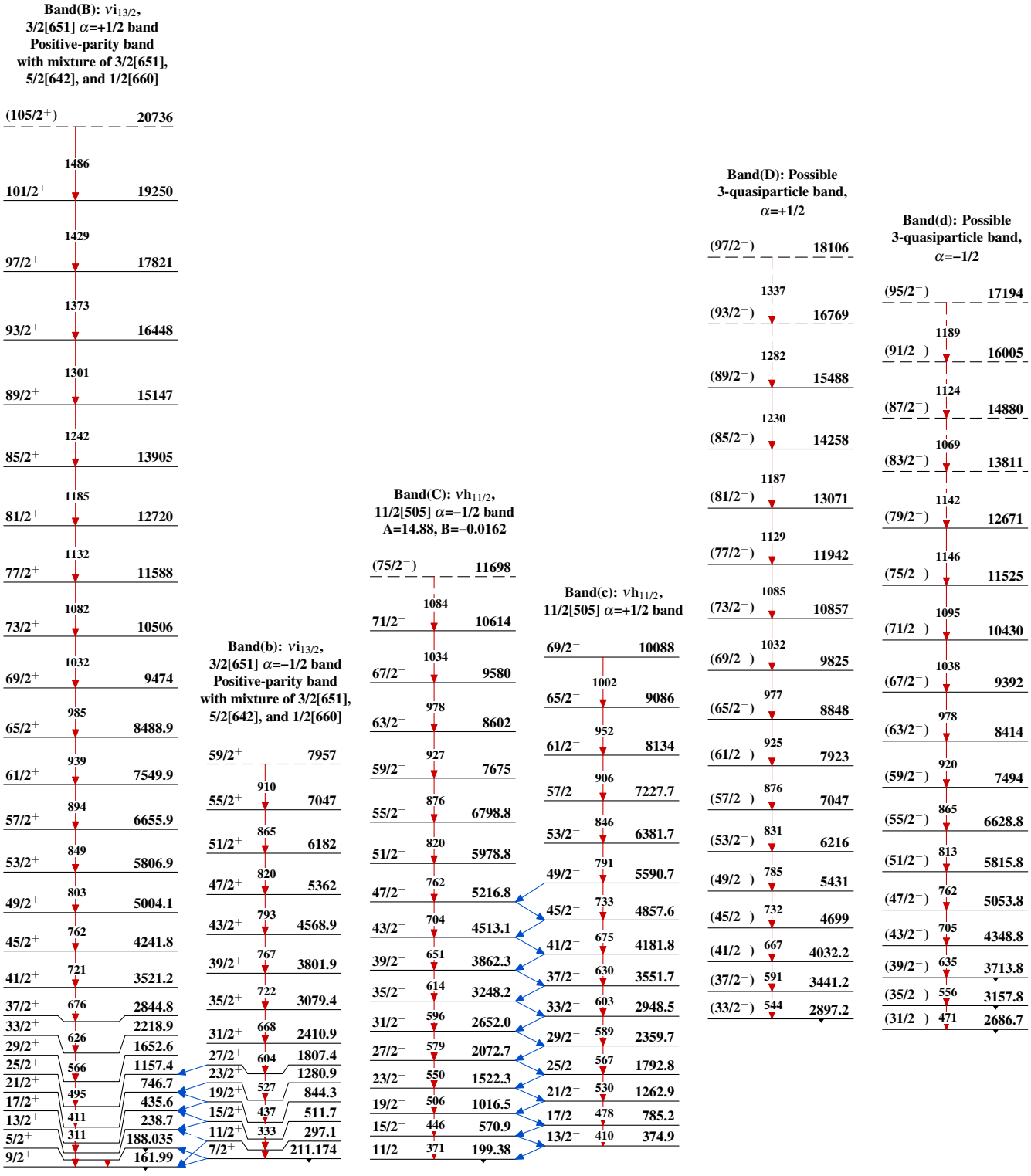
$^{157}_{66}Dy_{91}$

Adopted Levels, Gammas

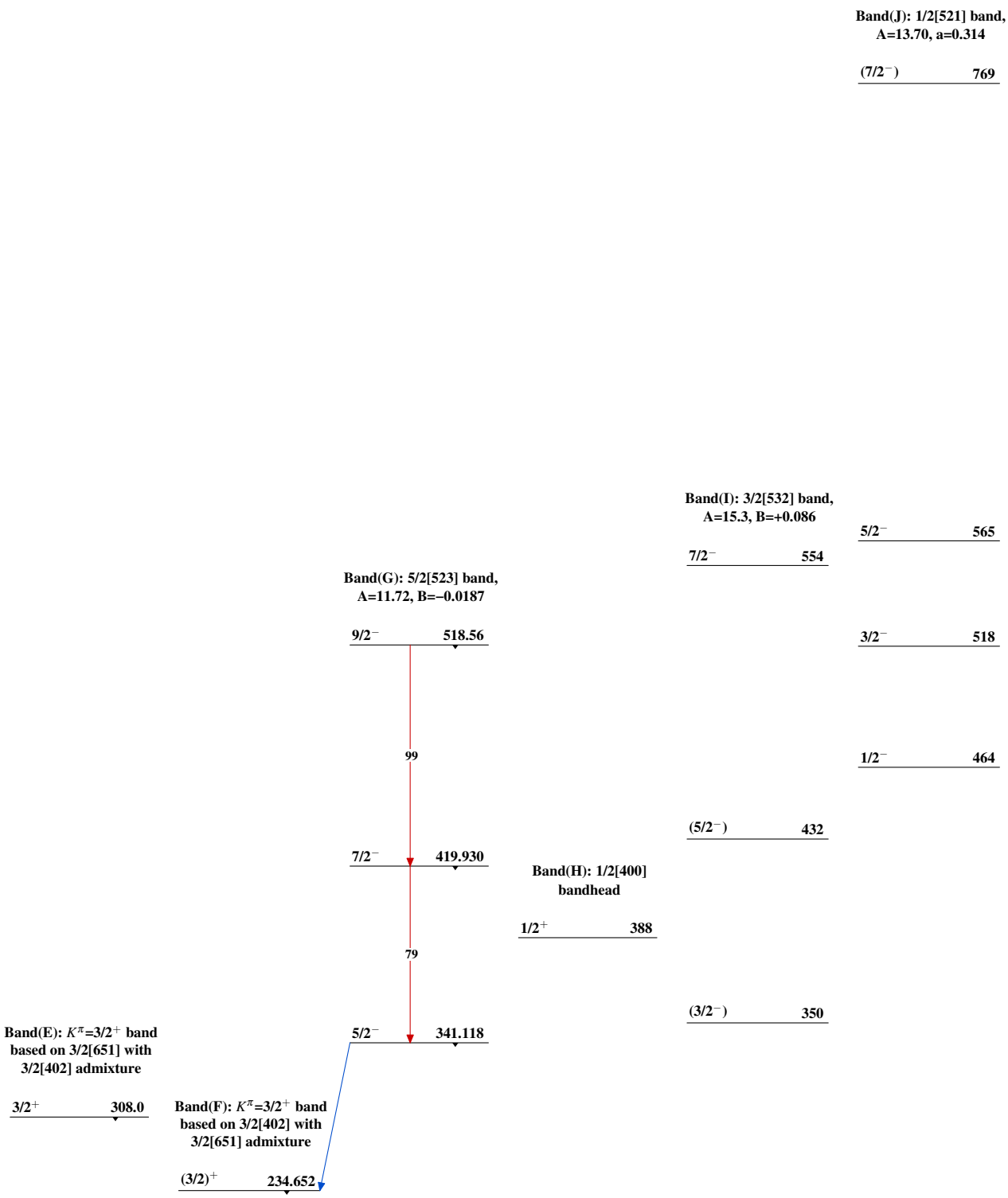


$^{157}_{66}Dy_{91}$

Adopted Levels, Gammas (continued)



Adopted Levels, Gammas (continued)



$^{157}_{66}Dy_{91}$

Adopted Levels, Gammas (continued)

Band(M): Possible 9/2[514] band member

11/2⁻ 1723

Band(L): 1/2[510] band, A=11.23, a=−0.12

7/2⁻ 1701

5/2⁻ 1632

3/2⁻ 1569

Band(K): 5/2[512] band, A=13.36

9/2⁻ 1123

7/2⁻ 990.13

(5/2)⁻ 896.57

Band(N): K^{π}=3/2⁻ band, quadrupole vibration based on 3/2⁻[521] g.s

3/2⁻ 628.87

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