Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 110, 1 (2009)	20-Nov-2008

Q(β^-)=−2565 *4*; S(n)=6496 *7*; S(p)=6685 *7*; Q(α)=2653 *3* 2017Wa10
Q(ε)=464 *3*; S(2n)=15204 *7*; S(2p)=11631 *7* 2017Wa10
Additional information 1.
Additional information 2.
Mass excess measurement: 1975Ka25.
Isotope shift measurement: 1988Al40.
Theoretical work dealing with nuclear structure: 1979Sm01, 1977Bu28, 1977Kl04, 1977Sm01.
SD structure theory and analysis: 2002Pa25, 1999Kh05, 1998Ha53.

^{151}Gd Levels

SD bands in ^{151}Gd are tentative.

Cross Reference (XREF) Flags

A	^{151}Tb ε decay (17.609 h)	D	^{149}Sm(α,2nγ),^{150}Sm(α,3nγ)
B	^{151}Tb ε decay (25 s)	E	^{152}Gd(d,t)
C	^{130}Te(^{26}Mg,5nγ):SD	F	^{152}Gd(^{3}He,α)

E(level)‡	J$^\pi$†	T$_{1/2}$	XREF	Comments
0.0[b]	7/2$^-$	123.9 d *10*	EF	%ε=100; %$\alpha\approx 0.8\times10^{-6}$ μ=0.77 *6* (1989Ra17,1987Be33) %α from Iα/I(K x ray)=0.8×10^{-8} *+8−4* (1965Si06). J$^\pi$: atomic-beam method (1972Ek05) and L(d,t)=3. T$_{1/2}$: from 1984Gr15. Others: 1983Vo10, 1963Mi04, 1958An34, 1950He18. μ: nuclear orientation (1987Be33). See also 2005St24 compilation of moments. α decay theory: 2006Me15, 2003Gu13.
108.094 *7*	5/2$^-$	2.80 ns *11*	A DEF	μ=−1.08 *13* (1989Ra17,1977VaZJ,1977GrZF) μ: from integral PAC (1976Ba26,1976Ba59). Others: −1.23 *17* (1976Ba26,1976Ba59,1989Ra17), −1.35 *22* (1972Af04), −1.7 *4* (1975AfZZ). See also 2005St24 compilation of moments. J$^\pi$: M1+E2 γ to 7/2$^-$ and $\gamma\gamma(\theta)$ in ^{151}Tb ε decay. T$_{1/2}$: weighted average of 3.00 ns *10* (ceγ(t), 1972Af03), 2.60 ns *13* (ceγ(t), 1970Mo14), 2.72 ns *25* (cece(t), 1969Ba64) and 2.66 ns *15* ($\gamma\gamma$(t), 1969BoZR).
379.30[a] *3*	9/2$^-$		B DEF	J$^\pi$: from $\gamma(\theta)$, γ(pol) data in (α,xnγ) and M1 γ to 7/2$^-$.
395.445 *7*	3/2$^-$	0.29 ns *3*	A DE	μ=−2.48 *75* (1989Ra17,1977VaZJ,1977GrZF) μ: integral PAC (1977VaZJ,1977GrZF). Other: −1.35 *41*, −1.72 *43*, −2.24 *62* (1975AfZZ). See also 2005St24 compilation of moments. J$^\pi$: $\gamma\gamma(\theta)$ in ^{151}Tb ε decay and E2 γ to 7/2$^-$. T$_{1/2}$: average of 0.31 ns *4* (ceγ(t), 1972Af03), 0.24 ns *4* (ceγ(t), 1970Mo14) and 0.32 ns *4* (cece(t), 1969Ba64).
426.688 *7*	5/2$^-$		A DEF	J$^\pi$: M1 γ to 7/2$^-$ and γ from 1/2$^-$.
575.619 *8*	1/2$^-$	0.23 ns *3*	A	J$^\pi$: from $\gamma\gamma(\theta)$ and M1+E2 γ to 3/2$^-$. Population in (α,xnγ) considered uncertain by the evaluator. T$_{1/2}$: average of 0.23 ns *3* (ceγ(t), 1972Af03) and 0.23 ns *4* (cece(t), 1970Mo14).
584.78 *11*	5/2,9/2		D	J$^\pi$: ΔJ=1 γ to 7/2$^-$.
587.449 *7*	3/2$^-$	0.30 ns *2*	A DE	J$^\pi$: E2 γ to 7/2$^-$ and L(d,t)=1 L(n)=1 in (d,t). T$_{1/2}$: ceγ(t) (1972Af03).

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Adopted Levels, Gammas (continued)

^{151}Gd Levels (continued)

E(level)[‡]	Jπ[†]	$T_{1/2}$	XREF	Comments
589.10 *7*	$3/2^-$,$5/2$,$7/2^-$		D	Jπ: γ′s to $3/2^-$ and $7/2^-$.
618.14 *11*	$5/2^-$,$7/2^-$,$9/2^-$		D	Jπ: M1 γ to $7/2^-$.
620.602 *13*	$3/2^-$,$5/2^{(-)}$		A E	Jπ: (E2) γ to $7/2^-$ and γ from $1/2^-$.
670.86 *6*	$(5/2,7/2)^-$		DEF	Jπ: M1,E2 γ to $5/2^-$ and L(n)=(3) from σ(d,t)/σ(^{3}He,α).
697?			E	
705.98[b] *3*	$11/2^-$		DE	Jπ: from γ(θ) and E2 γ to $7/2^-$.
719.46 *4*	$9/2^-$		D	Jπ: γ(θ) and E2 γ to $7/2^-$. E1 γ from $11/2^+$.
784.81[&] *4*	$11/2^+$		D	Jπ: γ(θ), E1 γ to $9/2^-$ and γ to $11/2^-$.
811.835 *8*	$3/2^-$		A E	Jπ: E2 γ to $7/2^-$ and E1 γ from $1/2^+$.
839.320 *8*	$1/2^-$	0.28 ns *3*	A DE	Jπ: γγ(θ) and E2 γ to $5/2^-$. $T_{1/2}$: weighted average of 0.26 ns *3* (ceγ(t), 1972Af03) and 0.32 ns *5* (ceγ(t), 1970Mo14).
851.90[@] *4*	$13/2^+$		DEF	Jπ: γ(θ) and γ(lin pol) of 146γ; γ to $11/2^+$.
882?			E	
901.97[a] *4*	$13/2^-$		B D	Jπ: γ(θ), γ(lin pol) and E2 γ to $9/2^-$.
905.58 *9*	$(3/2^-,5/2^-)$		A	Jπ: (M1,E2) γ to $7/2^-$ and γ from $3/2^{(+)}$.
913 *2*	$(9/2^-,11/2^-)$		EF	Jπ: L(n)=(5) from σ(d,t)/σ(^{3}He,α). L-value indicates that this level is different from the 913.6 level seen in ^{151}Tb decay.
913.56 *2*	$(3/2^-)$		A	Jπ: M1 γ from $(1/2^-,3/2^-)$, γ to $7/2^-$ and from $1/2^+$.
938.77 *7*	$(3/2^-,5/2^-,7/2^-)$		A	Jπ: (M1,E2) γ to $7/2^-$ and from $(1/2,3/2)^-$.
982.27 *4*	$(3/2)^+$		A EF	Jπ: L(n)=2 in (d,t) and γ to $1/2^-$.
1050 *2*	$1/2^+$		EF	Jπ: L(n)=0 in (d,t).
1052.20 *2*	$1/2^-$,$3/2^-$		A	Jπ: M1 γ to $1/2^-$.
1076.95 *12*	$(9/2$ to $13/2)^-$		D	Jπ: (E2) γ to $9/2^-$ and no γ′s to J<9/2.
1087.59 *2*	$3/2^-$		A E	Jπ: γγ(θ), M1 γ to $1/2^-$ and γ to $7/2^-$.
1115.77 *4*	$13/2^+$		D	Jπ: γ(θ) of 331γ and 264γ. M1 γ′s to $11/2^+$ and $13/2^+$.
1157.90 *2*	$(3/2)^+$		A	Jπ: E1 γ to $3/2^-$ and γ′s to $1/2^-$ and $5/2^-$.
1159 *2*	$(5/2^-,7/2,9/2^+)$		EF	Jπ: L(n)=(3,4) from σ(d,t)/σ(^{3}He,α).
1164.3? *2*	$(13/2^-,15/2^+)$		D	Jπ: γ to $11/2^+$ and from $17/2^-$.
1192.19 *1*	$1/2^+$		A E	Jπ: γγ(θ) ^{151}Tb ε decay, L(n)=0 in (d,t) and E1 γ to $1/2^-$.
1199.15 *5*	$(1/2^-,3/2,5/2^-)$		A	Jπ: γ′s to $3/2^-$ and $5/2^-$; log *ft*=9.5 from $1/2^{(+)}$.
1210.06[#] *8*	$11/2^-$		B DEF	Jπ: γ(θ) of 1211γ and E1 γ to $13/2^+$.
1261 *5*			F	
1279.06 *3*	$3/2^-$,$5/2^-$		A	Jπ: M1 γ to $5/2^-$, γ′s to $1/2^-$.
1345.44[@] *6*	$17/2^+$		D	Jπ: γ(θ) and E2 γ to $13/2^+$.
1351 *5*			F	
1363.84[&] *5*	$15/2^+$		D	Jπ: γ(θ) and E1 γ to $13/2^-$.
1364 *2*			E	
1373.95 *2*	$1/2^-$,$3/2^-$,$5/2^-$		A	Jπ: M1 γ to $3/2^-$.
1405.14 *3*	$3/2^-$,$5/2^-$		A	Jπ: M1 γ to $3/2^-$, γ to $7/2^-$.
1425 *1*	(11/2 to 15/2)		D	Jπ: γ to $11/2^-$ and no γ′s to low spin states.
1435.08[b] *6*	$(15/2)^-$		D	Jπ: E2 γ to $11/2^-$, γ to $13/2^+$ and probable band assignment.
1456.58 *5*	$1/2^-$,$3/2^-$,$5/2^-$		A	Jπ: M1,E2 to $3/2^-$ and log *ft*=8.0 from $1/2^{(+)}$. E(level): poor energy fit with γ′s from this level. It is possible that there are two closely spaced levels.
1463.27[#] *9*	$(13/2)^-$		D	Jπ: γ(θ) and M1+E2 γ to $11/2^-$.
1477.66 *9*	$(1/2^-,3/2,5/2^-)$		A E	Jπ: γ to $5/2^-$ and log *ft*=9.5 from $1/2^{(+)}$.
1493.38 *5*	$(1/2$ to $5/2^-)$		A F	Jπ: (M1) γ to $3/2^-$ and log *ft*=7.9 from $1/2^{(+)}$.
1505.41 *2*	$1/2^{(-)}$,$3/2^{(-)}$		A	Jπ: (M1,E2) γ to $3/2^-$ and log *ft*=7.7 from $1/2^{(+)}$.
1505.73 *14*	(11/2 to 15/2)		D	Jπ: γ′s to $11/2^+$ and $13/2^-$.
1510.92[a] *6*	$17/2^-$		D	Jπ: γ(θ), γ(lin pol) and E2 γ to $13/2^-$.
1552.70 *14*	$(3/2^-,5/2^-)$		A	Jπ: γ′s to $1/2^-$ and $7/2^-$.
1577.56 *4*	$(1/2$ to $5/2^-)$		A	Jπ: M1,E2 γ to $(3/2^-,5/2^-)$ and log *ft*=8.0 from $1/2^{(+)}$.

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Adopted Levels, Gammas (continued)

^{151}Gd Levels (continued)

E(level)[‡]	J$^{\pi}$[†]	XREF	Comments
1676.61 *7*	(17/2)$^{+}$	D	J$^{\pi}$: $\gamma(\theta)$ and E2 γ to 13/2^{+}. γ to 17/2^{+}.
1701.40 *7*	1/2,3/2,5/2$^{(-)}$	A	J$^{\pi}$: log *ft*=8.5 from 1/2$^{(+)}$.
1707.68 *3*	1/2$^{(-)}$,3/2$^{(-)}$	A	J$^{\pi}$: (M1,E2) to 5/2^{-} and log *ft*=7.4 from 1/2$^{(+)}$.
1725.74[#] *10*	(15/2)$^{-}$	D	J$^{\pi}$: $\gamma(\theta)$ and M1+E2 γ to (13/2)$^{-}$, γ to 11/2^{-} and probable member of a band.
1745.76 *11*	1/2,3/2,5/2$^{(-)}$	A	J$^{\pi}$: log *ft*=8.3 from 1/2$^{(+)}$.
1778.56 *2*	1/2^{-},3/2^{-}	A	J$^{\pi}$: M1,E2 γ to 3/2^{-} and log *ft*=7.2 from 1/2$^{(+)}$.
1788.96 *5*	(1/2 to 5/2^{-})	A	J$^{\pi}$: (M1,E2) γ to 5/2^{-} and log *ft*=8.1 from 1/2$^{(+)}$.
1836.90 *3*	(3/2)$^{-}$	A	J$^{\pi}$: M1,E2 γ to 3/2^{-}, log *ft*=7.7 from 1/2$^{(+)}$ and γ to 7/2^{-}.
1851.58[&] *6*	19/2^{+}	D	J$^{\pi}$: $\gamma(\theta)$, E1 γ to 17/2^{-} and E2 γ to 15/2^{+}.
1852.72 *12*	(1/2^{-},3/2^{-},5/2^{-})	A	J$^{\pi}$: (M1,E2) γ to (3/2)$^{-}$, γ to 5/2^{-} and log *ft*=8.2 from 1/2$^{(+)}$.
1852.97[@] *7*	(21/2)$^{+}$	D	J$^{\pi}$: $\gamma(\theta)$ and ce data for 508γ and probable band assignment.
1890.80 *13*	(1/2^{-},3/2,5/2^{-})	A	J$^{\pi}$: log *ft*=8.3 from 1/2$^{(+)}$; γ's to 1/2^{-} and 5/2^{-}.
1941.11 *14*	(1/2^{-},3/2,5/2^{-})	A F	J$^{\pi}$: log *ft*=8.6 from 1/2$^{(+)}$; γ's to 1/2 and 5/2^{-}.
1970.91 *13*	1/2,3/2,5/2$^{(-)}$	A	J$^{\pi}$: log *ft*=8.5 from 1/2$^{(+)}$ and γ to 1/2^{-}.
1978.05 *8*	(3/2^{-})	A	J$^{\pi}$: log $f^{1u}t$=8.3 from 1/2$^{(+)}$ and γ to 7/2^{-}.
2003.73[#] *10*	(17/2)$^{-}$	D	J$^{\pi}$: $\gamma(\theta)$ and M1 γ to (15/2)$^{-}$.
2012.15 *24*	(1/2^{-},3/2,5/2^{-})	A	J$^{\pi}$: log *ft*=8.8 from 1/2$^{(+)}$ and γ to 5/2^{-}.
2034.36 *2*	1/2^{-},3/2^{-}	A	J$^{\pi}$: M1,E2 γ to 3/2^{-} and log *ft*=7.0 from 1/2$^{(+)}$.
2043.89 *23*	(1/2,3/2,5/2^{-})	A	J$^{\pi}$: log *ft*=8.4 from 1/2$^{(+)}$ and γ to 1/2^{-}.
2070.97 *4*	1/2^{-},3/2^{-}	A	J$^{\pi}$: M1,E2 γ to 3/2^{-} and log *ft*=6.9 from 1/2$^{(+)}$.
2076.02 *8*	1/2$^{(-)}$,3/2	A	J$^{\pi}$: log *ft*=7.7 from 1/2$^{(+)}$ and γ's to 5/2^{-}.
2077.86[b] *12*	(19/2^{-})	D	J$^{\pi}$: γ to (15/2)$^{-}$ and probable band assignment.
2099.01 *16*	(1/2,3/2,5/2^{-})	A	J$^{\pi}$: log *ft*=8.7 from 1/2$^{(+)}$.
2107.0 *3*	(1/2,3/2,5/2^{-})	A	J$^{\pi}$: log *ft*=9.2 from 1/2$^{(+)}$.
2116.09 *5*	1/2$^{(-)}$,3/2$^{(-)}$	A	J$^{\pi}$: log *ft*=7.6 from 1/2$^{(+)}$ and (M1,E2) γ to 5/2^{-}.
2128.72 *11*	1/2$^{(-)}$,3/2	A	J$^{\pi}$: log $f^{1u}t$=8.0 from 1/2$^{(+)}$ and γ's to 5/2^{-}.
2132.53 *13*	1/2$^{(-)}$,3/2	A	J$^{\pi}$: log $f^{1u}t$=8.1 from 1/2$^{(+)}$ and γ to 5/2^{-}.
2154.9 *2*	(1/2,3/2,5/2^{-})	A	J$^{\pi}$: log *ft*=8.8 from 1/2$^{(+)}$ and γ to 1/2^{-}.
2173.19 *8*	1/2$^{(-)}$,3/2	A	J$^{\pi}$: log *ft*=7.6 from 1/2$^{(+)}$ and γ's to 5/2^{-}.
2196.6 *7*	(17/2 to 21/2)	D	J$^{\pi}$: γ's to 19/2^{+} and (17/2)$^{+}$.
2205.94 *11*	1/2$^{(-)}$,3/2	A	J$^{\pi}$: log *ft*=7.7 from 1/2$^{(+)}$ and γ to 5/2^{-}.
2220.9 *3*	1/2,3/2	A	J$^{\pi}$: log $f^{1u}t$=8.3 from 1/2$^{(+)}$.
2243.8 *3*	1/2$^{(-)}$,3/2	A	J$^{\pi}$: log $f^{1u}t$=7.8 from 1/2$^{(+)}$ and γ to 5/2^{-}.
2246.95 *9*	1/2$^{(-)}$,3/2	A	J$^{\pi}$: log $f^{1u}t$=7.6 from 1/2$^{(+)}$ and γ to 5/2^{-}.
2256.7 *2*	1/2,3/2	A	J$^{\pi}$: log $f^{1u}t$=7.7 from 1/2$^{(+)}$.
2295.02[#] *12*	(19/2)$^{-}$	D	J$^{\pi}$: M1 γ to (17/2)$^{-}$, γ to (15/2)$^{-}$ and probable band assignment.
2297.3[a] *6*	(21/2^{-})	D	J$^{\pi}$: $\gamma(\theta)$ of 786γ and probable band assignment.
2317.7 *3*	1/2$^{(-)}$,3/2	A	J$^{\pi}$: log $f^{1u}t$=7.5 from 1/2$^{(+)}$ and γ to 5/2^{-}.
2324.32 *14*	1/2$^{(-)}$,3/2	A	J$^{\pi}$: log $f^{1u}t$=7.2 from 1/2$^{(+)}$ and γ to 5/2^{-}.
2325.11[&] *9*	23/2^{+}	D	J$^{\pi}$: $\gamma(\theta)$ and E2 γ to 19/2^{+}.
2391.50 *5*	1/2,3/2	A	J$^{\pi}$: log *ft*=6.5 from 1/2$^{(+)}$.
2400.5 *2*	1/2$^{(-)}$,3/2	A	J$^{\pi}$: log $f^{1u}t$=6.7 from 1/2$^{(+)}$ and γ to 5/2^{-}.
2405.4[@] *5*	(25/2^{+})	D	J$^{\pi}$: $\gamma(\theta)$ of 552γ and probable band assignment.
2421.74 *12*	1/2,3/2	A	J$^{\pi}$: log *ft*=7.1 from 1/2$^{(+)}$.
2443.0 *3*	(1/2,3/2)	A	J$^{\pi}$: log $f^{1u}t$=6.9 from 1/2$^{(+)}$.
2444.86 *8*	1/2,3/2	A	J$^{\pi}$: log *ft*=6.5 from 1/2$^{(+)}$.
2600.05[#] *14*	(21/2^{-})	D	J$^{\pi}$: γ's to 17/2^{-}, 19/2^{-} and probable band assignment.
2866.2[&] *5*	(27/2^{+})	D	J$^{\pi}$: $\gamma(\theta)$ and γ(pol) of 541γ.
2915.24[#] *17*	(23/2)$^{-}$	D	J$^{\pi}$: E2 to (19/2)$^{-}$ and probable band assignment.
3007.7[@] *8*	(29/2^{+})	D	J$^{\pi}$: $\gamma(\theta)$ of 602γ and probable band assignment.
3238.17[#] *18*	(25/2^{-})	D	J$^{\pi}$: γ's to (21/2^{-}) and (23/2)$^{-}$; probable band assignment.

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Adopted Levels, Gammas (continued)

^{151}Gd Levels (continued)

E(level)‡	Jπ†	XREF	Comments
3728.2? *7*	(27/2 to 31/2$^+$)	D	Jπ: γ to (27/2$^+$).
x[c]	J≈(57/2$^+$)	C	
746.4+x[c] *8*	J+2	C	
1535.3+x[c] *9*	J+4	C	
2366.6+x[c] *10*	J+6	C	
3240.1+x[c] *11*	J+8	C	
4156.4+x[c] *11*	J+10	C	
5116.2+x[c] *11*	J+12	C	
6120.4+x[c] *13*	J+14	C	
7169.4+x[c] *13*	J+16	C	
8266.1+x[c] *14*	J+18	C	
9410.3+x[c] *14*	J+20	C	
10603.3+x[c] *14*	J+22	C	
11846.4+x[c] *15*	J+24	C	
13141.0+x[c] *16*	J+26	C	
14487.4+x[c] *17*	J+28	C	
15886.5+x[c] *17*	J+30	C	
17339.1+x[c] *18*	J+32	C	
18846.3+x[c] *18*	J+34	C	
20408.3+x[c] *19*	J+36	C	
22026.2+x[c] *20*	J+38	C	
23701.0+x[c] *22*	J+40	C	
y[d]	J1≈(55/2$^+$)	C	
725.5+y[d] *8*	J1+2	C	
1493.9+y[d] *10*	J1+4	C	
2304.4+y[d] *13*	J1+6	C	
3157.0+y[d] *14*	J1+8	C	
4052.4+y[d] *14*	J1+10	C	
4991.2+y[d] *15*	J1+12	C	
5973.5+y[d] *15*	J1+14	C	
7001.0+y[d] *15*	J1+16	C	
8074.3+y[d] *16*	J1+18	C	
9194.4+y[d] *16*	J1+20	C	
10363.7+y[d] *17*	J1+22	C	
11581.7+y[d] *17*	J1+24	C	
12850.3+y[d] *18*	J1+26	C	
14170.7+y[d] *18*	J1+28	C	
15543.3+y[d] *19*	J1+30	C	
16969.3+y[d] *19*	J1+32	C	
18449.0+y[d] *20*	J1+34	C	
19983.5+y[d] *21*	J1+36	C	
21573.0+y[d] *23*	J1+38	C	
23218+y[d] *3*	J1+40	C	
24919+y[d] *3*	J1+42	C	
z[e]	J2≈(59/2$^-$)	C	
755.7+z[e] *4*	J2+2	C	
1561.3+z[e] *6*	J2+4	C	
2417.2+z[e] *11*	J2+6	C	

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Adopted Levels, Gammas (continued)

^{151}Gd Levels (continued)

