Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 160, 1 (2019)	21-Oct-2019

Q(β^-)=−820 *10*; S(n)=6435.24 *18*; S(p)=7620.7 *8*; Q(α)=81.5 *7* 2017Wa10

S(2n)=15329.96 *18*; S(2p)=14088.1 *8* 2017Wa10

1989Sh41 interpret the low-lying level scheme of ^{155}Gd in terms of parity-doublet bands, implying the existence of octupole deformation. Subsequently, 1992No05 (involving one of the authors of 1989Sh41) present calculations of the octupole correlations in this nuclide and conclude that the influence of such correlations is much reduced with respect to those in the near-lying nuclides, ^{153}Sm and ^{155}Sm.

^{155}Gd Levels

1996No10, in (γ,γ'), report B(M1) values for the transitions exciting the levels. These are based on the assumption that the exciting transitions are M1. This assumption has not yet been proven. The B(M1) values are not listed here; they are shown in the ^{155}Gd(γ,γ') data set.

Above≈1 MeV, the association of states reported in (d,d′) with those observed in other reactions is in many cases uncertain.

Cross Reference (XREF) Flags

A	^{155}Eu β^- decay (4.753 y)	F	^{154}Gd(n,γ) E=th,2,24 keV	K	^{156}Gd(d,t)
B	^{155}Gd IT decay (31.97 ms)	G	^{154}Gd(d,p)	L	^{156}Gd(^{3}He,α)
C	^{155}Tb ε decay	H	^{155}Gd(γ,γ')	M	^{157}Gd(p,t)
D	^{150}Nd(^{12}C,α3nγ),^{150}Nd(^{9}Be,4nγ)	I	^{155}Gd(d,d′)	N	Coulomb excitation
E	^{154}Sm(α,3nγ)	J	^{156}Gd(p,d),(p,dγ)		

E(level)[†]	J$^\pi$	T$_{1/2}$	XREF	Comments
0.0[e]	3/2$^-$	stable	ABCDEFGHIJKLMN	μ=−0.2574 *4*; Q=+1.27 *3* J$^\pi$: paramagnetic resonance; L=1 in ^{156}Gd(d,t) indicates π=−. μ: From 2014StZZ, . μ=−0.2591 *5* also listed in 2014StZZ. 1990GaZH report μ(^{157}Gd)/μ(^{155}Gd)=1.315 *1*. Q: From 1983La08, included in 2016St14. 1990Ji06 give Q=+1.27 *5*. 1990GaZH report Q(^{157}Gd)/Q(^{155}Gd)=1.064 *3*. Some of the values (in units of fm^2) reported for $\Delta<r^2>$(^{155}Gd−^{154}Gd) are as follows: 0.095 *3* (1989GaZO) and 0.089 *5* (1990Wa25), from high-resolution atomic-beam LASER spectroscopy of optical isotope shifts; 0.096 *23*, from muonic K- and L-x-ray measurements (1983La08); 0.112 *24*, from isotope shifts of electronic K-x-ray transitions (1969Bh02). For $\Delta<r^2>$(^{156}Gd−^{155}Gd), values of 0.101 fm^2 *4* and 0.092 fm^2 *13* are reported by 1989GaZO and 1969Bh02, respectively. In their evaluation of nuclear charge radii from electromagnetic interactions, 1995Fr22 report $\Delta<r^2>$(^{156}Gd−^{155}Gd)= 0.111 fm^2 *12*, from a combined analysis of data from optical, muonic-atom and electromagnetic studies. 1987Au06 give a compilation of optical isotope-shift information (expressed, however, in terms of the nuclear parameter, λ). Using a violet diode LASER, 2003Yi02 measure the isotope shifts and hyperfine structures of the odd-mass isotopes of Gd. In an evaluation of nuclear rms charge radii, 2013An02 report $<r^2>^{1/2}$=5.1319 fm *41*.
60.0106[f] *6*	5/2$^-$	0.196 ns *15*	A CDEFGHIJK MN	Q=−0.44 *2* J$^\pi$: M1+E2 to g.s. Energy and B(E2)↑ in Coul. ex. indicate that this is the 5/2$^-$ member of the ground-state band. T$_{1/2}$: weighted average of: 0.198 ns *17*, from B(E2)↑ in Coul. ex. and

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Adopted Levels, Gammas (continued)

^{155}Gd Levels (continued)

E(level)†	J$^{\pi}$	T$_{1/2}$	XREF	Comments
				the adopted γ branching; and 0.194 ns *15*, from Mossbauer (1973Ar03). Others: 0.24 ns *6* βce(t) (1966Kr01); and 1.7 ns *5* (1966Ba28). Q: From 2014StZZ.
86.5464^{g} *6*	5/2^{+}	6.50 ns *4*	ABCDEFG JK	μ=−0.525 *2*; Q=+0.110 *8* J$^{\pi}$: E1 transitions to 3/2^{-} and 5/2^{-} states indicate π=+ and J=3/2, 5/2. $\gamma\gamma(\theta)$ results of 1971Ba25, 1971Be23, 1970VaZP and 1968HrZZ indicate J=5/2. T$_{1/2}$: weighted average of: 6.68 ns *12* (1964Bo16) and 6.65 ns *14* (1966Hr02) $\gamma\gamma$(t); 6.35 ns *9* (1966Kr01), 6.27 ns *35* (1966Mc07), 6.65 ns 20 (1966Me06) and 6.48 ns *26* (1967Ma27) $\beta\gamma$(t) and βce(t); 6.36 ns *12* (1969La35), 6.64 ns *37* (1970MoZP), 6.71 ns *13* (1970VaZP) and 6.48 ns *6* (1980Bu27) $\gamma\gamma$(t). These values are from both the ^{155}Eu β^{-} and the ^{155}Tb ε decays. μ: From 2014StZZ. Other values listed are −0.533 *4*, −0.518 *5*. Q: From 2016St14.
105.3106^{g} *6*	3/2^{+}	1.16 ns *1*	A CDEFG JKL	μ=+0.143 *5*; Q=+1.27 *5* J$^{\pi}$: from Mossbauer spectroscopy (1968Bl07), J=3/2. E1 transition to 3/2^{-} state indicates π=+. T$_{1/2}$: weighted average of: 1.05 ns *5* (1961Ha44) $\gamma\gamma$(t); 1.14 ns *3* (1966Kr01) $\beta\gamma$(t) and βce(t); 1.20 *4* (1966Mc07) βce(t); 1.11 *6* (1966Me06) $\beta\gamma$(t), 1.12 *5* (1967Ma27) $\beta\gamma$(t); 1.17 *5* (1969La35) $\gamma\gamma$(t); 1.26 ns *21* (1970MoZP) $\gamma\gamma$(t); 1.26 ns *21* (1970VaZP) $\gamma\gamma$(t); 1.18 ns *2* (1971Ba26) $\gamma\gamma$(t) and γ-ce(t). These values are from both the ^{155}Eu β^{-} and the ^{155}Tb ε decays. μ: From 2014StZZ. Q: From 2016St14.
107.5804^{g} *10*	9/2^{+}		ABCDEFG JK N	J$^{\pi}$: sole decay mode is an E2 transition to a 5/2^{+} state. Fed by an E1 transition from an 11/2^{-} state.
117.9981^{g} *7*	7/2^{+}		A CDEF H J N	J$^{\pi}$: M1 components in transitions to 5/2^{+} and 9/2^{+} states.
121.10^{p} *19*	11/2^{-}	31.97 ms *27*	B E G KL	%IT=100 J$^{\pi}$: populated via L=5 transfer in (d,t) and (^{3}He,α). Systematics of 11/2^{-} isomers in this mass region indicates that this is the 11/2[505] Nilsson state. T$_{1/2}$: from 1972Br53, γ(t). Others: 1978Kl11, 1977Go15, 1971KiZC, 1970Bo02, 1969Li21, 1968EtZZ, 1967Bo05.
146.0696^{e} *7*	7/2^{-}	0.102 ns *11*	A CDEFGHIJK MN	μ=+0.4 *4* (2014StZZ) T$_{1/2}$: from B(E2)↑ in Coul. ex. and adopted γ+ce branching. J$^{\pi}$: M1+E2 to 5/2^{-} state. Cross section for Coul.ex. and level energy indicate that this is the 7/2^{-} member of the g.s. band.
214.3515^{h} *14*	13/2^{+}		DEFG JKL N	J$^{\pi}$: L=6 in (d,t) and (^{3}He,α). Measured (^{3}He,α) cross section indicates that this is the lowest of the 13/2^{+} states that are associated with the i13/2-related Nilsson states in ^{155}Gd.
230.1286^{g} *13*	11/2^{+}		DEFG K N	J$^{\pi}$: E2 to 7/2^{+}, (M1+E2) to 9/2^{+} and expected band structure.
251.7056^{f} *10*	9/2^{-}	58$^{\&}$ ps *6*	EFG I K N	μ=+1.2 *3* (2014StZZ) μ: Computed from g=+0.27 *7*, from 1998St28 (Coul. ex.). J$^{\pi}$: population via L=5 transfer in (d,p) and (d,t) indicates J$^{\pi}$=9/2^{-},11/2^{-}. E2 transition to 5/2^{-} rules out 11/2^{-}. Observation in Coul. ex. establishes this as a member of the g.s. band.
266.6474^{k} *7*	5/2^{+}		C Fg Jk	XREF: g(268.62?)k(268.62?). From the (d,p),(d,t) population in other nuclides of levels having the configurations assigned to this state and the 268.6 state, most all of the observed strength in the 268.62 peak is expected to be

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Adopted Levels, Gammas (continued)

^{155}Gd Levels (continued)

E(level)[†]	J^π	$T_{1/2}$	XREF	Comments
				associated with the 268.6 level, although a small population of this 266.6 level cannot be ruled out. J^π: M1 components in transitions to $3/2^+$ and $7/2^+$ states.
268.6238[i] *7*	$3/2^+$		C Fg JkL	XREF: g(268.62)k(268.62)L(263). J^π: from resonance-averaged neutron capture, J^π=$1/2^+$,$3/2^+$; from L=2 in (p,d),(p,dγ), J^π=$3/2^+$,$5/3^+$ (also E1 transition to $5/2^-$ state eliminates $1/2^+$ and J=3/2 is consistent with $\gamma\gamma(\theta)$ results of 1970Va40).
282.65[q] *24*	$13/2^-$		DE	J^π: sole decay mode is via an M1+E2 γ to the 11/2[505] bandhead. Level energy and population in (α,3nγ) and (^{12}C,α3nγ) suggest that this is the $13/2^-$ member of this band.
287.0041[j] *7*	$3/2^-$		C FG K M	J^π: from resonance-averaged neutron capture, J^π=$1/2^-$,$3/2^-$. M1 component in transition to $5/2^-$ rules out $1/2^-$.
321.3793[j] *6*	$5/2^-$		C FG IJK N	J^π: E1 transitions to $3/2^+$ and $7/2^+$ states.
326.0881[i] *8*	$5/2^+$		C FG JK	J^π: M1 transitions to $3/2^+$ and $7/2^+$ states.
350.4355[k] *9*	$7/2^+$		C FG JK	J^π: M1 transitions to $7/2^+$ and $9/2^+$ states, E2 to $3/2^+$.
367.6342[l] *8*	$1/2^+$		C FG JKL	J^π: from resonance-averaged neutron capture, J^π=$1/2^+$,$3/2^+$. Large value of the (d,t) cross section for populating this level indicates that it is the $1/2^+$ member of the 1/2[400] band.
392.317[e] *4*	$11/2^-$	23[&] ps *2*	EF I N	μ=+1.5 *3* (2014StZZ) μ: Computed from g=+0.28 *6*, from 1998St28 (Coul. ex.). J^π: M1+E2 transition to $9/2^-$ and E2 to $7/2^-$. Level energy and population in Coul. ex. establish this as the $11/2^-$ member of the g.s. band.
393.5322[j] *11*	$7/2^-$		FG K	J^π: M1 components in transitions to $9/2^-$ and $5/2^-$ states.
423.4123[i] *13*	$7/2^+$		FG i K	XREF: i(422?). J^π: M1 transitions to $5/2^+$ and $9/2^+$ states.
423.82[h] *17*	$17/2^+$		DE N	J^π: E2 γ to $13/2^+$ and expected band structure.
427.2375[l] *7*	$3/2^+$		C FG iJK	XREF: i(422?). J^π: J^π=$1/2^+$,$3/2^+$ from resonance-averaged neutron capture. M1 to $5/2^+$ rules out $1/2^+$.
450.5630[m] *8*	$3/2^-$		C Fg iJk MN	XREF: g(450.56)i(449)k(450.56). J^π: J^π=$1/2^-$,$3/2^-$ from resonance-averaged neutron capture. E1 transition to $5/2^+$ eliminates $1/2^-$.
451.3716[m] *8*	$1/2^-$		C Fg iJk	XREF: g(450.56?)i(449?)k(450.56). From the (d,p),(d,t) population of members of the 1/2[530] band in other nuclides, most all of the L=1 strength in this reaction populates the $3/2^-$ level. Thus, most of the 450.56 peak is to be associated with the 450.56 state, although the presence of a small component to this (451.3) state cannot be ruled out. J^π: from resonance-averaged neutron capture, J^π=$1/2^-$,$3/2^-$. M1 and E2 transitions to $3/2^-$ and $5/2^-$ members, respectively, of the ground-state band reveal a preference for $1/2^-$. Intraband level-energy spacings indicate this is the J^π=$1/2^-$ member of the 1/2[530] band.
453.67[g] *13*	$15/2^+$		DE N	J^π: E2 γ to $11/2^+$, M1+E2 γ to $13/2^+$, and expected band structure.
454.4744[n] *10*	$5/2^-$		C FG JK	J E1 to $7/2^+$ state, M1 to $3/2^-$ state.
463.88[p] *24*	$15/2^-$		DE	J^π: M1+E2 to $13/2^-$, E2 to $11/2^-$ and expected band structure.
480 *15*			L	
485.975[j] *4*	$(9/2^-)$		FG I K	XREF: G(485.02)K(485.02). J^π: from agreement of experimental and theoretical (d,t) cross sections for population of the 3/2[532] band.
488.7209[l] *8*	$5/2^+$		C FG JK	J^π: M1 transitions to $3/2^+$ and $7/2^+$ states.
534.30[f] *10*	$13/2^-$	15[&] ps *2*	E G I K N	μ=+1.9 *3* (2014StZZ) μ: Computed from g=+0.29 *5*, from 1998St28 (Coul. ex.).

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Adopted Levels, Gammas (continued)

^{155}Gd Levels (continued)

E(level)[†]	J^π	$T_{1/2}$	XREF	Comments
				J^π: M1+E2 transition and E2 transition to the $11/2^-$ and $9/2^-$ members, respectively, of the ground-state band. Level energy and population in Coul. ex. establish this as the $13/2^-$ member of the g.s. band.
553.371[n] *4*	$(7/2)^-$		FG iJK	XREF: i(557). J^π: E1 transition to $7/2^+$ indicates $\pi=-$. Population via L=(3) transfer in (d,p),(d,t) suggests J=(5/2,7/2). Agreement of transfer cross sections with theory and similarity of γ-decay pattern with that of the 454.5 level suggest that these two levels are the indicated members of the 5/2[523] band.
559.368[o] *4*	$1/2^-$		C FG iJK MN	XREF: i(557). J^π: $J^\pi=1/2^-,3/2^-$ from resonance-averaged neutron capture. Strength of population in (d,p), relative to (d,t), indicates that this is a particle state, and that it is the 1/2[521] bandhead.
581.4556[m] *13*	$5/2^-$		FG I K	XREF: I(578). J^π: M1 to $3/2^-$ state and E1 to $7/2^+$ state.
592.1422[r] *18*	$3/2^-$		C FG I K MN	J^π: E0 transition to the $J^\pi=3/2^-$ ground state.
592.46 *10*	$(5/2^+)$		J	J^π: $3/2^+,5/2^+$ from L=2 in (p,d),(p,dγ) and γ's to $7/2^+$ and $9/2^+$ respectively. Configuration=ν1/2[651] (2010Al15, (p,d),(p,dγ)).
610.8425[l] *16*	$7/2^+$		F K	J^π: M1 transitions to $5/2^+$ and $7/2^+$ states; γ to $9/2^-$ state.
614.8556[o] *19*	$3/2^-$	14 ps *+7−3*	C FG IJK MN	XREF: M(618?). J^π: M1 transitions to $3/2^-$ and $5/2^-$ states. Energy and transfer-reaction cross sections are consistent with assignment as the $3/2^-$ member of the 1/2[521] band.
647.7928[r] *20*	$5/2^-$	14 ps *+16−6*	C FG I K MN	J^π: E1 transitions to $3/2^+$ and $7/2^+$ states. E0 transition to the $5/2^-$ member of the ground-state band.
658.985[o] *4*	$5/2^-$		C FG I K N	J^π: M1 transitions to $5/2^-$ and $7/2^-$ states. Energy is consistent with interpretation as the $5/2^-$ member of the 1/2[521] band.
663.7[q] *3*	$17/2^-$		DE	J^π: (M1+E2) to $15/2^-$, E2 to $13/2^-$ and expected band structure.
692.4[n] *3*	$(9/2^-)$		G I K	XREF: I(689). J^π: energy and transfer-reaction cross section are consistent with assignment as $9/2^-$ member of the indicated band.
714.0 *6*			K	
720.6172 *17*	$1/2^+$		F Jk	XREF: k(720.5). J^π: $1/2^+,3/2^+,5/2^+$ from M1 transition to $3/2^+$ in (n,γ); $1/2^+$ from L=0,1,4 in (p,d),(p,dγ).
721.0[r] *10*	$(7/2^-)$		I k MN	XREF: I(725)k(720.5)M(729). J^π: L=3 in (d,t) (1969Ja04). Level energy is near that expected for the $7/2^-$ member of the indicated β-vibrational band. 1986Sc25 state that they do not confirm the existence of a 721.0 level and associate their 720.5 (d,t) peak with the 720.5 level. However, a level is populated in (d,d′) and Coul. ex. (indicating a collective character), as well as in (p,t), near the expected position of the $7/2^-$ member of this β band. Further, the lower-spin members of this band are also populated in these reactions, lending support to the contention that the $7/2^-$ member, too, is populated in them.
729.6[e] *5*	$15/2^-$	5.8[&] ps *11*	E N	μ=+2.6 *5* (2014StZZ) μ: Computed from g=+0.35 *6*, from 1998St28 (Coul. ex.). J^π: M1+E2 transition and E2 transition to the $13/2^-$ and $11/2^-$ members, respectively, of the ground-state band. Level energy and population in Coul. ex. establish this as the $15/2^-$ member of the g.s. band.
736.76[h] *22*	$21/2^+$		DE N	J^π: E2 γ to $17/2^+$ and expected band structure.
752.549 *4*	$(5/2^+)$		FG JK	J^π: M1 transitions to $5/2^+$ and $7/2^+$ states in (n,γ) dataset indicate

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Adopted Levels, Gammas (continued)

^{155}Gd Levels (continued)

E(level)[†]	J^π	$T_{1/2}$	XREF	Comments
				J^π=5/2$^+$,7/2$^+$. L=0,1,4 in (p,d),(p,dγ) dataset eliminates 5/2$^+$, while γ to 3/2$^-$ g.s. eliminates 7/2$^+$. 2010Al15 (in (p,d),(p,dγ)) argue that the weak γ to g.s. can be either misplaced or incorrect, thus favoring 7/2$^+$. However the M1, 334γ from upper 1/2$^+$,3/2$^+$ level (from resonance-averaged neutron capture in (n,γ) dataset) favorizes 5/2$^+$, which is adopted here tentatively. This is consistent with 1986Sc25 (in (n,γ)) that assign this state as the 5/2$^+$ member of the 1/2[660] band. 1969Ja04 assign L=1,3 to the (d,t) transition, which is not consistent with the adopted J^π value.
754.8[w] *8*	J0		E	J^π: γ to 13/2$^+$.
786.74[g] *18*	19/2$^+$[a]		DE N	J^π: E2 to 15/2$^+$, (M1+E2) to 17/2$^+$ and expected band structure.
786.896[o] *6*	7/2$^-$		FG I K	XREF: I(783). J^π: L=2-4 in (d,p). Decay pattern suggests J=5/2-9/2. Level energy and (d,p) cross section are consistent with assignment as the 7/2$^-$ member of the 1/2[521] band. (d,d′) cross section suggests the presence of an admixture of K-2 γ vibration built on the g.s. in this state.
804.382[m] *21*	(9/2$^-$)		FG K	J^π: γ′s to 11/2$^+$ and (9/2$^-$). Possible assignment is as the 9/2$^-$ member of the 1/2[530] band.
815.733[t] *3*	(3/2)$^+$		FG I K	J^π: M1 to 5/2$^+$ indicates π=+. The weak population of this and the 872-keV level in (d,p) and (d,t) is consistent with a vibrational character. The strong γ decay to the mixed positive-parity (3/2[651]) band then favors the assignment of the 815 and 872 states as the 3/2$^+$ and 5/2$^+$ members, respectively, of the β vibration built on this band. 1969Ja04 report L=5 for the populating (d,t) transition, which is not consistent with the adopted J^π value.
827.9 *5*			G	
860.17[k] *21*	(13/2)$^+$		G I K	J^π: L=6 in (d,p) as reported by 1986Sc25. These authors tentatively assign this as the 13/2$^+$ member of the 5/2[642] band.
872.810[t] *3*	(5/2)$^+$		FG I K	J^π: E1 to 5/2$^-$ indicates π=+. See comment on 815.7 level.
880.7[p] *3*	19/2$^-$		DE	J^π: E2 to 15/2$^-$, M1+E2 to 17/2$^-$ and expected band structure.
889.3[x] *8*	J1		E	J^π: γ to 13/2$^+$.
896.9[f] *6*	17/2$^-$	4.9[&] ps *3*	E I N	μ=+2.2 *8* (2014StZZ) XREF: I(892?). μ: Computed from g=+0.26 *10*, from 1998St28 (Coul. ex.). J^π: M1+E2 transition and E2 transition to the 15/2$^-$ and 13/2$^-$ members, respectively, of the ground-state band. Level energy and population in Coul. ex. establish this as the 17/2$^-$ member of the g.s. band.
931.5[y] *8*	J2		E	J^π: γ to 13/2$^+$.
950 *2*			I	
987.1 *4*			G I	XREF: I(983).
1002.955[s] *3*	1/2$^-$		FG	J^π: J^π=1/2$^-$,3/2$^-$, from resonance-averaged neutron capture. Proposed by 1986Sc25 as the bandhead of the K-2 γ vibration built on the g.s. Other proposed band members, because of strong transitions to the ground-state band and the similarity in their decay patterns, are the 1012, 1060 and 1104 levels. Note, however, that these levels are not appreciably populated in Coul. ex., which makes a vibrational interpretation problematic.
1012.893[s] *3*	3/2$^-$		FG I K	XREF: I(1008). J^π: J^π=1/2$^-$,3/2$^-$, from resonance-averaged neutron capture. E1 transition to 5/2$^+$ rules out 1/2$^-$. See comment on 1002.9 level.
1023.89 *20*			G i	XREF: i(1023).