E(level)‡	Jπ†	XREF	E(level)‡	Jπ†	XREF
3324.0+z[e] 14	J2+8	C	1662.8+v[g] 6	J4+4	C
4282.6+z[e] 15	J2+10	C	2558.1+v[g] 9	J4+6	C
5294.6+z[e] 16	J2+12	C	3495.7+v[g] 9	J4+8	C
6360.7+z[e] 18	J2+14	C	4474.9+v[g] 12	J4+10	C
7481.4+z[e] 19	J2+16	C	5498.7+v[g] 12	J4+12	C
8656.9+z[e] 21	J2+18	C	6566.9+v[g] 13	J4+14	C
9887.3+z[e] 22	J2+20	C	7681.0+v[g] 14	J4+16	C
11174.0+z[e] 22	J2+22	C	8842.6+v[g] 15	J4+18	C
12516.7+z[e] 22	J2+24	C	10052.3+v[g] 17	J4+20	C
13916.1+z[e] 23	J2+26	C	11313.6+v[g] 17	J4+22	C
15372.4+z[e] 23	J2+28	C	12626.1+v[g] 18	J4+24	C
16885.8+z[e] 24	J2+30	C	13989.3+v[g] 19	J4+26	C
18455.8+z[e] 24	J2+32	C	15406.0+v[g] 20	J4+28	C
20083.5+z[e] 25	J2+34	C	16875.6+v[g] 25	J4+30	C
21769+z[e] 3	J2+36	C	18400+v[g] 3	J4+32	C
23512+z[e] 3	J2+38	C	19980+v[g] 4	J4+34	C
u[f]	J3≈(65/2⁻)	C	21615+v[g] 4	J4+36	C
832.8+u[f] 6	J3+2	C	w[h]	J5≈(61/2⁻)	C
1706.8+u[f] 8	J3+4	C	817.8+w[h] 7	J5+2	C
2622.6+u[f] 9	J3+6	C	1677.9+w[h] 15	J5+4	C
3580.9+u[f] 10	J3+8	C	2577.7+w[h] 16	J5+6	C
4581.8+u[f] 10	J3+10	C	3516.1+w[h] 17	J5+8	C
5627.7+u[f] 11	J3+12	C	4494.6+w[h] 18	J5+10	C
6718.8+u[f] 12	J3+14	C	5515.7+w[h] 19	J5+12	C
7856.2+u[f] 13	J3+16	C	6580.6+w[h] 20	J5+14	C
9042.1+u[f] 16	J3+18	C	7688.7+w[h] 20	J5+16	C
10278.2+u[f] 16	J3+20	C	8843.1+w[h] 21	J5+18	C
11564.3+u[f] 17	J3+22	C	10043.8+w[h] 22	J5+20	C
12901.9+u[f] 17	J3+24	C	11293.1+w[h] 22	J5+22	C
14290.6+u[f] 18	J3+26	C	12592.3+w[h] 24	J5+24	C
15734.0+u[f] 19	J3+28	C	13942+w[h] 3	J5+26	C
17231.8+u[f] 22	J3+30	C	15343+w[h] 3	J5+28	C
18783+u[f] 3	J3+32	C	16795+w[h] 4	J5+30	C
20390+u[f] 4	J3+34	C	18300+w[h] 4	J5+32	C
v[g]	J4≈(63/2⁻)	C	19855+w[h] 4	J5+34	C
808.6+v[g] 4	J4+2	C			

† For SD bands, all transitions are assumed as stretched quadrupoles.
‡ For levels populated in γ ray studies, values are from least-squares fit to Eγ's. Normalized χ^2=2.7. In other cases values are mainly from (d,t).
# Band(A): 11/2[505] band. From 1977Kl04 and 1977Sm01.
@ Band(B): $i_{13/2}$ band. $13/2^+$, $17/2^+$,.. Sequence (1977Kl04).
& Band(C): $i_{13/2}$ band. $11/2^+$, $15/2^+$.. Sequence (1977Kl04).
[a] Band(D): $h_{9/2}$ band. From 1977Kl04.
[b] Band(E): $f_{7/2}$ band. From 1977Kl04.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{151}Gd Levels (continued)

[c] Band(F): SD-1 band. Configuration=$\pi 6^2 \nu 7^2 \nu 5/2[402]^1$; α=+1/2. From 1998ErZY and 1999ErZZ.
[d] Band(f): SD-2 band. Configuration=$\pi 6^2 \nu 7^2 \nu 5/2[402]^1$; α=−1/2. From 1998ErZY and 1999ErZZ Band intensity=92% *2* of SD-1 band.
[e] Band(G): SD-3 band. Configuration=$\pi 6^2 \nu 7^1 \nu 5/2[402]^2$; α=−1/2. From 1998ErZY and 1999ErZZ Band intensity=85% *2* of SD-1 band.
[f] Band(H): SD-4 band. Configuration=$\pi 6^2 \nu 7^2 \nu 9/2[514]^1$; α=+1/2. From 1998ErZY and 1999ErZZ Band intensity=77% *2* of SD-1 band.
[g] Band(h): SD-5 band. Configuration=$\pi 6^2 \nu 7^2 \nu 9/2[514]^1$; α=−1/2. From 1998ErZY and 1999ErZZ Band intensity=54% *2* of SD-1 band.
[h] Band(I): SD-6 band. Configuration=$\pi 6^2 \nu 7^2 \nu 3/2[521]^1$; α=+1/2. From 1998ErZY and 1999ErZZ Band intensity=38% *2* of SD-1 band.

Adopted Levels, Gammas (continued)

γ(^{151}Gd)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	δ[#]	α[&]	Comments
108.094	5/2⁻	108.088 *10*	100	0.0	7/2⁻	M1+E2	−0.85 *1*	1.729	B(M1)(W.u.)=1.3×10^{-3} *1*; B(E2)(W.u.)=42 *3* α(K)=1.185 *17*; α(L)=0.422 *7*; α(M)=0.0972 *16*; α(N+..)=0.0250 *4* α(N)=0.0219 *4*; α(O)=0.00301 *5*; α(P)=7.87×10^{-5} *12* Mult.,δ: from ce and γγ(θ) in ^{151}Tb ε decay.
379.30	9/2⁻	271.2 *3*	0.7 *1*	108.094	5/2⁻	[E2]		0.0825	α(K)=0.0620 *9*; α(L)=0.01599 *24*; α(M)=0.00364 *6*; α(N+..)=0.000941 *14* α(N)=0.000822 *12*; α(O)=0.0001157 *17*; α(P)=3.80×10^{-6} *6*
		379.39 *4*	100.0 *4*	0.0	7/2⁻	M1(+E2)	<0.25	0.0509 *10*	α(K)=0.0431 *9*; α(L)=0.00609 *10*; α(M)=0.001320 *20*; α(N+..)=0.000354 *6* α(N)=0.000304 *5*; α(O)=4.71×10^{-5} *8*; α(P)=3.16×10^{-6} *7* Mult.,δ: ce data in (α,xnγ).
395.445	3/2⁻	287.357 *10*	100 *3*	108.094	5/2⁻	M1+E2	+0.21 *2*	0.1056	B(M1)(W.u.)=2.0×10^{-3} *2*; B(E2)(W.u.)=0.6 *1* α(K)=0.0892 *13*; α(L)=0.01284 *18*; α(M)=0.00279 *4*; α(N+..)=0.000748 *11* α(N)=0.000642 *9*; α(O)=9.94×10^{-5} *14*; α(P)=6.56×10^{-6} *10* Mult.,δ: from γγ(θ) and ce data in ^{151}Tb ε decay.
		395.444 *10*	38 *1*	0.0	7/2⁻	E2		0.0265	B(E2)(W.u.)=1.1 *1* α(K)=0.0211 *3*; α(L)=0.00425 *6*; α(M)=0.000952 *14*; α(N+..)=0.000249 *4* α(N)=0.000216 *3*; α(O)=3.14×10^{-5} *5*; α(P)=1.378×10^{-6} *20* Mult.: from γγ(θ) and ce data in ^{151}Tb ε decay.
426.688	5/2⁻	318.60 *3*	8.8 *3*	108.094	5/2⁻	M1(+E2)	<2	0.069 *13*	α(K)=0.057 *13*; α(L)=0.0094 *4*; α(M)=0.00207 *5*; α(N+..)=0.000549 *20* α(N)=0.000473 *14*; α(O)=7.1×10^{-5} *5*; α(P)=4.0×10^{-6} *11* Mult.,δ: from ce data in ^{151}Tb ε decay.
		426.692 *10*	100 *3*	0.0	7/2⁻	M1		0.0380	α(K)=0.0322 *5*; α(L)=0.00450 *7*; α(M)=0.000974 *14*; α(N+..)=0.000262 *4* α(N)=0.000224 *4*; α(O)=3.49×10^{-5} *5*; α(P)=2.36×10^{-6} *4* Mult.: from ce data in ^{151}Tb ε decay.
575.619	1/2⁻	148.918 *11*	3.1 *1*	426.688	5/2⁻	[E2]		0.607	B(E2)(W.u.)=14 *2* α(K)=0.376 *6*; α(L)=0.179 *3*; α(M)=0.0417 *6*; α(N+..)=0.01061 *15* α(N)=0.00933 *13*; α(O)=0.001253 *18*; α(P)=2.01×10^{-5} *3*
		180.186 *10*	100 *4*	395.445	3/2⁻	M1+E2	−0.08 *3*	0.381	B(M1)(W.u.)=0.011 *2*; B(E2)(W.u.)=1.1 *9* α(K)=0.322 *5*; α(L)=0.0464 *7*; α(M)=0.01009 *15*; α(N+..)=0.00271 *4* α(N)=0.00232 *4*; α(O)=0.000360 *6*; α(P)=2.39×10^{-5} *4* Mult.,δ: from ce and γγ(θ) data.
		467.506 *10*	7.7 *3*	108.094	5/2⁻	(E2)		0.01669	B(E2)(W.u.)=0.12 *2* α(K)=0.01349 *19*; α(L)=0.00249 *4*; α(M)=0.000555 *8*; α(N+..)=0.0001458 *21* α(N)=0.0001263 *18*; α(O)=1.86×10^{-5} *3*; α(P)=8.99×10^{-7} *13* Mult.: from ce and γγ(θ) data.

$^{151}_{64}Gd_{87}$-7

Adopted Levels, Gammas (continued)

γ(^{151}Gd) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.#	δ#	α&	Comments
584.78	5/2,9/2	476.5 *2*	12 *4*	108.094	5/2$^-$				
		584.84 *12*	100 *8*	0.0	7/2$^-$				
587.449	3/2$^-$	160.762 *10*	3.1 *1*	426.688	5/2$^-$	M1(+E2)	<1	0.510 *17*	B(M1)(W.u.)=2.3×10^{-4} *3*; B(E2)(W.u.)<2.5 α(K)=0.41 *4*; α(L)=0.080 *17*; α(M)=0.018 *4*; α(N+..)=0.0047 *10* α(N)=0.0041 *9*; α(O)=0.00060 *11*; α(P)=2.9×10^{-5} *5*
		191.96 *2*	23 *1*	395.445	3/2$^-$	M1+E2	−0.12 *5*	0.320	B(M1)(W.u.)=1.0×10^{-3} *1*; B(E2)(W.u.)=0.2 *+2−1* α(K)=0.270 *4*; α(L)=0.0391 *7*; α(M)=0.00850 *15*; α(N+..)=0.00228 *4* α(N)=0.00195 *4*; α(O)=0.000303 *5*; α(P)=2.00×10^{-5} *4* Mult.,δ: γγ(θ) and ce data in ^{151}Tb ε decay.
		479.357 *10*	98 *3*	108.094	5/2$^-$	E2(+M1)	>1	0.019 *4*	B(E2)(W.u.)=0.65 *5*; B(M1)(W.u.)<1.4×10^{-4} α(K)=0.015 *3*; α(L)=0.0026 *3*; α(M)=0.00057 *6*; α(N+..)=0.000150 *15* α(N)=0.000129 *13*; α(O)=1.94×10^{-5} *22*; α(P)=1.07×10^{-6} *23*
		587.46 *2*	100 *3*	0.0	7/2$^-$	E2		0.00923	B(E2)(W.u.)=0.24 *2* α(K)=0.00760 *11*; α(L)=0.001276 *18*; α(M)=0.000282 *4*; α(N+..)=7.44×10^{-5} *11* α(N)=6.43×10^{-5} *9*; α(O)=9.60×10^{-6} *14*; α(P)=5.16×10^{-7} *8*
589.10	3/2$^-$,5/2,7/2$^-$	193.74 *8*	20 *3*	395.445	3/2$^-$	[D,E2]		0.19 *13*	
		480.4 *2*	39 *17*	108.094	5/2$^-$				
		589.2 *2*	100 *22*	0.0	7/2$^-$				
618.14	5/2$^-$,7/2$^-$,9/2$^-$	617.89 *12*	100	0.0	7/2$^-$	M1(+E2)	<2	0.012 *3*	α(K)=0.0103 *24*; α(L)=0.0015 *3*; α(M)=0.00032 *6*; α(N+..)=8.6×10^{-5} *15* α(N)=7.4×10^{-5} *13*; α(O)=1.14×10^{-5} *21*; α(P)=7.4×10^{-7} *19*
620.602	3/2$^-$,5/2$^{(-)}$	193.94 *12*	32 *13*	426.688	5/2$^-$	[M1,E2]		0.28 *4*	α(K)=0.22 *5*; α(L)=0.048 *11*; α(M)=0.011 *3*; α(N+..)=0.0028 *7* α(N)=0.0025 *6*; α(O)=0.00036 *7*; α(P)=1.5×10^{-5} *5*
		225.12 *4*	15 *1*	395.445	3/2$^-$	[M1,E2]		0.18 *3*	α(K)=0.14 *4*; α(L)=0.029 *4*; α(M)=0.0064 *11*; α(N+..)=0.00169 *24* α(N)=0.00147 *22*; α(O)=0.000214 *21*; α(P)=1.0×10^{-5} *4*
		512.5 *5*	95 *20*	108.094	5/2$^-$	(M1,E2)		0.018 *6*	α(K)=0.015 *5*; α(L)=0.0023 *5*; α(M)=0.00051 *10*; α(N+..)=0.00014 *3* α(N)=0.000117 *22*; α(O)=1.8×10^{-5} *4*; α(P)=1.1×10^{-6} *4*
		620.594 *16*	100 *5*	0.0	7/2$^-$	(E2)		0.00807	α(K)=0.00666 *10*; α(L)=0.001097 *16*; α(M)=0.000242 *4*; α(N+..)=6.39×10^{-5} *9* α(N)=5.52×10^{-5} *8*; α(O)=8.27×10^{-6} *12*; α(P)=4.54×10^{-7} *7*
670.86	(5/2,7/2)$^-$	274.66@ *13*	8 *2*	395.445	3/2$^-$				E_γ: level energy difference=275.41.
		562.93 *7*	100 *6*	108.094	5/2$^-$	M1,E2		0.015 *5*	α(K)=0.012 *4*; α(L)=0.0018 *4*; α(M)=0.00040 *8*; α(N+..)=0.000106 *22* α(N)=9.1×10^{-5} *19*; α(O)=1.4×10^{-5} *4*; α(P)=9.E−7 *3*
		671.01 *11*	50 *8*	0.0	7/2$^-$				

$^{151}_{64}Gd_{87}$-8

Adopted Levels, Gammas (continued)

γ(^{151}Gd) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.#	δ#	α&	Comments
705.98	11/2$^-$	326.7 *2*	1.9 *4*	379.30	9/2$^-$	M1,E2		0.061 *15*	α(K)=0.050 *15*; α(L)=0.0086 *5*; α(M)=0.00191 *8*; α(N+..)=0.00050 *3* α(N)=0.000435 *20*; α(O)=6.5×10^{-5} *6*; α(P)=3.5×10^{-6} *13*
		705.93 *4*	100 *1*	0.0	7/2$^-$	E2		0.00593	α(K)=0.00494 *7*; α(L)=0.000779 *11*; α(M)=0.0001708 *24*; α(N+..)=4.53×10^{-5} *7* α(N)=3.91×10^{-5} *6*; α(O)=5.90×10^{-6} *9*; α(P)=3.39×10^{-7} *5*
719.46	9/2$^-$	719.38 *5*	100	0.0	7/2$^-$	E2(+M1)	>1	0.0068 *12*	α(K)=0.0057 *10*; α(L)=0.00085 *12*; α(M)=0.000186 *24*; α(N+..)=5.0×10^{-5} *7* α(N)=4.3×10^{-5} *6*; α(O)=6.5×10^{-6} *9*; α(P)=4.0×10^{-7} *8*
784.81	11/2$^+$	65.30 *4*	11.8 *9*	719.46	9/2$^-$	(E1)		0.909	α(K)=0.753 *11*; α(L)=0.1226 *18*; α(M)=0.0266 *4*; α(N+..)=0.00687 *10* α(N)=0.00598 *9*; α(O)=0.000853 *12*; α(P)=3.97×10^{-5} *6*
		78.71 *4*	25.6 *3*	705.98	11/2$^-$	(E1)		0.555	α(K)=0.463 *7*; α(L)=0.0725 *11*; α(M)=0.01572 *23*; α(N+..)=0.00408 *6* α(N)=0.00354 *5*; α(O)=0.000512 *8*; α(P)=2.50×10^{-5} *4*
		405.48 *4*	100 *1*	379.30	9/2$^-$	E1		0.00764	α(K)=0.00651 *10*; α(L)=0.000888 *13*; α(M)=0.000191 *3*; α(N+..)=5.09×10^{-5} *8* α(N)=4.38×10^{-5} *7*; α(O)=6.70×10^{-6} *10*; α(P)=4.23×10^{-7} *6*
811.835	3/2$^-$	191.2 *5*	5.6 *11*	620.602	3/2$^-$,5/2$^{(-)}$	[M1,E2]		0.29 *4*	α(K)=0.23 *5*; α(L)=0.051 *12*; α(M)=0.011 *3*; α(N+..)=0.0030 *8* α(N)=0.0026 *7*; α(O)=0.00037 *8*; α(P)=1.5×10^{-5} *6*
		236.14 *3*	3.2 *2*	575.619	1/2$^-$	[M1,E2]		0.16 *3*	α(K)=0.12 *3*; α(L)=0.024 *3*; α(M)=0.0055 *8*; α(N+..)=0.00144 *17* α(N)=0.00124 *16*; α(O)=0.000182 *13*; α(P)=8.E−6 *3*
		385.156 *10*	27 *2*	426.688	5/2$^-$	M1(+E2)	<1	0.044 *6*	α(K)=0.037 *5*; α(L)=0.0056 *4*; α(M)=0.00122 *7*; α(N+..)=0.000325 *19* α(N)=0.000279 *15*; α(O)=4.3×10^{-5} *3*; α(P)=2.7×10^{-6} *4*
		416.390 *10*	51 *2*	395.445	3/2$^-$	M1+E2	+0.39 *14*	0.0381 *17*	α(K)=0.0322 *15*; α(L)=0.00464 *13*; α(M)=0.001008 *25*; α(N+..)=0.000270 *7* α(N)=0.000232 *6*; α(O)=3.58×10^{-5} *11*; α(P)=2.35×10^{-6} *12*
		703.75 *10*	100 *3*	108.094	5/2$^-$	M1+E2	−0.25 *2*	0.01046 *16*	α(K)=0.00889 *13*; α(L)=0.001226 *18*; α(M)=0.000265 *4*; α(N+..)=7.12×10^{-5} *11* α(N)=6.11×10^{-5} *9*; α(O)=9.50×10^{-6} *14*; α(P)=6.45×10^{-7} *10*
		811.81 *4*	5.2 *2*	0.0	7/2$^-$	E2		0.00432	α(K)=0.00362 *5*; α(L)=0.000549 *8*; α(M)=0.0001198 *17*; α(N+..)=3.18×10^{-5} *5* α(N)=2.74×10^{-5} *4*; α(O)=4.17×10^{-6} *6*; α(P)=2.49×10^{-7} *4*
839.320	1/2$^-$	218.65 *13*	0.10 *1*	620.602	3/2$^-$,5/2$^{(-)}$	[M1,E2]		0.19 *3*	α(K)=0.15 *4*; α(L)=0.032 *5*; α(M)=0.0071 *13*; α(N+..)=0.0019 *3* α(N)=0.0016 *3*; α(O)=0.00024 *3*; α(P)=1.0×10^{-5} *4* Additional information 3.

$^{151}_{64}Gd_{87}$-9

Adopted Levels, Gammas (continued)

γ(^{151}Gd) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	δ[#]	α[&]	Comments
839.320	1/2$^-$	251.863 *10*	100 *3*	587.449	3/2$^-$	M1(+E2)	−0.08 *12*	0.152 *3*	B(M1)(W.u.)=2.5×10^{-3} *3* α(K)=0.1290 *25*; α(L)=0.0184 *3*; α(M)=0.00399 *7*; α(N+..)=0.001070 *16* α(N)=0.000918 *14*; α(O)=0.0001425 *21*; α(P)=9.54×10^{-6} *21*
		263.707 *17*	0.75 *3*	575.619	1/2$^-$	M1,E2		0.113 *23*	α(K)=0.091 *24*; α(L)=0.0170 *9*; α(M)=0.0038 *3*; α(N+..)=0.00099 *6* α(N)=0.00086 *6*; α(O)=0.0001270 *23*; α(P)=6.3×10^{-6} *22* Additional information 4.
		412.6 *5*	0.06 *2*	426.688	5/2$^-$	[E2]		0.0235	B(E2)(W.u.)=0.0011 *4* α(K)=0.0188 *3*; α(L)=0.00370 *6*; α(M)=0.000827 *12*; α(N+..)=0.000217 *4* α(N)=0.000188 *3*; α(O)=2.74×10^{-5} *4*; α(P)=1.234×10^{-6} *18*
		443.879 *10*	41 *1*	395.445	3/2$^-$	M1+E2	−0.57 *4*	0.0306 *6*	B(M1)(W.u.)=1.9×10^{-4} *3*; B(E2)(W.u.)=0.15 *2* α(K)=0.0258 *5*; α(L)=0.00378 *6*; α(M)=0.000824 *13*; α(N+..)=0.000220 *4* α(N)=0.000189 *3*; α(O)=2.91×10^{-5} *5*; α(P)=1.86×10^{-6} *4* Mult.,δ: from ce and γγ(θ) data.
		731.227 *11*	29 *1*	108.094	5/2$^-$	E2		0.00547	B(E2)(W.u.)=0.031 *4* α(K)=0.00456 *7*; α(L)=0.000712 *10*; α(M)=0.0001559 *22*; α(N+..)=4.14×10^{-5} *6* α(N)=3.57×10^{-5} *5*; α(O)=5.39×10^{-6} *8*; α(P)=3.13×10^{-7} *5*
851.90	13/2$^+$	67.08 *4*	36 *1*	784.81	11/2$^+$	(M1)		6.37	α(K)=5.37 *8*; α(L)=0.781 *11*; α(M)=0.1698 *24*; α(N+..)=0.0455 *7* α(N)=0.0391 *6*; α(O)=0.00605 *9*; α(P)=0.000402 *6*
		146.03 *4*	100 *1*	705.98	11/2$^-$	[E1]		0.1052	α(K)=0.0888 *13*; α(L)=0.01288 *18*; α(M)=0.00279 *4*; α(N+..)=0.000732 *11* α(N)=0.000633 *9*; α(O)=9.41×10^{-5} *14*; α(P)=5.23×10^{-6} *8*
901.97	13/2$^-$	196.00 *9*	1.3 *3*	705.98	11/2$^-$				
		522.77 *4*	100 *1*	379.30	9/2$^-$	E2		0.01242	α(K)=0.01014 *15*; α(L)=0.001783 *25*; α(M)=0.000395 *6*; α(N+..)=0.0001040 *15* α(N)=9.00×10^{-5} *13*; α(O)=1.335×10^{-5} *19*; α(P)=6.82×10^{-7} *10*
905.58	(3/2$^-$,5/2$^-$)	905.6 *5*	100	0.0	7/2$^-$	(M1,E2)		0.0046 *12*	α(K)=0.0039 *11*; α(L)=0.00055 *13*; α(M)=0.00012 *3*; α(N+..)=3.2×10^{-5} *8* α(N)=2.7×10^{-5} *7*; α(O)=4.2×10^{-6} *10*; α(P)=2.8×10^{-7} *8*
913.56	(3/2$^-$)	326.1 *5*	5 *1*	587.449	3/2$^-$				
		518.18 *5*	7.9 *4*	395.445	3/2$^-$				
		805.47 *2*	100 *4*	108.094	5/2$^-$	(M1)		0.00771	α(K)=0.00657 *10*; α(L)=0.000897 *13*; α(M)=0.000194 *3*; α(N+..)=5.20×10^{-5} *8* α(N)=4.46×10^{-5} *7*; α(O)=6.95×10^{-6} *10*; α(P)=4.76×10^{-7} *7*
		913.6 *5*	18 *4*	0.0	7/2$^-$	(E2)		0.00333	α(K)=0.00281 *4*; α(L)=0.000414 *6*; α(M)=9.01×10^{-5} *13*; α(N+..)=2.40×10^{-5} *4* α(N)=2.07×10^{-5} *3*; α(O)=3.15×10^{-6} *5*; α(P)=1.94×10^{-7} *3*

$^{151}_{64}Gd_{87}$-10

Adopted Levels, Gammas (continued)