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Adopted Levels, Gammas (continued)

^{155}Gd Levels (continued)

E(level)[†]	J^{π}	$T_{1/2}$	XREF	Comments
1028.029 *15*	1/2⁻,3/2,5/2⁻		FG i K m	XREF: G(1027.3)i(1023)K(1027.3)m(1030). J^{π}: γ's to 1/2⁻ and 5/2⁻ states. (E1) to 5/2⁻ suggests π may be +. If so, J=3/2.
1028.1 *7*	(7/2⁻)		i mN	XREF: i(1023)m(1030). J^{π}: γ's to the 3/2⁻,5/2⁻ and, possibly, the 7/2⁻ members of the ground-state band. Assigned by 1969Tv01 as the bandhead of the K+2 γ vibration built on the g.s.
1035.221 *3*	1/2⁺,3/2⁺		FG K	J^{π}: from resonance-averaged neutron capture, J^{π}=1/2⁺,3/2⁺,5/2⁺. M1 to 1/2⁺ rules out 5/2⁺ and (M1,E2) to 5/2⁺ would favor J^{π}=3/2⁺.
1057.1 *6*			G	
1060.599[s] *3*	(5/2⁻)		FG	J^{π}: see comment on 1002.9 level.
1078.429 *24*	1/2⁻,3/2⁻		FG K	J^{π}: from resonance-averaged neutron capture.
1086.846 *7*	3/2⁺		F	J^{π}: J^{π}=1/2⁺,3/2⁺, from resonance-averaged neutron capture. M1 transition to 5/2⁺ state rules out J^{π}=1/2⁺.
1092.2 *4*			G K	
1104.792[s] *6*	(7/2⁻)		FG K	J^{π}: occurrence of γ's to states having J^{π}=3/2⁻ through 9/2⁺ requires J^{π}=5/2⁺,7/2⁻. Assignment as a member of the K-2 γ-vibrational band, as 1986Sc25 do (see comment on the 1002.9 level), would select J^{π}=7/2⁻.
1107.3[w] *7*	J0+2		E	J^{π}: ΔJ=2 transition to level with J=J_0 and expected band structure.
1112.02 *21*			G K	
1113.2[q] *3*	21/2⁻		DE	J^{π}: M1+E2 to 19/2⁻, E2 to 17/2⁻ and expected band structure.
1129.842 *3*	3/2⁻		FG I K	J^{π}: from resonance-averaged neutron capture, J^{π}=1/2⁻,3/2⁻. γ to 5/2⁺ eliminates 1/2⁻.
1140.9 *4*			G i K	XREF: i(1144).
1142.3[e] *8*	19/2⁻	2.4[&] ps *2*	E N	μ=+2.9 *10* (2014StZZ) μ: Computed from g=+0.31 *11*, from 1998St28 (Coul. ex.). J^{π}: M1+E2 transition to 17/2⁻ and E2 transition to 15/2⁻ members, respectively, of the ground-state band. Level energy and population in Coul. ex. establish this as the 19/2⁻ member of the g.s. band.
1144.4[h] *3*	25/2⁺[a]		DE	J^{π}: E2 to 21/2⁺ and expected band structure.
1147.1[‡] *11*			F i K	XREF: i(1144). 1986Sc25 assign J^{π}=1/2⁺,3/2⁺ or 5/2⁺ to this state.
1158.9 *3*	(13/2⁺)		G	J^{π}: L=5,6 in (d,p). 1986Sc25 tentatively assign this as the 13/2⁺ member of the 7/2[633] band.
1173.3 *3*			G I K	
1192.850 *9*	1/2⁺,3/2⁺		FG K	J^{π}: from resonance-averaged neutron capture.
1197.611 *17*	3/2⁻,5/2,7/2		FG I	XREF: I(1203). J^{π}: γ's to 5/2⁺,5/2⁻ and 7/2⁻ states. (E1) transition to 7/2⁻ state would imply π=+, but 1986Sc25 assign π=−.
1220.32[g] *22*	23/2⁺[a]		DE	J^{π}: E2 γ to 19/2⁺, (M1+E2) to 21/2⁺ and expected band structure.
1225.008 *9*	3/2⁻,5/2,7/2		FG I K	XREF: I(1221). J^{π}: γ's to (3/2)⁺,(5/2)⁺,7/2⁻.
1230.25 *21*	3/2⁻		F K	J^{π}: from resonance-averaged neutron capture, J^{π}=1/2⁻,3/2⁻. γ to 7/2⁻ state rules out 1/2⁻.
1233.6 *4*			G	
1247.0[‡] *11*	(1/2⁻,3/2⁻)		FG I K	XREF: I(1250). J^{π}: from resonance-averaged neutron capture, J^{π}=(1/2⁻,3/2⁻). L=0,1 in (d,p).
1255.8[x] *7*	J1+2		E	J^{π}: ΔJ=2 transition to level with J=J_1 and expected band structure.
1269.6 *5*			K	
1278 *2*			I	
1282.7[u] *6*	15/2⁻		E	J^{π}: From E2 γ to 11/2⁻.

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Adopted Levels, Gammas (continued)

^{155}Gd Levels (continued)

E(level)[†]	J^π	$T_{1/2}$	XREF	Comments
1286.7 *6*			K	
1292.55 *5*	$3/2^+$		FG I	XREF: I(1290). J^π: from resonance-averaged neutron capture, $J^\pi=1/2^+,3/2^+$. γ's to $5/2^-,7/2^+$ and $(3/2)^+$ states favor $J^\pi=3/2^+$.
1296.14 *5*	$(5/2)^+$		J	Configuration=ν5/2[402] (2010Al15, (p,d),(p,dγ) dataset). J^π: from L=2 and configuration=5/2[402] (2010Al15).
1297.177 *7*	$7/2^+$		FG KL	J^π: L=4 in (d,t) (1969Ja04) indicates $J^\pi=7/2^+,9/2^+$. Large cross section in (d,t) and (^{3}He,α) indicates that this is the 7/2[404] Nilsson state.
1303.2[y] *7*	J2+2		E	J^π: ΔJ=2 transition to level with J=J_2 and expected band structure.
1306.97 *22*			G I	XREF: I(1303).
1312.8 *9*			G I	XREF: I(1316).
1326.5[f] *7*	$21/2^-$	2.4[&] ps *4*	E N	J^π: E2 γ to $17/2^-$ and expected band structure. Population in Coul. ex.
1327 *2*			I	
1332.06 *7*	$1/2^{(+)},3/2^{(+)}$		F	J^π: fed by primary transition in (n,γ). (E1) to g.s. suggests π=+.
1335.16 *22*			G I K	XREF: I(1338).
1343.313 *12*	$3/2^-,5/2,7/2^-$		FG	J^π: γ's to $3/2^-$ and $7/2^-$ levels.
1359.88 *4*	$3/2,5/2,7/2^+$		F I	XREF: I(1361). J^π: γ's to $3/2^+,5/2^+,5/2^-$.
1360.0[p] *3*	$23/2^-$		DE	J^π: γ's to $19/2^-$, $21/2^-$ and expected band structure.
1363.631 *9*	$5/2,7/2^+$		FG K	J^π: γ's to $3/2^+,7/2^+$ and $7/2^-$ levels.
1368.2 *9*			K	
1381.0[‡] *11*			FG	
1387.7 *8*	$1/2^+,3/2^+$		F I	XREF: I(1391). J^π: from resonance-averaged neutron capture.
1398.7[‡] *11*			F K	
1405.0 *3*			G I	
1415.9 *7*			G K	
1425.1[‡] *11*			FG i	XREF: i(1429).
1427.5 *5*			i K	XREF: i(1429).
1434.40 *5*	$1/2^+,3/2^+$		F	J^π: from resonance-averaged neutron capture.
1437.681 *11*			FG K	J^π: 1986Sc25, from (d,p),(d,t), assign $J^\pi=5/2^-,7/2^-$.
1452.3 *8*			G i	XREF: i(1456).
1456.4 *11*			i K	XREF: i(1456).
1460.6[v] *3*	$17/2^-$[#]		DE	J^π: M1 γ to $15/2^-$.
1466.2 *11*			F	
1470.02 *3*	$5/2^+$		FG	J^π: E1 transition to $3/2^-$, γ to $9/2^+$.
1474.50 *5*	$1/2^+,3/2^+,5/2^+$		F	J^π: E1 transition to a $3/2^-$ state.
1481.8 *4*			K	
1484.5 *7*			G	
1490.9 *11*			K	
1505.9 *4*			G	
1517.10 *4*	$3/2^+,5/2^+,7/2^+$		FG	J^π: E1 γ to $5/2^-$ indicates $J^\pi=3/2^+,5/2^+,7/2^+$. 1986Sc25, from (d,p), indicate $J^\pi=3/2^+,5/2^+$.
1522.5[w] *8*	J0+4		E	J^π: ΔJ=2 transition to level with J=J_0+2 and expected band structure.
1526.1 *6*			K	
1536.8 *4*			G i	XREF: i(1539).
1542.5 *6*			i K	XREF: i(1539).
1546.1 *3*			G	
1551.04 *12*	$(3/2^+)$		J	Could be the same as next level (1551.3 *8*). Configuration=ν1/2[411] (2010Al15). J^π: from L=2 and configuration=1/2[411] (2010Al15).
1551.3 *8*	$(1/2^+,3/2^+)$		F K	can be the same as preceding level (1551.03 *12*).

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Adopted Levels, Gammas (continued)

^{155}Gd Levels (continued)

E(level)[†]	J^π	XREF	Comments
			J^π: from resonance-averaged neutron capture. E(level): from (n,γ). In their level list, 1986Sc25 show this (n,γ) state as being associated with a (d,t) state at 1542.5 keV. The evaluator has assumed that this placement in the level list is in error and that the correct association is in fact to be made with the 1551.7-keV (d,t) state.
1554.8 *9*		G	
1561.5 *5*		G	
1576 *2*		I	
1577.94 *9*	(11/2)$^-$	J	J^π: from L=5 and γ to 13/2$^+$ in (p,d),(p,dγ).
1581 *15*	11/2$^-$	I L	XREF: I(1576). J^π: strongly populated via L=5 transfer in (^{3}He,α). Agreement of measured and calculated cross sections establishes this level as the 11/2$^-$ member of the band based on the 9/2$^-$[514] neutron orbital.
1587 *5*		G	
1604 *5*		G	
1615.3[e] *13*	23/2$^-$	E N	J^π: γ to 19/2$^-$ and expected band structure. Population in Coul. ex.
1619.3[q] *3*	25/2$^-$	DE	J^π: M1+E2 γ to 23/2$^-$, γ 21/2$^-$ and expected band structure.
1626 *5*		G	
1635.5[h] *4*	29/2$^+$[a]	DE	J^π: E2 γ to 25/2$^+$ and expected band structure.
1653 *5*		G	
1675.0 *10*	1/2,3/2,5/2[@]	H	
1679.2[u] *4*	19/2$^-$[#]	DE	J^π: M1 γ to 17/2$^-$.
1686.8[x] *7*	J1+4	E	J^π: ΔJ=2 transition to level with J=J_1+2 and expected band structure.
1704 *5*		G	
1709.7 *11*		E	
1740.8[y] *8*	J2+4	E	J^π: ΔJ=2 transition to level with J=J_2+4 and expected band structure.
1743.3[g] *3*	27/2$^+$	DE	J^π: γ's to 23/2$^+$, 25/2$^+$ and expected band structure.
1745 *5*		G	
1794 *5*		G	
1806.7 *11*		E	
1809.4[f] *13*	25/2$^-$	E N	J^π: γ to 21/2$^-$ and expected band structure. Population in Coul. ex.
1822 *5*		G	
1843 *5*		G	
1869 *5*		G	
1889.9[p] *4*	27/2$^-$	DE	J^π: M1+E2 γ to 25/2$^-$, γ to 23/2$^-$ and expected band structure.
1899 *5*		G	
1913.1[v] *4*	21/2$^-$[#]	DE	J^π: M1 γ to 19/2$^-$.
1920.8 *11*		E	
1932 *5*		G	
1933.7 *9*		E	
1966.7 *11*		E	
1982.0 *10*	1/2,3/2,5/2[@]	H	
1994.8[w] *9*	J0+6	E	J^π: ΔJ=2 transition to level with J=J_0+4 and expected band structure.
2016.8 *11*		E	
2017.0 *10*	1/2,3/2,5/2[@]	H	
2120.2 *11*		E	
2134.2 *11*		E	
2136.0[e] *16*	27/2$^-$	E N	XREF: N(2134). J^π: γ to 23/2$^-$ and expected band structure. Population in Coul. ex.
2137.7 *9*		E	
2145.2 *11*		E	
2161.0[u] *4*	23/2$^-$[#]	DE	J^π: M1 γ to 21/2$^-$ structure.
2170.4[q] *4*	29/2$^-$	DE	J^π: Q γ's to 25/2$^-$, γ to 27/2$^-$, and expected band structure.

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Adopted Levels, Gammas (continued)

^{155}Gd Levels (continued)

E(level)[†]	J^π	XREF	Comments
2188.5[x] *8*	J1+6	E	J^π: ΔJ=2 transition to level with J=J_1+4 and expected band structure.
2199.2[h] *4*	33/2$^+$	DE	J^π: γ to 29/2$^+$ and expected band structure.
2226.2[y] *9*	J2+6	E	J^π: ΔJ=2 transition to level with J=J_2+4 and expected band structure.
2241.2 *11*		E	
2283.0 *10*	1/2,3/2,5/2[@]	H	
2329.0 *10*	1/2,3/2,5/2[@]	H	
2331.9[f] *16*	29/2$^-$	E N	XREF: N(2330). J^π: γ to 25/2$^-$ and expected band structure. Population in in Coul. ex.
2344.0 *11*		E	
2345.4[g] *4*	31/2$^+$	DE	J^π: γ to 27/2$^+$ and expected band structure.
2351.2 *11*		E	
2421.6[v] *4*	25/2$^-$[#]	DE	J^π: M1 γ to 23/2$^-$.
2429.2 *11*		E	
2456.0 *7*	1/2$^-$,3/2,5/2	H	J^π: excitation via a dipole transition from the J^π=3/2$^-$ g.s. indicates J=1/2,3/2,5/2. γ to 5/2$^-$ rules out 1/2$^+$.
2460.1[p] *4*	31/2$^-$	DE	J^π: Q γ to 27/2$^-$, γ to 29/2$^-$, and expected band structure.
2496.3 *11*		E	
2558.0 *10*	1/2,3/2,5/2[@]	H	
2578.6 *7*		E	
2596.0 *10*	1/2,3/2,5/2[@]	H	
2645.0 *10*	1/2,3/2,5/2[@]	H	
2655.0 *7*	(3/2$^+$),5/2	H	J^π: excitation via a dipole transition from the J^π=3/2$^-$ g.s. indicates J=1/2,3/2,5/2. γ to 7/2$^+$ rules out J=1/2 and 3/2$^-$ and makes 3/2$^+$ unlikely, although it does not eliminate it.
2689.0 *10*	1/2,3/2,5/2[@]	H	
2694.6[u] *4*	27/2$^-$[#]	DE	J^π: M1 γ to 25/2$^-$.
2702.2[e] *19*	31/2$^-$	E N	XREF: N(2699). J^π: γ to 27/2$^-$ and expected band structure. Population in Coul. ex.
2728.0 *10*	1/2,3/2,5/2[@]	H	
2743.0 *10*	1/2,3/2,5/2[@]	H	
2752.6[y] *13*	J2+8	E	J^π: ΔJ=2 transition to level with J=J_2+6 and expected band structure.
2756.5 *7*	1/2$^-$,3/2,5/2	H	J^π: excitation via a dipole transition from the J^π=3/2$^-$ g.s. indicates J=1/2,3/2,5/2. γ to 5/2$^-$ rules out 1/2$^+$.
2758.1[q] *4*	33/2$^-$	DE	J^π: γ's to 29/2$^-$, 31/2$^-$ and expected band structure.
2758.3[x] *9*	J1+8	E	J^π: ΔJ=2 transition to level with J=J_1+6 and expected band structure.
2768.0 *10*	1/2,3/2,5/2[@]	H	
2814.0 *10*	1/2,3/2,5/2[@]	H	
2819.0 *10*	1/2,3/2,5/2[@]	H	
2824.3 *9*		E	
2825.5[h] *5*	37/2$^+$	DE	J^π: γ to 33/2$^+$ and expected band structure.
2826.0 *10*	1/2,3/2,5/2[@]	H	
2854.0 *6*	(3/2$^+$),5/2	H	J^π: excitation via a dipole transition from the J^π=3/2$^-$ g.s. indicates J=1/2,3/2,5/2. γ to 7/2$^+$ rules out J=1/2 and 3/2$^-$ and makes 3/2$^+$ unlikely, although it does not eliminate it.
2865.0 *7*	1/2$^-$,3/2,5/2	H	J^π: excitation via a dipole transition from J^π=3/2$^-$ g.s. indicates J=1/2,3/2,5/2. γ to 5/2$^-$ rules out 1/2$^+$.
2872.0 *10*	1/2,3/2,5/2[@]	H	
2883.7[f] *19*	33/2$^-$	E	J^π: γ to 29/2$^-$ and expected band structure.
2978.4[v] *5*	29/2$^-$[#]	DE	J^π: M1 γ to 27/2$^-$.
3011.0 *10*	1/2,3/2,5/2[@]	H	

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Adopted Levels, Gammas (continued)

^{155}Gd Levels (continued)

E(level)[†]	J$^\pi$	XREF	Comments
3015.4[g] *4*	35/2$^+$	DE	J$^\pi$: γ to 31/2$^+$ and expected band structure.
3064.5[p] *4*	35/2$^-$	DE	J$^\pi$: D γ to 33/2$^-$, γ's to 31/2$^-$, and expected band structure.
3082.5 *8*		E	
3123.0 *7*	1/2$^-$,3/2,5/2	H	J$^\pi$: excitation via a dipole transition from the J^π=3/2$^-$ g.s. indicates J=1/2,3/2,5/2. γ to 5/2$^-$ rules out 1/2$^+$.
3199.0 *10*	1/2,3/2,5/2[@]	H	
3274.0[u] *8*	31/2$^-$[#]	E	J$^\pi$: M1 γ to 29/2$^-$.
3276.1 *5*	(33/2$^-$)[#]	D	J$^\pi$: γ to (29/2$^-$) and expected band structure.
3305.0 *10*	1/2,3/2,5/2[@]	H	
3379.7[q] *4*	37/2$^-$	DE	J$^\pi$: Q γ to 33/2$^-$, γ to 35/2$^-$, and expected band structure.
3505.8[h] *5*	41/2$^+$	DE	J$^\pi$: γ to 37/2$^+$ and expected band structure.
3579.1[v] *5*	33/2$^-$[#]	DE	J$^\pi$: γ to 29/2$^-$ and expected band structure.
3702.8[p] *5*	39/2$^-$	D	J$^\pi$: γ to 35/2$^-$ and expected band structure.
3730.5[g] *5*	39/2$^+$	D	J$^\pi$: γ to 35/2$^+$ and expected band structure.
4038.8[q] *5*	41/2$^-$	DE	J$^\pi$: γ to 37/2$^-$ and expected band structure.
4234.7[h] *5*	45/2$^+$	D	J$^\pi$: γ to 41/2$^+$ and expected band structure.
4379.6[p] *9*	43/2$^-$	DE	J$^\pi$: γ to 39/2$^-$ and expected band structure.
4504.0[g] *5*	43/2$^+$	D	J$^\pi$: γ to 39/2$^+$ and expected band structure.
4735.3[q] *10*	45/2$^-$	DE	J$^\pi$: γ to 41/2$^-$ and expected band structure.
5009.5[h] *6*	49/2$^+$	D	J$^\pi$: γ to 45/2$^+$ and expected band structure.
5343.4[g] *6*	47/2$^+$	D	J$^\pi$: γ to 43/2$^+$ and expected band structure.
5829?[h]	(53/2$^+$)	D	J$^\pi$: γ to 49/2$^+$ and expected band structure.
6240.6?[g] *6*	(51/2$^+$)	D	J$^\pi$: γ to 47/2$^+$ and expected band structure.
6435.24[bc] *18*	1/2$^+$[d]	F	E(level): Level energy held fixed in least-squares adjustment.

[†] Values computed from a least-squares fit to the listed γ-ray energies. χ^2 norm = 1.8 greater than χ^2 critical = 1.2. The fit is rather poor because many γ-ray energies from (n,γ) dataset have unrealistic small unc.

[‡] Energy is an average of the values from the (d,p)+(d,t) and the (n,γ) reactions.

[#] 2011Sh08, in (α,3nγ), propose the spin sequence listed here for the members of this proposed band.

[@] Excited via a dipole transition in (γ,γ') from the J^π=3/2$^-$ g.s.

[&] From Doppler-shift recoil-distance measurements (1992Ku15) and/or Doppler-broadened line-shape analysis (1998St28), both in Coul. ex.

[a] Assignment based on multipolarities of cascade and crossover transitions and on $\gamma\gamma$-coincidence measurements in (α,3nγ) (1970Lo04).

[b] Neutron capture "state".

[c] Neutron binding energy.

[d] Capture state is formed by s-wave (L=0) neutron capture on a doubly even target nucleus (J=0).

[e] Band(A): g.s. band, signature=−1/2. Dominant configuration is 3/2[521] at low spins. A=12.11 keV, B=−0.98 eV and A_3=−16.9 eV (from the 3/2$^-$ through the 9/2$^-$ levels).

[f] Band(a): g.s. band, signature=+1/2. Dominant configuration is 3/2[521] at low spins.

[g] Band(B): Mixed positive-parity band, signature=−1/2. Significant contributor to make-up has configuration=3/2[651], but band also contains significant components of other i13/2-related Nilsson states, as well as 3/2[402] from strong Δ' N=2 mixing.

[h] Band(b): Mixed positive-parity band, signature=+1/2. See comment for the signature=−1/2 component of this band regarding the configurational make-up.

[i] Band(C): K$^\pi$=3/2$^+$ band. Conf=3/2(402)$^+$... . Band also contains a sizeable component of 3/2[651] as well as other i13/2-related Nilsson states. A=12.30 keV, A_3=−134 eV (from the 3/2$^+$, 5/2$^+$ and 7/2$^+$ levels). This band is distorted, and the

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Adopted Levels, Gammas (continued)

^{155}Gd Levels (continued)

listed parameters are probably not very meaningful.

[j] Band(D): K^{π}=3/2^{-} band. Conf=3/2(532). A=8.02 keV, A_3=−191 eV (from 3/2^{-}, 5/2^{-} and 7/2^{-} levels). The band is strongly distorted, and these values do not provide a particularly good representation of the level spacings. They are thus probably not very meaningful.

[k] Band(E): "5/2[642]" band. This is the dominant configuration. This band is strongly Coriolis mixed with other Nilsson states originating from the i13/2 spherical shell-model state. A=11.97 keV (from 5/2^{+} and 7/2^{+} levels).

[l] Band(F): K^{π}=1/2^{+} band. Conf=1/2(400). A=16.08 keV, a=+0.235 (from the 1/2^{+}, 3/2^{+} and 5/2^{+} levels). These parameters do not provide a good value for the energy of the 7/2^{+} band member and, presumably, for the higher-spin members as well.

[m] Band(G): K^{π}=1/2^{-} band. Conf=1/2(530). A=12.96 keV, a=−1.02 (from 1/2^{-}, 3/2^{-} and 5/2^{-} levels).

[n] Band(H): K^{π}=5/2^{-} band. Conf=5/2(523). A=14.13 keV (from 5/2^{-} and 7/2^{-} levels).

[o] Band(I): 1/2[521] band (+ K-2 γ vibr. built on the g.s.) A=13.81 keV, B=−11.2 eV and a=+0.343 (from the 1/2^{-} through the 7/2^{-} levels).

[p] Band(J): K^{π}=11/2^{-} band. Conf=11/2(505), signature=−1/2. A=12.75 keV, B=−12.7 eV (from 11/2^{-},13/2^{-} and 15/2^{-} levels).

[q] Band(j): K^{π}=11/2^{-} band. Conf=11/2(505), signature=+1/2. For band parameters, see comment on the signature=−1/2 portion.

[r] Band(K): K^{π}=3/2^{-} band. "β-vibration" built on the g.s. A=11.13 keV.

[s] Band(L): Possible K-2 γ vibration band built on the g.s.. Note, however, that the proposed members of this band are not appreciably populated in Coul. Ex., which calls such a vibrational character into question. This band contains a component of 1/2[521].

[t] Band(M): β vibration built on the "3/2[651]" band ?

[u] Band(n): K^{π}=15/2^{-}, ν11/2[505]$\otimes$2^{+} (γ-vib), signature=−1/2 branch. Probable structure of this band is the 2^{+} phonon coupled to 11/2^{-}[505] orbital, K=2+11/2=15/2, this is the K=2+j coupling rather than the K=2−j one (2011Sh08, (α,3nγ)).

[v] Band(N): K^{π}=15/2^{-}, ν11/2[505]$\otimes$2^{+} (γ-vib), signature=+1/2 branch.

[w] Band(O): Proposed band. 2000Hu04, 2000HuZY (α,3nγ) suggest that π=− for this band.

[x] Band(P): Proposed band. 2000Hu04, 2000HuZY (α,3nγ) suggest that π=− for this band.

[y] Band(Q): Proposed band. 2000Hu04, 2000HuZY (α,3nγ) suggest that π=− for this band.

γ(^{155}Gd)

E_i(level)	J^π_i	E_γ†‡	I_γ†‡	E_f	J^π_f	Mult.†‡	δ#@	α&	Comments
60.0106	5/2−	60.0086 *10*	100	0.0	3/2−	M1+E2	−0.198 *8*	9.14	B(M1)(W.u.)=0.0493 *+41−36*; B(E2)(W.u.)=279 *+32−29* α(K)=7.25 *11*; α(L)=1.48 *4*; α(M)=0.329 *9* α(N)=0.0749 *20*; α(O)=0.0110 *3*; α(P)=0.000543 *8* δ: weighted average of 0.197 *17* (1986Sc25), 0.198 *8* (1967Fo11), 0.165 *15* (1967Ko12), 0.207 *12* (1967Ha24), all by subshell ratios, and −0.19 *3* (1975Kr0, γγ(θ)), −0.228 *80* (1966As02,γ(θ)), −0.20 *3* (1961Su13, γγ(θ)). Sign adopted from γγ(θ) (values from subshell ratios are unsigned). Additional information 1.
86.5464	5/2+	26.531 *21*	1.03 *6*	60.0106	5/2−	E1		1.95	B(E1)(W.u.)=1.36×10^{-5} *8* α(L)=1.530 *22*; α(M)=0.336 *5* α(N)=0.0738 *11*; α(O)=0.00966 *14*; α(P)=0.000328 *5*
		86.5479 *10*	100	0.0	3/2−	E1		0.431	α(K)=0.360 *5*; α(L)=0.0555 *8*; α(M)=0.01203 *17* α(N)=0.00271 *4*; α(O)=0.000394 *6*; α(P)=1.97×10^{-5} *3* B(E1)(W.u.)=3.805×10^{-5} *29*
105.3106	3/2+	18.763 *2*	0.23 *3*	86.5464	5/2+	M1+E2	+0.274 *4*	362 *10*	B(M1)(W.u.)=0.00282 *+22−25*; B(E2)(W.u.)=313 *+25−30* α(L)=280 *8*; α(M)=64.9 *19* α(N)=14.4 *4*; α(O)=1.88 *6*; α(P)=0.01653 *24* δ: weighted average of 0.293 *12* (1990GoZS), 0.274 *4* (1975Ch04), 0.260 *9* (1967Fo11), 0.283 *17* (1962Ha24), all by subshell ratios, and +0.26 *3* (1975Kr04, γγ(θ)). Sign adopted from γγ(θ) (values from subshell ratios are unsigned). Additional information 2.
		45.2990 *10*	6.21 *17*	60.0106	5/2−	E1		0.437	α(L)=0.343 *5*; α(M)=0.0747 *11* α(N)=0.01665 *24*; α(O)=0.00231 *4*; α(P)=9.60×10^{-5} *14* B(E1)(W.u.)=6.20×10^{-5} *+39−36* δ: 1975Kr04 report δ=−0.035 *25* for this transition. This leads to B(M2)(W.u.)>13, which exceeds RUL of 1.
		105.3083 *10*	100.0 *20*	0.0	3/2−	E1		0.254	α(K)=0.213 *3*; α(L)=0.0320 *5*; α(M)=0.00693 *10* α(N)=0.001568 *22*; α(O)=0.000230 *4*; α(P)=1.201×10^{-5} *17* B(E1)(W.u.)=7.94×10^{-5} *+44−41*
107.5804	9/2+	21.035 *4*	100	86.5464	5/2+	E2		2.60×10^3	α(L)=2.01×10^3 *3*; α(M)=471 *7* α(N)=104.1 *15*; α(O)=13.25 *19*; α(P)=0.00391 *6* Mult.: from 1976Me10, ^{155}Tb ε decay.
117.9981	7/2+	10.4178 *12*	5.3 *6*	107.5804	9/2+	M1+E2	0.033 *+9−12*	3.4×10^2 *6*	α(L)=2.7×10^2 *5*; α(M)=59 *11* α(N)=13.5 *24*; α(O)=2.0 *3*; α(P)=0.0992 *14* δ: calculated by evaluator from subshell ratios

$^{155}_{64}Gd_{91}$-12

Adopted Levels, Gammas (continued)

$\gamma(^{155}Gd)$ (continued)

E_i(level)	J^π_i	E_γ †‡	I_γ †‡	E_f	J^π_f	Mult. †‡	δ #@	α &	Comments
									L1/L1=1.0 *1*, L2/L1=0.28 *14*, L3/L1=0.27 *12* (1975Ch04). Other value: 0.017 *+5−8* from subshell ratios L1/L1=1.00, L2/L1=0.237 *44*, L3/L1=0.062 *23*, M/L=0.180 *45*, M2/M1=0.153 *139*, M3/M1=0.152 *139* (1968Ba80, superseding 1967Fo11).
117.9981	$7/2^+$	31.444 *7*	10.6 *23*	86.5464	$5/2^+$	M1+E2	0.370 *14*	50 *3*	α(L)=39.1 *22*; α(M)=9.1 *6* α(N)=2.03 *12*; α(O)=0.267 *15*; α(P)=0.00335 *6* δ: calculated by evaluator from α(L2)exp=15 *10* (1986Sc25).
		57.9890 *10*	100 *8*	60.0106	$5/2^-$	E1		1.238	α(K)=1.020 *15*; α(L)=0.1712 *24*; α(M)=0.0372 *6* α(N)=0.00834 *12*; α(O)=0.001181 *17*; α(P)=5.30×10^{-5} *8*
121.10	$11/2^-$	13.47 *19*	100	107.5804	$9/2^+$	E1		12.6 *6*	α(L)=9.9 *5*; α(M)=2.23 *10* α(N)=0.475 *20*; α(O)=0.0551 *22*; α(P)=0.00139 *5* B(E1)(W.u.)=2.21×10^{-10} *14* E_γ,I_γ,Mult.: from the IT decay dataset.
146.0696	$7/2^-$	86.0591 *10*	100 *10*	60.0106	$5/2^-$	M1+E2	−0.184 *23*	3.14	B(M1)(W.u.)=0.070 *+9−7*; B(E2)(W.u.)=166 *+48−41* α(K)=2.59 *4*; α(L)=0.435 *16*; α(M)=0.096 *4* α(N)=0.0219 *9*; α(O)=0.00331 *11*; α(P)=0.000192 *3* δ: weighted average of 0.163 *23* (1986Sc25, from subshell ratios, values not given), 0.19 *4* (1975Kr04, $\gamma\gamma(\theta)$), −0.227 *35* (1966As02,$\gamma(\theta)$), −0.188 *57* (1959De29, $\gamma(\theta)$). Sign adopted from $\gamma\gamma(\theta)$ (value subshell ratios are unsigned).
		146.0710 *10*	33.2 *20*	0.0	$3/2^-$	E2		0.649	α(K)=0.398 *6*; α(L)=0.194 *3*; α(M)=0.0453 *7* α(N)=0.01014 *15*; α(O)=0.001360 *19*; α(P)=2.12×10^{-5} *3* B(E2)(W.u.)=119 *+20−17* B(E2)(W.u.) value computed directly from B(E2)↑=1.18 *4*.
214.3515	$13/2^+$	106.771 *1*	100	107.5804	$9/2^+$	E2		1.98	α(K)=0.974 *14*; α(L)=0.776 *11*; α(M)=0.183 *3* α(N)=0.0408 *6*; α(O)=0.00537 *8*; α(P)=4.86×10^{-5} *7* Mult.: from (α,3nγ) dataset.
230.1286	$11/2^+$	112.131 *2*	86 *10*	117.9981	$7/2^+$	E2		1.658	α(K)=0.852 *12*; α(L)=0.622 *9*; α(M)=0.1463 *21* α(N)=0.0327 *5*; α(O)=0.00431 *6*; α(P)=4.29×10^{-5} *6* Mult.: from (α,3nγ) dataset.
		122.548 *1*	100 *7*	107.5804	$9/2^+$	(M1,E2)		1.17 *5*	α(K)=0.81 *15*; α(L)=0.28 *14*; α(M)=0.064 *35* α(N)=0.0144 *76*; α(O)=0.00199 *93*; α(P)=5.2×10^{-5} *19* Mult.: from (α,3nγ) dataset.
251.7056	$9/2^-$	105.636 *1*	93 *11*	146.0696	$7/2^-$	M1+E2	−0.22 *5*	1.74 *3*	α(K)=1.432 *23*; α(L)=0.238 *14*; α(M)=0.052 *4* α(N)=0.0120 *8*; α(O)=0.00181 *9*; α(P)=0.0001057 *20* B(M1)(W.u.)=0.074 *9*; B(E2)(W.u.)=1.7×10^{2} *+8−7* Mult.: from Coulomb excitation dataset.
		133.7	7.6 *4*	117.9981	$7/2^+$	[E1]		0.1334	B(E1)(W.u.)=3.3×10^{-5} *+6−4* α(K)=0.1125 *16*; α(L)=0.01644 *23*; α(M)=0.00356 *5* α(N)=0.000807 *12*; α(O)=0.0001196 *17*; α(P)=6.55×10^{-6} *10*
		191.691 *7*	100 *14*	60.0106	$5/2^-$	E2		0.256	α(K)=0.1759 *25*; α(L)=0.0621 *9*; α(M)=0.01433 *20*

Adopted Levels, Gammas (continued)

$\gamma(^{155}Gd)$ (continued)

E_i(level)	J^π_i	E_γ †‡	I_γ †‡	E_f	J^π_f	Mult. †‡	δ #@	α &	Comments
									α(N)=0.00322 *5*; α(O)=0.000441 *7*; α(P)=1.000×10^{-5} *14* B(E2)(W.u.)=196 *+33−30* Mult.: from (α,3nγ) dataset.
266.6474	5/2$^+$	120.579 *2*	0.69 *9*	146.0696	7/2$^-$	E1		0.1763	α(K)=0.1484 *21*; α(L)=0.0219 *3*; α(M)=0.00474 *7* α(N)=0.001075 *15*; α(O)=0.0001587 *23*; α(P)=8.52×10^{-6} *12* Mult.: from (n,γ) dataset.
		148.650 *1*	35.5 *3*	117.9981	7/2$^+$	M1+E2	−0.14 *1*	0.652	α(K)=0.549 *8*; α(L)=0.0812 *12*; α(M)=0.0177 *3* α(N)=0.00407 *6*; α(O)=0.000627 *9*; α(P)=4.07×10^{-5} *6* I_γ,Mult.,δ: from ε decay dataset.
		161.334 *1*	37.0 *4*	105.3106	3/2$^+$	M1+E2	−0.28 *+6−7*	0.515	α(K)=0.429 *8*; α(L)=0.068 *3*; α(M)=0.0148 *7* α(N)=0.00340 *14*; α(O)=0.000518 *17*; α(P)=3.15×10^{-5} *8* I_γ: unc from ε decay dataset. Mult.,δ: from ε decay dataset. δ: from ^{155}Tb ε decay. From (n,γ), δ=0.40 *10*.
		180.103 *1*	100 *2*	86.5464	5/2$^+$	M1+E2	−0.214 *10*	0.379	α(K)=0.319 *5*; α(L)=0.0478 *7*; α(M)=0.01042 *15* α(N)=0.00239 *4*; α(O)=0.000368 *6*; α(P)=2.35×10^{-5} *4* I_γ: unc from ε decay dataset. Mult.,δ: from ε decay dataset.
		206.635 *3*	2.29 *17*	60.0106	5/2$^-$	E1		0.0416	α(K)=0.0353 *5*; α(L)=0.00499 *7*; α(M)=0.001079 *16* α(N)=0.000246 *4*; α(O)=3.70×10^{-5} *6*; α(P)=2.17×10^{-6} *3* I_γ,Mult.: from ε decay dataset.
268.6238	3/2$^+$	150.630 *2*	0.67 *4*	117.9981	7/2$^+$	(E2)		0.583	α(K)=0.363 *5*; α(L)=0.1702 *24*; α(M)=0.0397 *6* α(N)=0.00888 *13*; α(O)=0.001194 *17*; α(P)=1.95×10^{-5} *3* I_γ,Mult.: from ε decay dataset.
		163.311 *1*	100 *1*	105.3106	3/2$^+$	M1+E2	0.05 *4*	0.502	α(K)=0.424 *6*; α(L)=0.0610 *10*; α(M)=0.01325 *21* α(N)=0.00305 *5*; α(O)=0.000473 *7*; α(P)=3.15×10^{-5} *5* I_γ,Mult.,δ: from ε decay dataset.
		182.078 *1*	2.49 *11*	86.5464	5/2$^+$	E2		0.304	α(K)=0.206 *3*; α(L)=0.0767 *11*; α(M)=0.01774 *25* α(N)=0.00398 *6*; α(O)=0.000543 *8*; α(P)=1.154×10^{-5} *17* I_γ,$\Delta I\gamma$: from ε decay dataset.
		208.614 *3*	1.30 *28*	60.0106	5/2$^-$	E1		0.0406	α(K)=0.0344 *5*; α(L)=0.00487 *7*; α(M)=0.001052 *15* α(N)=0.000240 *4*; α(O)=3.61×10^{-5} *5*; α(P)=2.12×10^{-6} *3* I_γ,Mult.,δ: from ε decay dataset.
		268.625 *2*	13.2 *12*	0.0	3/2$^-$	E1		0.0211	α(K)=0.0179 *3*; α(L)=0.00249 *4*; α(M)=0.000538 *8* α(N)=0.0001229 *18*; α(O)=1.86×10^{-5} *3*; α(P)=1.128×10^{-6} *16* I_γ,Mult.,δ: from ε decay dataset.
282.65	13/2$^-$	161.4 *2*	100	121.10	11/2$^-$	M1+E2	−0.73 *+33−11*	0.498 *15*	α(K)=0.39 *3*; α(L)=0.085 *14*; α(M)=0.019 *4* α(N)=0.0043 *8*; α(O)=0.00063 *9*; α(P)=2.7×10^{-5} *4* E_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset. Mult.,δ: from 1970Lo04, (α,3nγ).
287.0041	3/2$^-$	181.694 *1*	100 *1*	105.3106	3/2$^+$	E1		0.0586	α(K)=0.0496 *7*; α(L)=0.00707 *10*; α(M)=0.001528 *22* α(N)=0.000348 *5*; α(O)=5.21×10^{-5} *8*; α(P)=3.00×10^{-6} *5* I_γ,Mult.: from ε decay dataset.

$^{155}_{64}Gd_{91}$-14

γ(^{155}Gd) (continued)

E_i(level)	J^π_i	E_γ†‡	I_γ†‡	E_f	J^π_f	Mult.†‡	δ#@	α&	Comments
287.0041	3/2⁻	200.459 *1*	54.5 *12*	86.5464	5/2⁺	E1		0.0451	α(K)=0.0382 *6*; α(L)=0.00542 *8*; α(M)=0.001171 *17* α(N)=0.000267 *4*; α(O)=4.01×10⁻⁵ *6*; α(P)=2.34×10⁻⁶ *4* I_γ,Mult.: from ε decay dataset.
		226.991 *1*	35.2 *5*	60.0106	5/2⁻	M1(+E2)	<0.33	0.200 *4*	α(K)=0.168 *4*; α(L)=0.0247 *5*; α(M)=0.00539 *13* α(N)=0.00124 *3*; α(O)=0.000191 *4*; α(P)=1.24×10⁻⁵ *4* I_γ,Mult.: from ε decay dataset.
		286.999 *4*	75.1 *15*	0.0	3/2⁻	M1+E2	−0.14 *5*	0.1068 *17*	α(K)=0.0904 *14*; α(L)=0.01289 *18*; α(M)=0.00280 *4* α(N)=0.000644 *9*; α(O)=9.98×10⁻⁵ *14*; α(P)=6.67×10⁻⁶ *11* I_γ,Mult.: from ε decay dataset. δ: from ^{155}Tb ε decay. From (n,γ), %E2=45 *9*, which leads to δ=0.90 *+18−15*.
321.3793	5/2⁻	175.310 *1*	32 *3*	146.0696	7/2⁻	M1,E2		0.38 *4*	α(K)=0.29 *6*; α(L)=0.070 *20*; α(M)=0.0158 *50* α(N)=0.0036 *11*; α(O)=0.00051 *13*; α(P)=1.94×10⁻⁵ *66*
		203.382 *1*	21.3 *22*	117.9981	7/2⁺	E1		0.0434	α(K)=0.0368 *6*; α(L)=0.00521 *8*; α(M)=0.001126 *16* α(N)=0.000256 *4*; α(O)=3.86×10⁻⁵ *6*; α(P)=2.26×10⁻⁶ *4*
		216.069 *1*	100 *7*	105.3106	3/2⁺	E1		0.0370	α(K)=0.0314 *5*; α(L)=0.00443 *7*; α(M)=0.000957 *14* α(N)=0.000218 *3*; α(O)=3.29×10⁻⁵ *5*; α(P)=1.94×10⁻⁶ *3*
		234.832 *1*	24.4 *15*	86.5464	5/2⁺	E1		0.0298	α(K)=0.0253 *4*; α(L)=0.00355 *5*; α(M)=0.000767 *11* α(N)=0.0001748 *25*; α(O)=2.64×10⁻⁵ *4*; α(P)=1.573×10⁻⁶ *22*
		261.369 *1*	29 *5*	60.0106	5/2⁻	M1		0.1382	α(K)=0.1171 *17*; α(L)=0.01660 *24*; α(M)=0.00360 *5* α(N)=0.000829 *12*; α(O)=0.0001288 *18*; α(P)=8.66×10⁻⁶ *13*
		321.383 *2*	11.5 *11*	0.0	3/2⁻	M1		0.0796	α(K)=0.0675 *10*; α(L)=0.00951 *14*; α(M)=0.00206 *3* α(N)=0.000475 *7*; α(O)=7.38×10⁻⁵ *11*; α(P)=4.98×10⁻⁶ *7*
326.0881	5/2⁺	208.089 *2*	37 *4*	117.9981	7/2⁺	M1(+E2)	<0.33	0.254 *5*	α(K)=0.213 *5*; α(L)=0.0317 *8*; α(M)=0.00690 *20* α(N)=0.00159 *5*; α(O)=0.000244 *6*; α(P)=1.57×10⁻⁵ *5* δ: from (n,γ) dataset.
		218.508 *4*	1.29 *18*	107.5804	9/2⁺	(E2)		0.1656	α(K)=0.1183 *17*; α(L)=0.0367 *6*; α(M)=0.00843 *12* α(N)=0.00190 *3*; α(O)=0.000262 *4*; α(P)=6.93×10⁻⁶ *10*
		220.778 *2*	100 *11*	105.3106	3/2⁺	M1(+E2)	−0.1 *3*	0.218 *8*	α(K)=0.184 *10*; α(L)=0.0264 *12*; α(M)=0.0057 *4* α(N)=0.00132 *7*; α(O)=0.000205 *7*; α(P)=1.36×10⁻⁵ *10* Mult.,δ: from ε decay dataset.
		239.540 *1*	40 *4*	86.5464	5/2⁺	M1(+E2)	0.0 *+2−3*	0.175 *4*	α(K)=0.148 *3*; α(L)=0.0211 *4*; α(M)=0.00457 *8* α(N)=0.001052 *18*; α(O)=0.0001633 *25*; α(P)=1.10×10⁻⁵ *3* Mult.,δ: from ε decay dataset.
		266.068 *4*	4.7 *5*	60.0106	5/2⁻	E1		0.0216	α(K)=0.0183 *3*; α(L)=0.00256 *4*; α(M)=0.000552 *8* α(N)=0.0001260 *18*; α(O)=1.91×10⁻⁵ *3*; α(P)=1.155×10⁻⁶ *17*
350.4355	7/2⁺	232.437 *1*	100 *9*	117.9981	7/2⁺	M1,E2		0.16 *3*	α(K)=0.13 *4*; α(L)=0.026 *3*; α(M)=0.0058 *9* α(N)=0.00131 *18*; α(O)=0.000192 *15*; α(P)=8.9×10⁻⁶ *31*
		242.855 *1*	80 *7*	107.5804	9/2⁺	M1		0.1686	α(K)=0.1427 *20*; α(L)=0.0203 *3*; α(M)=0.00440 *7* α(N)=0.001013 *15*; α(O)=0.0001573 *22*; α(P)=1.057×10⁻⁵ *15*
		245.129 *3*	14.3 *14*	105.3106	3/2⁺	E2		0.1139	α(K)=0.0837 *12*; α(L)=0.0234 *4*; α(M)=0.00536 *8* α(N)=0.001208 *17*; α(O)=0.0001687 *24*; α(P)=5.03×10⁻⁶ *7*

$^{155}_{64}$Gd$_{91}$-15

γ(^{155}Gd) (continued)

E_i(level)	J^{π}_i	E_{γ} †‡	I_{γ} †‡	E_f	J^{π}_f	Mult. †‡	δ #@	α &	Comments
350.4355	7/2+	263.884 4	12.7 14	86.5464	5/2+				
367.6342	1/2+	80.6 1	0.3 2	287.0041	3/2−	(E1)		0.521	α(K)=0.435 7; α(L)=0.0678 10; α(M)=0.01470 22 α(N)=0.00331 5; α(O)=0.000479 7; α(P)=2.36×10^{-5} 4 E_{γ},I_{γ},Mult.,δ: from ε decay dataset.
		99.010 2	1.3 6	268.6238	3/2+	M1,E2		2.3 3	α(K)=1.5 3; α(L)=0.67 42; α(M)=0.16 11 α(N)=0.035 23; α(O)=0.0047 28; α(P)=9.5×10^{-5} 36
		262.322 2	100 10	105.3106	3/2+	M1(+E2)	−0.06 +8−6	0.1367	α(K)=0.1158 17; α(L)=0.01644 23; α(M)=0.00357 5 α(N)=0.000821 12; α(O)=0.0001275 18; α(P)=8.56×10^{-6} 13 Mult.,δ: from ε decay dataset.
		281.087 2	6.2 6	86.5464	5/2+	E2		0.0738	α(K)=0.0558 8; α(L)=0.01400 20; α(M)=0.00318 5 α(N)=0.000719 10; α(O)=0.0001015 15; α(P)=3.44×10^{-6} 5 Mult.: from ε decay dataset.
		367.638 2	12.8 10	0.0	3/2−	E1		0.00965	α(K)=0.00822 12; α(L)=0.001126 16; α(M)=0.000243 4 α(N)=5.56×10^{-5} 8; α(O)=8.48×10^{-6} 12; α(P)=5.31×10^{-7} 8
392.317	11/2−	140.610 4	46 2	251.7056	9/2−	M1+E2	−0.283 19	0.762	B(M1)(W.u.)=0.072 7; B(E2)(W.u.)=150 +25−22 α(K)=0.631 9; α(L)=0.1029 20; α(M)=0.0226 5 α(N)=0.00518 10; α(O)=0.000785 14; α(P)=4.63×10^{-5} 7 Mult.: from Coulomb excitation dataset.
		246.253 9	100	146.0696	7/2−	E2		0.1122	B(E2)(W.u.)=267 +27−22 α(K)=0.0826 12; α(L)=0.0230 4; α(M)=0.00526 8 α(N)=0.001187 17; α(O)=0.0001658 24; α(P)=4.97×10^{-6} 7 Mult.: from Coulomb excitation dataset.
		284.8	13 1	107.5804	9/2+	E1(+M2)	−0.007 13	0.0182	α(K)=0.0154 3; α(L)=0.00215 4; α(M)=0.000463 9 α(N)=0.0001058 20; α(O)=1.61×10^{-5} 3; α(P)=9.80×10^{-7} 19 B(E1)(W.u.)=2.79×10^{-5} +34−30; B(M2)(W.u.)=0.08 +75−6 Mult.: from Coulomb excitation dataset. Mult.,δ: from 1998St28 (Coul. ex.).
393.5322	7/2−	141.826 1	32 3	251.7056	9/2−	M1+E2		0.732 17	α(K)=0.53 10; α(L)=0.156 65; α(M)=0.036 16 α(N)=0.0080 35; α(O)=0.00112 42; α(P)=3.5×10^{-5} 12
		247.462 4	46 4	146.0696	7/2−				
		275.535 6	6.2 7	117.9981	7/2+				
		306.986 3	100 10	86.5464	5/2+	E1		0.01504	α(K)=0.01279 18; α(L)=0.001768 25; α(M)=0.000382 6 α(N)=8.72×10^{-5} 13; α(O)=1.326×10^{-5} 19; α(P)=8.15×10^{-7} 12
		333.520 6	29 3	60.0106	5/2−	M1		0.0722	α(K)=0.0612 9; α(L)=0.00861 12; α(M)=0.00187 3 α(N)=0.000430 6; α(O)=6.68×10^{-5} 10; α(P)=4.51×10^{-6} 7
		393.57 4	3.5 10	0.0	3/2−				
423.4123	7/2+	102.036 11	2.1 9	321.3793	5/2−	E1		0.277	α(K)=0.232 4; α(L)=0.0350 5; α(M)=0.00757 11 α(N)=0.001712 24; α(O)=0.000251 4; α(P)=1.301×10^{-5} 19
		156.766 2	12.7 16	266.6474	5/2+	M1,E2		0.54 3	α(K)=0.40 8; α(L)=0.106 38; α(M)=0.0241 93 α(N)=0.0054 21; α(O)=7.7×10^{-4} 24; α(P)=2.64×10^{-5} 90
		277.361 7	6.1 9	146.0696	7/2−				
		305.428 8	100 9	117.9981	7/2+	M1		0.0911	α(K)=0.0772 11; α(L)=0.01090 16; α(M)=0.00236 4 α(N)=0.000544 8; α(O)=8.46×10^{-5} 12; α(P)=5.70×10^{-6} 8