γ(^{151}Gd) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	δ[#]	α[&]	Comments
938.77	(3/2⁻,5/2⁻,7/2⁻)	830.65 *10*	39 *3*	108.094	5/2⁻				
		938.7 *5*	100 *21*	0.0	7/2⁻	(M1,E2)		0.0042 *11*	α(K)=0.0036 *10*; α(L)=0.00050 *12*; α(M)=0.000109 *25*; α(N+..)=2.9×10^{-5} *7* α(N)=2.5×10^{-5} *6*; α(O)=3.9×10^{-6} *9*; α(P)=2.6×10^{-7} *8*
982.27	(3/2)⁺	143.0 *5*	7 *2*	839.320	1/2⁻	[E1]		0.1113 *19*	α(K)=0.0939 *16*; α(L)=0.01364 *24*; α(M)=0.00295 *5*; α(N+..)=0.000775 *14* α(N)=0.000670 *12*; α(O)=9.96×10^{-5} *17*; α(P)=5.52×10^{-6} *10*
		361.61 *6*	38 *6*	620.602	3/2⁻,5/2$^{(-)}$				
		556.3[@] *2*	17 *1*	426.688	5/2⁻				E$_\gamma$: level energy difference=555.58.
		586.8 *5*	100 *20*	395.445	3/2⁻				
		874.11 *11*	11 *1*	108.094	5/2⁻				
1052.20	1/2⁻,3/2⁻	240.36 *2*	18 *1*	811.835	3/2⁻	E2(+M1)	>2	0.127 *6*	α(K)=0.095 *6*; α(L)=0.0248 *6*; α(M)=0.00566 *15*; α(N+..)=0.00146 *4* α(N)=0.00128 *4*; α(O)=0.000180 *4*; α(P)=5.9×10^{-6} *6*
		476.55 *3*	100 *4*	575.619	1/2⁻	M1(+E2)	<1	0.025 *4*	α(K)=0.021 *3*; α(L)=0.0031 *3*; α(M)=0.00068 *6*; α(N+..)=0.000182 *15* α(N)=0.000156 *13*; α(O)=2.40×10^{-5} *22*; α(P)=1.55×10^{-6} *24*
		656.78 *4*	32 *1*	395.445	3/2⁻	(M1,E2)		0.010 *3*	α(K)=0.008 *3*; α(L)=0.0012 *3*; α(M)=0.00026 *6*; α(N+..)=7.1×10^{-5} *16* α(N)=6.1×10^{-5} *14*; α(O)=9.3×10^{-6} *23*; α(P)=5.9×10^{-7} *20*
1076.95	(9/2 to 13/2)⁻	697.64 *11*	100	379.30	9/2⁻	(E2)		0.00610	α(K)=0.00507 *8*; α(L)=0.000803 *12*; α(M)=0.0001762 *25*; α(N+..)=4.67×10^{-5} *7* α(N)=4.03×10^{-5} *6*; α(O)=6.08×10^{-6} *9*; α(P)=3.48×10^{-7} *5*
1087.59	3/2⁻	248.30 *3*	19 *1*	839.320	1/2⁻	M1(+E2)	<1	0.146 *13*	α(K)=0.121 *14*; α(L)=0.0199 *9*; α(M)=0.00438 *25*; α(N+..)=0.00116 *6* α(N)=0.00100 *6*; α(O)=0.000151 *4*; α(P)=8.7×10^{-6} *13*
		275.61 *6*	2.9 *4*	811.835	3/2⁻	[M1,E2]		0.099 *21*	α(K)=0.080 *22*; α(L)=0.0147 *4*; α(M)=0.00327 *16*; α(N+..)=0.00086 *3* α(N)=0.00075 *3*; α(O)=0.0001103 *20*; α(P)=5.6×10^{-6} *20*
		467.0 *5*	6.7 *14*	620.602	3/2⁻,5/2$^{(-)}$				
		500.1 *5*	20 *4*	587.449	3/2⁻	(M1,E2)		0.020 *6*	α(K)=0.016 *5*; α(L)=0.0025 *5*; α(M)=0.00055 *10*; α(N+..)=0.00015 *3* α(N)=0.000126 *23*; α(O)=1.9×10^{-5} *4*; α(P)=1.2×10^{-6} *4*
		512.0 *5*	11 *2*	575.619	1/2⁻	(M1,E2)		0.018 *6*	α(K)=0.015 *5*; α(L)=0.0024 *5*; α(M)=0.00051 *10*; α(N+..)=0.00014 *3* α(N)=0.000118 *23*; α(O)=1.8×10^{-5} *4*; α(P)=1.1×10^{-6} *4*
		660.94 *3*	32 *1*	426.688	5/2⁻				
		692.06 *4*	100 *6*	395.445	3/2⁻	M1+E2		0.0087 *25*	α(K)=0.0073 *22*; α(L)=0.00106 *25*; α(M)=0.00023 *6*; α(N+..)=6.2×10^{-5} *15* α(N)=5.3×10^{-5} *12*; α(O)=8.2×10^{-6} *20*; α(P)=5.2×10^{-7} *17* δ: +0.37 *8* or +9.9 *42* from γγ(θ).

$^{151}_{64}Gd_{87}$-11

Adopted Levels, Gammas (continued)

γ(^{151}Gd) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	δ[#]	α[&]	Comments
1087.59	3/2$^-$	979.48 *4*	29 *1*	108.094	5/2$^-$	M1,E2		0.0038 *10*	α(K)=0.0033 *9*; α(L)=0.00045 *11*; α(M)=9.8×10^{-5} *22*; α(N+..)=2.6×10^{-5} *6* α(N)=2.3×10^{-5} *5*; α(O)=3.5×10^{-6} *8*; α(P)=2.3×10^{-7} *7*
		1087.6 *5*	1.4 *4*	0.0	7/2$^-$				
1115.77	13/2$^+$	214.67[@] *15*	12 *4*	901.97	13/2$^-$				E$_\gamma$: level energy difference=213.70.
		263.76 *4*	100 *2*	851.90	13/2$^+$	M1(+E2)	<0.4	0.132 *4*	α(K)=0.111 *4*; α(L)=0.0163 *3*; α(M)=0.00355 *7*; α(N+..)=0.000950 *15* α(N)=0.000816 *14*; α(O)=0.0001258 *18*; α(P)=8.2×10^{-6} *4*
		330.93 *4*	84 *4*	784.81	11/2$^+$	M1(+E2)	<0.6	0.070 *4*	α(K)=0.059 *4*; α(L)=0.00866 *18*; α(M)=0.00189 *4*; α(N+..)=0.000504 *11* α(N)=0.000433 *9*; α(O)=6.67×10^{-5} *18*; α(P)=4.3×10^{-6} *4*
		409.8 *5*	28 *10*	705.98	11/2$^-$				
1157.90	(3/2)$^+$	252.3 *5*	55 *14*	905.58	(3/2$^-$,5/2$^-$)				
		318.6 *5*	3 *1*	839.320	1/2$^-$				
		537.293 *13*	67 *2*	620.602	3/2$^-$,5/2$^{(-)}$				
		582.35 *9*	12 *1*	575.619	1/2$^-$				
		731.2 *5*	100 *23*	426.688	5/2$^-$				
		762.45 *3*	52 *2*	395.445	3/2$^-$	E1(+M2)	<0.1	0.00203 *12*	α(K)=0.00174 *10*; α(L)=0.000231 *15*; α(M)=5.0×10^{-5} *4*; α(N+..)=1.33×10^{-5} *9* α(N)=1.14×10^{-5} *8*; α(O)=1.76×10^{-6} *12*; α(P)=1.17×10^{-7} *8*
		1049.83 *4*	18 *1*	108.094	5/2$^-$				
1164.3?	(13/2$^-$,15/2$^+$)	379[a] *1*	100	784.81	11/2$^+$				
1192.19	1/2$^+$	139.95 *5*	0.46 *3*	1052.20	1/2$^-$,3/2$^-$	[E1]		0.1179	α(K)=0.0995 *14*; α(L)=0.01448 *21*; α(M)=0.00313 *5*; α(N+..)=0.000823 *12* α(N)=0.000711 *10*; α(O)=0.0001056 *15*; α(P)=5.83×10^{-6} *9*
		278.70 *4*	0.92 *6*	913.56	(3/2$^-$)				
		380.356 *10*	46 *2*	811.835	3/2$^-$	E1(+M2)	<0.1	0.0098 *9*	α(K)=0.0083 *8*; α(L)=0.00116 *13*; α(M)=0.00025 *3*; α(N+..)=6.7×10^{-5} *8* α(N)=5.7×10^{-5} *7*; α(O)=8.8×10^{-6} *10*; α(P)=5.5×10^{-7} *7*
		604.761 *16*	32 *1*	587.449	3/2$^-$	E1(+M2)	<0.2	0.0039 *9*	α(K)=0.0033 *7*; α(L)=0.00046 *11*; α(M)=0.000100 *24*; α(N+..)=2.7×10^{-5} *7* α(N)=2.3×10^{-5} *6*; α(O)=3.5×10^{-6} *9*; α(P)=2.3×10^{-7} *6*
		616.561 *15*	100 *3*	575.619	1/2$^-$	E1		0.00298	α(K)=0.00255 *4*; α(L)=0.000340 *5*; α(M)=7.32×10^{-5} *11*; α(N+..)=1.95×10^{-5} *3*

$^{151}_{64}Gd_{87}$-12

Adopted Levels, Gammas (continued)

γ(^{151}Gd) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	δ[#]	α[&]	Comments
									α(N)=1.678×10^{-5} *24*; α(O)=2.58×10^{-6} *4*; α(P)=1.691×10^{-7} *24*
1192.19	1/2$^+$	796.8 *5*	0.52 *11*	395.445	3/2$^-$				
1199.15	(1/2$^-$,3/2,5/2$^-$)	578.6 *5*	25 *7*	620.602	3/2$^-$,5/2$^{(-)}$	(M1,E2)		0.014 *4*	α(K)=0.011 *4*; α(L)=0.0017 *4*; α(M)=0.00037 *8*; α(N+..)=9.8×10^{-5} *21* α(N)=8.5×10^{-5} *18*; α(O)=1.3×10^{-5} *3*; α(P)=8.E−7 *3*
		772.52 *6*	57 *4*	426.688	5/2$^-$				
		803.7 *5*	25 *7*	395.445	3/2$^-$				
		1091.04 *9*	100 *4*	108.094	5/2$^-$				
1210.06	11/2$^-$	358.04 *9*	30 *5*	851.90	13/2$^+$	E1		0.01029	α(K)=0.00876 *13*; α(L)=0.001202 *17*; α(M)=0.000259 *4*; α(N+..)=6.89×10^{-5} *10* α(N)=5.93×10^{-5} *9*; α(O)=9.05×10^{-6} *13*; α(P)=5.65×10^{-7} *8*
		504.4 *2*	34 *14*	705.98	11/2$^-$	M1,E2		0.019 *6*	α(K)=0.016 *5*; α(L)=0.0024 *5*; α(M)=0.00054 *10*; α(N+..)=0.00014 *3* α(N)=0.000123 *23*; α(O)=1.9×10^{-5} *4*; α(P)=1.1×10^{-6} *4*
		830.81 *14*	100 *5*	379.30	9/2$^-$	D+Q			
		1210.8 *4*	41 *7*	0.0	7/2$^-$	Q			
1279.06	3/2$^-$,5/2$^-$	365.5 *5*	3.8 *10*	913.56	(3/2$^-$)				
		373.5 *5*	2.4 *5*	905.58	(3/2$^-$,5/2$^-$)				
		439.60 *8*	6.2 *5*	839.320	1/2$^-$				
		658.58 *13*	21 *2*	620.602	3/2$^-$,5/2$^{(-)}$	(M1,E2)		0.010 *3*	α(K)=0.0083 *25*; α(L)=0.0012 *3*; α(M)=0.00026 *6*; α(N+..)=7.0×10^{-5} *16* α(N)=6.0×10^{-5} *14*; α(O)=9.3×10^{-6} *23*; α(P)=5.9×10^{-7} *20*
		691.6 *5*	27 *5*	587.449	3/2$^-$				
		703.4 *5*	3.3 *10*	575.619	1/2$^-$				
		852.36 *6*	9.6 *5*	426.688	5/2$^-$	M1(+E2)	<1	0.0060 *8*	α(K)=0.0051 *7*; α(L)=0.00071 *8*; α(M)=0.000153 *16*; α(N+..)=4.1×10^{-5} *5* α(N)=3.5×10^{-5} *4*; α(O)=5.5×10^{-6} *6*; α(P)=3.7×10^{-7} *5*
		883.6 *5*	18 *4*	395.445	3/2$^-$	(M1,E2)		0.0049 *13*	α(K)=0.0041 *12*; α(L)=0.00058 *14*; α(M)=0.00013 *3*; α(N+..)=3.4×10^{-5} *8* α(N)=2.9×10^{-5} *7*; α(O)=4.5×10^{-6} *11*; α(P)=2.9×10^{-7} *9*
		1170.98 *3*	100 *3*	108.094	5/2$^-$	M1		0.00314	α(K)=0.00268 *4*; α(L)=0.000362 *5*; α(M)=7.80×10^{-5} *11*; α(N+..)=2.42×10^{-5} *4* α(N)=1.80×10^{-5} *3*; α(O)=2.80×10^{-6} *4*; α(P)=1.93×10^{-7} *3*; α(IPF)=3.23×10^{-6} *5*
		1279.20 *13*	4.8 *5*	0.0	7/2$^-$				
1345.44	17/2$^+$	229.59 *7*	1.6 *4*	1115.77	13/2$^+$				
		493.57 *6*	100 *1*	851.90	13/2$^+$	E2		0.01444	α(K)=0.01173 *17*; α(L)=0.00212 *3*; α(M)=0.000470 *7*; α(N+..)=0.0001235 *18*

$^{151}_{64}Gd_{87}$-13

Adopted Levels, Gammas (continued)

γ(^{151}Gd) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	δ[#]	α[&]	Comments
									α(N)=0.0001069 *15*; α(O)=1.580×10^{-5} *23*; α(P)=7.86×10^{-7} *11*
1363.84	15/2$^+$	247.98 *5*	16 *2*	1115.77	13/2$^+$	M1(+E2)	<1	0.147 *13*	α(K)=0.121 *14*; α(L)=0.0200 *9*; α(M)=0.00440 *25*; α(N+..)=0.00117 *6* α(N)=0.00101 *6*; α(O)=0.000152 *4*; α(P)=8.7×10^{-6} *13*
		461.92 *4*	100 *3*	901.97	13/2$^-$	E1		0.00564	α(K)=0.00481 *7*; α(L)=0.000652 *10*; α(M)=0.0001404 *20*; α(N+..)=3.74×10^{-5} *6* α(N)=3.22×10^{-5} *5*; α(O)=4.93×10^{-6} *7*; α(P)=3.15×10^{-7} *5*
		512.2 *2*	39 *15*	851.90	13/2$^+$	M1,E2		0.018 *6*	α(K)=0.015 *5*; α(L)=0.0023 *5*; α(M)=0.00051 *10*; α(N+..)=0.00014 *3* α(N)=0.000118 *22*; α(O)=1.8×10^{-5} *4*; α(P)=1.1×10^{-6} *4*
		579.08 *10*	57 *5*	784.81	11/2$^+$				
1373.95	1/2$^-$,3/2$^-$,5/2$^-$	216.04 *3*	70 *3*	1157.90	(3/2)$^+$	[E1]		0.0370	α(K)=0.0314 *5*; α(L)=0.00443 *7*; α(M)=0.000957 *14*; α(N+..)=0.000253 *4* α(N)=0.000218 *3*; α(O)=3.29×10^{-5} *5*; α(P)=1.94×10^{-6} *3*
		322.21 *22*	28 *2*	1052.20	1/2$^-$,3/2$^-$	[M1,E2]		0.064 *16*	α(K)=0.052 *15*; α(L)=0.0090 *5*; α(M)=0.00199 *7*; α(N+..)=0.000526 *25* α(N)=0.000454 *19*; α(O)=6.8×10^{-5} *6*; α(P)=3.7×10^{-6} *13*
		391.67 *8*	100 *13*	982.27	(3/2)$^+$				
		460.40 *5*	36 *2*	913.56	(3/2$^-$)				
		468.4 *5*	11 *3*	905.58	(3/2$^-$,5/2$^-$)				
		534.67 *4*	46 *2*	839.320	1/2$^-$	(E2)		0.01172	α(K)=0.00958 *14*; α(L)=0.001670 *24*; α(M)=0.000370 *6*; α(N+..)=9.74×10^{-5} *14* α(N)=8.42×10^{-5} *12*; α(O)=1.251×10^{-5} *18*; α(P)=6.46×10^{-7} *9*
		562.5[@] *1*	43 *2*	811.835	3/2$^-$	M1(+E2)	<1	0.0167 *22*	α(K)=0.0141 *19*; α(L)=0.00202 *20*; α(M)=0.00044 *4*; α(N+..)=0.000117 *12* α(N)=0.000101 *10*; α(O)=1.55×10^{-5} *16*; α(P)=1.02×10^{-6} *15* E$_\gamma$: level energy difference=562.21.
		786.5 *5*	13 *2*	587.449	3/2$^-$				
		798.23 *6*	62 *3*	575.619	1/2$^-$				
		947.3 *5*	36 *8*	426.688	5/2$^-$	(M1,E2)		0.0041 *11*	α(K)=0.0035 *10*; α(L)=0.00049 *12*; α(M)=0.000106 *24*; α(N+..)=2.9×10^{-5} *7* α(N)=2.4×10^{-5} *6*; α(O)=3.8×10^{-6} *9*; α(P)=2.5×10^{-7} *7*
1405.14	3/2$^-$,5/2$^-$	593.3 *5*	16 *4*	811.835	3/2$^-$				
		784.3 *2*	24 *2*	620.602	3/2$^-$,5/2$^{(-)}$	(M1,E2)		0.0064 *18*	α(K)=0.0055 *16*; α(L)=0.00078 *18*; α(M)=0.00017 *4*; α(N+..)=4.5×10^{-5} *11* α(N)=3.9×10^{-5} *9*; α(O)=6.0×10^{-6} *15*; α(P)=3.9×10^{-7} *12*
		817.96 *24*	6.9 *9*	587.449	3/2$^-$				
		1009.69 *3*	100 *4*	395.445	3/2$^-$	M1(+E2)	<2	0.0038 *7*	α(K)=0.0032 *7*; α(L)=0.00044 *8*; α(M)=9.5×10^{-5} *16*;

Adopted Levels, Gammas (continued)

γ(^{151}Gd) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	δ[#]	α[&]	Comments
									α(N+..)=2.6×10^{-5} *5* α(N)=2.2×10^{-5} *4*; α(O)=3.4×10^{-6} *6*; α(P)=2.3×10^{-7} *5*
1405.14	3/2$^-$,5/2$^-$	1297.10 *9*	17 *2*	108.094	5/2$^-$				
		1405.1 *4*	6.9 *7*	0.0	7/2$^-$				
1425	(11/2 to 15/2)	719[a] *1*	100	705.98	11/2$^-$				
1435.08	(15/2)$^-$	583.52 *11*	51 *6*	851.90	13/2$^+$				
		729.00 *6*	100 *5*	705.98	11/2$^-$	E2		0.00551	α(K)=0.00459 *7*; α(L)=0.000717 *10*; α(M)=0.0001572 *22*; α(N+..)=4.17×10^{-5} *6* α(N)=3.59×10^{-5} *5*; α(O)=5.44×10^{-6} *8*; α(P)=3.15×10^{-7} *5*
1456.58	1/2$^-$,3/2$^-$,5/2$^-$	543.8 *1*	9 *1*	913	(9/2$^-$,11/2$^-$)				
		644.78 *10*	17 *1*	811.835	3/2$^-$				
		870.0[@] *2*	13 *2*	587.449	3/2$^-$	(M1,E2)		0.0050 *14*	α(K)=0.0043 *12*; α(L)=0.00060 *14*; α(M)=0.00013 *3*; α(N+..)=3.5×10^{-5} *8* α(N)=3.0×10^{-5} *7*; α(O)=4.6×10^{-6} *12*; α(P)=3.0×10^{-7} *9* E$_\gamma$: level energy difference=869.13.
		880.79 *15*	35 *2*	575.619	1/2$^-$				
		1029.55[@] *5*	43 *1*	426.688	5/2$^-$				E$_\gamma$: level energy difference=1029.89.
		1061.59[@] *5*	100 *5*	395.445	3/2$^-$	M1,E2		0.0032 *8*	α(K)=0.0027 *7*; α(L)=0.00038 *9*; α(M)=8.1×10^{-5} *18*; α(N+..)=2.2×10^{-5} *5* α(N)=1.9×10^{-5} *4*; α(O)=2.9×10^{-6} *7*; α(P)=1.9×10^{-7} *5* E$_\gamma$: level energy difference=1061.13.
		1348.19[@] *6*	83 *2*	108.094	5/2$^-$				E$_\gamma$: level energy difference=1348.49.
1463.27	(13/2)$^-$	253.21 *4*	100	1210.06	11/2$^-$	M1+E2	−0.22 *5*	0.1483 *24*	α(K)=0.1251 *21*; α(L)=0.0182 *3*; α(M)=0.00396 *6*; α(N+..)=0.001061 *16* α(N)=0.000911 *14*; α(O)=0.0001407 *20*; α(P)=9.21×10^{-6} *17*
1477.66	(1/2$^-$,3/2,5/2$^-$)	1369.56 *9*	100	108.094	5/2$^-$				
1493.38	(1/2 to 5/2$^-$)	405.67 *9*	5.8 *5*	1087.59	3/2$^-$	(M1)		0.0433	α(K)=0.0367 *6*; α(L)=0.00513 *8*; α(M)=0.001112 *16*; α(N+..)=0.000299 *5* α(N)=0.000256 *4*; α(O)=3.98×10^{-5} *6*; α(P)=2.70×10^{-6} *4*
		579.8 *5*	7.9 *16*	913.56	(3/2$^-$)	(M1,E2)		0.013 *4*	α(K)=0.011 *4*; α(L)=0.0017 *4*; α(M)=0.00037 *8*; α(N+..)=9.8×10^{-5} *21* α(N)=8.4×10^{-5} *18*; α(O)=1.3×10^{-5} *3*; α(P)=8.E−7 *3*
		905.9 *5*	100 *21*	587.449	3/2$^-$	(M1,E2)		0.0046 *12*	α(K)=0.0039 *11*; α(L)=0.00055 *13*;

$^{151}_{64}Gd_{87}$-15

Adopted Levels, Gammas (continued)

γ(^{151}Gd) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	δ[#]	α[&]	Comments
									α(M)=0.00012 *3*; α(N+..)=3.2×10^{-5} *8* α(N)=2.7×10^{-5} *7*; α(O)=4.2×10^{-6} *10*; α(P)=2.8×10^{-7} *8*
1493.38	(1/2 to 5/2$^-$)	917.8 *5*	6.3 *16*	575.619	1/2$^-$	(M1,E2)		0.0045 *12*	α(K)=0.0038 *10*; α(L)=0.00053 *13*; α(M)=0.00011 *3*; α(N+..)=3.1×10^{-5} *7* α(N)=2.6×10^{-5} *6*; α(O)=4.1×10^{-6} *10*; α(P)=2.7×10^{-7} *8*
		1097.92 *7*	20.5 *5*	395.445	3/2$^-$				
		1385.42 *9*	14.7 *5*	108.094	5/2$^-$				
1505.41	1/2$^{(-)}$,3/2$^{(-)}$	591.8 *5*	2.3 *7*	913.56	(3/2$^-$)				
		666.1 *5*	1.3 *7*	839.320	1/2$^-$				
		884.8 *5*	15 *3*	620.602	3/2$^-$,5/2$^{(-)}$	(M1,E2)		0.0049 *13*	α(K)=0.0041 *12*; α(L)=0.00058 *14*; α(M)=0.00013 *3*; α(N+..)=3.4×10^{-5} *8* α(N)=2.9×10^{-5} *7*; α(O)=4.5×10^{-6} *11*; α(P)=2.9×10^{-7} *9*
		918.0 *5*	3.9 *7*	587.449	3/2$^-$	(M1,E2)		0.0045 *12*	α(K)=0.0038 *10*; α(L)=0.00053 *12*; α(M)=0.00011 *3*; α(N+..)=3.1×10^{-5} *7* α(N)=2.6×10^{-5} *6*; α(O)=4.1×10^{-6} *10*; α(P)=2.7×10^{-7} *8*
		929.83 *11*	3.6 *3*	575.619	1/2$^-$				
		1078.80 *7*	8.4 *3*	426.688	5/2$^-$				
		1109.96 *2*	100 *3*	395.445	3/2$^-$				
		1397.0 *1*	6.8 *3*	108.094	5/2$^-$				
1505.73	(11/2 to 15/2)	603.75 *14*	100 *16*	901.97	13/2$^-$				
		721.0 *5*	88 *36*	784.81	11/2$^+$				
1510.92	17/2$^-$	147.1 *2*	9 *2*	1363.84	15/2$^+$				
		346.58[a] *14*	5.8 *13*	1164.3?	(13/2$^-$,15/2$^+$)				
		608.94 *4*	100 *2*	901.97	13/2$^-$	E2		0.00845	α(K)=0.00697 *10*; α(L)=0.001155 *17*; α(M)=0.000255 *4*; α(N+..)=6.73×10^{-5} *10* α(N)=5.81×10^{-5} *9*; α(O)=8.70×10^{-6} *13*; α(P)=4.75×10^{-7} *7*
1552.70	(3/2$^-$,5/2$^-$)	713.25 *15*	<500	839.320	1/2$^-$				
		1553.2 *3*	100 *15*	0.0	7/2$^-$				
1577.56	(1/2 to 5/2$^-$)	419.6 *5*	15 *3*	1157.90	(3/2)$^+$				
		664.0 *5*	9 *2*	913.56	(3/2$^-$)				
		671.96 *9*	15 *2*	905.58	(3/2$^-$,5/2$^-$)	M1(+E2)	<1	0.0107 *14*	α(K)=0.0091 *12*; α(L)=0.00128 *14*; α(M)=0.00028 *3*; α(N+..)=7.4×10^{-5} *8* α(N)=6.4×10^{-5} *7*; α(O)=9.9×10^{-6} *11*; α(P)=6.5×10^{-7} *10*
		765.7 *5*	10 *1*	811.835	3/2$^-$				
		956.93 *12*	14 *1*	620.602	3/2$^-$,5/2$^{(-)}$	M1,E2		0.0041 *11*	α(K)=0.0034 *9*; α(L)=0.00048 *11*; α(M)=0.000104 *23*; α(N+..)=2.8×10^{-5} *7*