$^{155}_{64}Gd_{91}$-16

γ(^{155}Gd) (continued)

E_i(level)	J_i^π	E_γ †‡	I_γ †‡	E_f	J_f^π	Mult. †‡	δ #@	α &	Comments
423.4123	7/2+	315.845 *14*	23.2 *23*	107.5804	9/2+	M1,(E2)		0.067 *16*	α(K)=0.055 *16*; α(L)=0.0096 *5*; α(M)=0.00212 *6* α(N)=0.000483 *16*; α(O)=7.2×10^{-5} *6*; α(P)=3.9×10^{-6} *14* Mult.: from (n,γ) dataset.
		336.864 *2*	98 *9*	86.5464	5/2+	M1		0.0703	α(K)=0.0596 *9*; α(L)=0.00839 *12*; α(M)=0.00182 *3* α(N)=0.000419 *6*; α(O)=6.51×10^{-5} *10*; α(P)=4.39×10^{-6} *7* Mult.: from (n,γ) dataset.
		363.391 *12*	36 *9*	60.0106	5/2−	E1		0.00993	α(K)=0.00845 *12*; α(L)=0.001159 *17*; α(M)=0.000250 *4* α(N)=5.72×10^{-5} *8*; α(O)=8.72×10^{-6} *13*; α(P)=5.46×10^{-7} *8* Mult.: from (n,γ) dataset.
423.82	17/2+	209.4 *2*	100	214.3515	13/2+	E2		0.191	α(K)=0.1346 *20*; α(L)=0.0435 *7*; α(M)=0.01000 *15* α(N)=0.00225 *4*; α(O)=0.000310 *5*; α(P)=7.81×10^{-6} *12* Mult.: from 2002Le15 (α,3nγ).
427.2375	3/2+	59.602 *1*	2.3 *9*	367.6342	1/2+	E2(+M1)	≥0.50	14.7 *39*	α(K)=4.9 *18*; α(L)=7.6 *44*; α(M)=1.8 *11* α(N)=0.40 *23*; α(O)=0.052 *29*; α(P)=3.4×10^{-4} *16* Mult.,δ: from ε decay dataset.
		101.148 *2*	20 *5*	326.0881	5/2+	M1+E2	≈0.50	≈2.04	α(K)≈1.541; α(L)≈0.389; α(M)≈0.0881 α(N)≈0.0199; α(O)≈0.00284; α(P)≈0.0001094 Mult.,δ: from ε decay dataset.
		105.864 *1*	1.4 *3*	321.3793	5/2−				
		158.612 *1*	6.6 *7*	268.6238	3/2+	E2		0.488	α(K)=0.311 *5*; α(L)=0.1366 *20*; α(M)=0.0318 *5* α(N)=0.00712 *10*; α(O)=0.000960 *14*; α(P)=1.693×10^{-5} *24* Mult.: from (n,γ) dataset.
		160.589 *2*	74 *8*	266.6474	5/2+	M1(+E2)	<0.33	0.523	α(K)=0.438 *10*; α(L)=0.067 *4*; α(M)=0.0147 *9* α(N)=0.00336 *19*; α(O)=0.000515 *22*; α(P)=3.23×10^{-5} *10* Mult.,δ: from (n,γ) dataset.
		309.21 *3*	0.33 *5*	117.9981	7/2+				E_γ,I_γ: from ε decay dataset.
		321.926 *3*	11 *1*	105.3106	3/2+	M1+E2	≈0.77	≈0.0678	α(K)≈0.0562; α(L)≈0.00913; α(M)≈0.00201 α(N)≈0.000460; α(O)≈6.94×10^{-5}; α(P)≈4.00×10^{-6} Mult.,δ: from ε decay dataset.
		340.690 *1*	83 *8*	86.5464	5/2+	M1(+E2)	0.02 *7*	0.0683	α(K)=0.0579 *9*; α(L)=0.00814 *12*; α(M)=0.001765 *25* α(N)=0.000406 *6*; α(O)=6.31×10^{-5} *9*; α(P)=4.26×10^{-6} *7* Mult.: from ε decay dataset.
		367.225 *2*	100 *9*	60.0106	5/2−	E1(+M2)	≈0.04	≈0.01000	α(K)≈0.00850; α(L)≈0.001175; α(M)≈0.000254 α(N)≈5.80×10^{-5}; α(O)≈8.86×10^{-6}; α(P)≈5.55×10^{-7} Mult.,δ: from ε decay dataset.
		427.18 *1*	2.2 *1*	0.0	3/2−	E1		0.00676	α(K)=0.00576 *8*; α(L)=0.000783 *11*; α(M)=0.0001689 *24* α(N)=3.87×10^{-5} *6*; α(O)=5.92×10^{-6} *9*; α(P)=3.76×10^{-7} *6* Mult.: from ε decay dataset.
450.5630	3/2−	82.933 *2*	1.2 *2*	367.6342	1/2+				
		124.476 *2*	5.6 *6*	326.0881	5/2+	E1		0.1618	α(K)=0.1363 *19*; α(L)=0.0201 *3*; α(M)=0.00434 *6* α(N)=0.000984 *14*; α(O)=0.0001454 *21*; α(P)=7.85×10^{-6} *11* Mult.: from (n,γ) dataset.
		129.182 *1*	2.0 *4*	321.3793	5/2−	(M1,E2)		0.985 *20*	α(K)=0.70 *13*; α(L)=0.22 *11*; α(M)=0.052 *26*

$^{155}_{64}$Gd$_{91}$-17

Adopted Levels, Gammas (continued)

$\gamma(^{155}Gd)$ (continued)

E_i(level)	J^π_i	E_γ†‡	I_γ†‡	E_f	J^π_f	Mult.†‡	δ#@	α&	Comments
									α(N)=0.0116 *58*; α(O)=0.00161 *70*; α(P)=4.5×10^{-5} *16* Mult.: from (n,γ) dataset.
450.5630	3/2$^-$	304.530 *18*	1.9 *2*	146.0696	7/2$^-$				
		364.019 *3*	95 *6*	86.5464	5/2$^+$	E1		0.00989	α(K)=0.00842 *12*; α(L)=0.001154 *17*; α(M)=0.000249 *4* α(N)=5.69×10^{-5} *8*; α(O)=8.69×10^{-6} *13*; α(P)=5.44×10^{-7} *8*
		390.552 *1*	90 *6*	60.0106	5/2$^-$	M1		0.0478	α(K)=0.0405 *6*; α(L)=0.00567 *8*; α(M)=0.001229 *18* α(N)=0.000283 *4*; α(O)=4.40×10^{-5} *7*; α(P)=2.98×10^{-6} *5*
		450.559 *3*	100 *7*	0.0	3/2$^-$	M1		0.0330	α(K)=0.0280 *4*; α(L)=0.00391 *6*; α(M)=0.000846 *12* α(N)=0.000195 *3*; α(O)=3.03×10^{-5} *5*; α(P)=2.05×10^{-6} *3*
451.3716	1/2$^-$	83.738 *1*	1.9 *3*	367.6342	1/2$^+$				
		164.366 *2*	24.6 *16*	287.0041	3/2$^-$	M1,E2		0.46 *4*	α(K)=0.35 *7*; α(L)=0.089 *29*; α(M)=0.0201 *72* α(N)=0.0046 *16*; α(O)=6.5×10^{-4} *19*; α(P)=2.32×10^{-5} *79*
		182.748 *1*	14.1 *14*	268.6238	3/2$^+$	E1		0.0577	α(K)=0.0488 *7*; α(L)=0.00696 *10*; α(M)=0.001505 *21* α(N)=0.000342 *5*; α(O)=5.13×10^{-5} *8*; α(P)=2.96×10^{-6} *5*
		346.059 *2*	72 *7*	105.3106	3/2$^+$	E1		0.01118	α(K)=0.00952 *14*; α(L)=0.001308 *19*; α(M)=0.000282 *4* α(N)=6.45×10^{-5} *9*; α(O)=9.84×10^{-6} *14*; α(P)=6.13×10^{-7} *9*
		391.360 *2*	15.8 *15*	60.0106	5/2$^-$	E2		0.0273	α(K)=0.0217 *3*; α(L)=0.00440 *7*; α(M)=0.000985 *14* α(N)=0.000224 *4*; α(O)=3.25×10^{-5} *5*; α(P)=1.416×10^{-6} *20*
		451.370 *3*	100 *10*	0.0	3/2$^-$	M1,E2		0.0256 *73*	α(K)=0.0213 *66*; α(L)=0.0033 *6*; α(M)=0.00073 *12* α(N)=0.00017 *3*; α(O)=2.5×10^{-5} *5*; α(P)=1.51×10^{-6} *54* Mult.: from ε decay dataset.
453.67	15/2$^+$	223.6 *2*	100 *11*	230.1286	11/2$^+$	E2		0.1536	α(K)=0.1104 *16*; α(L)=0.0335 *5*; α(M)=0.00769 *12* α(N)=0.001731 *25*; α(O)=0.000240 *4*; α(P)=6.50×10^{-6} *10* Mult.: from (α,3nγ) dataset.
		239.3 *2*	43 *5*	214.3515	13/2$^+$	M1+E2	−1.2 *8*	0.145 *24*	α(K)=0.11 *3*; α(L)=0.0238 *22*; α(M)=0.0053 *6* α(N)=0.00121 *13*; α(O)=0.000176 *10*; α(P)=7.7×10^{-6} *26* Mult.,δ: from (α,3nγ) dataset.
454.4744	5/2$^-$	133.094 *3*	1.55 *24*	321.3793	5/2$^-$				
		336.472 *2*	56 *5*	117.9981	7/2$^+$	E1		0.01198	α(K)=0.01019 *15*; α(L)=0.001403 *20*; α(M)=0.000303 *5* α(N)=6.92×10^{-5} *10*; α(O)=1.054×10^{-5} *15*; α(P)=6.55×10^{-7} *10*
		367.929 *1*	100 *10*	86.5464	5/2$^+$	E1		0.00964	α(K)=0.00820 *12*; α(L)=0.001124 *16*; α(M)=0.000243 *4* α(N)=5.55×10^{-5} *8*; α(O)=8.46×10^{-6} *12*; α(P)=5.30×10^{-7} *8*
		394.474 *8*	4.5 *6*	60.0106	5/2$^-$	M1,E2		0.037 *10*	α(K)=0.0304 *92*; α(L)=0.0049 *7*; α(M)=0.00108 *12* α(N)=0.00025 *3*; α(O)=3.7×10^{-5} *6*; α(P)=2.14×10^{-6} *76*
		454.472 *3*	39 *4*	0.0	3/2$^-$	M1		0.0323	α(K)=0.0274 *4*; α(L)=0.00382 *6*; α(M)=0.000827 *12* α(N)=0.000190 *3*; α(O)=2.96×10^{-5} *5*; α(P)=2.01×10^{-6} *3*
463.88	15/2$^-$	181.1 *2*	100 *16*	282.65	13/2$^-$	M1+E2	−0.49 *+17−35*	0.364 *16*	α(K)=0.297 *25*; α(L)=0.052 *8*; α(M)=0.0115 *19*

γ(^{155}Gd) (continued)

E$_i$(level)	J$_i^\pi$	E$_\gamma$[†‡]	I$_\gamma$[†‡]	E$_f$	J$_f^\pi$	Mult.[†‡]	δ[#@]	α[&]	Comments
									α(N)=0.0026 *4*; α(O)=0.00039 *5*; α(P)=2.1×10^{-5} *3* Mult.,δ: from (α,3nγ) dataset.
463.88	15/2$^-$	342.9 *2*	26 *3*	121.10	11/2$^-$	E2		0.0402	α(K)=0.0314 *5*; α(L)=0.00687 *10*; α(M)=0.001549 *22* α(N)=0.000351 *5*; α(O)=5.04×10^{-5} *8*; α(P)=2.01×10^{-6} *3* Mult.: from (α,3nγ) dataset.
485.975	(9/2$^-$)	234.270 *3*	100	251.7056	9/2$^-$				Mult.: (E1) mult from (n,γ) is not consistent with the proposed J^π.
488.7209	5/2$^+$	61.484 *1*	16 *3*	427.2375	3/2$^+$	M1+E2	≈0.42	≈9.41	α(K)≈6.33; α(L)≈2.39; α(M)≈0.550 α(N)≈0.1237; α(O)≈0.01705; α(P)≈0.000467 E$_\gamma$,I$_\gamma$: from (n,γ) dataset.
		138.285 *1*	18.6 *19*	350.4355	7/2$^+$	E2,M1		0.793 *14*	α(K)=0.57 *11*; α(L)=0.172 *75*; α(M)=0.039 *19* α(N)=0.0089 *40*; α(O)=0.00124 *49*; α(P)=3.8×10^{-5} *13* E$_\gamma$,I$_\gamma$,Mult.: from (n,γ) dataset.
		162.631 *1*	≈8	326.0881	5/2$^+$	[M1,E2]		0.48 *3*	α(K)=0.36 *7*; α(L)=0.092 *31*; α(M)=0.0210 *76* α(N)=0.0047 *17*; α(O)=6.7×10^{-4} *20*; α(P)=2.39×10^{-5} *81*
		201.0 *10*	6 *4*	287.0041	3/2$^-$				E$_\gamma$,I$_\gamma$: from ε decay dataset.
		220.099 *1*	75 *8*	268.6238	3/2$^+$	M1,E2		0.19 *3*	α(K)=0.15 *4*; α(L)=0.031 *5*; α(M)=0.0070 *13* α(N)=0.0016 *3*; α(O)=0.000231 *25*; α(P)=1.03×10^{-5} *36*
		222.069 *9*	8.3 *8*	266.6474	5/2$^+$				
		342.647 *4*	3.6 *8*	146.0696	7/2$^-$				
		370.721 *5*	100 *8*	117.9981	7/2$^+$	M1+E2	−0.25 *+14−18*	0.0534 *24*	α(K)=0.0452 *22*; α(L)=0.00643 *15*; α(M)=0.00140 *3* α(N)=0.000321 *7*; α(O)=4.98×10^{-5} *14*; α(P)=3.31×10^{-6} *18* Mult.,δ: from ε decay dataset.
		381.06 *3*	2.3 *2*	107.5804	9/2$^+$				E$_\gamma$,I$_\gamma$: from ε decay dataset.
		383.414 *7*	11.4 *11*	105.3106	3/2$^+$	M1		0.0501	α(K)=0.0425 *6*; α(L)=0.00596 *9*; α(M)=0.001290 *18* α(N)=0.000297 *5*; α(O)=4.62×10^{-5} *7*; α(P)=3.13×10^{-6} *5* Mult.: from ε decay dataset.
		402.173 *2*	37 *3*	86.5464	5/2$^+$	M1		0.0442	α(K)=0.0376 *6*; α(L)=0.00525 *8*; α(M)=0.001138 *16* α(N)=0.000262 *4*; α(O)=4.07×10^{-5} *6*; α(P)=2.76×10^{-6} *4*
		428.7 *1*	0.4 *2*	60.0106	5/2$^-$				E$_\gamma$,I$_\gamma$: from ε decay dataset.
		488.65 *15*	7.5 *13*	0.0	3/2$^-$	E1		0.00496	α(K)=0.00423 *6*; α(L)=0.000572 *8*; α(M)=0.0001232 *18* α(N)=2.82×10^{-5} *4*; α(O)=4.33×10^{-6} *6*; α(P)=2.78×10^{-7} *4* E$_\gamma$,I$_\gamma$,Mult.: from ε decay dataset.
534.30	13/2$^-$	141.9	22 *1*	392.317	11/2$^-$	M1+E2	−0.20 *3*	0.743	α(K)=0.622 *9*; α(L)=0.0954 *21*; α(M)=0.0209 *5* α(N)=0.00479 *11*; α(O)=0.000733 *15*; α(P)=4.59×10^{-5} *7* B(M1)(W.u.)=0.071 *+11−9*; B(E2)(W.u.)=74 *+26−21* E$_\gamma$,I$_\gamma$,Mult.,δ: from Coulomb excitation dataset.
		282.6 *1*	100	251.7056	9/2$^-$	E2		0.0725	B(E2)(W.u.)=278 *+44−33* α(K)=0.0549 *8*; α(L)=0.01372 *20*; α(M)=0.00312 *5* α(N)=0.000704 *10*; α(O)=9.96×10^{-5} *14*; α(P)=3.39×10^{-6} *5* E$_\gamma$,I$_\gamma$,Mult.: from Coulomb excitation dataset.
		304.2	6.6 *4*	230.1286	11/2$^+$	[E1]		0.01538	B(E1)(W.u.)=2.41×10^{-5} *+40−32*

$\gamma(^{155}Gd)$ (continued)

E_i(level)	J^π_i	E_γ†‡	I_γ†‡	E_f	J^π_f	Mult.†‡	δ#@	α&	Comments
									α(K)=0.01308 *19*; α(L)=0.00181 *3*; α(M)=0.000391 *6* α(N)=8.93×10^{-5} *13*; α(O)=1.357×10^{-5} *19*; α(P)=8.34×10^{-7} *12* E_γ,I_γ: from Coulomb excitation dataset.
553.371	(7/2)$^-$	301.682 *9*	6.4 *18*	251.7056	9/2$^-$				
		435.365 *5*	100 *9*	117.9981	7/2$^+$	E1		0.00647	α(K)=0.00551 *8*; α(L)=0.000749 *11*; α(M)=0.0001614 *23* α(N)=3.70×10^{-5} *6*; α(O)=5.66×10^{-6} *8*; α(P)=3.60×10^{-7} *5*
		466.824 *10*	16.1 *14*	86.5464	5/2$^+$				
		493.374 *17*	8.3 *14*	60.0106	5/2$^-$				
559.368	1/2$^-$	272.354 *6*	1.23 *9*	287.0041	3/2$^-$	M1		0.1238	α(K)=0.1048 *15*; α(L)=0.01484 *21*; α(M)=0.00322 *5* α(N)=0.000741 *11*; α(O)=0.0001152 *17*; α(P)=7.75×10^{-6} *11*
		499.37 *5*	2.1 *3*	60.0106	5/2$^-$				
		559.374 *4*	100 *9*	0.0	3/2$^-$	M1(+E2)	≤0.50	0.0182 *9*	α(K)=0.0154 *8*; α(L)=0.00216 *9*; α(M)=0.000468 *18* α(N)=0.000108 *4*; α(O)=1.67×10^{-5} *7*; α(P)=1.12×10^{-6} *7* Mult.,δ: from ε decay dataset.
581.4556	5/2$^-$	158.044 *4*	2.6 *4*	423.4123	7/2$^+$				
		187.923 *1*	9.9 *11*	393.5322	7/2$^-$				
		231.033 *6*	0.99 *25*	350.4355	7/2$^+$				
		260.071 *3*	5.3 *5*	321.3793	5/2$^-$	(M1,E2)		0.117 *23*	α(K)=0.094 *25*; α(L)=0.0178 *10*; α(M)=0.0040 *4* α(N)=0.00090 *7*; α(O)=0.000133 *3*; α(P)=6.5×10^{-6} *23*
		294.453 *10*	1.48 *25*	287.0041	3/2$^-$	M1		0.1005	α(K)=0.0851 *12*; α(L)=0.01203 *17*; α(M)=0.00261 *4* α(N)=0.000600 *9*; α(O)=9.33×10^{-5} *13*; α(P)=6.29×10^{-6} *9*
		312.824 *7*	1.2 *1*	268.6238	3/2$^+$				
		463.460 *4*	100 *10*	117.9981	7/2$^+$	E1		0.00560	α(K)=0.00477 *7*; α(L)=0.000647 *9*; α(M)=0.0001393 *20* α(N)=3.19×10^{-5} *5*; α(O)=4.89×10^{-6} *7*; α(P)=3.13×10^{-7} *5*
		476.162 *9*	8.6 *9*	105.3106	3/2$^+$	E1		0.00526	α(K)=0.00449 *7*; α(L)=0.000607 *9*; α(M)=0.0001308 *19* α(N)=3.00×10^{-5} *5*; α(O)=4.60×10^{-6} *7*; α(P)=2.95×10^{-7} *5*
		521.472 *10*	5.8 *9*	60.0106	5/2$^-$	M1,E2		0.0176 *52*	α(K)=0.0148 *46*; α(L)=0.0022 *5*; α(M)=0.00049 *10* α(N)=0.000112 *22*; α(O)=1.7×10^{-5} *4*; α(P)=1.05×10^{-6} *37*
		581.430 *12*	20 *2*	0.0	3/2$^-$	E2		0.00948	α(K)=0.00779 *11*; α(L)=0.001314 *19*; α(M)=0.000290 *4* α(N)=6.62×10^{-5} *10*; α(O)=9.88×10^{-6} *14*; α(P)=5.29×10^{-7} *8*
592.1422	3/2$^-$	141.5 *1*	2.3 *12*	450.5630	3/2$^-$	(M1)		0.750	α(K)=0.634 *9*; α(L)=0.0911 *13*; α(M)=0.0198 *3* α(N)=0.00456 *7*; α(O)=0.000707 *10*; α(P)=4.72×10^{-5} *7*
		270.758 *3*	9.8 *7*	321.3793	5/2$^-$	M1		0.1257	α(K)=0.1065 *15*; α(L)=0.01508 *22*; α(M)=0.00327 *5* α(N)=0.000753 *11*; α(O)=0.0001170 *17*; α(P)=7.88×10^{-6} *11*
		305.131 *9*	5.9 *5*	287.0041	3/2$^-$	M1		0.0914	α(K)=0.0774 *11*; α(L)=0.01093 *16*; α(M)=0.00237 *4* α(N)=0.000546 *8*; α(O)=8.48×10^{-5} *12*; α(P)=5.72×10^{-6} *8*
		323.519 *4*	29.7 *25*	268.6238	3/2$^+$	E1		0.01320	α(K)=0.01123 *16*; α(L)=0.001548 *22*; α(M)=0.000334 *5* α(N)=7.64×10^{-5} *11*; α(O)=1.162×10^{-5} *17*; α(P)=7.19×10^{-7} *10*
		325.488 *6*	6.2 *8*	266.6474	5/2$^+$	(E1)		0.01300	α(K)=0.01106 *16*; α(L)=0.001525 *22*; α(M)=0.000329 *5* α(N)=7.52×10^{-5} *11*; α(O)=1.145×10^{-5} *16*; α(P)=7.09×10^{-7} *10*
		446.081 *4*	15.6 *14*	146.0696	7/2$^-$				
		486.852 *8*	49 *4*	105.3106	3/2$^+$	E1		0.00500	α(K)=0.00427 *6*; α(L)=0.000577 *8*; α(M)=0.0001243 *18* α(N)=2.85×10^{-5} *4*; α(O)=4.37×10^{-6} *7*; α(P)=2.81×10^{-7} *4*

$\gamma(^{155}Gd)$ (continued)

E_i(level)	J^π_i	E_γ †‡	I_γ †‡	E_f	J^π_f	Mult. †‡	δ #@	α &	Comments
592.1422	3/2⁻	505.590 *9*	100 *6*	86.5464	5/2⁺	E1		0.00460	α(K)=0.00392 *6*; α(L)=0.000529 *8*; α(M)=0.0001139 *16* α(N)=2.61×10^{-5} *4*; α(O)=4.01×10^{-6} *6*; α(P)=2.58×10^{-7} *4*
		532.129 *8*	92 *6*	60.0106	5/2⁻	E2		0.01186	α(K)=0.00970 *14*; α(L)=0.001693 *24*; α(M)=0.000375 *6* α(N)=8.54×10^{-5} *12*; α(O)=1.268×10^{-5} *18*; α(P)=6.54×10^{-7} *10*
		592.137 *7*	43 *4*	0.0	3/2⁻	E0+E2,M1		0.0128 *38*	α(K)=0.0107 *33*; α(L)=0.0016 *4*; α(M)=0.00035 *8* α(N)=8.0×10^{-5} *17*; α(O)=1.2×10^{-5} *3*; α(P)=7.7×10^{-7} *26*
592.46	(5/2⁺)	474.53 *17*	18.0 *15*	117.9981	7/2⁺				E_γ,I_γ: from (p,d),(pdγ) dataset.
		484.85 *11*	100 *4*	107.5804	9/2⁺				E_γ,I_γ: from (p,d),(pdγ) dataset.
610.8425	7/2⁺	183.605 *2*	75 *9*	427.2375	3/2⁺	[E2]		0.296	α(K)=0.200 *3*; α(L)=0.0741 *11*; α(M)=0.01713 *24* α(N)=0.00385 *6*; α(O)=0.000525 *8*; α(P)=1.128×10^{-5} *16*
		187.434 *3*	58 *5*	423.4123	7/2⁺	E2,M1		0.31 *4*	α(K)=0.24 *5*; α(L)=0.055 *14*; α(M)=0.0124 *34* α(N)=0.00280 *74*; α(O)=0.00040 *8*; α(P)=1.61×10^{-5} *55*
		284.745 *4*	87 *9*	326.0881	5/2⁺	M1		0.1099	α(K)=0.0931 *13*; α(L)=0.01316 *19*; α(M)=0.00286 *4* α(N)=0.000657 *10*; α(O)=0.0001021 *15*; α(P)=6.88×10^{-6} *10*
		344.204 *6*	58 *5*	266.6474	5/2⁺	M1		0.0664	α(K)=0.0563 *8*; α(L)=0.00792 *11*; α(M)=0.001717 *24* α(N)=0.000395 *6*; α(O)=6.14×10^{-5} *9*; α(P)=4.15×10^{-6} *6*
		359.093 *18*	100 *9*	251.7056	9/2⁻				
614.8556	3/2⁻	293.460 *8*	0.86 *12*	321.3793	5/2⁻	M1		0.1014	α(K)=0.0859 *12*; α(L)=0.01214 *17*; α(M)=0.00263 *4* α(N)=0.000606 *9*; α(O)=9.41×10^{-5} *14*; α(P)=6.34×10^{-6} *9* B(M1)(W.u.)=2.6×10^{-4} *9*
		327.871 *9*	0.86 *16*	287.0041	3/2⁻	(M1,E2)		0.061 *15*	α(K)=0.050 *15*; α(L)=0.0085 *5*; α(M)=0.00188 *8* α(N)=0.000430 *21*; α(O)=6.4×10^{-5} *6*; α(P)=3.5×10^{-6} *13*
		528.36 *3*	0.70 *16*	86.5464	5/2⁺				
		554.843 *3*	100 *9*	60.0106	5/2⁻	M1(+E2)	≤0.50	0.0186 *10*	α(K)=0.0157 *8*; α(L)=0.00221 *9*; α(M)=0.000478 *18* α(N)=0.000110 *5*; α(O)=1.71×10^{-5} *7*; α(P)=1.14×10^{-6} *7* B(M1)(W.u.)=0.0037 *+10−12*; B(E2)(W.u.)=1.57 *+45−51* Mult.,δ: from ε decay dataset.
		614.854 *3*	93 *9*	0.0	3/2⁻	E2(+M1)	>1.53	0.0093 *11*	α(K)=0.0077 *9*; α(L)=0.00122 *10*; α(M)=0.000268 *21* α(N)=6.1×10^{-5} *5*; α(O)=9.3×10^{-6} *8*; α(P)=5.3×10^{-7} *7* B(M1)(W.u.)=9.5×10^{-4} *+26−32*; B(E2)(W.u.)=3.0 *9* Mult.,δ: from ε decay dataset.
647.7928	5/2⁻	193.319 *4*	5.2 *6*	454.4744	5/2⁻	M1,E2		0.28 *4*	α(K)=0.22 *5*; α(L)=0.049 *11*; α(M)=0.0110 *28* α(N)=0.0025 *6*; α(O)=0.00036 *7*; α(P)=1.48×10^{-5} *50*
		254.256 *6*	8.5 *6*	393.5322	7/2⁻				
		321.711 *5*	8.8 *12*	326.0881	5/2⁺				
		379.165 *4*	19.1 *18*	268.6238	3/2⁺	E1		0.00896	α(K)=0.00763 *11*; α(L)=0.001044 *15*; α(M)=0.000225 *4* α(N)=5.15×10^{-5} *8*; α(O)=7.87×10^{-6} *11*; α(P)=4.94×10^{-7} *7* B(E1)(W.u.)=1.8×10^{-5} *+13−9*
		396.095 *6*	8.2 *6*	251.7056	9/2⁻				
		501.713 *7*	60 *6*	146.0696	7/2⁻	M1+E2	≤1.0	0.022 *3*	α(K)=0.019 *3*; α(L)=0.00272 *24*; α(M)=0.00059 *5* α(N)=0.000136 *12*; α(O)=2.10×10^{-5} *20*; α(P)=1.36×10^{-6} *21* B(M1)(W.u.)=0.0012 *+9−6*; B(E2)(W.u.)=2.4 *+18−12* Mult.: from ε decay dataset.

$^{155}_{64}Gd_{91}$-21

$\gamma(^{155}$Gd) (continued)

E_i(level)	J^π_i	E_γ[†‡]	I_γ[†‡]	E_f	J^π_f	Mult.[†‡]	δ[#@]	α[&]	Comments
647.7928	5/2⁻	529.793 *8*	66 *6*	117.9981	7/2⁺	E1		0.00414	α(K)=0.00354 *5*; α(L)=0.000476 *7*; α(M)=0.0001024 *15* α(N)=2.35×10⁻⁵ *4*; α(O)=3.61×10⁻⁶ *5*; α(P)=2.33×10⁻⁷ *4* B(E1)(W.u.)=2.3×10⁻⁵ *+17−12*
		542.474 *17*	15 *2*	105.3106	3/2⁺				
		587.78 *3*	29 *3*	60.0106	5/2⁻	E0+E2,M1		0.0130 *38*	α(K)=0.0109 *34*; α(L)=0.0016 *4*; α(M)=0.00035 *8* α(N)=8.1×10⁻⁵ *17*; α(O)=1.2×10⁻⁵ *3*; α(P)=7.8×10⁻⁷ *27*
		647.796 *7*	100 *12*	0.0	3/2⁻	E2+M1	>2.0	0.0079 *6*	α(K)=0.0065 *6*; α(L)=0.00103 *6*; α(M)=0.000227 *13* α(N)=5.2×10⁻⁵ *3*; α(O)=7.8×10⁻⁶ *5*; α(P)=4.5×10⁻⁷ *5* B(M1)(W.u.)=3.6×10⁻⁴ *+28−19*; B(E2)(W.u.)=1.8 *+14−9* Mult.: from ε decay dataset.
658.985	5/2⁻	337.59 *4*	1.6 *8*	321.3793	5/2⁻				
		371.78 *9*	1.5 *12*	287.0041	3/2⁻				
		512.918 *7*	61 *5*	146.0696	7/2⁻	M1		0.0237	α(K)=0.0201 *3*; α(L)=0.00279 *4*; α(M)=0.000605 *9* α(N)=0.0001392 *20*; α(O)=2.17×10⁻⁵ *3*; α(P)=1.473×10⁻⁶ *21*
		540.94 *3*	3.3 *8*	117.9981	7/2⁺				
		598.974 *6*	100 *10*	60.0106	5/2⁻	M1,E2		0.0124 *37*	α(K)=0.0104 *32*; α(L)=0.0015 *4*; α(M)=0.00034 *7* α(N)=7.7×10⁻⁵ *17*; α(O)=1.2×10⁻⁵ *3*; α(P)=7.4×10⁻⁷ *25*
663.7	17/2⁻	199.6[b] *2*	100 *15*	463.88	15/2⁻	(M1+E2)		0.26 *4*	α(K)=0.20 *5*; α(L)=0.044 *9*; α(M)=0.0098 *23* α(N)=0.0022 *5*; α(O)=0.00032 *6*; α(P)=1.35×10⁻⁵ *46* Eγ,Iγ,Mult.: from 1970Lo04, (α,3nγ).
		381.1 *2*	46 *4*	282.65	13/2⁻	E2		0.0295	α(K)=0.0234 *4*; α(L)=0.00480 *7*; α(M)=0.001077 *16* α(N)=0.000244 *4*; α(O)=3.54×10⁻⁵ *5*; α(P)=1.517×10⁻⁶ *22* Eγ,Iγ,Mult.: from (α,3nγ). Mult.: from (¹²C,α3nγ), mult=Q.
720.6172	1/2⁺	269.245 *4*	2.36 *19*	451.3716	1/2⁻				
		270.051 *5*	3.5 *4*	450.5630	3/2⁻	E1		0.0208	α(K)=0.01766 *25*; α(L)=0.00246 *4*; α(M)=0.000531 *8* α(N)=0.0001212 *17*; α(O)=1.84×10⁻⁵ *3*; α(P)=1.114×10⁻⁶ *16*
		433.604 *7*	1.55 *19*	287.0041	3/2⁻				
		451.991 *3*	12.4 *12*	268.6238	3/2⁺	M1		0.0327	α(K)=0.0278 *4*; α(L)=0.00387 *6*; α(M)=0.000839 *12* α(N)=0.000193 *3*; α(O)=3.00×10⁻⁵ *5*; α(P)=2.04×10⁻⁶ *3*
		615.302 *3*	100 *9*	105.3106	3/2⁺	M1		0.01499	α(K)=0.01275 *18*; α(L)=0.001758 *25*; α(M)=0.000380 *6* α(N)=8.75×10⁻⁵ *13*; α(O)=1.363×10⁻⁵ *19*; α(P)=9.29×10⁻⁷ *13*
		634.053 *22*	12.4 *19*	86.5464	5/2⁺				
721.0	(7/2⁻)	721.0	100	0.0	3/2⁻				Eγ,Iγ: from Coulomb excitation dataset.
729.6	15/2⁻	195.4	19 *1*	534.30	13/2⁻	M1+E2	−0.26 *13*	0.301 *7*	B(M1)(W.u.)=0.067 *+16−13*; B(E2)(W.u.)=6×10¹ *+7−4* α(K)=0.252 *8*; α(L)=0.0382 *15*; α(M)=0.0083 *4* α(N)=0.00192 *9*; α(O)=0.000294 *10*; α(P)=1.86×10⁻⁵ *8* Eγ,Iγ,Mult.: from Coulomb excitation dataset. Eγ: from Coul. ex. From (α,3nγ), Eγ=196.7.

$^{155}_{64}$Gd$_{91}$-22

Adopted Levels, Gammas (continued)

γ(^{155}Gd) (continued)

E_i(level)	J^π_i	E_γ[†‡]	I_γ[†‡]	E_f	J^π_f	Mult.[†‡]	α[&]	Comments
729.6	15/2⁻	337.3	100	392.317	11/2⁻	E2	0.0422	B(E2)(W.u.)=3.3×10^2 +8−5 α(K)=0.0329 5; α(L)=0.00728 11; α(M)=0.001641 23 α(N)=0.000372 6; α(O)=5.33×10^{-5} 8; α(P)=2.10×10^{-6} 3 E_γ,I_γ,Mult.: from Coulomb excitation dataset.
		515.3	6.7 6	214.3515	13/2⁺	[E1]	0.00440	B(E1)(W.u.)=1.46×10^{-5} +38−26 α(K)=0.00376 6; α(L)=0.000506 7; α(M)=0.0001091 16 α(N)=2.50×10^{-5} 4; α(O)=3.84×10^{-6} 6; α(P)=2.48×10^{-7} 4 E_γ,I_γ: from Coulomb excitation dataset.
736.76	21/2⁺	313.0 2	100	423.82	17/2⁺	E2	0.0529	α(K)=0.0407 6; α(L)=0.00947 14; α(M)=0.00214 3 α(N)=0.000485 7; α(O)=6.91×10^{-5} 10; α(P)=2.57×10^{-6} 4 E_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset. Mult.: from 2002Le15 (α,3nγ).
752.549	(5/2⁺)	301.986 6	3.9 4	450.5630	3/2⁻			
		329.143 9	7.6 7	423.4123	7/2⁺	M1	0.0748	α(K)=0.0634 9; α(L)=0.00892 13; α(M)=0.00193 3 α(N)=0.000445 7; α(O)=6.92×10^{-5} 10; α(P)=4.67×10^{-6} 7
		634.543 11	100 9	117.9981	7/2⁺			
		647.258 20	20 9	105.3106	3/2⁺			
		666.012 9	87 7	86.5464	5/2⁺	M1,(E2)	0.0096 28	α(K)=0.0081 25; α(L)=0.0012 3; α(M)=0.00026 6 α(N)=5.9×10^{-5} 13; α(O)=9.0×10^{-6} 22; α(P)=5.7×10^{-7} 19
		692.46 4	21 3	60.0106	5/2⁻	(E1)	0.00234	α(K)=0.00200 3; α(L)=0.000265 4; α(M)=5.71×10^{-5} 8 α(N)=1.309×10^{-5} 19; α(O)=2.02×10^{-6} 3; α(P)=1.332×10^{-7} 19
		752.57 10	7 3	0.0	3/2⁻			
754.8	J0	540.5	100	214.3515	13/2⁺			E_γ: from (α,3nγ) dataset.
786.74	19/2⁺	333.1 2	100 6	453.67	15/2⁺	E2	0.0438	α(K)=0.0341 5; α(L)=0.00760 11; α(M)=0.001715 25 α(N)=0.000388 6; α(O)=5.57×10^{-5} 8; α(P)=2.17×10^{-6} 3 Mult.: from (α,3nγ) dataset. E_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset. Mult.: from 2002Le15 (α,3nγ).
		362.8 2	37 3	423.82	17/2⁺	(M1+E2)	0.046 12	α(K)=0.038 12; α(L)=0.0063 7; α(M)=0.00138 12 α(N)=0.00032 3; α(O)=4.8×10^{-5} 6; α(P)=2.67×10^{-6} 95 E_γ,I_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset. Mult.: from (α,3nγ) dataset. Mult.: from (α,3nγ).
786.896	7/2⁻	300.926 15	12 1	485.975	(9/2⁻)			
		535.199 9	49 5	251.7056	9/2⁻			
		640.848 23	100 16	146.0696	7/2⁻			
		679.49[a] 11	20.4[a] 21	107.5804	9/2⁺			
804.382	(9/2⁻)	318.422 21	23 18	485.975	(9/2⁻)			
		574.03 8	100 14	230.1286	11/2⁺			
815.733	(3/2)⁺	361.256 16	0.99 22	454.4744	5/2⁻			
		364.374 11	3.19 22	451.3716	1/2⁻			
		489.646 10	5.9 6	326.0881	5/2⁺	(M1,E2)	0.0207 60	α(K)=0.0173 54; α(L)=0.0027 5; α(M)=0.00058 10 α(N)=0.000133 24; α(O)=2.0×10^{-5} 5; α(P)=1.23×10^{-6} 43

$^{155}_{64}Gd_{91}$-23

Adopted Levels, Gammas (continued)

γ(^{155}Gd) (continued)

E_i(level)	J^π_i	E_γ[†‡]	I_γ[†‡]	E_f	J^π_f	Mult.[†‡]	δ[#@]	α[&]	Comments
815.733	(3/2)$^+$	547.05 *3*	13.5 *12*	268.6238	3/2$^+$	M1,E2		0.0156 *46*	α(K)=0.0131 *41*; α(L)=0.0020 *4*; α(M)=0.00043 *9* α(N)=9.8×10^{-5} *20*; α(O)=1.5×10^{-5} *4*; α(P)=9.3×10^{-7} *32*
		549.09 *4*	3.1 *16*	266.6474	5/2$^+$				
		710.422 *10*	73 *13*	105.3106	3/2$^+$				
		729.165 *17*	100 *10*	86.5464	5/2$^+$	M1		0.00984	α(K)=0.00838 *12*; α(L)=0.001148 *16*; α(M)=0.000248 *4* α(N)=5.71×10^{-5} *8*; α(O)=8.90×10^{-6} *13*; α(P)=6.09×10^{-7} *9*
872.810	(5/2)$^+$	418.336 *3*	21.5 *22*	454.4744	5/2$^-$	E1		0.00710	α(K)=0.00605 *9*; α(L)=0.000824 *12*; α(M)=0.0001775 *25* α(N)=4.06×10^{-5} *6*; α(O)=6.22×10^{-6} *9*; α(P)=3.94×10^{-7} *6*
		551.415[a] *12*	13[a] *1*	321.3793	5/2$^-$				
		767.456 *24*	100 *11*	105.3106	3/2$^+$				
		873.07 *17*	32 *4*	0.0	3/2$^-$				
880.7	19/2$^-$	217.1 *2*	100 *10*	663.7	17/2$^-$	M1+E2	−0.29 *11*	0.224 *5*	α(K)=0.188 *6*; α(L)=0.0284 *8*; α(M)=0.00619 *19* α(N)=0.00142 *4*; α(O)=0.000218 *5*; α(P)=1.38×10^{-5} *5* E_γ,I_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset. Mult.,δ: from 1970Lo04, (α,3nγ).
		416.8 *2*	56 *3*	463.88	15/2$^-$	E2		0.0229	α(K)=0.0183 *3*; α(L)=0.00358 *5*; α(M)=0.000800 *12* α(N)=0.000182 *3*; α(O)=2.65×10^{-5} *4*; α(P)=1.203×10^{-6} *17* E_γ,I_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset. Mult.,δ: from 1970Lo04, (α,3nγ).
889.3	J1	675.1	100	214.3515	13/2$^+$				E_γ: from (α,3nγ) dataset.
896.9	17/2$^-$	167.4	9 *1*	729.6	15/2$^-$	M1+E2	−0.15 *4*	0.467	B(M1)(W.u.)=0.072 *9*; B(E2)(W.u.)=30 *+18−14* α(K)=0.393 *6*; α(L)=0.0579 *11*; α(M)=0.01261 *25* α(N)=0.00290 *6*; α(O)=0.000448 *8*; α(P)=2.91×10^{-5} *5* E_γ,I_γ,Mult.: from Coulomb excitation dataset.
		362.8	100	534.30	13/2$^-$	E2		0.0340	B(E2)(W.u.)=316 *+21−18* α(K)=0.0268 *4*; α(L)=0.00567 *8*; α(M)=0.001273 *18* α(N)=0.000289 *4*; α(O)=4.17×10^{-5} *6*; α(P)=1.727×10^{-6} *25* E_γ,I_γ,Mult.: from Coulomb excitation dataset.
		443.2	0.9 *2*	453.67	15/2$^+$	[E1]		0.00620	B(E1)(W.u.)=4.2×10^{-6} *10* α(K)=0.00529 *8*; α(L)=0.000718 *10*; α(M)=0.0001548 *22* α(N)=3.54×10^{-5} *5*; α(O)=5.43×10^{-6} *8*; α(P)=3.46×10^{-7} *5* E_γ,I_γ: from Coulomb excitation dataset.
931.5	J2	717.2	100	214.3515	13/2$^+$				E_γ: from (α,3nγ) dataset.
1002.955	1/2$^-$	187.222 *2*	10.5 *10*	815.733	(3/2)$^+$	E1		0.0541	α(K)=0.0458 *7*; α(L)=0.00652 *10*; α(M)=0.001409 *20* α(N)=0.000321 *5*; α(O)=4.81×10^{-5} *7*; α(P)=2.78×10^{-6} *4*
		282.324 *8*	3.00 *25*	720.6172	1/2$^+$				
		388.098 *3*	15 *2*	614.8556	3/2$^-$	M1		0.0485	α(K)=0.0412 *6*; α(L)=0.00577 *8*; α(M)=0.001250 *18* α(N)=0.000288 *4*; α(O)=4.47×10^{-5} *7*; α(P)=3.03×10^{-6} *5*
		548.54 *3*	10 *1*	454.4744	5/2$^-$				
		734.79 *20*	100 *7*	268.6238	3/2$^+$	E1		0.00207	α(K)=0.001772 *25*; α(L)=0.000234 *4*; α(M)=5.04×10^{-5} *7* α(N)=1.156×10^{-5} *17*; α(O)=1.79×10^{-6} *3*; α(P)=1.183×10^{-7} *17*

$^{155}_{64}$Gd$_{91}$-24

γ(^{155}Gd) (continued)

E_i(level)	J_i^π	E_γ †‡	I_γ †‡	E_f	J_f^π	Mult. †‡	α &	Comments
1002.955	1/2⁻	1002.97 *3*	85 *10*	0.0	3/2⁻			
1012.893	3/2⁻	197.163 *4*	3.7 *5*	815.733	(3/2)⁺			
		292.265 *4*	3.6 *3*	720.6172	1/2⁺			
		365.112 *11*	3.6 *6*	647.7928	5/2⁻	(M1)	0.0569	α(K)=0.0483 *7*; α(L)=0.00678 *10*; α(M)=0.001468 *21* α(N)=0.000338 *5*; α(O)=5.26×10⁻⁵ *8*; α(P)=3.55×10⁻⁶ *5*
		453.541 *18*	3.4 *8*	559.368	1/2⁻			
		524.197 *18*	9.9 *12*	488.7209	5/2⁺	E1	0.00424	α(K)=0.00362 *5*; α(L)=0.000487 *7*; α(M)=0.0001049 *15* α(N)=2.40×10⁻⁵ *4*; α(O)=3.69×10⁻⁶ *6*; α(P)=2.39×10⁻⁷ *4*
		562.27 *12*	3.3 *8*	450.5630	3/2⁻			
		725.82 *4*	27 *3*	287.0041	3/2⁻	E2	0.00556	α(K)=0.00464 *7*; α(L)=0.000725 *11*; α(M)=0.0001590 *23* α(N)=3.64×10⁻⁵ *5*; α(O)=5.50×10⁻⁶ *8*; α(P)=3.18×10⁻⁷ *5*
		744.290 *22*	30 *4*	268.6238	3/2⁺	(E1)	0.00202	α(K)=0.001726 *25*; α(L)=0.000228 *4*; α(M)=4.91×10⁻⁵ *7* α(N)=1.126×10⁻⁵ *16*; α(O)=1.739×10⁻⁶ *25*; α(P)=1.153×10⁻⁷ *17*
		907.62 *3*	100 *12*	105.3106	3/2⁺	(E1)	1.36×10⁻³	α(K)=0.001170 *17*; α(L)=0.0001533 *22*; α(M)=3.29×10⁻⁵ *5* α(N)=7.56×10⁻⁶ *11*; α(O)=1.170×10⁻⁶ *17*; α(P)=7.85×10⁻⁸ *11*
		926.30 *20*	85 *18*	86.5464	5/2⁺			
		953.00 *5*	27 *3*	60.0106	5/2⁻			Mult.: E1 from (n,γ) is not allowed by J^π.
		1013.06 *7*	42 *8*	0.0	3/2⁻			
1028.029	1/2⁻,3/2,5/2⁻	368.98 *8*	100 *28*	658.985	5/2⁻			Mult.: (E1) from (n,γ) not allowed by J^π.
		468.70 *3*	36 *4*	559.368	1/2⁻			
		577.53 *3*	91 *11*	450.5630	3/2⁻			
1028.1	(7/2⁻)	882.0[b]		146.0696	7/2⁻			E_γ: from Coulomb excitation dataset.
		968.0		60.0106	5/2⁻			E_γ: from Coulomb excitation dataset.
		1028.2		0.0	3/2⁻			E_γ: from Coulomb excitation dataset.
1035.221	1/2⁺,3/2⁺	219.487 *2*	17 *2*	815.733	(3/2)⁺	M1,E2	0.19 *3*	α(K)=0.15 *4*; α(L)=0.031 *5*; α(M)=0.0070 *13* α(N)=0.0016 *3*; α(O)=0.00023 *3*; α(P)=1.04×10⁻⁵ *36*
		314.604 *8*	22 *2*	720.6172	1/2⁺	M1,(E2)	0.068 *17*	α(K)=0.056 *16*; α(L)=0.0097 *4*; α(M)=0.00214 *5* α(N)=0.000489 *15*; α(O)=7.3×10⁻⁵ *6*; α(P)=3.9×10⁻⁶ *14*
		420.363 *11*	5.7 *14*	614.8556	3/2⁻			
		667.613 *20*	34 *4*	367.6342	1/2⁺	M1,E2	0.0095 *28*	α(K)=0.0080 *24*; α(L)=0.0012 *3*; α(M)=0.00025 *6* α(N)=5.8×10⁻⁵ *13*; α(O)=9.0×10⁻⁶ *22*; α(P)=5.7×10⁻⁷ *19*
		768.62 *3*	46 *11*	266.6474	5/2⁺	(M1,E2)	0.0068 *19*	α(K)=0.0057 *17*; α(L)=0.00082 *19*; α(M)=0.00018 *4* α(N)=4.1×10⁻⁵ *10*; α(O)=6.3×10⁻⁶ *16*; α(P)=4.1×10⁻⁷ *13*
		1035.29 *7*	100 *21*	0.0	3/2⁻			
1060.599	(5/2⁻)	57.644 *1*	3.4 *21*	1002.955	1/2⁻			
		739.2 *3*	11 *3*	321.3793	5/2⁻			
		1000.56 *7*	72 *13*	60.0106	5/2⁻	(E2)	0.00275	α(K)=0.00232 *4*; α(L)=0.000336 *5*; α(M)=7.30×10⁻⁵ *11* α(N)=1.674×10⁻⁵ *24*; α(O)=2.56×10⁻⁶ *4*;