$^{151}_{64}Gd_{87}$-16

Adopted Levels, Gammas (continued)

γ(^{151}Gd) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	α[&]	Comments
								α(N)=2.4×10^{-5} *6*; α(O)=3.7×10^{-6} *9*; α(P)=2.4×10^{-7} *7*
1577.56	(1/2 to 5/2$^-$)	990.13 *18*	12 *1*	587.449	3/2$^-$			
		1001.87 *11*	11 *1*	575.619	1/2$^-$			
		1150.79 *10*	13 *1*	426.688	5/2$^-$			
		1182.13 *4*	100 *3*	395.445	3/2$^-$			
1676.61	(17/2)$^+$	331.1 *1*	14 *6*	1345.44	17/2$^+$			
		560.89 *7*	100 *9*	1115.77	13/2$^+$	E2	0.01037	α(K)=0.00851 *12*; α(L)=0.001455 *21*; α(M)=0.000321 *5*; α(N+..)=8.48×10^{-5} *12* α(N)=7.33×10^{-5} *11*; α(O)=1.092×10^{-5} *16*; α(P)=5.76×10^{-7} *8*
		824.2 *4*	43 *9*	851.90	13/2$^+$			
1701.40	1/2,3/2,5/2$^{(-)}$	795.8 *5*	70 *20*	905.58	(3/2$^-$,5/2$^-$)			
		889.9 *2*	70 *6*	811.835	3/2$^-$			
		1080.96 *19*	90 *10*	620.602	3/2$^-$,5/2$^{(-)}$			
		1114.1 *2*	100 *10*	587.449	3/2$^-$			
		1305.81 *9*	80 *10*	395.445	3/2$^-$			
1707.68	1/2$^{(-)}$,3/2$^{(-)}$	428.6 *5*	7.0 *13*	1279.06	3/2$^-$,5/2$^-$			
		620.1 *5*	4.8 *9*	1087.59	3/2$^-$			
		725.30 *9*	4.8 *5*	982.27	(3/2)$^+$			
		794.28 *9*	13 *1*	913.56	(3/2$^-$)	(M1,E2)	0.0063 *18*	α(K)=0.0053 *15*; α(L)=0.00075 *18*; α(M)=0.00016 *4*; α(N+..)=4.4×10^{-5} *11* α(N)=3.8×10^{-5} *9*; α(O)=5.8×10^{-6} *14*; α(P)=3.8×10^{-7} *12*
		868.16 *26*	3.5 *4*	839.320	1/2$^-$			
		894.7[@] *2*	3.5 *4*	811.835	3/2$^-$	(M1,E2)	0.0047 *13*	α(K)=0.0040 *11*; α(L)=0.00056 *13*; α(M)=0.00012 *3*; α(N+..)=3.3×10^{-5} *8* α(N)=2.8×10^{-5} *7*; α(O)=4.3×10^{-6} *11*; α(P)=2.9×10^{-7} *9* E_γ: level energy difference=895.8.
		1087.1 *5*	1.3 *4*	620.602	3/2$^-$,5/2$^{(-)}$			
		1120.2 *5*	8.7 *17*	587.449	3/2$^-$			
		1132.0 *5*	12 *1*	575.619	1/2$^-$			
		1281.00 *6*	20 *1*	426.688	5/2$^-$	(M1,E2)	0.0021 *5*	α(K)=0.0018 *4*; α(L)=0.00024 *5*; α(M)=5.3×10^{-5} *11*; α(N+..)=3.2×10^{-5} *4* α(N)=1.21×10^{-5} *24*; α(O)=1.9×10^{-6} *4*; α(P)=1.3×10^{-7} *3*; α(IPF)=1.76×10^{-5} *10*
		1312.18 *5*	100 *3*	395.445	3/2$^-$	(M1,E2)	0.0020 *4*	α(K)=0.0017 *4*; α(L)=0.00023 *5*; α(M)=5.0×10^{-5} *10*; α(N+..)=3.7×10^{-5} *4* α(N)=1.15×10^{-5} *23*; α(O)=1.8×10^{-6} *4*; α(P)=1.2×10^{-7} *3*; α(IPF)=2.36×10^{-5} *13*
		1599.60 *4*	40 *1*	108.094	5/2$^-$	(M1,E2)	0.00142 *23*	α(K)=0.00111 *19*; α(L)=0.000149 *25*; α(M)=3.2×10^{-5} *6*; α(N+..)=0.000126 *9* α(N)=7.4×10^{-6} *12*; α(O)=1.15×10^{-6} *20*; α(P)=7.9×10^{-8} *15*; α(IPF)=0.000118 *8*

$^{151}_{64}Gd_{87}$-17

Adopted Levels, Gammas (continued)

γ(^{151}Gd) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.#	δ#	α&	Comments
1725.74	$(15/2)^-$	262.42 *4*	100 *3*	1463.27	$(13/2)^-$	M1+E2	−0.18 *5*	0.1353 *21*	α(K)=0.1143 *19*; α(L)=0.01647 *24*; α(M)=0.00358 *6*; α(N+..)=0.000959 *14* α(N)=0.000823 *12*; α(O)=0.0001274 *18*; α(P)=8.43×10^{-6} *15*
		515.1 *4*	31 *14*	1210.06	$11/2^-$				
1745.76	$1/2,3/2,5/2^{(-)}$	252.4 *5*	100 *23*	1493.38	(1/2 to $5/2^-$)	[D,E2]		0.09 *6*	
		807.0 *5*	45 *9*	938.77	$(3/2^-,5/2^-,7/2^-)$				
		1125.28 *14*	64 *5*	620.602	$3/2^-,5/2^{(-)}$	(M1)		0.00345	α(K)=0.00294 *5*; α(L)=0.000398 *6*; α(M)=8.58×10^{-5} *12*; α(N+..)=2.39×10^{-5} *4* α(N)=1.98×10^{-5} *3*; α(O)=3.08×10^{-6} *5*; α(P)=2.12×10^{-7} *3*; α(IPF)=8.41×10^{-7} *13*
		1158.3 *5*	14 *5*	587.449	$3/2^-$				
		1318.86 *18*	18 *9*	426.688	$5/2^-$				
		1350.3 *5*	45 *9*	395.445	$3/2^-$				
1778.56	$1/2^-,3/2^-$	499.5 *5*	22 *4*	1279.06	$3/2^-,5/2^-$	(M1,E2)		0.020 *6*	α(K)=0.016 *5*; α(L)=0.0025 *5*; α(M)=0.00055 *10*; α(N+..)=0.00015 *3* α(N)=0.000126 *23*; α(O)=1.9×10^{-5} *4*; α(P)=1.2×10^{-6} *4*
		691.0 *5*	11 *2*	1087.59	$3/2^-$				
		839.8 *5*	5.3 *9*	938.77	$(3/2^-,5/2^-,7/2^-)$	(M1,E2)		0.0055 *15*	α(K)=0.0046 *13*; α(L)=0.00066 *16*; α(M)=0.00014 *4*; α(N+..)=3.8×10^{-5} *9* α(N)=3.3×10^{-5} *8*; α(O)=5.1×10^{-6} *13*; α(P)=3.3×10^{-7} *10*
		864.98 *3*	25 *1*	913.56	$(3/2^-)$	M1(+E2)	<1	0.0058 *7*	α(K)=0.0049 *6*; α(L)=0.00068 *8*; α(M)=0.000148 *16*; α(N+..)=4.0×10^{-5} *5* α(N)=3.4×10^{-5} *4*; α(O)=5.3×10^{-6} *6*; α(P)=3.5×10^{-7} *5*
		939.2 *5*	5 *1*	839.320	$1/2^-$	(M1,E2)		0.0042 *11*	α(K)=0.0036 *10*; α(L)=0.00050 *12*; α(M)=0.000109 *25*; α(N+..)=2.9×10^{-5} *7* α(N)=2.5×10^{-5} *6*; α(O)=3.9×10^{-6} *9*; α(P)=2.6×10^{-7} *8*
		966.25@ *11*	5.3 *5*	811.835	$3/2^-$	M1,E2		0.0040 *10*	α(K)=0.0034 *9*; α(L)=0.00047 *11*; α(M)=0.000102 *23*; α(N+..)=2.7×10^{-5} *7* α(N)=2.3×10^{-5} *6*; α(O)=3.6×10^{-6} *9*; α(P)=2.4×10^{-7} *7* E_γ: level energy difference=966.72.
		1158.0 *5*	5.3 *13*	620.602	$3/2^-,5/2^{(-)}$				
		1191.13 *5*	24 *1*	587.449	$3/2^-$	(M1,E2)		0.0025 *6*	α(K)=0.0021 *5*; α(L)=0.00029 *6*; α(M)=6.2×10^{-5} *13*; α(N+..)=2.2×10^{-5} *4* α(N)=1.4×10^{-5} *3*; α(O)=2.2×10^{-6} *5*; α(P)=1.5×10^{-7} *4*; α(IPF)=4.9×10^{-6} *3*

$^{151}_{64}Gd_{87}$-18

Adopted Levels, Gammas (continued)

γ(^{151}Gd) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	α[&]	Comments
1778.56	1/2⁻,3/2⁻	1202.96 *5*	11.5 *5*	575.619	1/2⁻	(M1,E2)	0.0024 *6*	α(K)=0.0021 *5*; α(L)=0.00028 *6*; α(M)=6.1×10⁻⁵ *13*; α(N+..)=2.2×10⁻⁵ *4* α(N)=1.4×10⁻⁵ *3*; α(O)=2.2×10⁻⁶ *5*; α(P)=1.5×10⁻⁷ *4*; α(IPF)=6.2×10⁻⁶ *4*
		1351.9 *5*	39 *9*	426.688	5/2⁻			
		1383.12 *5*	49 *1*	395.445	3/2⁻	(M1,E2)	0.0018 *4*	α(K)=0.0015 *3*; α(L)=0.00021 *4*; α(M)=4.4×10⁻⁵ *9*; α(N+..)=5.3×10⁻⁵ *5* α(N)=1.02×10⁻⁵ *19*; α(O)=1.6×10⁻⁶ *3*; α(P)=1.08×10⁻⁷ *23*; α(IPF)=4.11×10⁻⁵ *24*
		1670.50 *4*	100 *4*	108.094	5/2⁻	(M1,E2)	0.00134 *20*	α(K)=0.00102 *17*; α(L)=0.000136 *21*; α(M)=2.9×10⁻⁵ *5*; α(N+..)=0.000156 *11* α(N)=6.7×10⁻⁶ *11*; α(O)=1.05×10⁻⁶ *17*; α(P)=7.2×10⁻⁸ *13*; α(IPF)=0.000148 *10*
1788.96	(1/2 to 5/2⁻)	949.7 *3*	11 *1*	839.320	1/2⁻			
		977.1 *5*	30 *7*	811.835	3/2⁻			
		1213.37 *9*	36 *2*	575.619	1/2⁻			
		1362.21 *5*	100 *2*	426.688	5/2⁻	(M1,E2)	0.0019 *4*	α(K)=0.0016 *4*; α(L)=0.00021 *4*; α(M)=4.6×10⁻⁵ *9*; α(N+..)=4.8×10⁻⁵ *5* α(N)=1.06×10⁻⁵ *20*; α(O)=1.6×10⁻⁶ *4*; α(P)=1.11×10⁻⁷ *24*; α(IPF)=3.54×10⁻⁵ *21*
		1394.1 *2*	27 *2*	395.445	3/2⁻			
1836.90	(3/2)⁻	637.90 *13*	11 *1*	1199.15	(1/2⁻,3/2,5/2⁻)			
		679.1 *5*	14 *3*	1157.90	(3/2)⁺			
		749.24 *9*	8.5 *6*	1087.59	3/2⁻			
		897.83 *18*	15 *1*	938.77	(3/2⁻,5/2⁻,7/2⁻)			
		923.37 *13*	10 *1*	913.56	(3/2⁻)			
		997.29 *23*	5.6 *6*	839.320	1/2⁻			
		1025.12 *4*	100 *3*	811.835	3/2⁻	M1,E2	0.0035 *9*	α(K)=0.0029 *8*; α(L)=0.00041 *9*; α(M)=8.8×10⁻⁵ *20*; α(N+..)=2.4×10⁻⁵ *6* α(N)=2.0×10⁻⁵ *5*; α(O)=3.1×10⁻⁶ *8*; α(P)=2.1×10⁻⁷ *6*
		1217.4[@] *2*	8 *1*	620.602	3/2⁻,5/2⁽⁻⁾			E_γ: level energy difference=1216.3.
		1249.43 *8*	27 *1*	587.449	3/2⁻			
		1260.7 *3*	11 *3*	575.619	1/2⁻			
		1410.4 *2*	11 *1*	426.688	5/2⁻	(M1,E2)	0.0018 *4*	α(K)=0.0015 *3*; α(L)=0.00020 *4*; α(M)=4.2×10⁻⁵ *8*; α(N+..)=6.1×10⁻⁵ *5* α(N)=9.8×10⁻⁶ *18*; α(O)=1.5×10⁻⁶ *3*; α(P)=1.03×10⁻⁷ *22*; α(IPF)=4.9×10⁻⁵ *3*
		1441.15 *17*	10 *1*	395.445	3/2⁻			
		1728.70 *13*	13 *1*	108.094	5/2⁻			
		1837.5 *4*	1.4 *2*	0.0	7/2⁻			
1851.58	19/2⁺	340.65 *4*	100 *3*	1510.92	17/2⁻	E1	0.01162	α(K)=0.00989 *14*; α(L)=0.001361 *19*; α(M)=0.000294 *5*; α(N+..)=7.80×10⁻⁵ *11*

Adopted Levels, Gammas (continued)

γ(^{151}Gd) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	δ[#]	α[&]	Comments
									α(N)=6.71×10^{-5} *10*; α(O)=1.023×10^{-5} *15*; α(P)=6.36×10^{-7} *9*
1851.58	19/2$^+$	487.77 *6*	82 *5*	1363.84	15/2$^+$	E2		0.01490	α(K)=0.01209 *17*; α(L)=0.00219 *3*; α(M)=0.000487 *7*; α(N+..)=0.0001280 *18* α(N)=0.0001108 *16*; α(O)=1.636×10^{-5} *23*; α(P)=8.09×10^{-7} *12*
		506.08 *15*	48 *16*	1345.44	17/2$^+$				
1852.72	(1/2$^-$,3/2$^-$,5/2$^-$)	914.0 *5*	19 *5*	938.77	(3/2$^-$,5/2$^-$,7/2$^-$)				
		939.1 *5*	76 *14*	913.56	(3/2$^-$)	(M1,E2)		0.0042 *11*	α(K)=0.0036 *10*; α(L)=0.00050 *12*; α(M)=0.000109 *25*; α(N+..)=2.9×10^{-5} *7* α(N)=2.5×10^{-5} *6*; α(O)=3.9×10^{-6} *9*; α(P)=2.6×10^{-7} *8*
		1232.1 *5*	100 *20*	620.602	3/2$^-$,5/2$^{(-)}$				
		1457.3 *5*	24 *5*	395.445	3/2$^-$				
		1744.61 *13*	33 *3*	108.094	5/2$^-$				
1852.97	(21/2)$^+$	507.53 *4*	100	1345.44	17/2$^+$	E2		0.01341	α(K)=0.01092 *16*; α(L)=0.00195 *3*; α(M)=0.000432 *6*; α(N+..)=0.0001136 *16* α(N)=9.83×10^{-5} *14*; α(O)=1.455×10^{-5} *21*; α(P)=7.34×10^{-7} *11*
1890.80	(1/2$^-$,3/2,5/2$^-$)	1051.5 *5*	21 *5*	839.320	1/2$^-$				
		1269.1 *6*	16 *5*	620.602	3/2$^-$,5/2$^{(-)}$				
		1315.10 *20*	37 *5*	575.619	1/2$^-$				
		1464.3 *2*	42 *5*	426.688	5/2$^-$				
		1495.3 *5*	100 *26*	395.445	3/2$^-$				
1941.11	(1/2$^-$,3/2,5/2$^-$)	1129.3 *5*	100 *20*	811.835	3/2$^-$				
		1320.5 *5*	40 *20*	620.602	3/2$^-$,5/2$^{(-)}$				
		1364.8 *7*	20 *10*	575.619	1/2$^-$				
		1514.37 *18*	100 *8*	426.688	5/2$^-$				
		1545.9 *3*	80 *10*	395.445	3/2$^-$				
1970.91	1/2,3/2,5/2$^{(-)}$	1057.3 *5*	100 *22*	913.56	(3/2$^-$)				
		1350.3 *5*	22 *11*	620.602	3/2$^-$,5/2$^{(-)}$				
		1395.3 *5*	56 *11*	575.619	1/2$^-$				
		1575.46 *14*	67 *3*	395.445	3/2$^-$				
1978.05	(3/2$^-$)	1040.5 *8*	10 *2*	938.77	(3/2$^-$,5/2$^-$,7/2$^-$)				
		1402.5 *2*	10 *1*	575.619	1/2$^-$				
		1869.87 *9*	100 *6*	108.094	5/2$^-$				
		1978.15 *15*	6.5 *16*	0.0	7/2$^-$				
2003.73	(17/2)$^-$	277.96 *5*	100 *5*	1725.74	(15/2)$^-$	M1(+E2)	<0.5	0.113 *5*	α(K)=0.095 *5*; α(L)=0.01410 *21*; α(M)=0.00307 *5*; α(N+..)=0.000822 *13* α(N)=0.000706 *11*; α(O)=0.0001086 *16*; α(P)=7.0×10^{-6} *4*
		540.82 *10*	95 *15*	1463.27	(13/2)$^-$				

$^{151}_{64}Gd_{87}$-20

Adopted Levels, Gammas (continued)

γ(^{151}Gd) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	α[&]	Comments
2012.15	(1/2$^-$,3/2,5/2$^-$)	1392.7 *2*	100 *20*	620.602	3/2$^-$,5/2$^{(-)}$			E_γ: level energy difference=1391.6.
		1584.8 *2*	80 *8*	426.688	5/2$^-$			
2034.36	1/2$^-$,3/2$^-$	456.74 *14*	3.8 *5*	1577.56	(1/2 to 5/2$^-$)			
		556.7 *5*	3.3 *5*	1477.66	(1/2$^-$,3/2,5/2$^-$)			
		576.9 *6*	4.3 *5*	1456.58	1/2$^-$,3/2$^-$,5/2$^-$			
		629.23 *3*	16.9 *5*	1405.14	3/2$^-$,5/2$^-$			
		660.3 *5*	5.3 *14*	1373.95	1/2$^-$,3/2$^-$,5/2$^-$			
		755.78 *16*	1.0 *3*	1279.06	3/2$^-$,5/2$^-$			
		835.2 *5*	2.9 *10*	1199.15	(1/2$^-$,3/2,5/2$^-$)			
		842.15 *5*	13.4 *5*	1192.19	1/2$^+$			
		876.68 *24*	2.4 *5*	1157.90	(3/2)$^+$			
		946.8 *5*	7.7 *14*	1087.59	3/2$^-$	(M1,E2)	0.0042 *11*	α(K)=0.0035 *10*; α(L)=0.00049 *12*; α(M)=0.000107 *24*; α(N+..)=2.9×10^{-5} *7* α(N)=2.5×10^{-5} *6*; α(O)=3.8×10^{-6} *9*; α(P)=2.5×10^{-7} *7*
		982.1 *5*	11 *2*	1052.20	1/2$^-$,3/2$^-$	(M1,E2)	0.0038 *10*	α(K)=0.0032 *9*; α(L)=0.00045 *11*; α(M)=9.8×10^{-5} *22*; α(N+..)=2.6×10^{-5} *6* α(N)=2.2×10^{-5} *5*; α(O)=3.5×10^{-6} *8*; α(P)=2.3×10^{-7} *7*
		1052.0 *5*	10 *2*	982.27	(3/2)$^+$			
		1095.6 *5*	1.9 *5*	938.77	(3/2$^-$,5/2$^-$,7/2$^-$)			
		1120.8 *5*	4.3 *10*	913.56	(3/2$^-$)			
		1128.8 *5*	1.9 *5*	905.58	(3/2$^-$,5/2$^-$)			
		1195.00 *5*	27 *1*	839.320	1/2$^-$			
		1222.53 *3*	100 *3*	811.835	3/2$^-$	M1,E2	0.0023 *5*	α(K)=0.0020 *5*; α(L)=0.00027 *6*; α(M)=5.9×10^{-5} *12*; α(N+..)=2.4×10^{-5} *4* α(N)=1.3×10^{-5} *3*; α(O)=2.1×10^{-6} *5*; α(P)=1.4×10^{-7} *4*; α(IPF)=8.6×10^{-6} *5*
		1413.7 *5*	1.9 *5*	620.602	3/2$^-$,5/2$^{(-)}$			
		1446.86 *6*	15.3 *5*	587.449	3/2$^-$			
		1458.7 *5*	2.4 *5*	575.619	1/2$^-$			
		1607.6 *5*	1.0 *5*	426.688	5/2$^-$			
		1638.2[@] *1*	10.5 *5*	395.445	3/2$^-$			E_γ: level energy difference=1638.9.
2043.89	(1/2,3/2,5/2$^-$)	1232.0 *5*	70 *20*	811.835	3/2$^-$			
		1456.4 *5*	100 *20*	587.449	3/2$^-$			
		1468.3 *3*	30 *3*	575.619	1/2$^-$			
2070.97	1/2$^-$,3/2$^-$	791.7 *5*	3.7 *5*	1279.06	3/2$^-$,5/2$^-$			
		871.76 *21*	3.2 *11*	1199.15	(1/2$^-$,3/2,5/2$^-$)			
		878.89 *21*	9.0 *11*	1192.19	1/2$^+$			
		913.1 *5*	4.3 *11*	1157.90	(3/2)$^+$			
		983.4 *5*	16 *3*	1087.59	3/2$^-$	(M1,E2)	0.0038 *10*	α(K)=0.0032 *9*; α(L)=0.00045 *10*; α(M)=9.7×10^{-5} *22*; α(N+..)=2.6×10^{-5} *6* α(N)=2.2×10^{-5} *5*; α(O)=3.5×10^{-6} *8*; α(P)=2.3×10^{-7} *7*
		1018.99 *17*	4.3 *4*	1052.20	1/2$^-$,3/2$^-$			

$^{151}_{64}Gd_{87}$-21

Adopted Levels, Gammas (continued)

γ(^{151}Gd) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	α[&]	Comments
2070.97	1/2⁻,3/2⁻	1132.2 *5*	2.7 *5*	938.77	(3/2⁻,5/2⁻,7/2⁻)			
		1157.4 *5*	31 *6*	913.56	(3/2⁻)	(M1,E2)	0.0026 *6*	α(K)=0.0022 *6*; α(L)=0.00031 *7*; α(M)=6.7×10^{-5} *14*; α(N+..)=2.0×10^{-5} *4* α(N)=1.5×10^{-5} *4*; α(O)=2.4×10^{-6} *5*; α(P)=1.6×10^{-7} *4*; α(IPF)=2.15×10^{-6} *12*
		1165.4 *5*	3.2 *11*	905.58	(3/2⁻,5/2⁻)			
		1259.1 *5*	10 *2*	811.835	3/2⁻	(M1,E2)	0.0022 *5*	α(K)=0.0019 *4*; α(L)=0.00025 *5*; α(M)=5.5×10^{-5} *11*; α(N+..)=2.9×10^{-5} *4* α(N)=1.26×10^{-5} *25*; α(O)=2.0×10^{-6} *4*; α(P)=1.3×10^{-7} *3*; α(IPF)=1.40×10^{-5} *8*
		1450.34 *7*	12.2 *5*	620.602	3/2⁻,5/2$^{(-)}$			
		1483.52 *5*	100 *3*	587.449	3/2⁻	M1,E2	0.0016 *3*	α(K)=0.00131 *24*; α(L)=0.00018 *3*; α(M)=3.8×10^{-5} *7*; α(N+..)=8.3×10^{-5} *7* α(N)=8.7×10^{-6} *16*; α(O)=1.36×10^{-6} *25*; α(P)=9.2×10^{-8} *19*; α(IPF)=7.3×10^{-5} *5*
		1495.4 *5*	34 *7*	575.619	1/2⁻			
		1644.39 *13*	4.8 *2*	426.688	5/2⁻			
		1675.57 *8*	9.0 *5*	395.445	3/2⁻			
		1962.37 *16*	5.3 *11*	108.094	5/2⁻			
2076.02	1/2$^{(-)}$,3/2	884.0 *5*	54 *15*	1192.19	1/2⁺			
		1137.28 *11*	46 *4*	938.77	(3/2⁻,5/2⁻,7/2⁻)			
		1163.0 *1*	100 *8*	913.56	(3/2⁻)			
		1170.7 *5*	100 *15*	905.58	(3/2⁻,5/2⁻)			
		1264.0 *3*	62 *4*	811.835	3/2⁻			
		1455.6 *5*	31 *8*	620.602	3/2⁻,5/2$^{(-)}$			
		1500.4 *2*	31 *6*	575.619	1/2⁻			
		1649.33 *12*	62 *3*	426.688	5/2⁻			
		1680.8 *5*	54 *15*	395.445	3/2⁻			
		1967.1 *3*	31 *3*	108.094	5/2⁻			
2077.86	(19/2⁻)	642.78 *10*	100	1435.08	(15/2)⁻			
2099.01	(1/2,3/2,5/2⁻)	1511.55 *16*	100	587.449	3/2⁻			
2107.0	(1/2,3/2,5/2⁻)	1519.5 *3*	100	587.449	3/2⁻			
2116.09	1/2$^{(-)}$,3/2$^{(-)}$	837.0 *5*	8 *3*	1279.06	3/2⁻,5/2⁻			
		1177.4 *5*	6 *3*	938.77	(3/2⁻,5/2⁻,7/2⁻)			
		1210.5 *5*	6 *3*	905.58	(3/2⁻,5/2⁻)			
		1303.3 *3*	14 *3*	811.835	3/2⁻			
		1495.5 *5*	14 *3*	620.602	3/2⁻,5/2$^{(-)}$			
		1689.53 *6*	100 *3*	426.688	5/2⁻	(M1,E2)	0.00132 *20*	α(K)=0.00099 *16*; α(L)=0.000133 *21*; α(M)=2.9×10^{-5} *5*; α(N+..)=0.000164 *12* α(N)=6.6×10^{-6} *11*; α(O)=1.02×10^{-6} *16*; α(P)=7.0×10^{-8} *12*; α(IPF)=0.000157 *11*
		1720.46 *7*	72 *11*	395.445	3/2⁻			

$^{151}_{64}Gd_{87}$-22

Adopted Levels, Gammas (continued)

γ(^{151}Gd) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Comments
2116.09	$1/2^{(-)},3/2^{(-)}$	2007.9 *4*	6 *2*	108.094	$5/2^-$	
2128.72	$1/2^{(-)},3/2$	1508.1 *5*	40 *10*	620.602	$3/2^-,5/2^{(-)}$	
		1541.8 *3*	20 *4*	587.449	$3/2^-$	
		1702.8 *4*	30 *3*	426.688	$5/2^-$	
		1733.3 *5*	10 *5*	395.445	$3/2^-$	
		2020.45 *12*	100 *5*	108.094	$5/2^-$	
2132.53	$1/2^{(-)},3/2$	1320.7 *5*	57 *14*	811.835	$3/2^-$	
		1556.8 *2*	71 *13*	575.619	$1/2^-$	
		1705.90 *18*	100 *6*	426.688	$5/2^-$	
		1737.1 *5*	29 *14*	395.445	$3/2^-$	
2154.9	$(1/2,3/2,5/2^-)$	1579.3 *5*	100 *50*	575.619	$1/2^-$	
		1759.43 *21*	100 *15*	395.445	$3/2^-$	
2173.19	$1/2^{(-)},3/2$	894.0 *5*	4 *2*	1279.06	$3/2^-,5/2^-$	
		974.14 *9*	100 *4*	1199.15	$(1/2^-,3/2,5/2^-)$	
		1084.7[@] *2*	25 *2*	1087.59	$3/2^-$	E_γ: level energy difference=1085.6.
		1235.2 *8*	17 *4*	938.77	$(3/2^-,5/2^-,7/2^-)$	
		1259.4 *5*	8 *4*	913.56	$(3/2^-)$	
		1267.9 *5*	13 *4*	905.58	$(3/2^-,5/2^-)$	
		1361.2 *5*	25 *4*	811.835	$3/2^-$	
		1585.6 *5*	8 *4*	587.449	$3/2^-$	
		1746.7 *5*	17 *3*	426.688	$5/2^-$	
		1777.6 *5*	50 *13*	395.445	$3/2^-$	
		2064.98 *19*	8 *1*	108.094	$5/2^-$	
2196.6	(17/2 to 21/2)	345 *1*	100 *25*	1851.58	$19/2^+$	
		520 *1*	50 *25*	1676.61	$(17/2)^+$	
2205.94	$1/2^{(-)},3/2$	1618.3 *3*	17 *2*	587.449	$3/2^-$	
		1630.3 *2*	30 *2*	575.619	$1/2^-$	
		1779.2 *5*	100 *22*	426.688	$5/2^-$	
		1811.0 *2*	13 *2*	395.445	$3/2^-$	
		2097.4 *2*	30 *2*	108.094	$5/2^-$	
2220.9	1/2,3/2	1307.3 *5*	60 *20*	913.56	$(3/2^-)$	
		1633.4 *5*	100 *20*	587.449	$3/2^-$	
		1825.4 *3*	40 *4*	395.445	$3/2^-$	
2243.8	$1/2^{(-)},3/2$	1044.2 *4*	100 *17*	1199.15	$(1/2^-,3/2,5/2^-)$	
		1817.1 *5*	100 *33*	426.688	$5/2^-$	
		1848.3 *5*	67 *34*	395.445	$3/2^-$	
		2136.2 *4*	57 *7*	108.094	$5/2^-$	
2246.95	$1/2^{(-)},3/2$	1435.7 *2*	75 *10*	811.835	$3/2^-$	
		1626.3 *5*	50 *25*	620.602	$3/2^-,5/2^{(-)}$	
		1671.3 *5*	100 *25*	575.619	$1/2^-$	
		1820.10 *10*	100 *8*	426.688	$5/2^-$	
2256.7	1/2,3/2	1669.2 *5*	75 *25*	587.449	$3/2^-$	

$^{151}_{64}Gd_{87}$-23

Adopted Levels, Gammas (continued)

γ(^{151}Gd) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	δ[#]	α[&]	Comments
2256.7	1/2,3/2	1681.1 *5*	100 *25*	575.619	$1/2^-$				
		1861.23 *23*	50 *10*	395.445	$3/2^-$				
2295.02	$(19/2)^-$	291.38 *8*	81 *6*	2003.73	$(17/2)^-$	M1(+E2)	+0.13 *13*	0.1027 *23*	α(K)=0.0869 *22*; α(L)=0.01237 *18*; α(M)=0.00268 *4*; α(N+..)=0.000720 *10* α(N)=0.000618 *9*; α(O)=9.58×10^{-5} *14*; α(P)=6.41×10^{-6} *18*
		568.74 *15*	100 *31*	1725.74	$(15/2)^-$				
2297.3	$(21/2^-)$	786.4 *6*	100	1510.92	$17/2^-$				
2317.7	$1/2^{(-)}$,3/2	1479.1 *5*	100 *15*	839.320	$1/2^-$				
		1890.6 *4*	100 *10*	426.688	$5/2^-$				
		2209.6 *5*	50 *25*	108.094	$5/2^-$				
2324.32	$1/2^{(-)}$,3/2	1748.7 *4*	67 *10*	575.619	$1/2^-$				
		1897.61 *14*	100 *5*	426.688	$5/2^-$				
2325.11	$23/2^+$	473.53 *6*	100	1851.58	$19/2^+$	E2		0.01612	α(K)=0.01305 *19*; α(L)=0.00240 *4*; α(M)=0.000533 *8*; α(N+..)=0.0001401 *20* α(N)=0.0001214 *17*; α(O)=1.79×10^{-5} *3*; α(P)=8.71×10^{-7} *13*
2391.50	1/2,3/2	886.1 *5*	1.7 *9*	1505.41	$1/2^{(-)}$,$3/2^{(-)}$				
		913.8 *5*	1.7 *9*	1477.66	$(1/2^-,3/2,5/2^-)$				
		986.3 *4*	10 *3*	1405.14	$3/2^-$,$5/2^-$				
		1112.4 *5*	1.7 *9*	1279.06	$3/2^-$,$5/2^-$				
		1199.3 *5*	5 *2*	1192.19	$1/2^+$				
		1339.01 *17*	13 *2*	1052.20	$1/2^-$,$3/2^-$				
		1579.75 *6*	38 *2*	811.835	$3/2^-$				
		1803.85 *19*	8.3 *5*	587.449	$3/2^-$				
		1815.8 *5*	100 *20*	575.619	$1/2^-$				
		1995.76 *17*	15 *1*	395.445	$3/2^-$				
2400.5	$1/2^{(-)}$,3/2	1974.3 *3*	100 *15*	426.688	$5/2^-$				
		2005.0 *4*	50 *10*	395.445	$3/2^-$				
		2291.6 *4*	100 *15*	108.094	$5/2^-$				
2405.4	$(25/2^+)$	552.4 *5*	100	1852.97	$(21/2)^+$				
2421.74	1/2,3/2	1439.4 *5*	50 *13*	982.27	$(3/2)^+$				
		1508.2 *5*	25 *13*	913.56	$(3/2^-)$				
		1834.3 *5*	12 *6*	587.449	$3/2^-$				
		1846.1 *5*	25 *13*	575.619	$1/2^-$				
		2026.28 *13*	100 *4*	395.445	$3/2^-$				
2443.0	(1/2,3/2)	2047.5 *3*	100	395.445	$3/2^-$				
2444.86	1/2,3/2	1531.3 *5*	10 *5*	913.56	$(3/2^-)$				
		1605.5 *5*	37 *11*	839.320	$1/2^-$				
		1633.02 *8*	100 *5*	811.835	$3/2^-$				
		1869.2 *5*	47 *10*	575.619	$1/2^-$				
2600.05	$(21/2^-)$	304.92 *8*	57 *7*	2295.02	$(19/2)^-$				
		596.7 *2*	100 *14*	2003.73	$(17/2)^-$				

$^{151}_{64}Gd_{87}$-24

Adopted Levels, Gammas (continued)

γ(^{151}Gd) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	α[&]	Comments
2866.2	(27/2$^+$)	541.1 *5*	100	2325.11	23/2$^+$	(E2)	0.01136	α(K)=0.00930 *14*; α(L)=0.001613 *23*; α(M)=0.000357 *5*; α(N+..)=9.41×10^{-5} *14* α(N)=8.13×10^{-5} *12*; α(O)=1.209×10^{-5} *18*; α(P)=6.28×10^{-7} *9*
2915.24	(23/2)$^-$	315.09 *12*	22 *6*	2600.05	(21/2$^-$)			
		620.5 *2*	100 *22*	2295.02	(19/2)$^-$	E2	0.00807	α(K)=0.00667 *10*; α(L)=0.001097 *16*; α(M)=0.000242 *4*; α(N+..)=6.39×10^{-5} *9* α(N)=5.52×10^{-5} *8*; α(O)=8.27×10^{-6} *12*; α(P)=4.54×10^{-7} *7*
3007.7	(29/2$^+$)	602.3 *5*	100	2405.4	(25/2$^+$)			
3238.17	(25/2$^-$)	324[a] *1*		2915.24	(23/2)$^-$			
		638.09 *12*	100 *33*	2600.05	(21/2$^-$)			
3728.2?	(27/2 to 31/2$^+$)	862.0[a] *5*	100	2866.2	(27/2$^+$)			
746.4+x	J+2	746.4 *8*	0.226[‡] *15*	x	J≈(57/2$^+$)			
1535.3+x	J+4	788.9 *4*	0.543[‡] *22*	746.4+x	J+2			
2366.6+x	J+6	831.3 *4*	0.654[‡] *18*	1535.3+x	J+4			
3240.1+x	J+8	873.5 *3*	0.886[‡] *19*	2366.6+x	J+6			
4156.4+x	J+10	916.3 *3*	0.902[‡] *19*	3240.1+x	J+8			
5116.2+x	J+12	959.8 *3*	1.013[‡] *19*	4156.4+x	J+10			
6120.4+x	J+14	1004.2 *6*	0.993[‡] *22*	5116.2+x	J+12			
7169.4+x	J+16	1049.0 *3*	1.002[‡] *19*	6120.4+x	J+14			
8266.1+x	J+18	1096.7 *3*	0.996[‡] *19*	7169.4+x	J+16			
9410.3+x	J+20	1144.2 *3*	0.999[‡] *19*	8266.1+x	J+18			
10603.3+x	J+22	1193.0 *3*	1.026[‡] *19*	9410.3+x	J+20			
11846.4+x	J+24	1243.1 *4*	0.98[‡] *2*	10603.3+x	J+22			
13141.0+x	J+26	1294.6 *6*	0.993[‡] *22*	11846.4+x	J+24			
14487.4+x	J+28	1346.4 *4*	0.987[‡] *19*	13141.0+x	J+26			
15886.5+x	J+30	1399.1 *4*	0.828[‡] *19*	14487.4+x	J+28			
17339.1+x	J+32	1452.6 *5*	0.750[‡] *19*	15886.5+x	J+30			
18846.3+x	J+34	1507.2 *4*	0.440[‡] *17*	17339.1+x	J+32			
20408.3+x	J+36	1562.0 *5*	0.290[‡] *16*	18846.3+x	J+34			
22026.2+x	J+38	1617.8 *7*	0.240[‡] *15*	20408.3+x	J+36			
23701.0+x	J+40	1674.8 *9*	0.100[‡] *13*	22026.2+x	J+38			
725.5+y	J1+2	725.5 *8*	0.221[‡] *16*	y	J1≈(55/2$^+$)			
1493.9+y	J1+4	768.4 *5*	0.48[‡] *3*	725.5+y	J1+2			
2304.4+y	J1+6	810.5 *9*	0.696[‡] *24*	1493.9+y	J1+4			
3157.0+y	J1+8	852.6 *4*	0.915[‡] *20*	2304.4+y	J1+6			

$^{151}_{64}Gd_{87}$-25

Adopted Levels, Gammas (continued)

γ(^{151}Gd) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π
4052.4+y	J1+10	895.4 *3*	0.930[‡] *19*	3157.0+y	J1+8
4991.2+y	J1+12	938.7 *3*	1.005[‡] *20*	4052.4+y	J1+10
5973.5+y	J1+14	982.4 *3*	0.980[‡] *19*	4991.2+y	J1+12
7001.0+y	J1+16	1027.4 *3*	1.004[‡] *20*	5973.5+y	J1+14
8074.3+y	J1+18	1073.3 *4*	0.988[‡] *19*	7001.0+y	J1+16
9194.4+y	J1+20	1120.1 *4*	0.969[‡] *20*	8074.3+y	J1+18
10363.7+y	J1+22	1169.3 *4*	1.018[‡] *21*	9194.4+y	J1+20
11581.7+y	J1+24	1218.0 *4*	0.991[‡] *21*	10363.7+y	J1+22
12850.3+y	J1+26	1268.6 *4*	1.004[‡] *20*	11581.7+y	J1+24
14170.7+y	J1+28	1320.4 *4*	1.035[‡] *20*	12850.3+y	J1+26
15543.3+y	J1+30	1372.6 *4*	0.918[‡] *20*	14170.7+y	J1+28
16969.3+y	J1+32	1426.0 *5*	0.810[‡] *20*	15543.3+y	J1+30
18449.0+y	J1+34	1479.7 *5*	0.552[‡] *18*	16969.3+y	J1+32
19983.5+y	J1+36	1534.4 *7*	0.421[‡] *18*	18449.0+y	J1+34
21573.0+y	J1+38	1589.5 *10*	0.326[‡] *20*	19983.5+y	J1+36
23218+y	J1+40	1645.3 *11*	0.117[‡] *15*	21573.0+y	J1+38
24919+y	J1+42	1700.8 *13*	0.063[‡] *14*	23218+y	J1+40
755.7+z	J2+2	755.7 *4*	0.594[‡] *16*	z	J2≈(59/2$^-$)
1561.3+z	J2+4	805.6 *4*	0.705[‡] *17*	755.7+z	J2+2
2417.2+z	J2+6	855.9 *9*	1.021[‡] *21*	1561.3+z	J2+4
3324.0+z	J2+8	906.8 *8*	0.915[‡] *18*	2417.2+z	J2+6
4282.6+z	J2+10	958.7 *7*	1.012[‡] *18*	3324.0+z	J2+8
5294.6+z	J2+12	1012.0 *5*	0.973[‡] *25*	4282.6+z	J2+10
6360.7+z	J2+14	1066.1 *8*	1.018[‡] *24*	5294.6+z	J2+12
7481.4+z	J2+16	1120.7 *6*	0.993[‡] *22*	6360.7+z	J2+14
8656.9+z	J2+18	1175.5 *9*	1.042[‡] *22*	7481.4+z	J2+16
9887.3+z	J2+20	1230.4 *4*	1.056[‡] *15*	8656.9+z	J2+18
11174.0+z	J2+22	1286.7 *4*	0.968[‡] *14*	9887.3+z	J2+20
12516.7+z	J2+24	1342.7 *4*	0.845[‡] *14*	11174.0+z	J2+22
13916.1+z	J2+26	1399.4 *4*	0.792[‡] *14*	12516.7+z	J2+24
15372.4+z	J2+28	1456.3 *5*	0.718[‡] *14*	13916.1+z	J2+26
16885.8+z	J2+30	1513.4 *5*	0.563[‡] *13*	15372.4+z	J2+28
18455.8+z	J2+32	1570.0 *5*	0.428[‡] *13*	16885.8+z	J2+30
20083.5+z	J2+34	1627.7 *6*	0.225[‡] *12*	18455.8+z	J2+32
21769+z	J2+36	1685.6 *9*	0.135[‡] *12*	20083.5+z	J2+34

$^{151}_{64}Gd_{87}$-26

Adopted Levels, Gammas (continued)

γ(^{151}Gd) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π
23512+z	J2+38	1742.9 *11*	0.052[‡] *11*	21769+z	J2+36
832.8+u	J3+2	832.8 *6*	0.424[‡] *17*	u	J3≈(65/2$^-$)
1706.8+u	J3+4	874.0 *4*	0.713[‡] *17*	832.8+u	J3+2
2622.6+u	J3+6	915.8 *5*	0.925[‡] *19*	1706.8+u	J3+4
3580.9+u	J3+8	958.3 *3*	0.971[‡] *18*	2622.6+u	J3+6
4581.8+u	J3+10	1000.9 *4*	1.013[‡] *18*	3580.9+u	J3+8
5627.7+u	J3+12	1045.9 *3*	1.028[‡] *18*	4581.8+u	J3+10
6718.8+u	J3+14	1091.1 *4*	1.035[‡] *18*	5627.7+u	J3+12
7856.2+u	J3+16	1137.4 *5*	1.004[‡] *19*	6718.8+u	J3+14
9042.1+u	J3+18	1185.9 *9*	0.99[‡] *3*	7856.2+u	J3+16
10278.2+u	J3+20	1236.1 *5*	0.983[‡] *21*	9042.1+u	J3+18
11564.3+u	J3+22	1286.1 *4*	0.983[‡] *19*	10278.2+u	J3+20
12901.9+u	J3+24	1337.5 *4*	0.987[‡] *18*	11564.3+u	J3+22
14290.6+u	J3+26	1388.7 *4*	0.848[‡] *19*	12901.9+u	J3+24
15734.0+u	J3+28	1443.4 *6*	0.662[‡] *17*	14290.6+u	J3+26
17231.8+u	J3+30	1497.8 *12*	0.544[‡] *21*	15734.0+u	J3+28
18783+u	J3+32	1551.5 *15*	0.398[‡] *21*	17231.8+u	J3+30
20390+u	J3+34	1606.2 *17*	0.329[‡] *18*	18783+u	J3+32
808.6+v	J4+2	808.6 *4*	0.391[‡] *15*	v	J4≈(63/2$^-$)
1662.8+v	J4+4	854.2 *4*	0.571[‡] *15*	808.6+v	J4+2
2558.1+v	J4+6	895.3 *6*	0.914[‡] *19*	1662.8+v	J4+4
3495.7+v	J4+8	937.5 *3*	0.987[‡] *18*	2558.1+v	J4+6
4474.9+v	J4+10	979.2 *7*	0.93[‡] *3*	3495.7+v	J4+8
5498.7+v	J4+12	1023.9 *4*	1.048[‡] *20*	4474.9+v	J4+10
6566.9+v	J4+14	1068.2 *4*	1.033[‡] *18*	5498.7+v	J4+12
7681.0+v	J4+16	1114.1 *5*	1.023[‡] *18*	6566.9+v	J4+14
8842.6+v	J4+18	1161.5 *4*	1.040[‡] *18*	7681.0+v	J4+16
10052.3+v	J4+20	1209.8 *8*	0.968[‡] *23*	8842.6+v	J4+18
11313.6+v	J4+22	1261.3 *5*	1.011[‡] *19*	10052.3+v	J4+20
12626.1+v	J4+24	1312.5 *5*	0.968[‡] *19*	11313.6+v	J4+22
13989.3+v	J4+26	1363.2 *6*	0.989[‡] *19*	12626.1+v	J4+24
15406.0+v	J4+28	1416.7 *6*	0.818[‡] *18*	13989.3+v	J4+26
16875.6+v	J4+30	1469.6 *15*	0.543[‡] *21*	15406.0+v	J4+28
18400+v	J4+32	1524.0 *15*	0.444[‡] *17*	16875.6+v	J4+30
19980+v	J4+34	1580.5 *17*	0.236[‡] *16*	18400+v	J4+32

$^{151}_{64}Gd_{87}$-27

Adopted Levels, Gammas (continued)

$\gamma(^{151}Gd)$ (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π
21615+v	J4+36	1635.2 *18*	0.149‡ *14*	19980+v	J4+34
817.8+w	J5+2	817.8 *7*	0.220‡ *19*	w	J5≈(61/2$^-$)
1677.9+w	J5+4	860.0 *13*	0.365‡ *18*	817.8+w	J5+2
2577.7+w	J5+6	899.8 *5*	0.501‡ *16*	1677.9+w	J5+4
3516.1+w	J5+8	938.4 *7*	0.596‡ *19*	2577.7+w	J5+6
4494.6+w	J5+10	978.5 *4*	0.876‡ *19*	3516.1+w	J5+8
5515.7+w	J5+12	1021.2 *6*	0.888‡ *17*	4494.6+w	J5+10
6580.6+w	J5+14	1064.9 *5*	0.989‡ *19*	5515.7+w	J5+12
7688.7+w	J5+16	1108.0 *4*	1.015‡ *17*	6580.6+w	J5+14
8843.1+w	J5+18	1154.4 *7*	0.971‡ *18*	7688.7+w	J5+16
10043.8+w	J5+20	1200.7 *5*	1.038‡ *20*	8843.1+w	J5+18
11293.1+w	J5+22	1249.3 *5*	1.026‡ *20*	10043.8+w	J5+20
12592.3+w	J5+24	1299.2 *8*	1.027‡ *15*	11293.1+w	J5+22
13942+w	J5+26	1349.8 *9*	0.957‡ *24*	12592.3+w	J5+24
15343+w	J5+28	1400.7 *12*	0.970‡ *23*	13942+w	J5+26
16795+w	J5+30	1451.8 *16*	0.785‡ *19*	15343+w	J5+28
18300+w	J5+32	1505.0 *15*	0.478‡ *18*	16795+w	J5+30
19855+w	J5+34	1555.3 *18*	0.186‡ *17*	18300+w	J5+32