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$\gamma(^{155}Gd)$ (continued)

E_i(level)	J^π_i	E_γ [†‡]	I_γ [†‡]	E_f	J^π_f	Mult. [†‡]	δ [#@]	α [&]	Comments
									α(P)=1.607×10^{-7} 23 Mult.: (E1,E2) in (n,γ); placement indicates that mult=E1 is unlikely.
1060.599	(5/2$^-$)	1060.75 14	100 9	0.0	3/2$^-$				
1078.429	1/2$^-$,3/2$^-$	419.42 3	23 5	658.985	5/2$^-$				
		519.08 4	63 8	559.368	1/2$^-$				
		791.70 14	100 12	287.0041	3/2$^-$				
1086.846	3/2$^+$	334.305 7	23 3	752.549	(5/2$^+$)	M1		0.0718	α(K)=0.0608 9; α(L)=0.00856 12; α(M)=0.00186 3 α(N)=0.000427 6; α(O)=6.64×10^{-5} 10; α(P)=4.48×10^{-6} 7
		366.221 15	13 1	720.6172	1/2$^+$				
		635.446 19	31 9	451.3716	1/2$^-$				
		719.35 15	23 4	367.6342	1/2$^+$				
		820.07 11	63 8	266.6474	5/2$^+$				
		981.6[a] 3	100[a] 14	105.3106	3/2$^+$				
1104.792	(7/2$^-$)	317.907 8	14 4	786.896	7/2$^-$				
		445.804 8	22 2	658.985	5/2$^-$				
		551.415[a] 12	13[a] 1	553.371	(7/2)$^-$				
		681.31 6	16 2	423.4123	7/2$^+$				
		817.93 14	61 6	287.0041	3/2$^-$				
		837.97[a] 23	9[a] 2	266.6474	5/2$^+$				
		986.4 3	100 14	117.9981	7/2$^+$	E1		1.17×10^{-3}	α(K)=0.000999 14; α(L)=0.0001305 19; α(M)=2.80×10^{-5} 4 α(N)=6.44×10^{-6} 9; α(O)=9.97×10^{-7} 14; α(P)=6.71×10^{-8} 10
		997.39 21	34 4	107.5804	9/2$^+$				
		1105.1 3	68 9	0.0	3/2$^-$				
1107.3	J0+2	352.5		754.8	J0	Q			E_γ,Mult.: from (α,3nγ) dataset.
		683.4		423.82	17/2$^+$				E_γ: from (α,3nγ) dataset.
1113.2	21/2$^-$	232.4 2	100 10	880.7	19/2$^-$	M1+E2	−0.33 +8−16	0.185 6	α(K)=0.155 7; α(L)=0.0235 7; α(M)=0.00512 18 α(N)=0.00118 4; α(O)=0.000180 4; α(P)=1.13×10^{-5} 6 E_γ,I_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset. Mult.,δ: from 1970Lo04, (α,3nγ).
		449.5 2	92 5	663.7	17/2$^-$	E2		0.0186	α(K)=0.01495 21; α(L)=0.00282 4; α(M)=0.000628 9 α(N)=0.0001428 20; α(O)=2.10×10^{-5} 3; α(P)=9.92×10^{-7} 14 E_γ,I_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset. Mult.: from 1970Lo04, (α,3nγ).
1129.842	3/2$^-$	126.887 1	16 2	1002.955	1/2$^-$	E2		1.065	α(K)=0.601 9; α(L)=0.359 5; α(M)=0.0841 12

From ENSDF

γ(^{155}Gd) (continued)

E_i(level)	J^π_i	E_γ[†‡]	I_γ[†‡]	E_f	J^π_f	Mult.[†‡]	δ[#@]	α[&]	Comments
									α(N)=0.0188 *3*; α(O)=0.00250 *4*; α(P)=3.10×10^{-5} *5*
1129.842	3/2$^-$	470.890 *20*	3.7 *10*	658.985	5/2$^-$				
		537.65 *9*	19 *6*	592.1422	3/2$^-$				
		570.54 *5*	6.6 *15*	559.368	1/2$^-$				
		679.49[a] *11*	7.1[a] *7*	450.5630	3/2$^-$				
		860.9 *3*	7.8 *15*	268.6238	3/2$^+$				
		1043.45 *6*	63 *17*	86.5464	5/2$^+$				
		1069.97 *7*	100 *10*	60.0106	5/2$^-$	E2		0.00239	α(K)=0.00202 *3*; α(L)=0.000289 *4*; α(M)=6.28×10^{-5} *9* α(N)=1.440×10^{-5} *21*; α(O)=2.21×10^{-6} *3*; α(P)=1.402×10^{-7} *20*
1142.3	19/2$^-$	245.4	18 *12*	896.9	17/2$^-$	M1+E2	−0.20 *4*	0.1619 *24*	B(M1)(W.u.)=0.09 *+7−4*; B(E2)(W.u.)=30 *+29−17* α(K)=0.1366 *21*; α(L)=0.0198 *3*; α(M)=0.00432 *7* α(N)=0.000993 *15*; α(O)=0.0001535 *22*; α(P)=1.007×10^{-5} *17* E_γ,I_γ,Mult.: from Coulomb excitation dataset.
		412.8	100 *42*	729.6	15/2$^-$	E2		0.0235	B(E2)(W.u.)=323 *+44−58* α(K)=0.0188 *3*; α(L)=0.00369 *6*; α(M)=0.000826 *12* α(N)=0.000188 *3*; α(O)=2.74×10^{-5} *4*; α(P)=1.233×10^{-6} *18* E_γ,I_γ,Mult.: from Coulomb excitation dataset.
1144.4	25/2$^+$	407.6 *2*	100	736.76	21/2$^+$	E2		0.0244	α(K)=0.0194 *3*; α(L)=0.00385 *6*; α(M)=0.000861 *13* α(N)=0.000196 *3*; α(O)=2.85×10^{-5} *4*; α(P)=1.274×10^{-6} *18* E_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset. Mult.: from 2002Le15 (α,3nγ).
1192.850	1/2$^+$,3/2$^+$	703.93 *11*	73 *33*	488.7209	5/2$^+$				
		765.68 *11*	100 *13*	427.2375	3/2$^+$	(E2,M1)		0.0068 *19*	α(K)=0.0058 *17*; α(L)=0.00083 *20*; α(M)=0.00018 *4* α(N)=4.1×10^{-5} *10*; α(O)=6.3×10^{-6} *16*; α(P)=4.1×10^{-7} *13*
1197.611	3/2$^-$,5/2,7/2	410.73 *3*	18.3 *25*	786.896	7/2$^-$				Mult.: (E1) from (n,γ) not compatible with final level π=−.
		445.054 *19*	8.3 *8*	752.549	(5/2$^+$)				
		1110.91 *20*	100 *17*	86.5464	5/2$^+$				
		1137.66 *12*	95 *9*	60.0106	5/2$^-$	E2(+M1)		0.0027 *7*	α(K)=0.0023 *6*; α(L)=0.00032 *7*; α(M)=6.9×10^{-5} *15* α(N)=1.6×10^{-5} *4*; α(O)=2.5×10^{-6} *6*; α(P)=1.65×10^{-7} *42*; α(IPF)=1.20×10^{-6} *7*
1220.32	23/2$^+$	433.5 *2*	100 *6*	786.74	19/2$^+$	E2		0.0205	α(K)=0.01646 *24*; α(L)=0.00316 *5*; α(M)=0.000705 *10* α(N)=0.0001602 *23*; α(O)=2.34×10^{-5} *4*; α(P)=1.088×10^{-6} *16* E_γ,I_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset. Mult.: from 2002Le15 (α,3nγ).
		483.6 *2*	20 *2*	736.76	21/2$^+$	(M1+E2)		0.0214 *62*	α(K)=0.0179 *56*; α(L)=0.0028 *5*; α(M)=0.00060 *11*

From ENSDF

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Adopted Levels, Gammas (continued)

γ(^{155}Gd) (continued)

E_i(level)	J_i^π	E_γ[†‡]	I_γ[†‡]	E_f	J_f^π	Mult.[†‡]	α[&]	Comments
								α(N)=0.000138 *25*; α(O)=2.1×10^{-5} *5*; α(P)=1.27×10^{-6} *45* E_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset. Mult.: from (α,3nγ).
1225.008	$3/2^-$,5/2,7/2	352.198 *10*	7.2 *15*	872.810	$(5/2)^+$			
		409.278 *17*	6.5 *15*	815.733	$(3/2)^+$			
		831.41 *6*	100 *3*	393.5322	$7/2^-$			
1230.25	$3/2^-$	741.74 *22*	44 *11*	488.7209	$5/2^+$			
		1082.6 *6*	100 *23*	146.0696	$7/2^-$			
1255.8	J1+2	366.7		889.3	J1	Q		E_γ,Mult.: from (α,3nγ) dataset.
		831.9		423.82	$17/2^+$			E_γ: from (α,3nγ) dataset.
1282.7	$15/2^-$	999		282.65	$13/2^-$			E_γ: from (α,3nγ) dataset.
		1161		121.10	$11/2^-$	E2	0.00203	α(K)=0.001717 *24*; α(L)=0.000242 *4*; α(M)=5.25×10^{-5} *8* α(N)=1.204×10^{-5} *17*; α(O)=1.85×10^{-6} *3*; α(P)=1.191×10^{-7} *17*; α(IPF)=2.25×10^{-6} *4* E_γ,Mult.: from (α,3nγ) dataset.
1292.55	$3/2^+$	476.80 *7*	100 *20*	815.733	$(3/2)^+$			Mult.: (E1) from (n,γ) not compatible with final level π=+.
		837.97[a] *23*	29[a] *7*	454.4744	$5/2^-$			
		869.37[a] *14*	77[a] *15*	423.4123	$7/2^+$			
1296.14	$(5/2)^+$	807.29 *12*	6.0 *5*	488.7209	$5/2^+$			E_γ,I_γ: from (p,d),(pdγ) dataset.
		841.45 *23*	2.0 *4*	454.4744	$5/2^-$			E_γ,I_γ: from (p,d),(pdγ) dataset.
		868.88 *15*	9.8 *6*	427.2375	$3/2^+$			E_γ,I_γ: from (p,d),(pdγ) dataset.
		928.31 *18*	10.4 *7*	367.6342	$1/2^+$			E_γ,I_γ: from (p,d),(pdγ) dataset.
		945.91 *17*	3.6 *5*	350.4355	$7/2^+$			E_γ,I_γ: from (p,d),(pdγ) dataset.
		970.05 *16*	17.1 *8*	326.0881	$5/2^+$			E_γ,I_γ: from (p,d),(pdγ) dataset.
		1027.37 *23*	100.0 *22*	268.6238	$3/2^+$			E_γ,I_γ: from (p,d),(pdγ) dataset.
		1029.5 *3*		266.6474	$5/2^+$			E_γ,I_γ: from (p,d),(pdγ) dataset.
		1150.09 *24*	2.9 *4*	146.0696	$7/2^-$			E_γ,I_γ: from (p,d),(pdγ) dataset.
		1190.92 *12*	43.2 *13*	105.3106	$3/2^+$			E_γ,I_γ: from (p,d),(pdγ) dataset.
		1209.3 *4*	8.3 *6*	86.5464	$5/2^+$			E_γ,I_γ: from (p,d),(pdγ) dataset.
		1236.45 *20*	4.0 *4*	60.0106	$5/2^-$			
1297.177	$7/2^+$	104.327 *6*	6.0 *13*	1192.850	$1/2^+$,$3/2^+$			Mult.: (E1) from (n,γ) not compatible with final level parity π=+ as questionable.
		192.386 *3*	3.3 *7*	1104.792	$(7/2^-)$			
		808.38 *3*	53 *10*	488.7209	$5/2^+$	E2,M1	0.0060 *17*	α(K)=0.0051 *15*; α(L)=0.00072 *17*; α(M)=0.00016 *4* α(N)=3.6×10^{-5} *9*; α(O)=5.6×10^{-6} *14*; α(P)=3.6×10^{-7} *11*
		1150.4[a] *3*	100[a] *17*	146.0696	$7/2^-$			
1303.2	J2+2	371.7		931.5	J2	Q		E_γ,Mult.: from (α,3nγ) dataset.
		879.5		423.82	$17/2^+$			E_γ: from (α,3nγ) dataset.
1326.5	$21/2^-$	184.3	6 *2*	1142.3	$19/2^-$	[M1+E2]	0.33 *4*	α(K)=0.25 *6*; α(L)=0.058 *15*; α(M)=0.0131 *38* α(N)=0.00298 *81*; α(O)=0.00043 *9*; α(P)=1.69×10^{-5} *57* E_γ: from Coulomb excitation dataset. α: δ not known. Value included to obtain a reasonable

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Adopted Levels, Gammas (continued)

γ(^{155}Gd) (continued)

E_i(level)	J^π_i	E_γ[†‡]	I_γ[†‡]	E_f	J^π_f	Mult.[†‡]	α[&]	Comments
								estimate for B(E2)(W.u.) and B(E1)(W.u.) for the other two deexciting γ's.
1326.5	21/2$^-$	429.7	100	896.9	17/2$^-$	E2	0.0210	B(E2)(W.u.)=2.8×10^2 *+6−4* α(K)=0.01685 *24*; α(L)=0.00325 *5*; α(M)=0.000725 *11* α(N)=0.0001648 *23*; α(O)=2.41×10^{-5} *4*; α(P)=1.112×10^{-6} *16* E_γ,Mult.: from Coulomb excitation dataset.
		539.4	8 *2*	786.74	19/2$^+$	[E1]	0.00398	B(E1)(W.u.)=4.2×10^{-5} *+14−11* α(K)=0.00340 *5*; α(L)=0.000457 *7*; α(M)=9.84×10^{-5} *14* α(N)=2.25×10^{-5} *4*; α(O)=3.46×10^{-6} *5*; α(P)=2.24×10^{-7} *4* E_γ: from Coulomb excitation dataset.
1332.06	1/2$^{(+)}$,3/2$^{(+)}$	772.76 *8*	28 *10*	559.368	1/2$^-$			
		1245.51[a] *20*	66[a] *8*	86.5464	5/2$^+$			
		1331.66 *18*	100 *16*	0.0	3/2$^-$	(E1)	7.67×10^{-4}	α(K)=0.000582 *9*; α(L)=7.51×10^{-5} *11*; α(M)=1.611×10^{-5} *23* α(N)=3.70×10^{-6} *6*; α(O)=5.75×10^{-7} *8*; α(P)=3.92×10^{-8} *6*; α(IPF)=8.99×10^{-5} *13*
1343.313	3/2$^-$,5/2,7/2$^-$	238.524 *10*	7.5 *6*	1104.792	(7/2$^-$)	M1,E2	0.15 *3*	α(K)=0.12 *3*; α(L)=0.0237 *24*; α(M)=0.0053 *7* α(N)=0.00120 *14*; α(O)=0.000176 *12*; α(P)=8.3×10^{-6} *29*
		695.40 *6*	22 *9*	647.7928	5/2$^-$			
		1016.95 *20*	66 *9*	326.0881	5/2$^+$			
		1022.29 *21*	59 *9*	321.3793	5/2$^-$			
		1056.32 *18*	36 *8*	287.0041	3/2$^-$			
		1283.28 *16*	100 *13*	60.0106	5/2$^-$			
1359.88	3/2,5/2,7/2$^+$	712.32 *10*	26 *4*	647.7928	5/2$^-$			
		1254.4 *3*	50 *6*	105.3106	3/2$^+$			
		1273.50 *17*	100 *15*	86.5464	5/2$^+$			
1360.0	23/2$^-$	246.6 *2*	86 *9*	1113.2	21/2$^-$	D		E_γ,I_γ,Mult.: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
		479.3 *2*	100 *6*	880.7	19/2$^-$	Q		E_γ,I_γ,Mult.: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
1363.631	5/2,7/2$^+$	258.830 *8*	3.3 *15*	1104.792	(7/2$^-$)			
		276.84 *3*	4.2 *15*	1086.846	3/2$^+$	(M1)	0.1185	α(K)=0.1003 *14*; α(L)=0.01420 *20*; α(M)=0.00308 *5* α(N)=0.000709 *10*; α(O)=0.0001102 *16*; α(P)=7.42×10^{-6} *11*
		335.637 *18*	7.6 *12*	1028.029	1/2$^-$,3/2,5/2$^-$			
		715.81 *4*	67 *9*	647.7928	5/2$^-$			
		1245.51[a] *20*	100[a] *12*	117.9981	7/2$^+$			
		1257.6 *5*	97 *15*	105.3106	3/2$^+$			
1434.40	1/2$^+$,3/2$^+$	982.91 *13*	100 *11*	451.3716	1/2$^-$	E1	1.17×10^{-3}	α(K)=0.001006 *14*; α(L)=0.0001314 *19*;

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Adopted Levels, Gammas (continued)

$\gamma(^{155}Gd)$ (continued)

E_i(level)	J^{π}_i	E_{γ}[†‡]	I_{γ}[†‡]	E_f	J^{π}_f	Mult.[†‡]	α[&]	Comments
								α(M)=2.82×10^{-5} *4*; α(N)=6.48×10^{-6} *9*; α(O)=1.004×10^{-6} *14*; α(P)=6.76×10^{-8} *10*
1434.40	1/2$^+$,3/2$^+$	1347.8 *10*	26 *17*	86.5464	5/2$^+$			
1437.681		332.909 *13*	11.7 *17*	1104.792	(7/2$^-$)	M1,E2	0.058 *15*	α(K)=0.048 *14*; α(L)=0.0081 *6*; α(M)=0.00180 *9*; α(N)=0.000411 *23*; α(O)=6.1×10^{-5} *6*; α(P)=3.4×10^{-6} *12*
		424.761 *15*	6.0 *13*	1012.893	3/2$^-$			
		1111.87 *21*	50 *23*	326.0881	5/2$^+$			
		1150.4[a] *3*	100[a] *17*	287.0041	3/2$^-$			
		1350.2 *8*	40 *20*	86.5464	5/2$^+$			
1460.6	17/2$^-$	178		1282.7	15/2$^-$	M1	0.395	α(K)=0.334 *5*; α(L)=0.0478 *7*; α(M)=0.01038 *15*; α(N)=0.00239 *4*; α(O)=0.000371 *6*; α(P)=2.48×10^{-5} *4*
		347		1113.2	21/2$^-$			Mult.: from (α,3nγ) dataset.
		580		880.7	19/2$^-$			Mult.: from (α,3nγ) dataset.
		796		663.7	17/2$^-$			Mult.: from (α,3nγ) dataset.
		996.8 *2*	100	463.88	15/2$^-$			E_{γ},I_{γ}: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
1470.02	5/2$^+$	981.6[a] *3*	45[a] *6*	488.7209	5/2$^+$			
		1015.54 *3*	72 *9*	454.4744	5/2$^-$			
		1183.2 *4*	100 *17*	287.0041	3/2$^-$	E1	8.53×10^{-4}	α(K)=0.000717 *10*; α(L)=9.29×10^{-5} *13*; α(M)=1.99×10^{-5} *3*; α(N)=4.58×10^{-6} *7*; α(O)=7.11×10^{-7} *10*; α(P)=4.83×10^{-8} *7*; α(IPF)=1.83×10^{-5} *3*
		1351.3 *5*	47 *8*	117.9981	7/2$^+$			
		1362.5 *3*	68 *11*	107.5804	9/2$^+$			
		1409.75 *24*	70 *11*	60.0106	5/2$^-$			
1474.50	1/2$^+$,3/2$^+$,5/2$^+$	40.101 *7*	100 *31*	1434.40	1/2$^+$,3/2$^+$			
		181.949 *3*	17 *3*	1292.55	3/2$^+$	(E2)	0.305	α(K)=0.206 *3*; α(L)=0.0769 *11*; α(M)=0.01779 *25*; α(N)=0.00400 *6*; α(O)=0.000545 *8*; α(P)=1.157×10^{-5} *17*
		461.57 *8*	15 *2*	1012.893	3/2$^-$	E1	0.00565	α(K)=0.00482 *7*; α(L)=0.000653 *10*; α(M)=0.0001407 *20*; α(N)=3.22×10^{-5} *5*; α(O)=4.94×10^{-6} *7*; α(P)=3.16×10^{-7} *5*
		1388.7 *4*	53 *11*	86.5464	5/2$^+$			
1517.10	3/2$^+$,5/2$^+$,7/2$^+$	157.225 *4*	2.1 *4*	1359.88	3/2,5/2,7/2$^+$			
		701.31 *4*	8 *3*	815.733	(3/2)$^+$			
		869.37[a] *14*	12[a] *2*	647.7928	5/2$^-$			
		1062.8 *3*	100 *18*	454.4744	5/2$^-$	E1	1.01×10^{-3}	α(K)=0.000870 *13*; α(L)=0.0001134 *16*; α(M)=2.43×10^{-5} *4*

γ(^{155}Gd) (continued)

E_i(level)	J^π_i	E_γ†‡	I_γ†‡	E_f	J^π_f	Mult.†‡	δ#@	α&	Comments
									α(N)=5.59×10^{-6} *8*; α(O)=8.66×10^{-7} *13*; α(P)=5.85×10^{-8} *9*
1517.10	3/2$^+$,5/2$^+$,7/2$^+$	1431.0 *4*	37 *7*	86.5464	5/2$^+$				
1522.5	J0+4	415.2		1107.3	J0+2	Q			E$_\gamma$,Mult.: from (α,3nγ) dataset.
		785.8		736.76	21/2$^+$				E$_\gamma$: from (α,3nγ) dataset.
1551.04	(3/2$^+$)	1096.56 *12*	100	454.4744	5/2$^-$				E$_\gamma$: from (p,d),(pdγ) dataset.
1577.94	(11/2)$^-$	1363.55 *12*	97 *5*	214.3515	13/2$^+$				E$_\gamma$,I$_\gamma$: from (p,d),(pdγ) dataset.
		1470.38 *12*	100 *6*	107.5804	9/2$^+$				E$_\gamma$,I$_\gamma$: from (p,d),(pdγ) dataset.
1615.3	23/2$^-$	473.0	100	1142.3	19/2$^-$	[E2]		0.01617	α(K)=0.01309 *19*; α(L)=0.00241 *4*; α(M)=0.000535 *8* α(N)=0.0001218 *17*; α(O)=1.79×10^{-5} *3*; α(P)=8.73×10^{-7} *13* E$_\gamma$: from (α,3nγ) dataset. E$_\gamma$: from (α,3nγ).
1619.3	25/2$^-$	259.2 *2*	57 *3*	1360.0	23/2$^-$	M1+E2	−0.60 *+24−30*	0.129 *9*	α(K)=0.107 *9*; α(L)=0.0175 *5*; α(M)=0.00385 *13* α(N)=0.00088 *3*; α(O)=0.0001331 *21*; α(P)=7.7×10^{-6} *9* E$_\gamma$,I$_\gamma$: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset. I$_\gamma$: 1970Lo04, (α,3nγ), report Iγ=34. Mult.,δ: from 1970Lo04 (α,3nγ).
		506.1 *2*	100 *6*	1113.2	21/2$^-$	[E2]		0.01351	α(K)=0.01100 *16*; α(L)=0.00196 *3*; α(M)=0.000435 *7* α(N)=9.91×10^{-5} *14*; α(O)=1.467×10^{-5} *21*; α(P)=7.39×10^{-7} *11* E$_\gamma$,I$_\gamma$: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset. Mult.: mult=Q, from (^{12}C,α3nγ).
1635.5	29/2$^+$	491.1 *2*	100	1144.4	25/2$^+$	E2		0.01463	α(K)=0.01188 *17*; α(L)=0.00215 *3*; α(M)=0.000477 *7* α(N)=0.0001086 *16*; α(O)=1.603×10^{-5} *23*; α(P)=7.95×10^{-7} *12* E$_\gamma$: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset. Mult.: from 2002Le15 (α,3nγ).
1675.0	1/2,3/2,5/2	1675	100	0.0	3/2$^-$				E$_\gamma$: from (γ,γ′) dataset.
1679.2	19/2$^-$	218.4 *2*	100	1460.6	17/2$^-$	M1		0.225	α(K)=0.190 *3*; α(L)=0.0271 *4*; α(M)=0.00589 *9* α(N)=0.001355 *20*; α(O)=0.000210 *3*; α(P)=1.412×10^{-5} *20* E$_\gamma$: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset. Mult.: from (α,3nγ) dataset.
1686.8	J1+4	431.2		1255.8	J1+2	Q			E$_\gamma$,Mult.: from (α,3nγ) dataset.
		950.0		736.76	21/2$^+$				E$_\gamma$: from (α,3nγ) dataset.
1709.7		1046	100	663.7	17/2$^-$				E$_\gamma$: from (α,3nγ) dataset.
1740.8	J2+4	437.6		1303.2	J2+2	Q			E$_\gamma$,Mult.: from (α,3nγ) dataset.
		1004.1		736.76	21/2$^+$				E$_\gamma$: from (α,3nγ) dataset.
1743.3	27/2$^+$	523.0 *2*	100 *7*	1220.32	23/2$^+$	Q			E$_\gamma$,Mult.: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
		599.0 *2*	20 *5*	1144.4	25/2$^+$				E$_\gamma$: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.