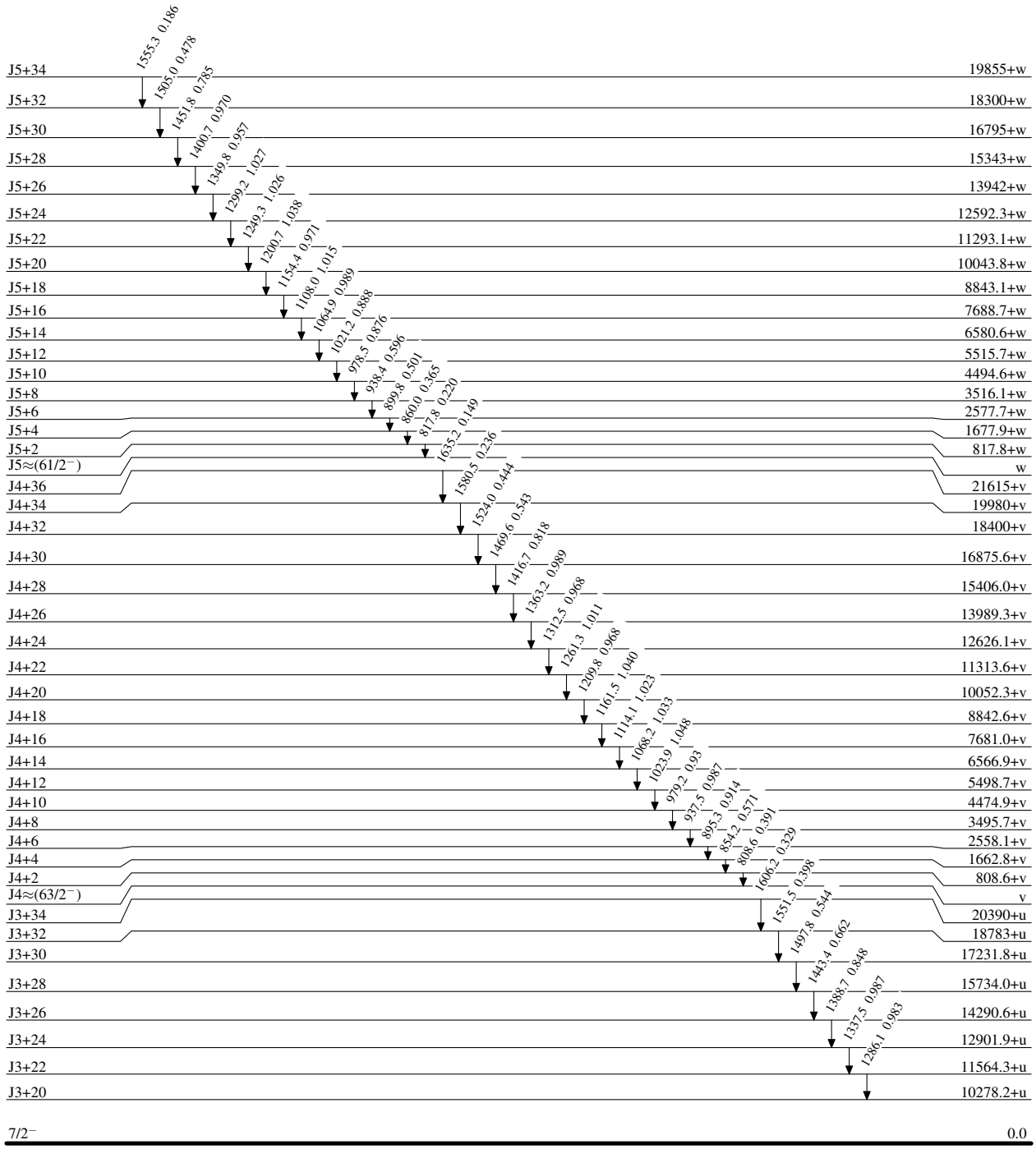
† From ^{151}Tb ε decay for levels which are commonly populated. Intensities are relative photon branching ratios unless otherwise noted.
‡ Relative intensity within each band normalized to ≈1 for the most intense transition in an SD band.
# From ce and/or $\gamma\gamma(\theta)$ data.
@ Poor energy fit in the decay scheme.
& Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.
a Placement of transition in the level scheme is uncertain.

$^{151}_{64}Gd_{87}$-28

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level



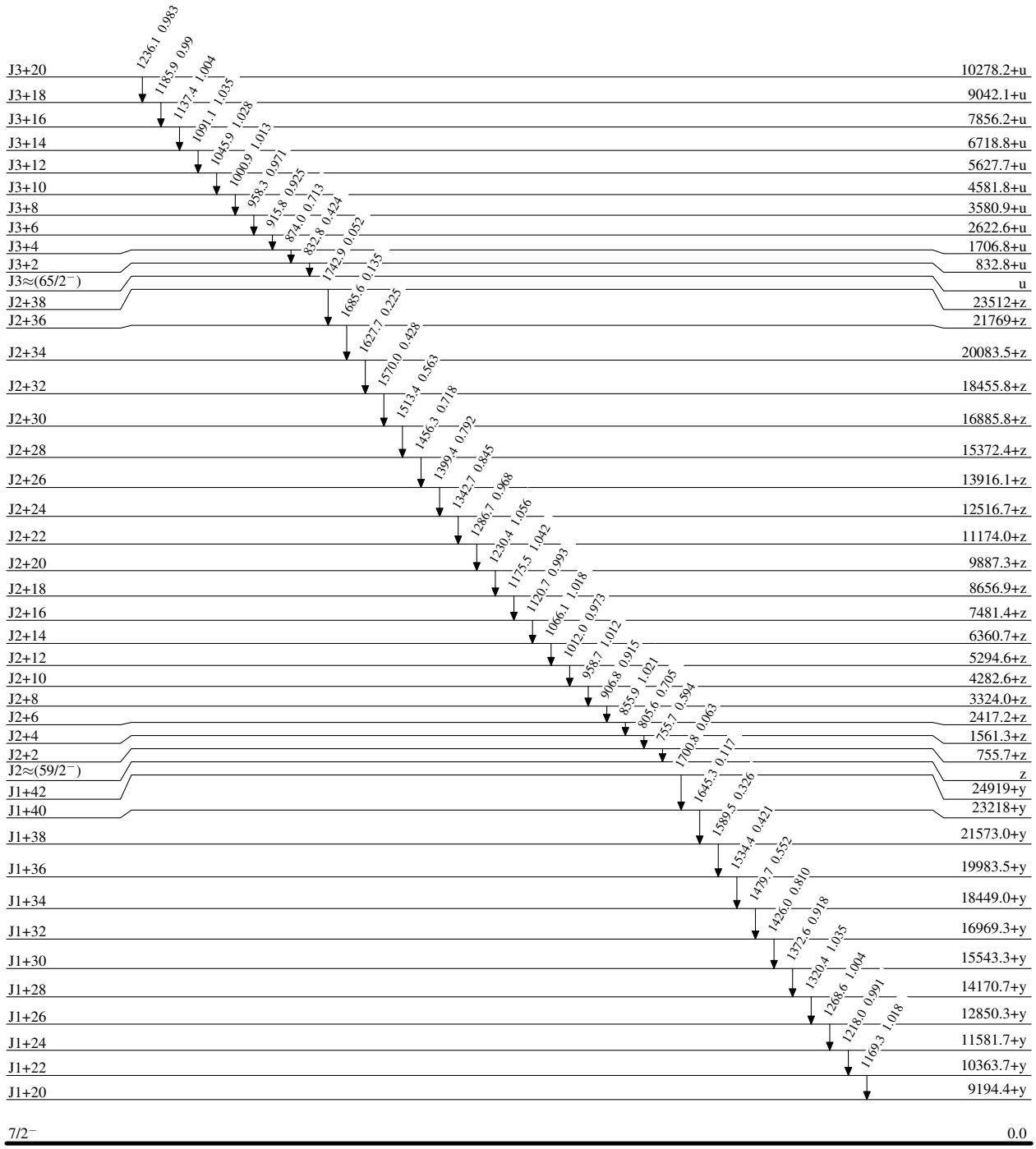
123.9 d *10*

$^{151}_{64}Gd_{87}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{151}_{64}Gd_{87}$

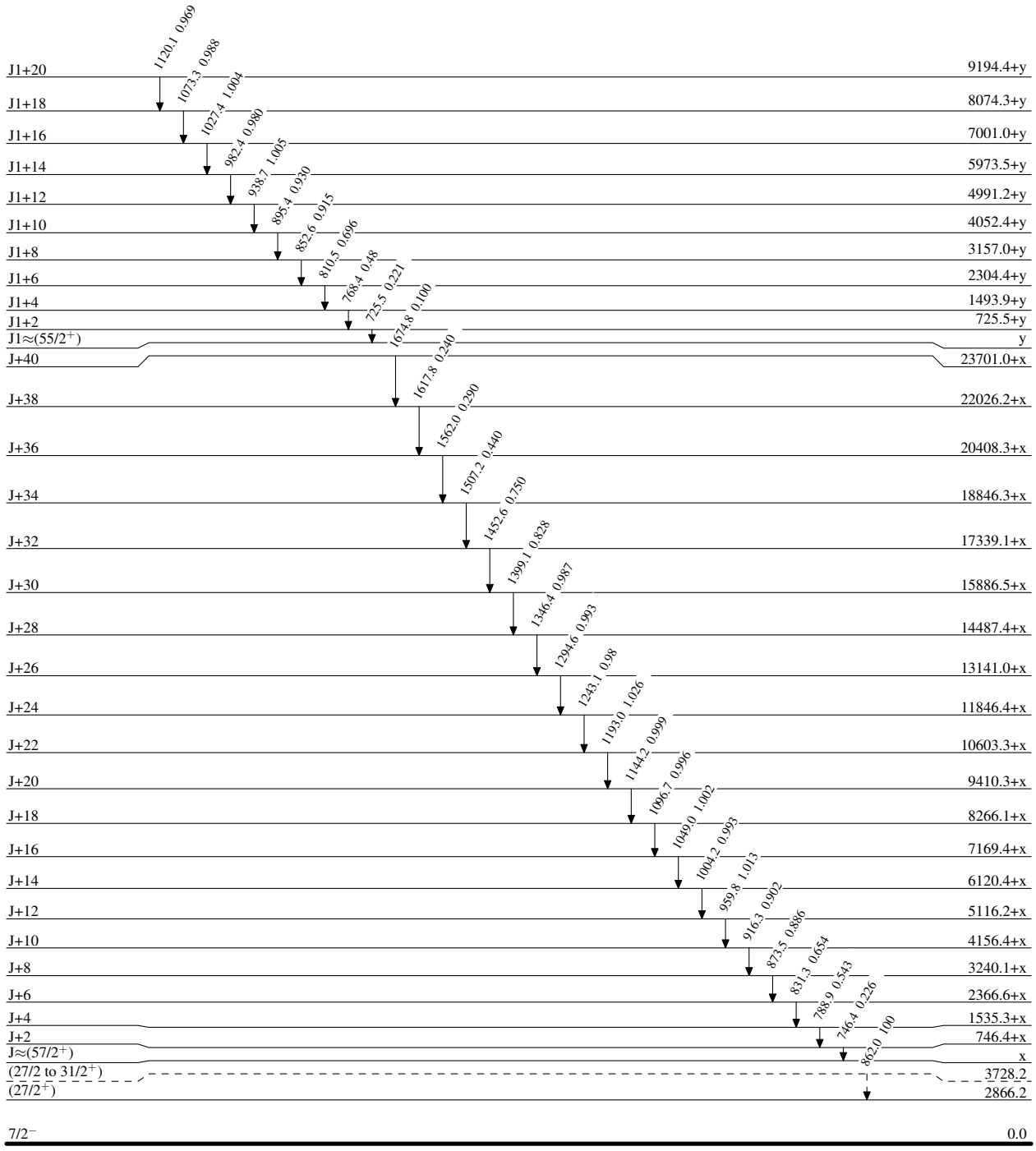
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{151}_{64}Gd_{87}$

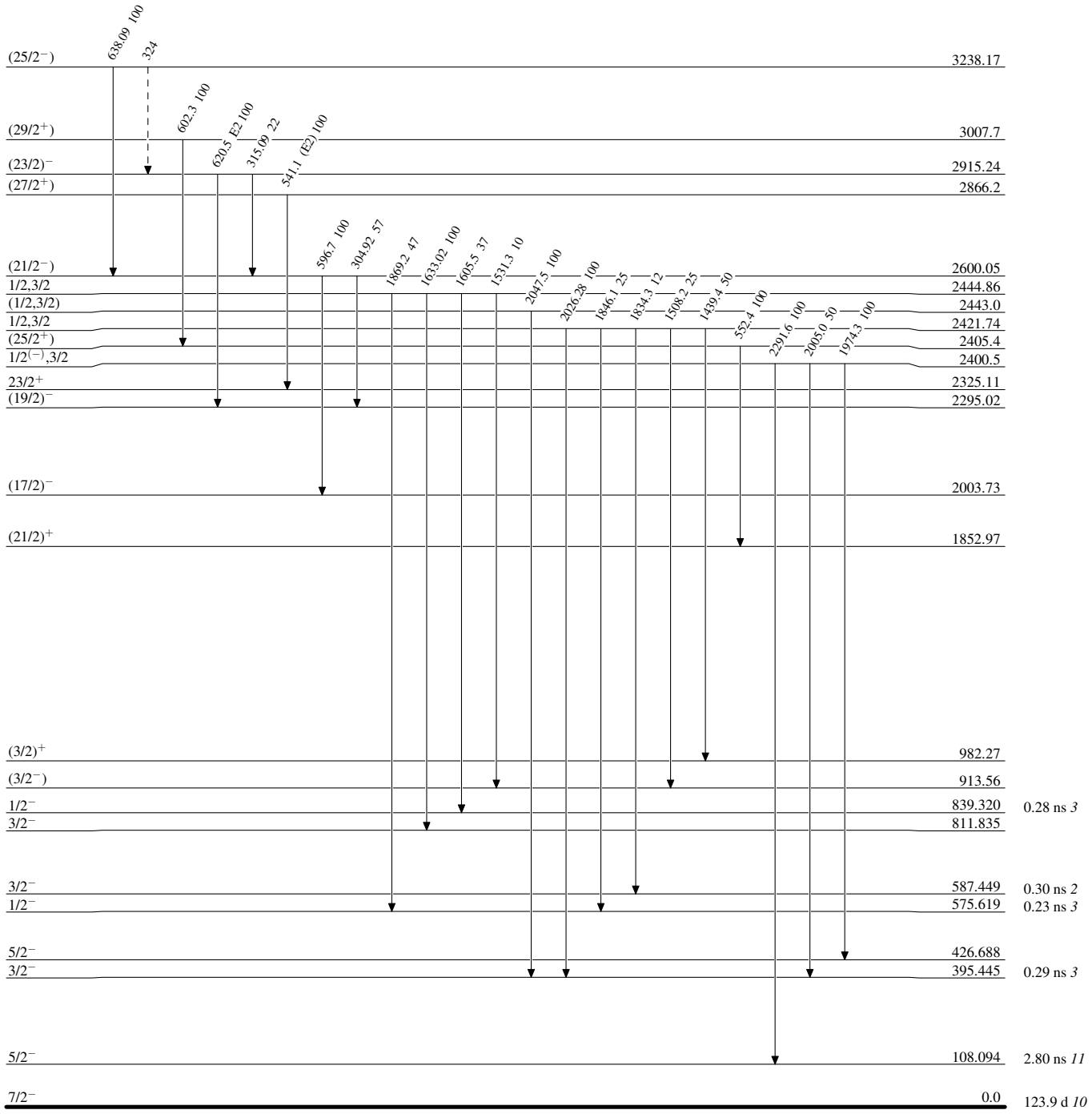
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)

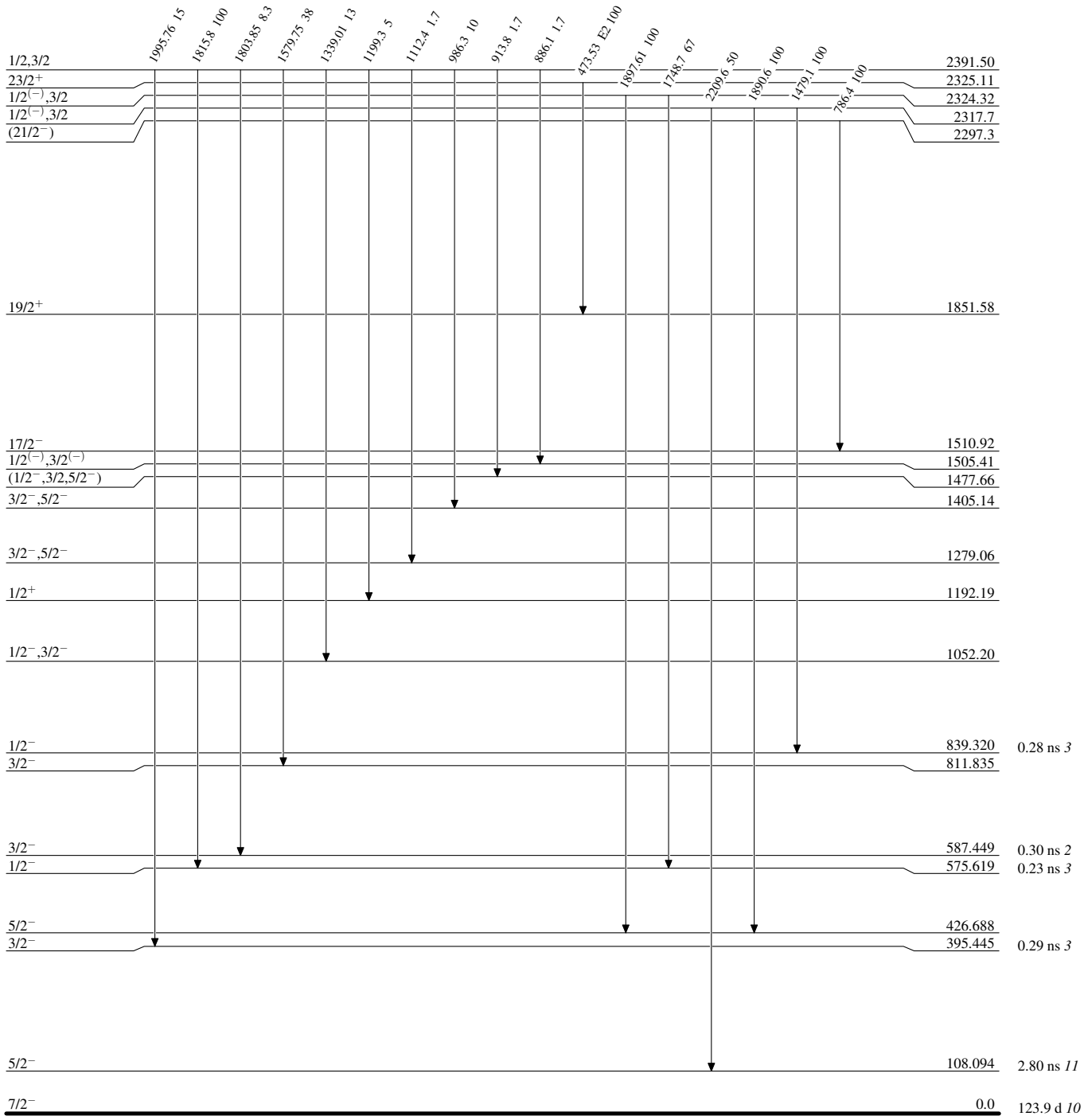


$^{151}_{64}Gd_{87}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

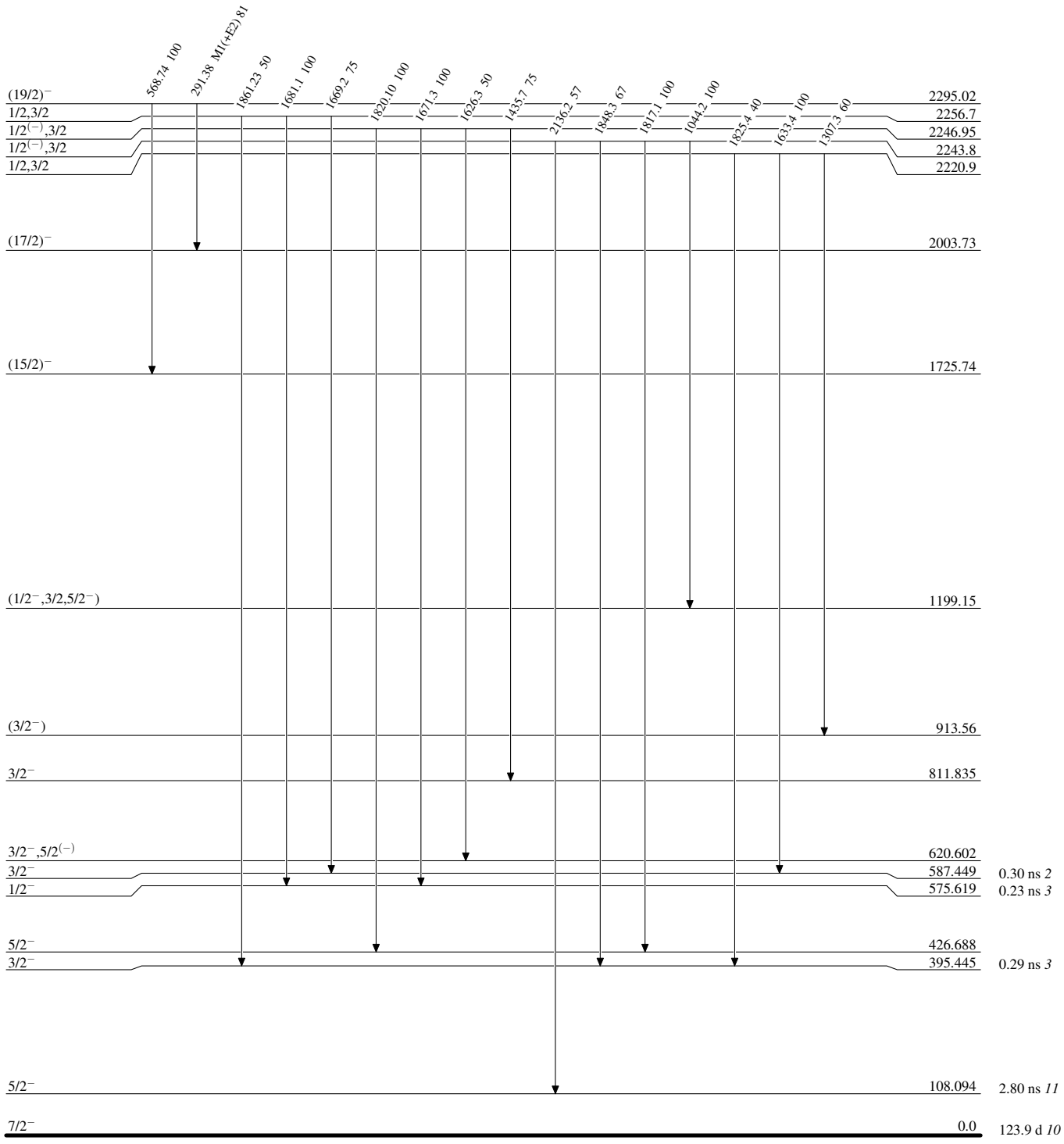


$^{151}_{64}Gd_{87}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

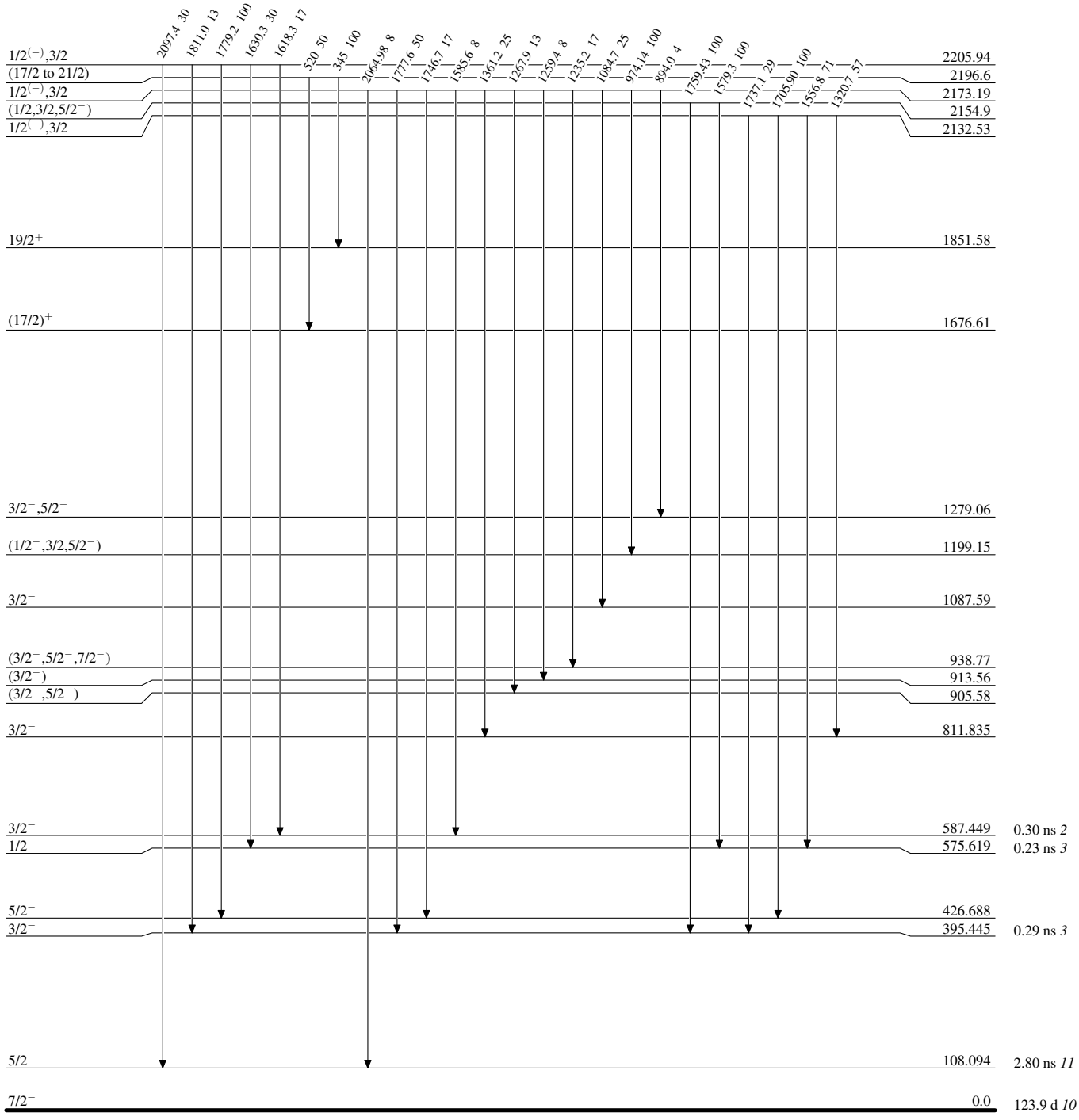


$^{151}_{64}Gd_{87}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

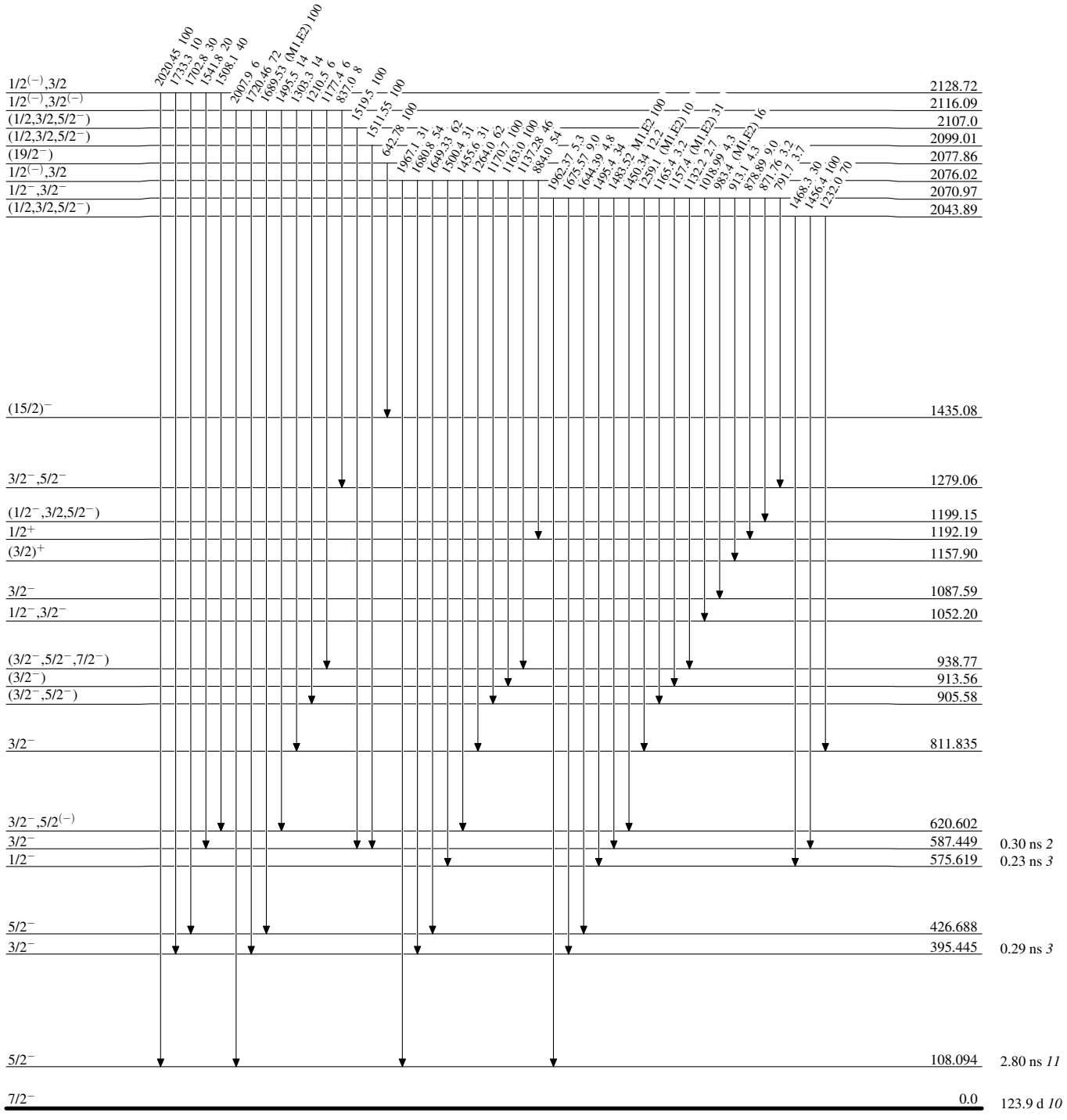


$^{151}_{64}Gd_{87}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

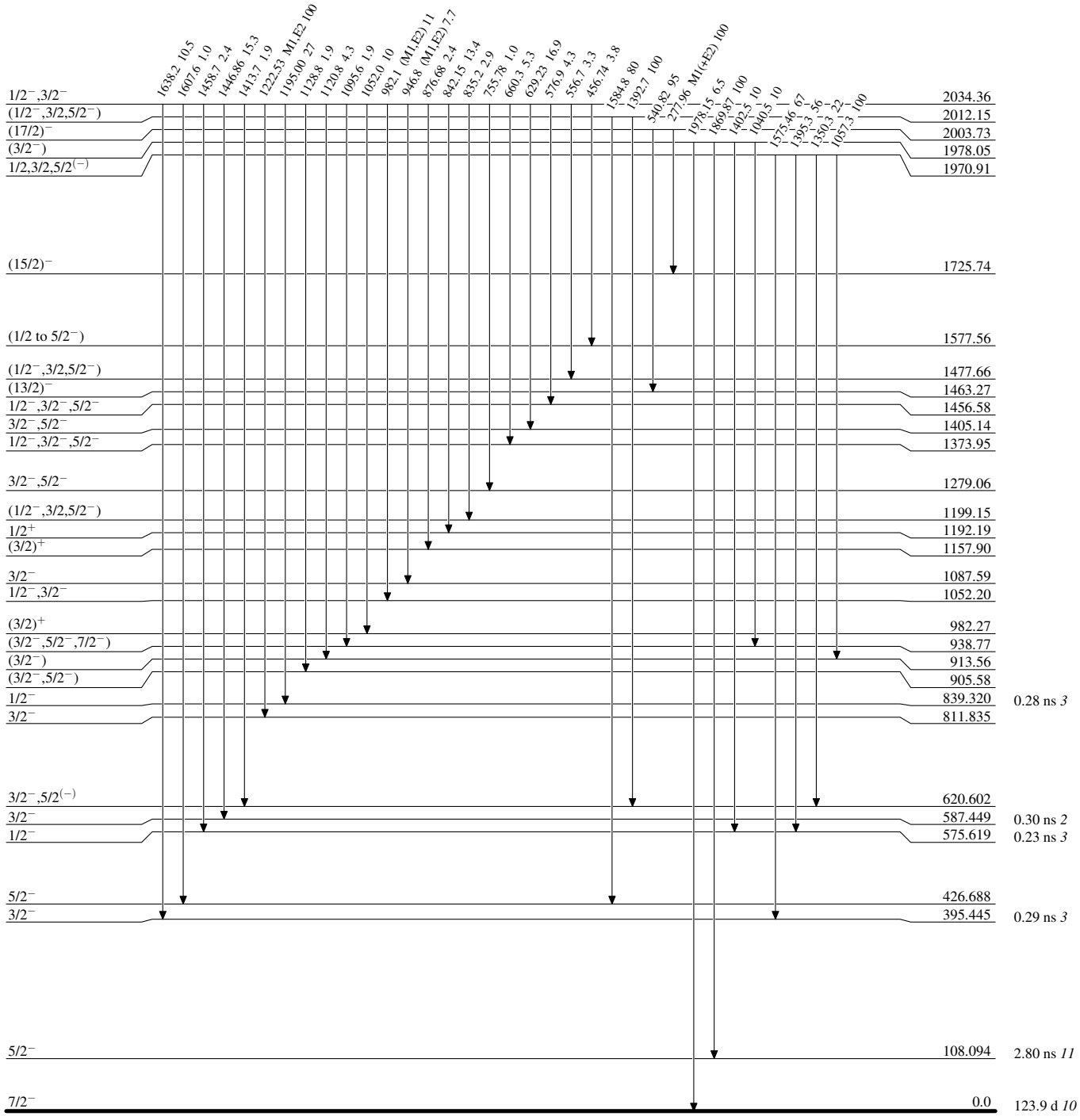


$^{151}_{64}Gd_{87}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

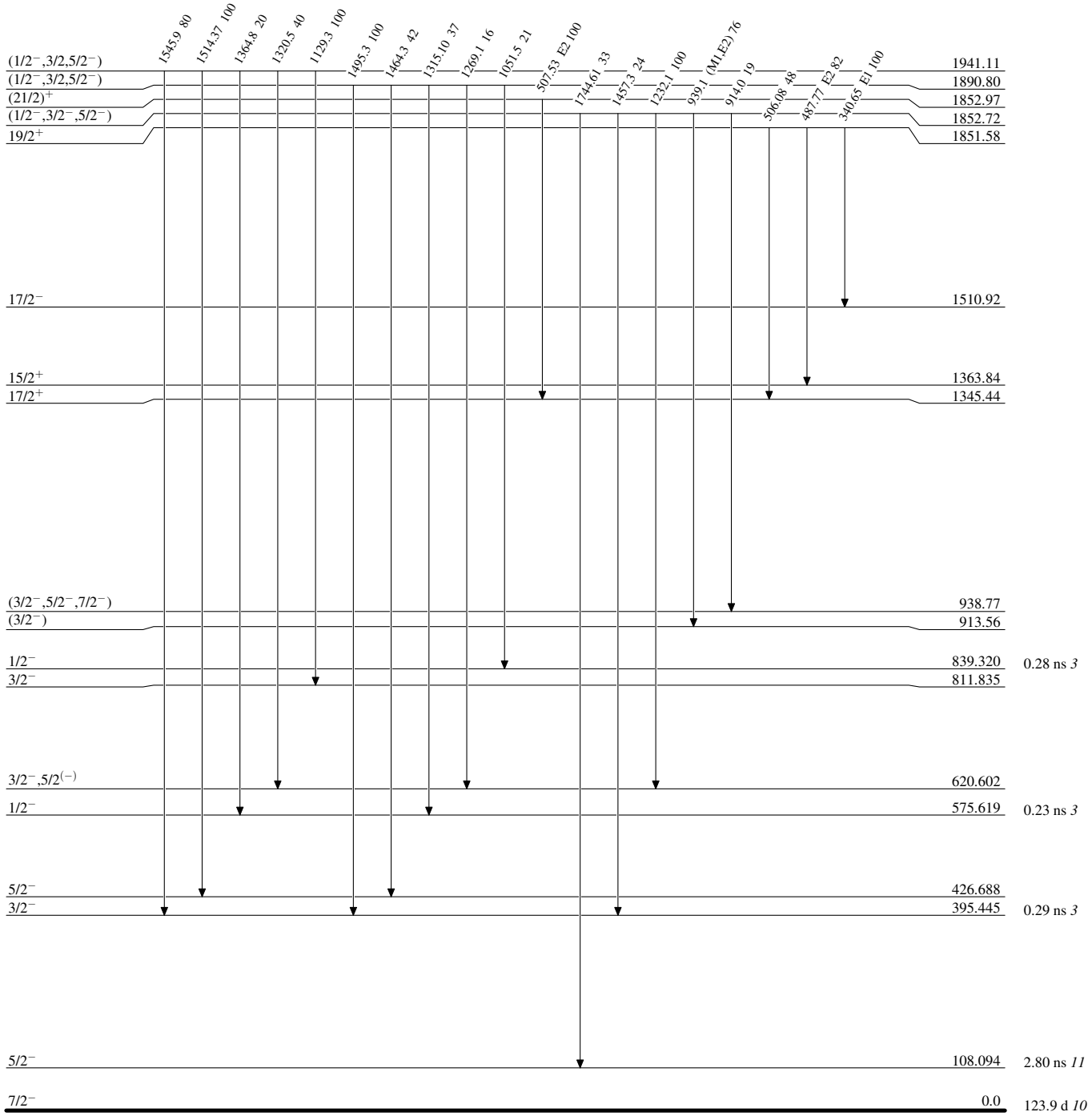


$^{151}_{64}Gd_{87}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

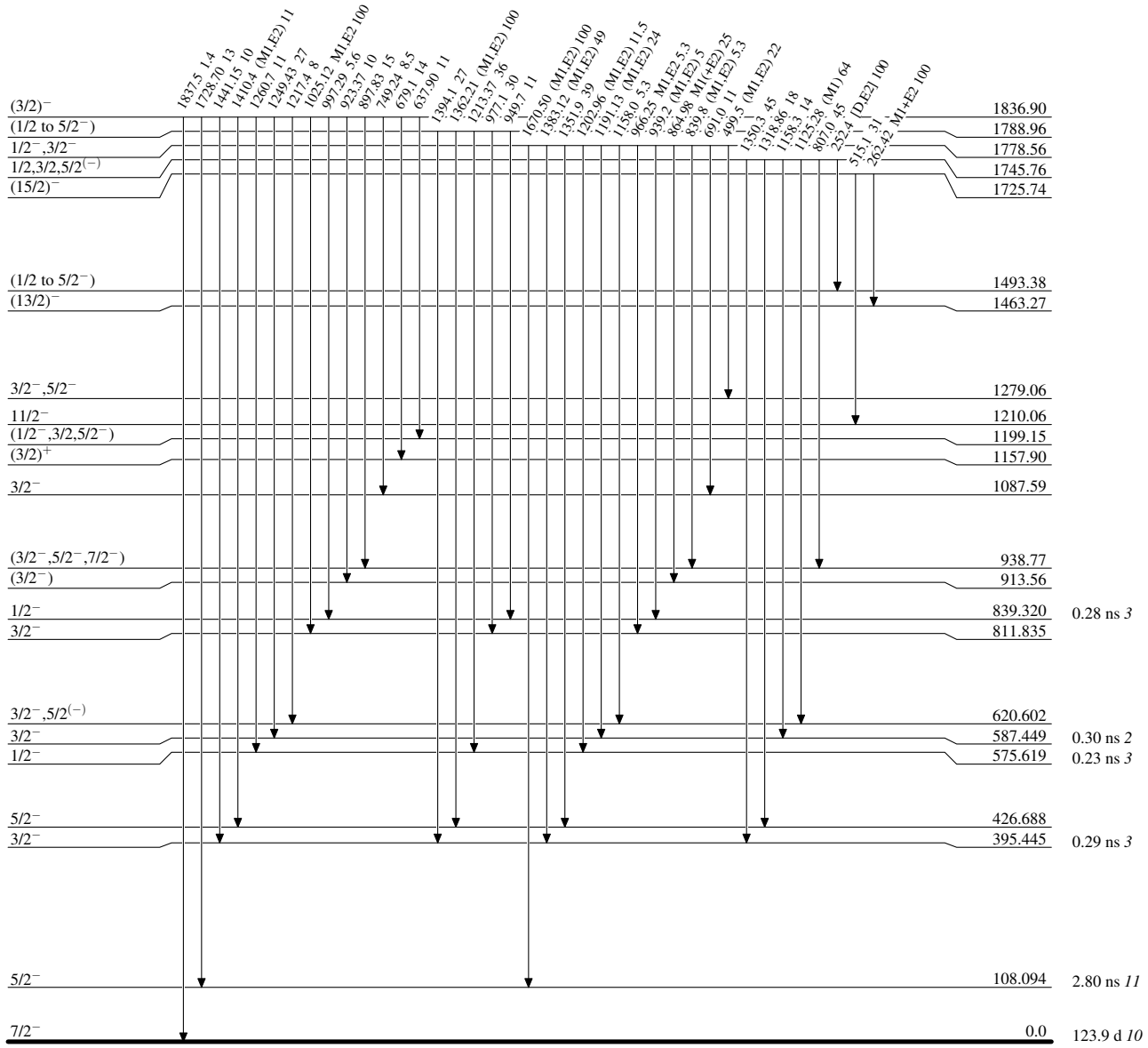


$^{151}_{64}Gd_{87}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



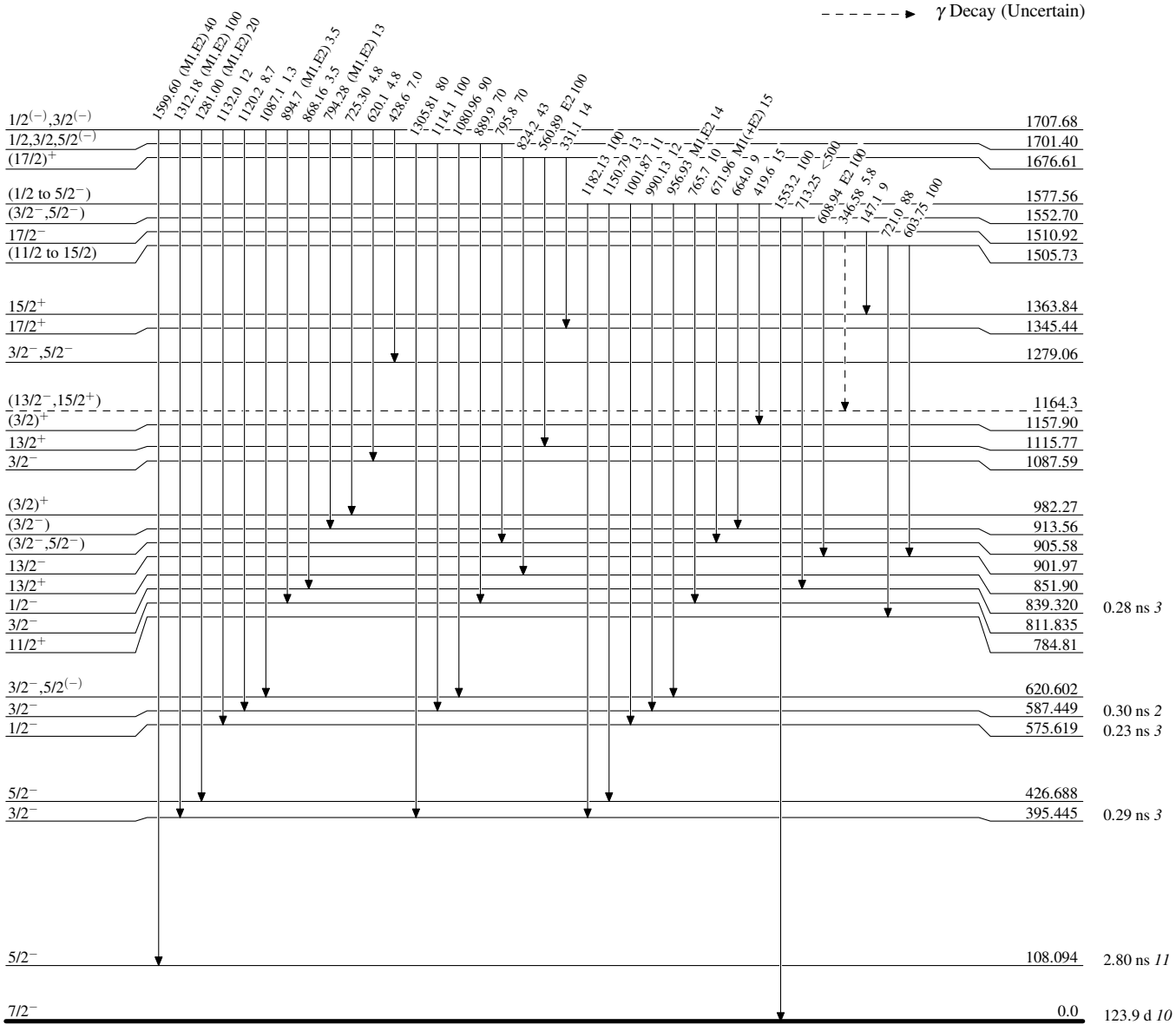
$^{151}_{64}Gd_{87}$

Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

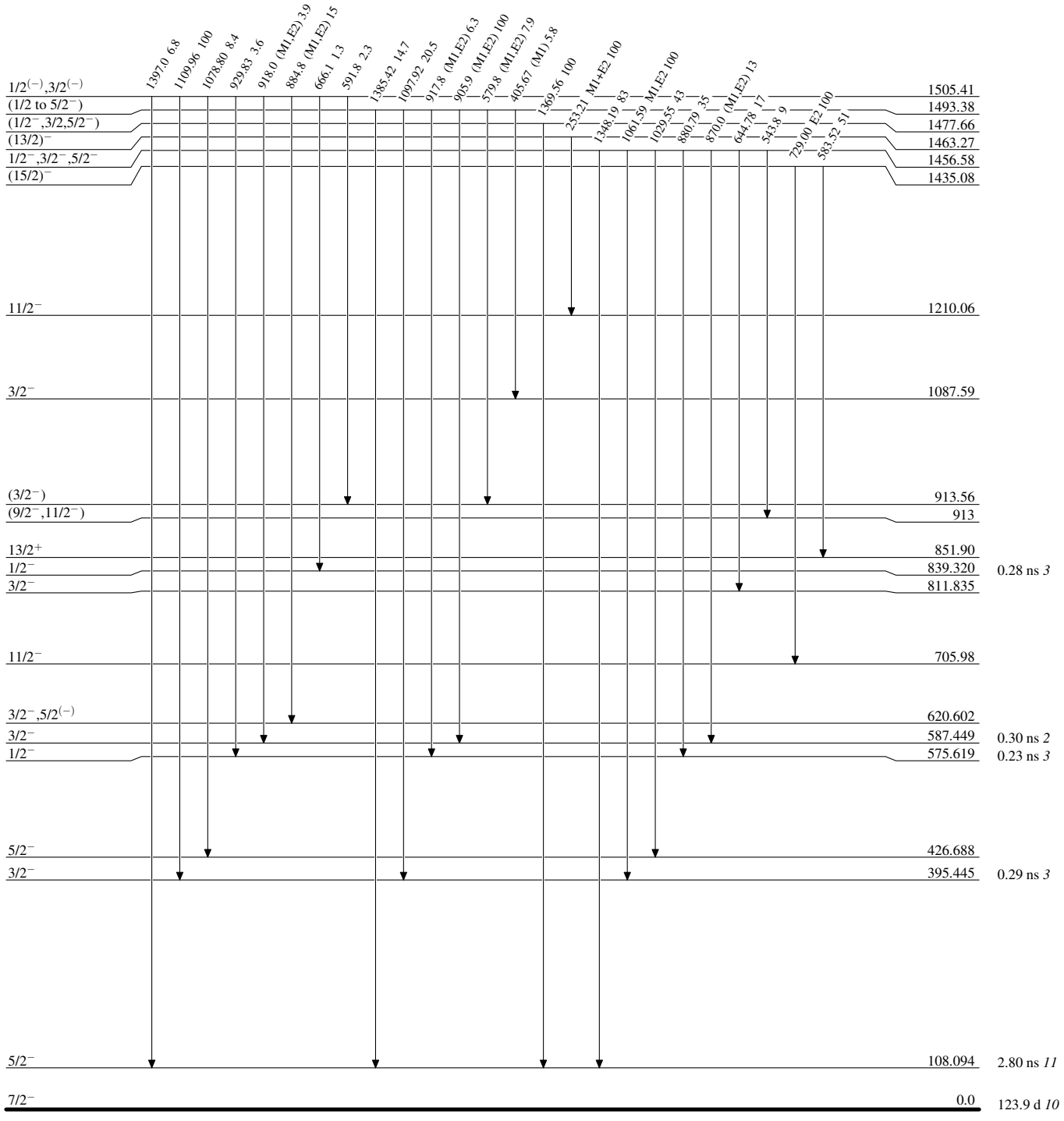