$^{155}_{64}$Gd$_{91}$-31

Adopted Levels, Gammas (continued)

$\gamma(^{155}Gd)$ (continued)

E_i(level)	J^π_i	E_γ [†‡]	I_γ [†‡]	E_f	J^π_f	Mult. [†‡]	δ [#@]	α [&]	Comments
1806.7		1143	100	663.7	17/2⁻				E_γ: from (α,3nγ) dataset.
1809.4	25/2⁻	482.9	100	1326.5	21/2⁻				E_γ: from (α,3nγ). From Coul. ex., $E\gamma$=483 2.
1889.9	27/2⁻	270.5 2	57 3	1619.3	25/2⁻	M1+E2	−0.45 +20−45	0.119 12	α(K)=0.099 13; α(L)=0.0153 4; α(M)=0.00335 12 α(N)=0.000768 24; α(O)=0.0001172 17; α(P)=7.2×10^{-6} 12 E_γ,I_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset. Mult.,δ: from 1970Lo04 (α,3nγ).
		530.0 2	100 5	1360.0	23/2⁻	[E2]		0.01199	α(K)=0.00979 14; α(L)=0.001713 24; α(M)=0.000379 6 α(N)=8.64×10^{-5} 13; α(O)=1.283×10^{-5} 18; α(P)=6.60×10^{-7} 10 E_γ,I_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset. Mult.: mult=Q, from (^{12}C,α3nγ).
1913.1	21/2⁻	233.6 2	100 20	1679.2	19/2⁻	M1		0.187	α(K)=0.1586 23; α(L)=0.0225 4; α(M)=0.00489 7 α(N)=0.001127 16; α(O)=0.0001749 25; α(P)=1.175×10^{-5} 17 E_γ,I_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset. E_γ: from (α,3nγ) dataset.
		452.7 2	80 17	1460.6	17/2⁻				E_γ,I_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
1920.8		1040	100	880.7	19/2⁻				E_γ: from (α,3nγ) dataset.
1933.7		1270	100	663.7	17/2⁻				E_γ: from (α,3nγ) dataset.
1966.7		1303	100	663.7	17/2⁻				E_γ: from (α,3nγ) dataset.
1982.0	1/2,3/2,5/2	1982	100	0.0	3/2⁻				E_γ: from (γ,γ') dataset.
1994.8	J0+6	472.3		1522.5	J0+4	Q			E_γ,Mult.: from (α,3nγ) dataset.
		850.4		1144.4	25/2⁺				E_γ: from (α,3nγ) dataset.
2016.8		1136	100	880.7	19/2⁻				E_γ: from (α,3nγ) dataset.
2017.0	1/2,3/2,5/2	2017	100	0.0	3/2⁻				E_γ: from (γ,γ') dataset.
2120.2		1007	100	1113.2	21/2⁻				E_γ: from (α,3nγ) dataset.
2134.2		1021	100	1113.2	21/2⁻				E_γ: from (α,3nγ) dataset.
2136.0	27/2⁻	520.7	100	1615.3	23/2⁻				E_γ: from (α,3nγ). From Coul. ex., $E\gamma$=519.
2137.7		204		1933.7					E_γ: from (α,3nγ) dataset.
		1257		880.7	19/2⁻				E_γ: from (α,3nγ) dataset.
2145.2		466	100	1679.2	19/2⁻				E_γ: from (α,3nγ) dataset.
2161.0	23/2⁻	247.9 2	62 19	1913.1	21/2⁻	M1		0.1594	α(K)=0.1350 20; α(L)=0.0192 3; α(M)=0.00416 6 α(N)=0.000958 14; α(O)=0.0001487 21; α(P)=1.000×10^{-5} 15 E_γ,I_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset. E_γ: from (α,3nγ) dataset.
		481.9 2	100 15	1679.2	19/2⁻				E_γ,I_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
2170.4	29/2⁻	280.5 2	49 4	1889.9	27/2⁻				E_γ,I_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
		551.2 2	100 7	1619.3	25/2⁻	Q			E_γ,I_γ,Mult.: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
2188.5	J1+6	501.8		1686.8	J1+4	Q			E_γ,Mult.: from (α,3nγ) dataset.
		1044.1		1144.4	25/2⁺				E_γ: from (α,3nγ) dataset.
2199.2	33/2⁺	563.7 2	100	1635.5	29/2⁺	E2		0.01024	α(K)=0.00841 12; α(L)=0.001434 21; α(M)=0.000317 5 α(N)=7.23×10^{-5} 11; α(O)=1.077×10^{-5} 16; α(P)=5.69×10^{-7} 8 E_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset. Mult.: from 2002Le15 (α,3nγ).

$^{155}_{64}Gd_{91}$-32

Adopted Levels, Gammas (continued)

γ(^{155}Gd) (continued)

E_i(level)	J^π_i	E_γ†‡	I_γ†‡	E_f	J^π_f	Mult.†‡	α&	Comments
2226.2	J2+6	485.6		1740.8	J2+4	Q		E_γ,Mult.: from (α,3nγ) dataset.
		1081.6		1144.4	25/2$^+$			E_γ: from (α,3nγ) dataset.
2241.2		1128	100	1113.2	21/2$^-$			E_γ: from (α,3nγ) dataset.
2283.0	1/2,3/2,5/2	2283	100	0.0	3/2$^-$			E_γ: from (γ,γ′) dataset.
2329.0	1/2,3/2,5/2	2329	100	0.0	3/2$^-$			E_γ: from (γ,γ′) dataset.
2331.9	29/2$^-$	522.5	100	1809.4	25/2$^-$			E_γ: from (α,3nγ). From Coul. ex., Eγ=521.
2344.0		984	100	1360.0	23/2$^-$			E_γ: from (α,3nγ) dataset.
2345.4	31/2$^+$	602.0 *2*	100	1743.3	27/2$^+$			E_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
2351.2		1238	100	1113.2	21/2$^-$			E_γ: from (α,3nγ) dataset.
2421.6	25/2$^-$	260.7 *2*	44 *16*	2161.0	23/2$^-$	M1	0.1392	α(K)=0.1179 *17*; α(L)=0.01671 *24*; α(M)=0.00363 *6*
								α(N)=0.000835 *12*; α(O)=0.0001297 *19*; α(P)=8.72×10^{-6} *13*
								E_γ,I_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
								Mult.: from (α,3nγ) dataset.
		508.4 *2*	100 *12*	1913.1	21/2$^-$	Q		E_γ,I_γ,Mult.: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
2429.2		1316	100	1113.2	21/2$^-$			E_γ: from (α,3nγ) dataset.
2456.0	1/2$^-$,3/2,5/2	2396	98 *4*	60.0106	5/2$^-$			E_γ: from (γ,γ′) dataset.
		2456	100	0.0	3/2$^-$			E_γ: from (γ,γ′) dataset.
2460.1	31/2$^-$	289.5 *2*	39 *4*	2170.4	29/2$^-$			E_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
		570.2 *2*	100 *7*	1889.9	27/2$^-$	Q		E_γ,Mult.: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
2496.3		877	100	1619.3	25/2$^-$			E_γ: from (n,γ) dataset.
2558.0	1/2,3/2,5/2	2558	100	0.0	3/2$^-$			E_γ: from (γ,γ′) dataset.
2578.6		233		2345.4	31/2$^+$			E_γ: from (α,3nγ) dataset.
		959		1619.3	25/2$^-$			E_γ: from (α,3nγ) dataset.
2596.0	1/2,3/2,5/2	2596	100	0.0	3/2$^-$			E_γ: from (γ,γ′) dataset.
2645.0	1/2,3/2,5/2	2645	100	0.0	3/2$^-$			E_γ: from (γ,γ′) dataset.
2655.0	(3/2$^+$),5/2	2537	225 *24*	117.9981	7/2$^+$			E_γ: from (γ,γ′) dataset.
		2655	100	0.0	3/2$^-$			E_γ: from (γ,γ′) dataset.
2689.0	1/2,3/2,5/2	2689	100	0.0	3/2$^-$			E_γ: from (γ,γ′) dataset.
2694.6	27/2$^-$	273.0 *8*		2421.6	25/2$^-$	M1	0.1230 *20*	α(K)=0.1042 *17*; α(L)=0.01475 *24*; α(M)=0.00320 *6*
								α(N)=0.000737 *12*; α(O)=0.0001144 *19*; α(P)=7.70×10^{-6} *13*
								E_γ,I_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
								Mult.: from (α,3nγ) dataset.
		533.5 *2*	100 *31*	2161.0	23/2$^-$			E_γ,I_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
2702.2	31/2$^-$	566.2	100	2136.0	27/2$^-$			E_γ: from (α,3nγ). From Coul. ex., Eγ=565.
2728.0	1/2,3/2,5/2	2728	100	0.0	3/2$^-$			E_γ: from (γ,γ′) dataset.
2743.0	1/2,3/2,5/2	2743	100	0.0	3/2$^-$			E_γ: from (γ,γ′) dataset.
2752.6	J2+8	526.4	100	2226.2	J2+6	Q		E_γ,Mult.: from (α,3nγ) dataset.
2756.5	1/2$^-$,3/2,5/2	2698	100 *30*	60.0106	5/2$^-$			E_γ: from (γ,γ′) dataset.
		2755	59	0.0	3/2$^-$			E_γ: from (γ,γ′) dataset.
2758.1	33/2$^-$	297.8 *2*	38 *4*	2460.1	31/2$^-$	D		E_γ,Mult.: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
		587.8 *2*	100 *9*	2170.4	29/2$^-$			E_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
2758.3	J1+8	569.8		2188.5	J1+6	Q		E_γ,Mult.: from (α,3nγ) dataset.
		1122.8		1635.5	29/2$^+$			E_γ: from (α,3nγ) dataset.

$^{155}_{64}Gd_{91}$-33

Adopted Levels, Gammas (continued)

γ(^{155}Gd) (continued)

E_i(level)	J^π_i	E_γ †‡	I_γ †‡	E_f	J^π_f	Mult. †‡	α &	Comments
2768.0	1/2,3/2,5/2	2768	100	0.0	3/2⁻			E_γ: from (γ,γ′) dataset.
2814.0	1/2,3/2,5/2	2814	100	0.0	3/2⁻			E_γ: from (γ,γ′) dataset.
2819.0	1/2,3/2,5/2	2819	100	0.0	3/2⁻			E_γ: from (γ,γ′) dataset.
2824.3		245		2578.6				E_γ: from (α,3nγ) dataset.
		935		1889.9	27/2⁻			E_γ: from (α,3nγ) dataset.
2825.5	37/2⁺	626.3 *2*	100	2199.2	33/2⁺	E2	0.00789	α(K)=0.00652 *10*; α(L)=0.001070 *15*; α(M)=0.000236 *4* α(N)=5.38×10⁻⁵ *8*; α(O)=8.07×10⁻⁶ *12*; α(P)=4.45×10⁻⁷ *7* E_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset. Mult.: from 2002Le15 (α,3nγ).
2826.0	1/2,3/2,5/2	2826	100	0.0	3/2⁻			E_γ: from (γ,γ′) dataset.
2854.0	(3/2⁺),5/2	2736	76 *10*	117.9981	7/2⁺			E_γ,I_γ: from (γ,γ′) dataset.
		2794	48 *9*	60.0106	5/2⁻			E_γ,I_γ: from (γ,γ′) dataset.
		2854	100	0.0	3/2⁻			E_γ,I_γ: from (γ,γ′) dataset.
2865.0	1/2⁻,3/2,5/2	2805	1.1×10² *3*	60.0106	5/2⁻			E_γ,I_γ: from (γ,γ′) dataset.
		2865	100	0.0	3/2⁻			E_γ,I_γ: from (γ,γ′) dataset.
2872.0	1/2,3/2,5/2	2872	100	0.0	3/2⁻			E_γ: from (γ,γ′) dataset.
2883.7	33/2⁻	551.8	100	2331.9	29/2⁻			E_γ: from (α,3nγ) dataset.
2978.4	29/2⁻	283		2694.6	27/2⁻	M1	0.1117	α(K)=0.0946 *14*; α(L)=0.01338 *19*; α(M)=0.00290 *4* α(N)=0.000668 *10*; α(O)=0.0001038 *15*; α(P)=6.99×10⁻⁶ *10* E_γ,Mult.: from (α,3nγ) dataset.
		556.8 *2*		2421.6	25/2⁻			E_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
3011.0	1/2,3/2,5/2	3011	100	0.0	3/2⁻			E_γ: from (γ,γ′) dataset.
3015.4	35/2⁺	670.0 *2*	100	2345.4	31/2⁺	Q		E_γ,Q: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
3064.5	35/2⁻	306.3 *2*	33 *5*	2758.1	33/2⁻	D		E_γ,I_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
		604.5 *2*	100 *12*	2460.1	31/2⁻	Q		E_γ,I_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
3082.5		257		2825.5	37/2⁺			E_γ: from (α,3nγ) dataset.
		912		2170.4	29/2⁻			E_γ: from (α,3nγ) dataset.
3123.0	1/2⁻,3/2,5/2	3063	59 *25*	60.0106	5/2⁻			E_γ,I_γ: from (γ,γ′) dataset.
		3123	100	0.0	3/2⁻			E_γ,I_γ: from (γ,γ′) dataset.
3199.0	1/2,3/2,5/2	3199	100	0.0	3/2⁻			E_γ: from (γ,γ′) dataset.
3274.0	31/2⁻	296		2978.4	29/2⁻	M1	0.0991	α(K)=0.0839 *12*; α(L)=0.01186 *17*; α(M)=0.00257 *4* α(N)=0.000592 *9*; α(O)=9.20×10⁻⁵ *13*; α(P)=6.20×10⁻⁶ *9* E_γ,Mult.: from (α,3nγ) dataset.
		579		2694.6	27/2⁻			E_γ: from (α,3nγ) dataset.
3276.1	(33/2⁻)	581.5 *2*	100	2694.6	27/2⁻			E_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
3305.0	1/2,3/2,5/2	3305	100	0.0	3/2⁻			E_γ: from (γ,γ′) dataset.
3379.7	37/2⁻	316.0 *8*	24 *5*	3064.5	35/2⁻			E_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
		621.5 *2*	100 *8*	2758.1	33/2⁻	Q		E_γ,Mult.: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
3505.8	41/2⁺	680.3 *2*	100	2825.5	37/2⁺	Q		E_γ,Mult.: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
3579.1	33/2⁻	600.7 *2*	100	2978.4	29/2⁻			E_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
3702.8	39/2⁻	638.3 *2*	100	3064.5	35/2⁻			E_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
3730.5	39/2⁺	715.1 *2*	100	3015.4	35/2⁺	Q		E_γ,Mult.: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
4038.8	41/2⁻	659.1 *2*	100	3379.7	37/2⁻			E_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.

γ(^{155}Gd) (continued)

E_i(level)	J^π_i	E_γ †‡	I_γ †‡	E_f	J^π_f	Mult. †‡	Comments
4234.7	45/2+	728.9 *2*	100	3505.8	41/2+	Q	E_γ,Q: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
4379.6	43/2−	676.8 *8*	100	3702.8	39/2−		E_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
4504.0	43/2+	773.5 *2*	100	3730.5	39/2+		E_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
4735.3	45/2−	696.5 *8*	100	4038.8	41/2−		E_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
5009.5	49/2+	774.8 *2*	100	4234.7	45/2+		E_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
5343.4	47/2+	839.4 *2*	100	4504.0	43/2+		E_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
5829?	(53/2+)	820[b]		5009.5	49/2+		E_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
6240.6?	(51/2+)	897.6[b] *2*	100	5343.4	47/2+		E_γ: from (^{12}C,α3nγ),(^{9}Be,4nγ) dataset.
6435.24	1/2+	4918.7	8.3 *11*	1517.10	3/2+,5/2+,7/2+		
		4944.3	41 *4*	1490.9			
		4960.6	3.0 *4*	1474.50	1/2+,3/2+,5/2+		
		4969.0	4.6 *7*	1466.2			
		4978.8	8.5 *11*	1456.4			
		5010.1	2.4 *4*	1425.1			
		5036.5	3.0 *4*	1398.7			
		5054.2	2.0 *4*	1381.0			
		5075.5	4.1 *7*	1359.88	3/2,5/2,7/2+		
		5102.4	3.9 *7*	1332.06	1/2(+),3/2(+)		
		5142.8	5.2 *7*	1292.55	3/2+		
		5150.9	3.0 *4*	1282.7	15/2−		
		5188.2	3.0 *4*	1247.0	(1/2−,3/2−)		
		5204.9	2.0 *3*	1230.25	3/2−		
		5242.1	9.6 *11*	1192.850	1/2+,3/2+		
		5288.1	3.7	1147.1			
		5305.2	11.5 *13*	1129.842	3/2−		
		5399.5	2.4 *4*	1035.221	1/2+,3/2+		
		5422.1	41 *4*	1012.893	3/2−		
		5432.2	8.9 *11*	1002.955	1/2−		
		5820.3	100 *11*	614.8556	3/2−		
		5843.0	39 *4*	592.1422	3/2−		
		5876.0	15.0 *17*	559.368	1/2−		
		5946.5	0.65 *17*	488.7209	5/2+		
		5984.5	40 *4*	450.5630	3/2−		
		6067.8	3.3 *4*	367.6342	1/2+		
		6148.6	6.5 *9*	287.0041	3/2−		
		6168.6	1.1 *2*	266.6474	5/2+		
		6329.9	13.9 *17*	105.3106	3/2+		
		6436.0	4.3 *7*	0.0	3/2−		

† For E_γ's < 147 keV from β^- decay dataset unless mentioned otherwise.

From ENSDF

$^{155}_{64}$Gd$_{91}$-35

$\gamma(^{155}Gd)$ (continued)

‡ For E_{γ}'s > 147 keV from (n,γ) dataset unless mentioned otherwise.

For E_{γ}'s > 147 keV from Coulomb exitation dataset unless mentioned otherwise.

@ Additional information 3.

& Additional information 4.

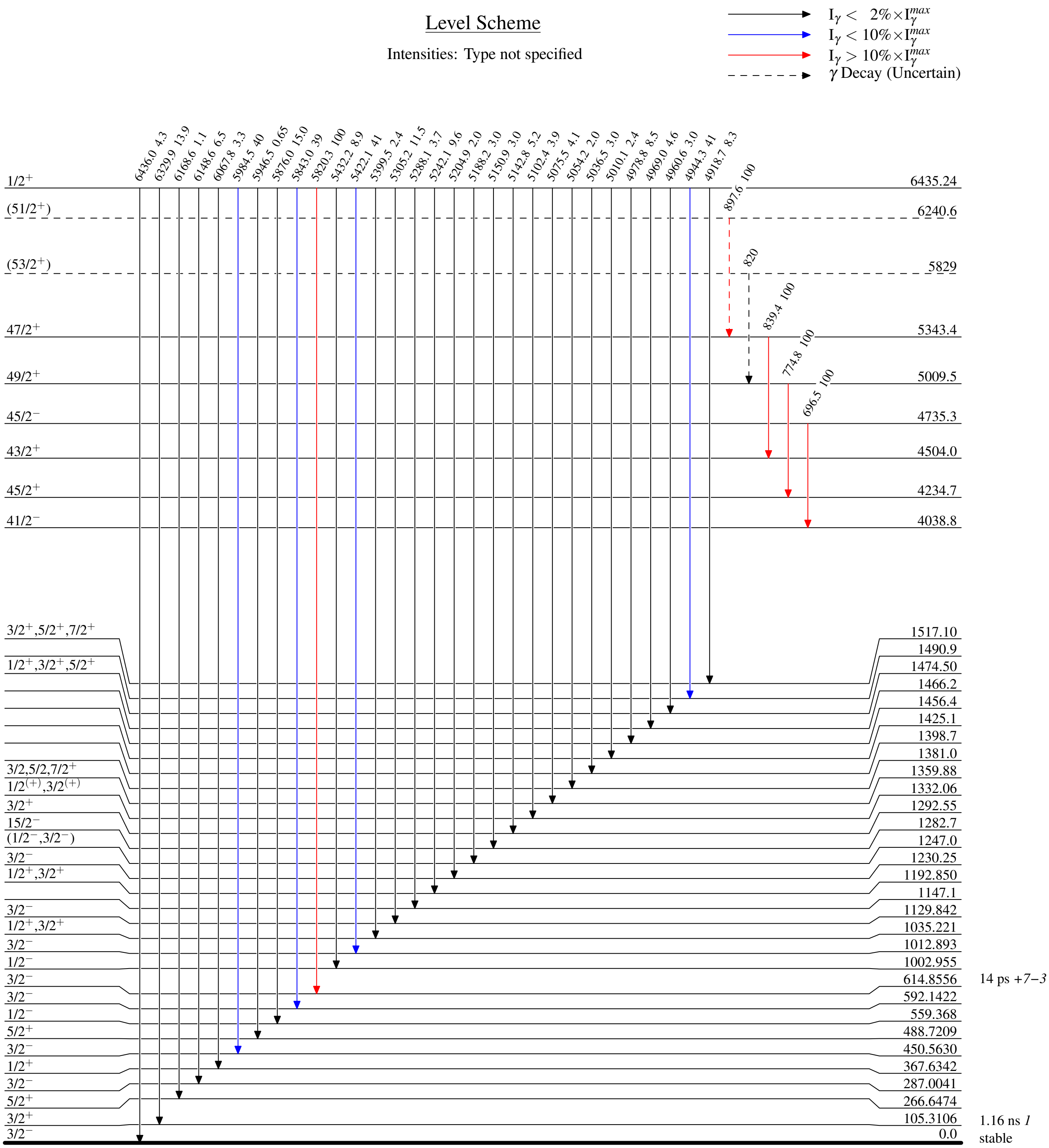
[a] Multiply placed with undivided intensity.