$^{151}_{64}Gd_{87}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



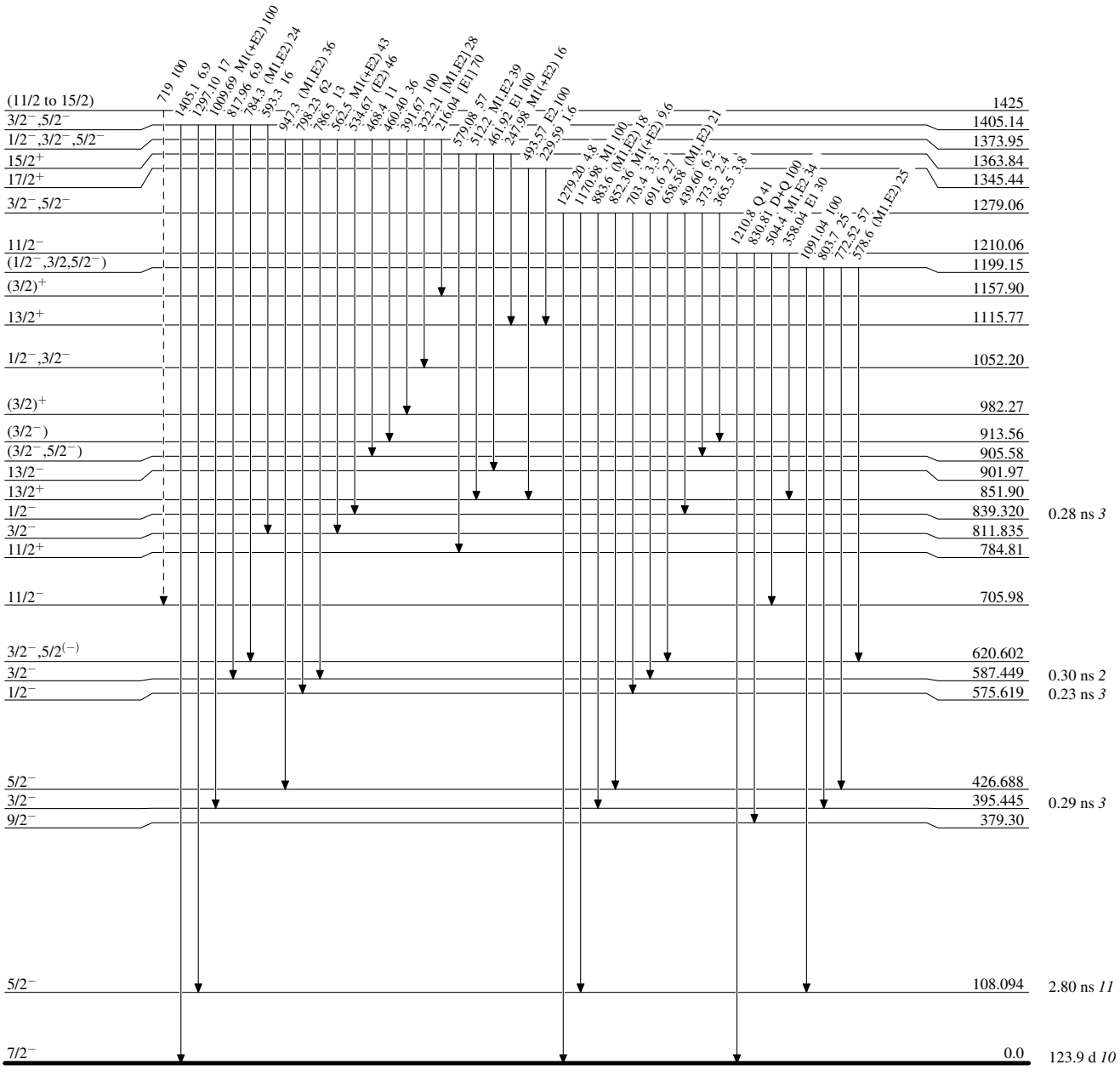
$^{151}_{64}Gd_{87}$

Adopted Levels, Gammas Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{151}_{64}Gd_{87}$

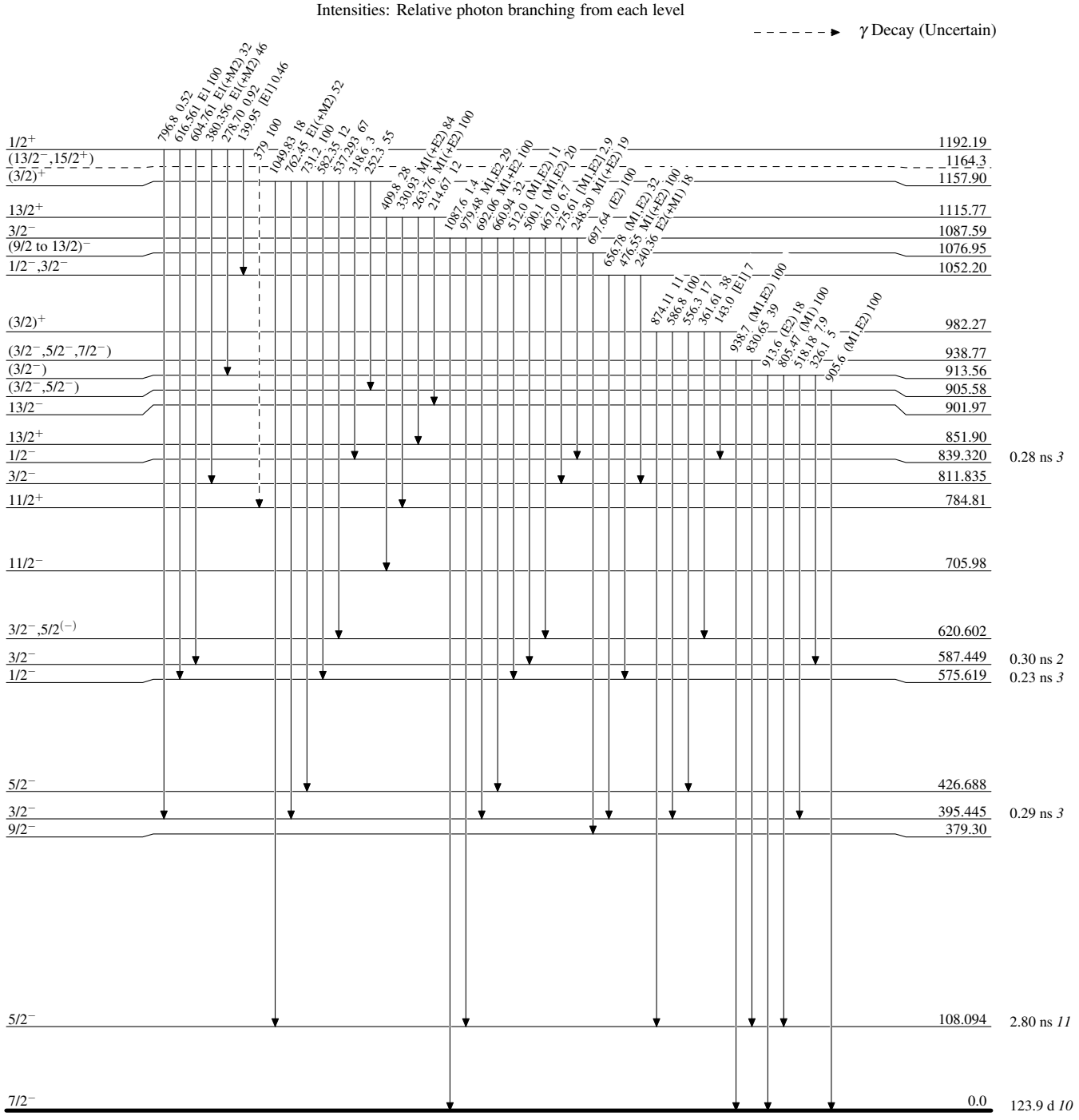
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

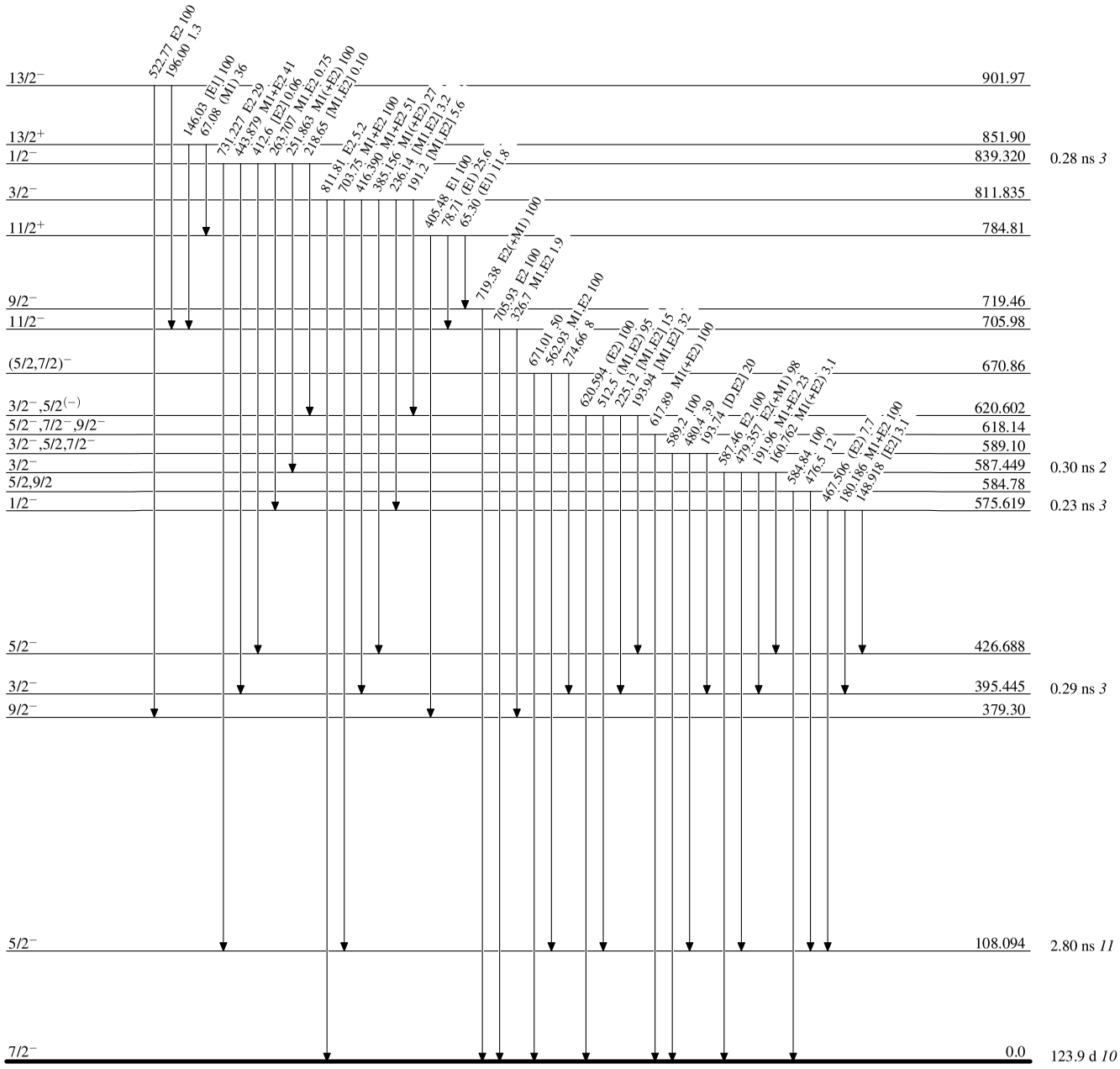


$^{151}_{64}Gd_{87}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

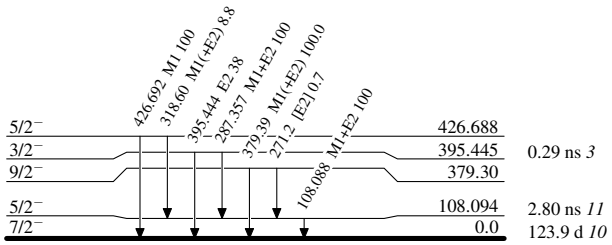


$^{151}_{64}Gd_{87}$

Adopted Levels, Gammas

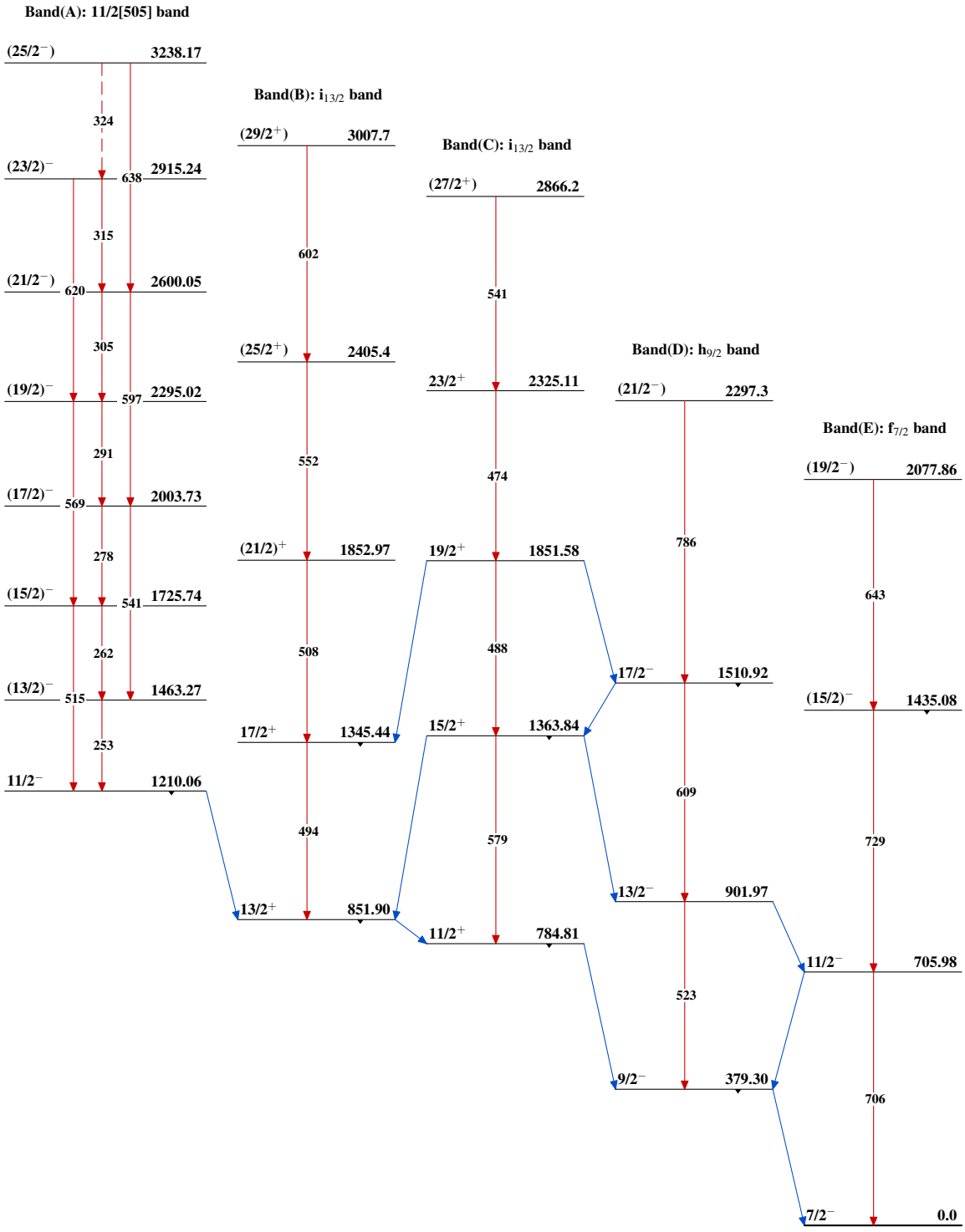
Level Scheme (continued)

Intensities: Relative photon branching from each level



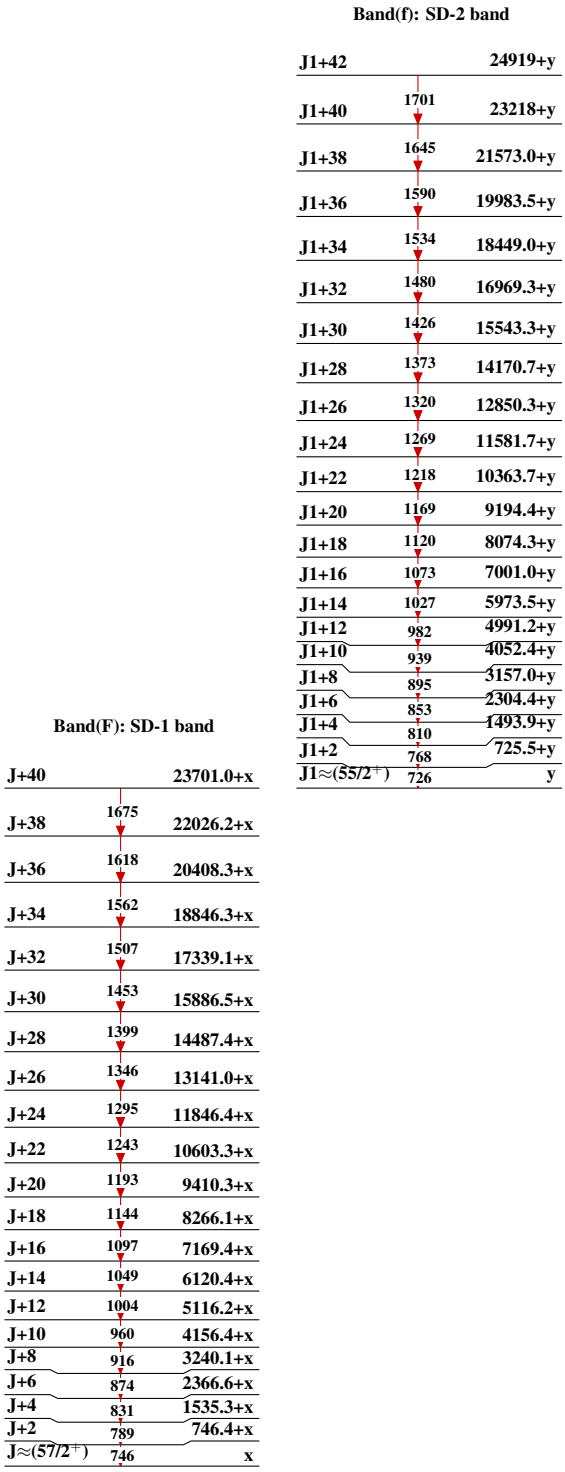
$^{151}_{64}Gd_{87}$

Adopted Levels, Gammas

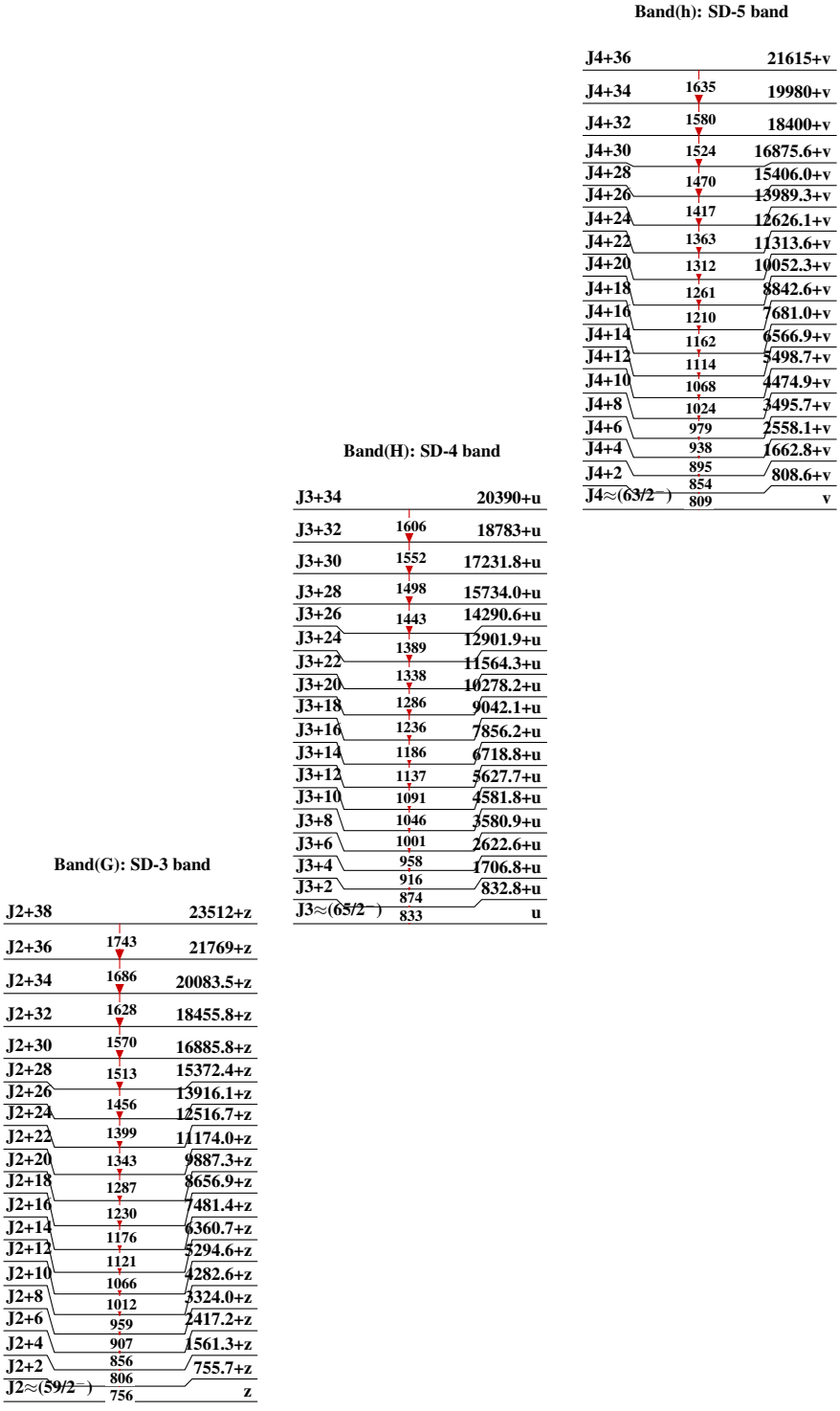


$^{151}_{64}Gd_{87}$

Adopted Levels, Gammas (continued)

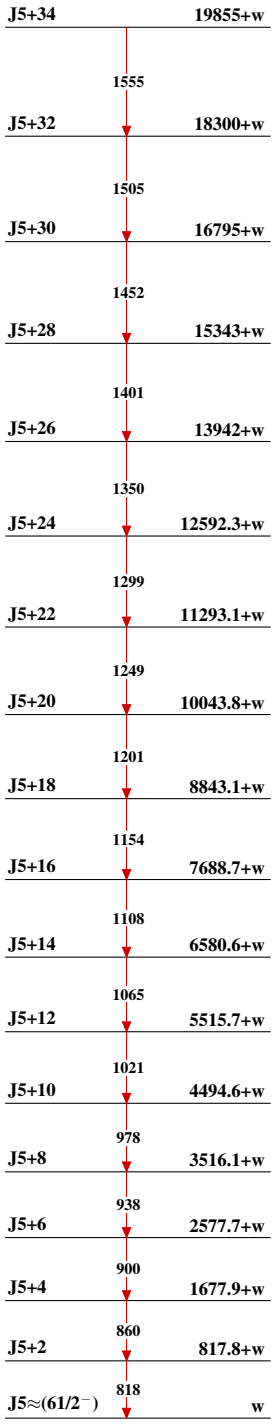


Adopted Levels, Gammas (continued)



Adopted Levels, Gammas (continued)

Band(I): SD-6 band



$^{151}_{64}Gd_{87}$