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

Adopted Levels, Gammas

Level Scheme

Intensities: Type not specified

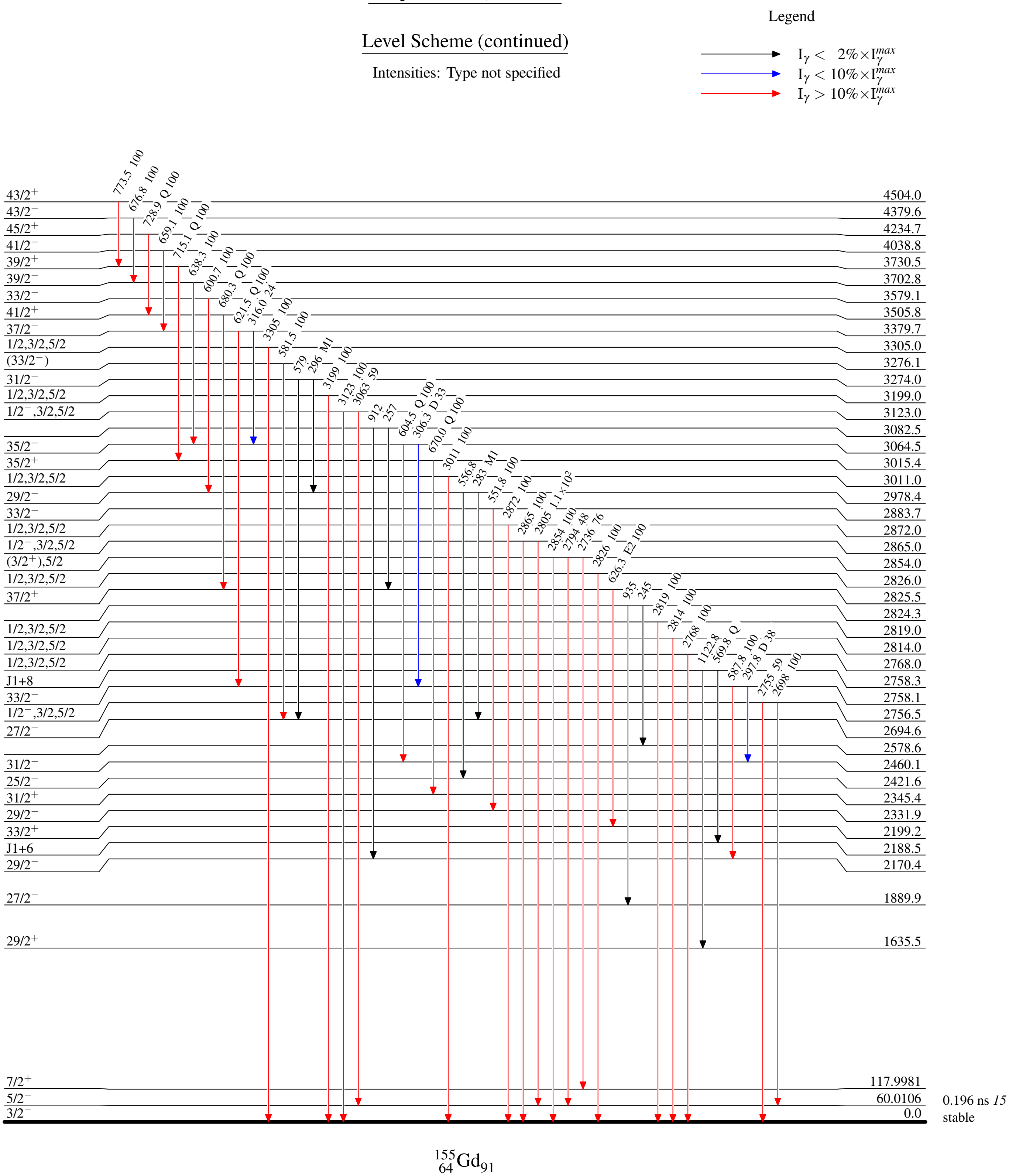


$^{155}_{64}Gd_{91}$

Adopted Levels, Gammas

Level Scheme (continued)

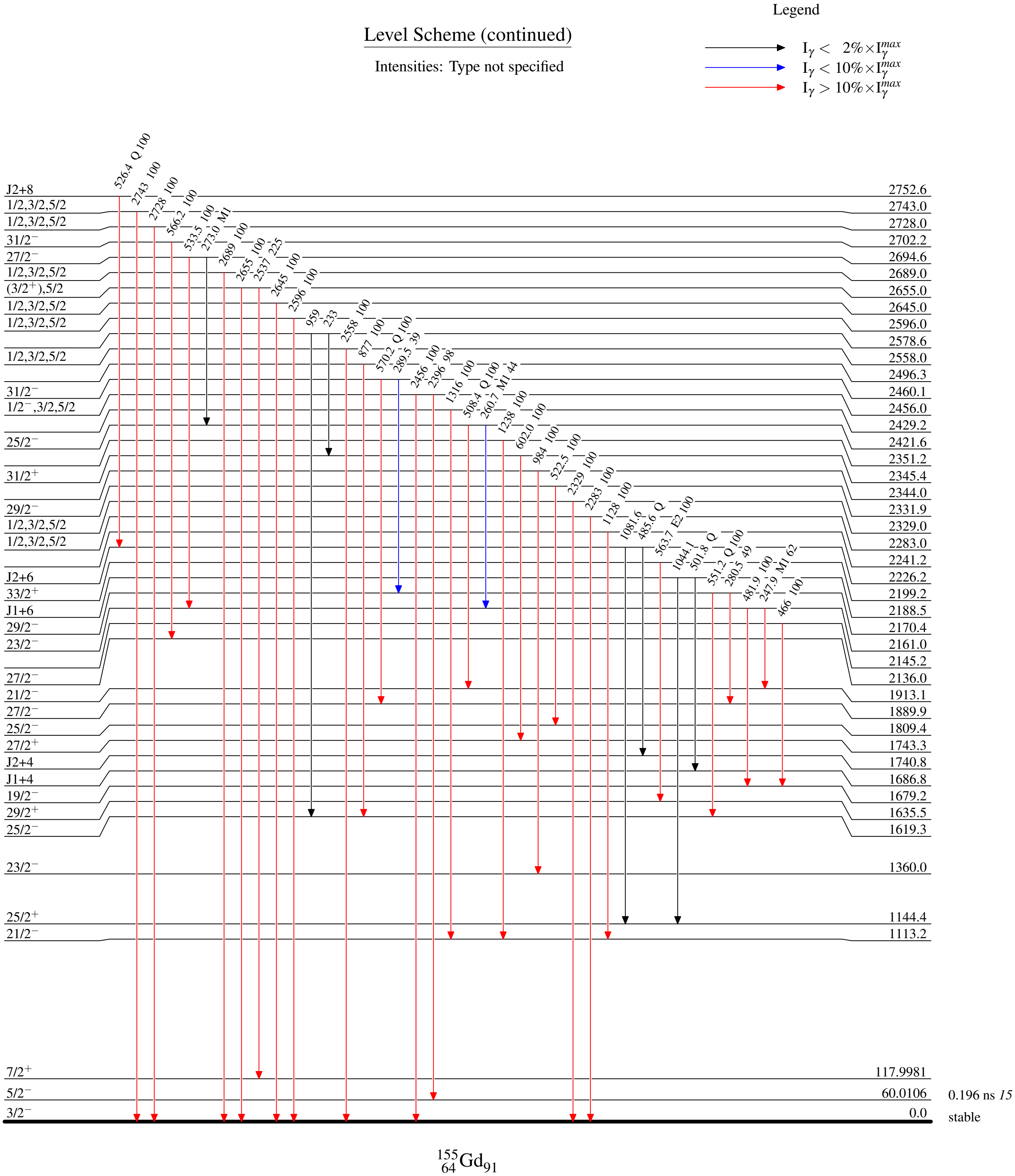
Intensities: Type not specified



Adopted Levels, Gammas

Level Scheme (continued)

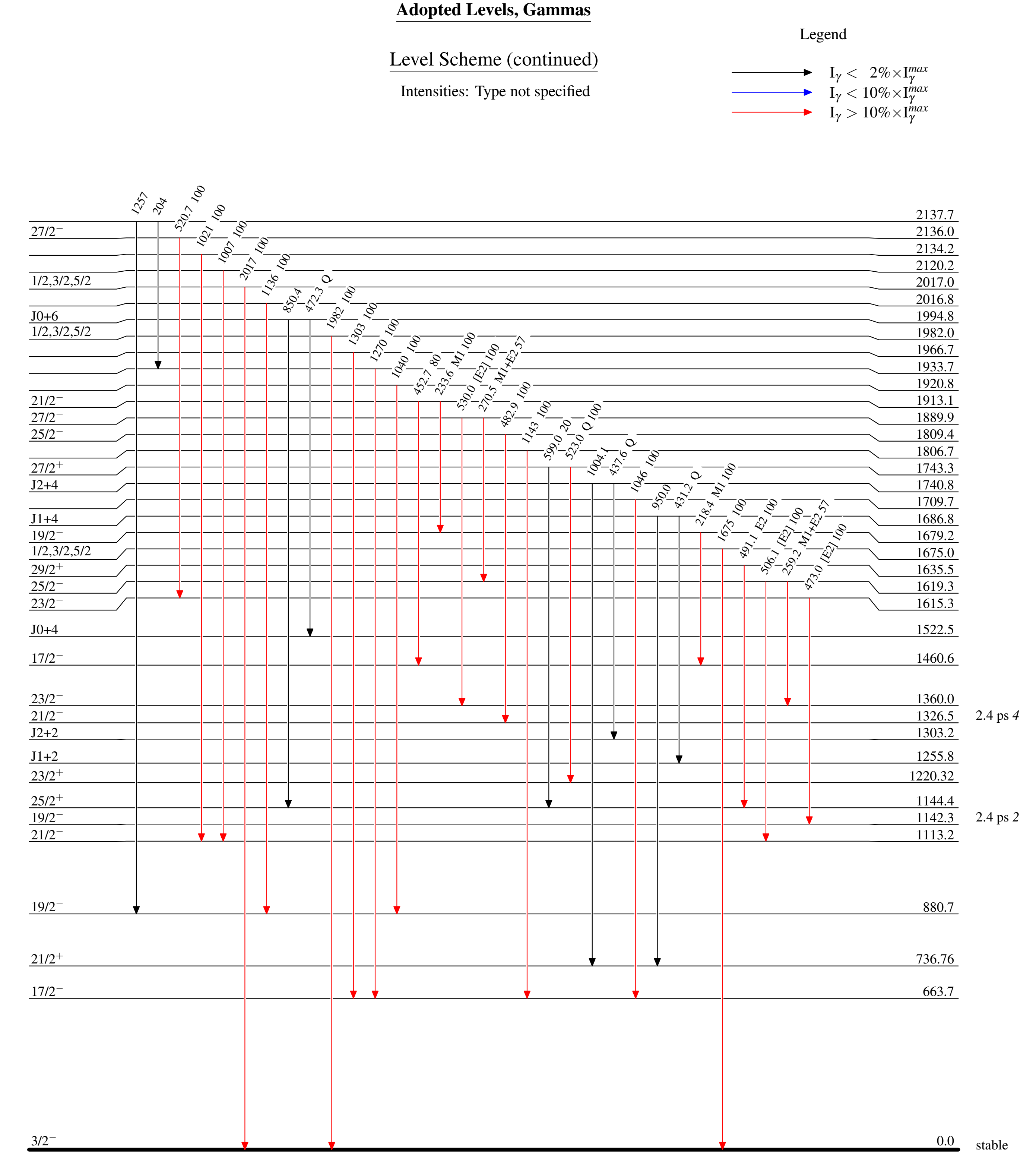
Intensities: Type not specified



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified



$^{155}_{64}Gd_{91}$

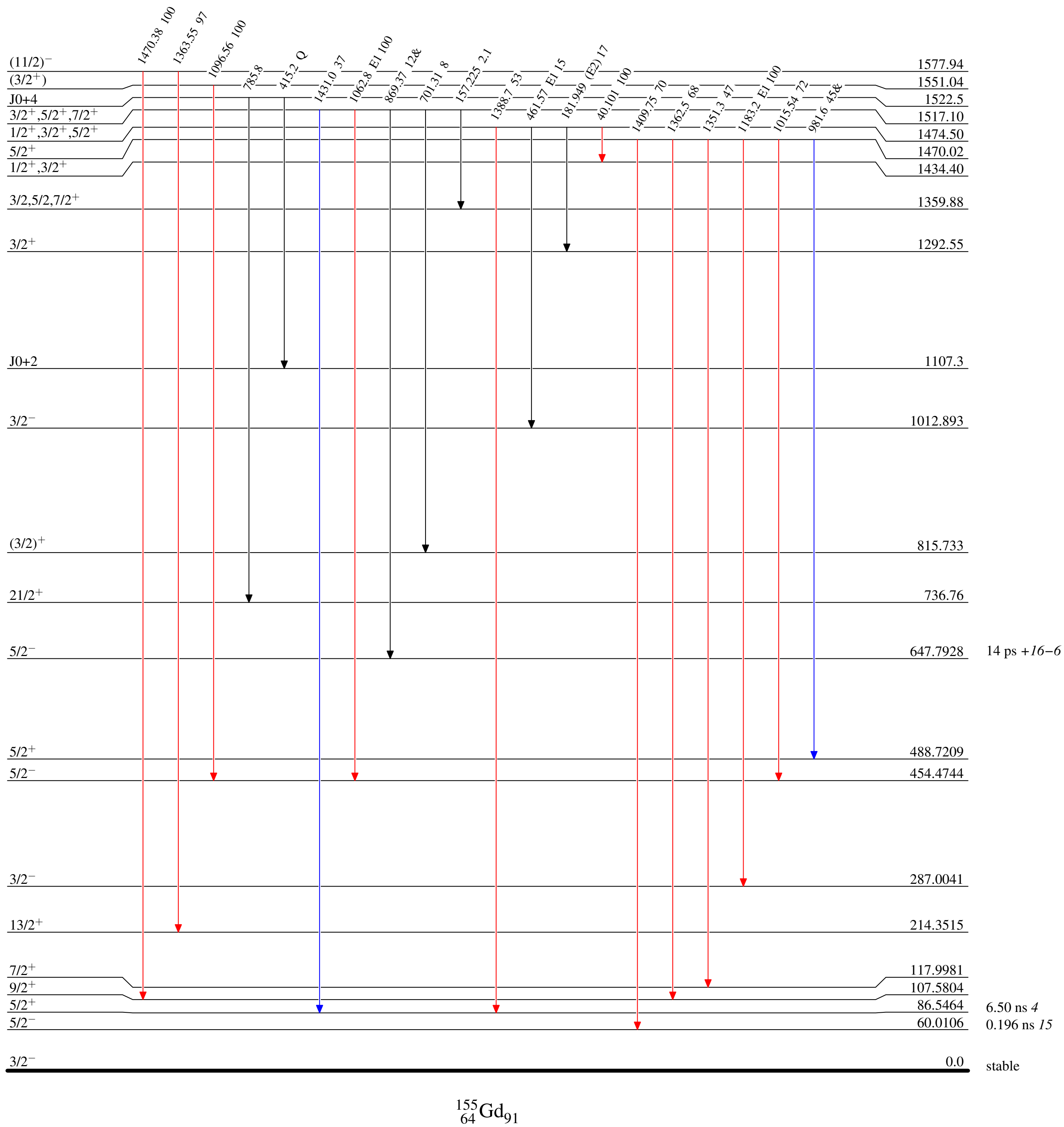
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified
& Multiply placed: undivided intensity given

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$

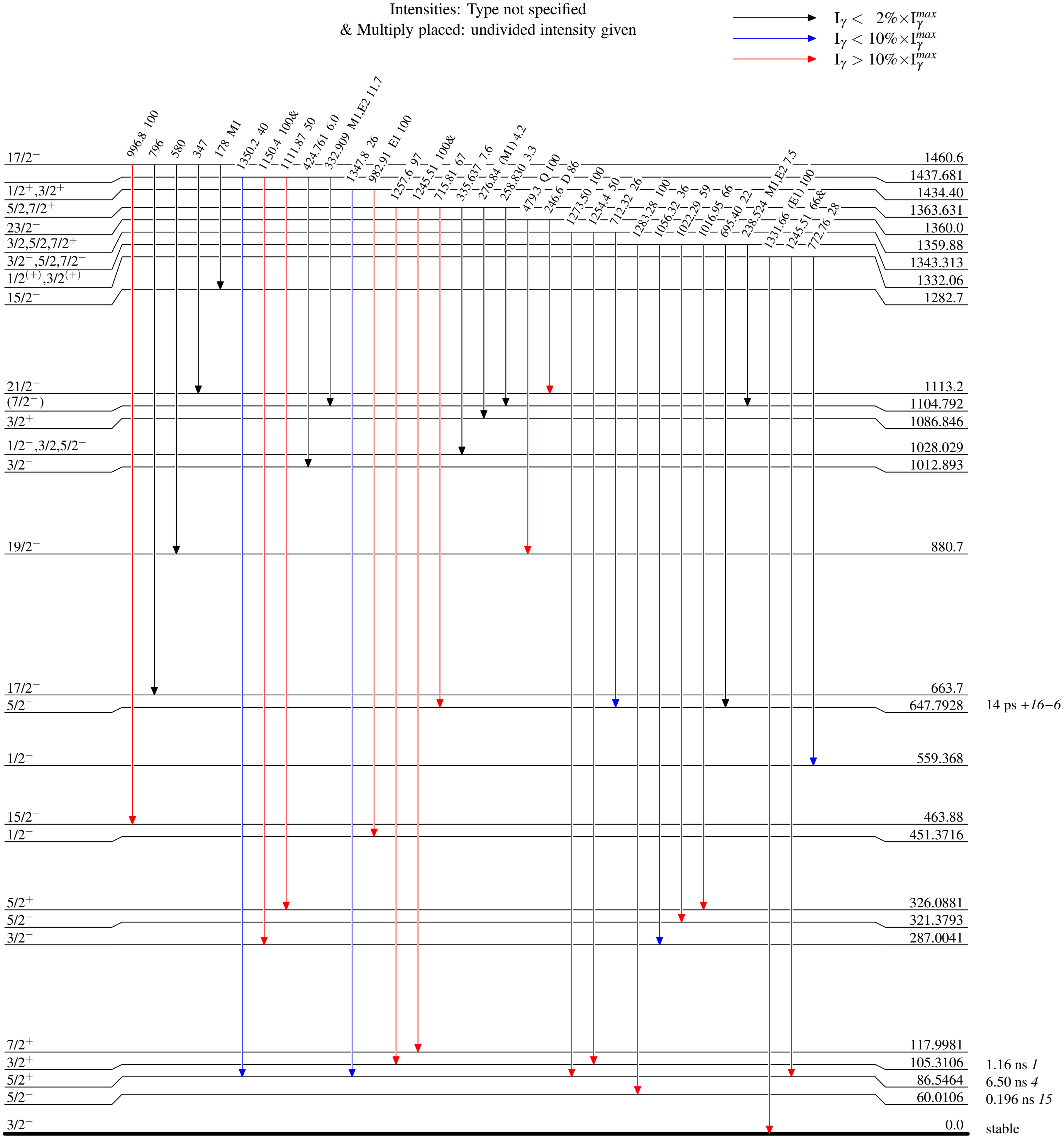


$^{155}_{64}Gd_{91}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified
& Multiply placed: undivided intensity given



$^{155}_{64}Gd_{91}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

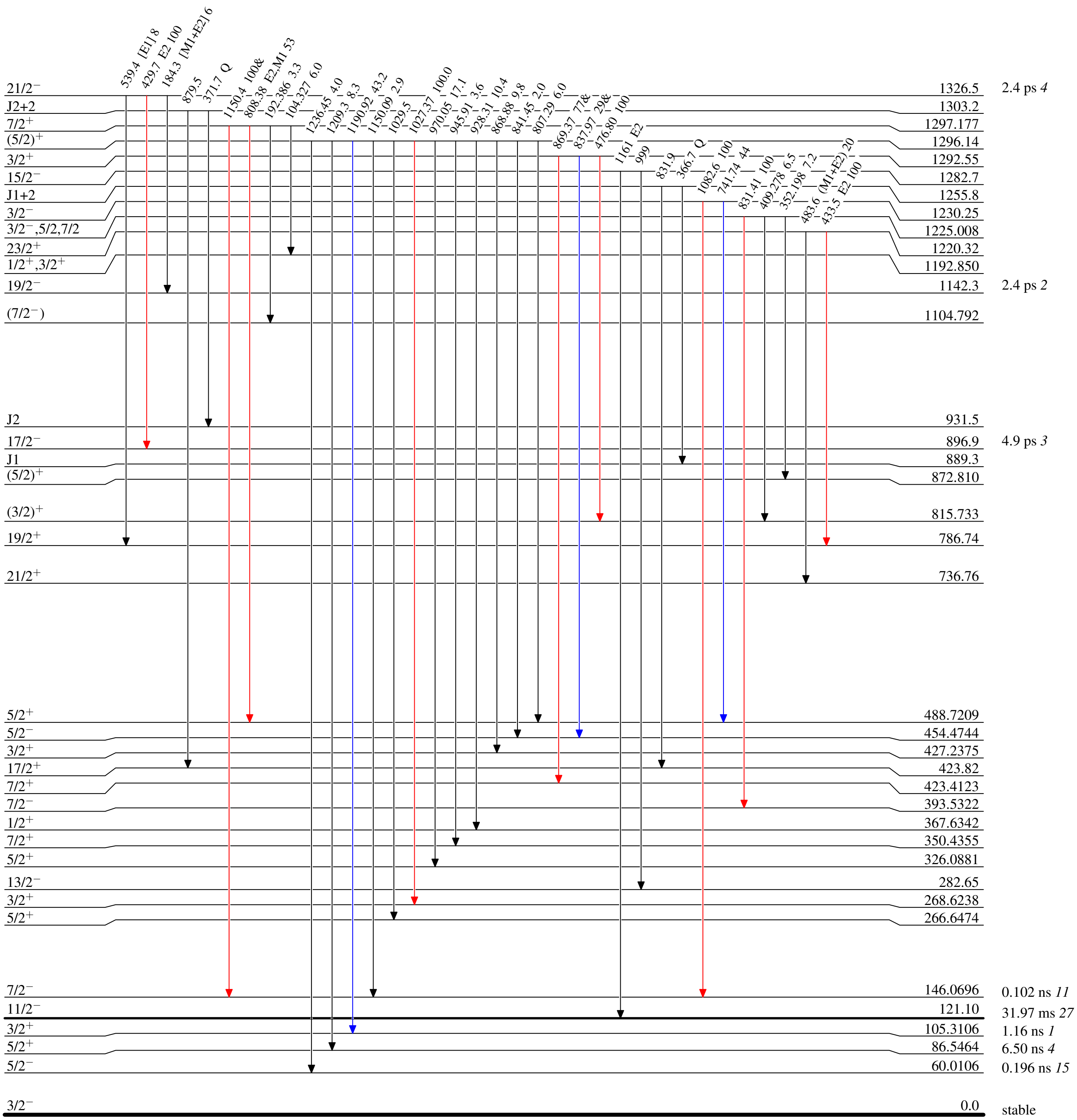
& Multiply placed: undivided intensity given

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$

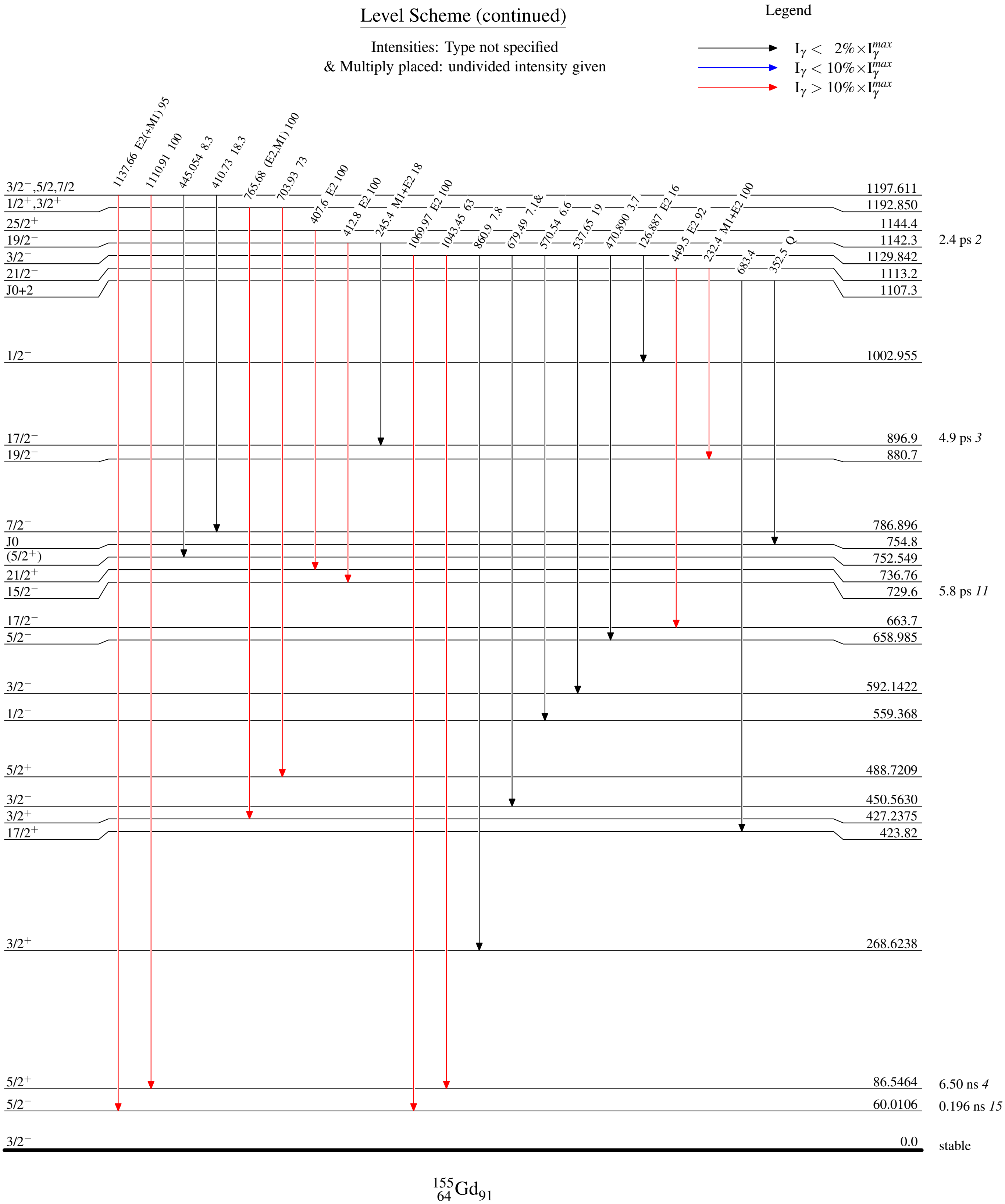


$^{155}_{64}Gd_{91}$

Adopted Levels, Gammas

Level Scheme (continued)

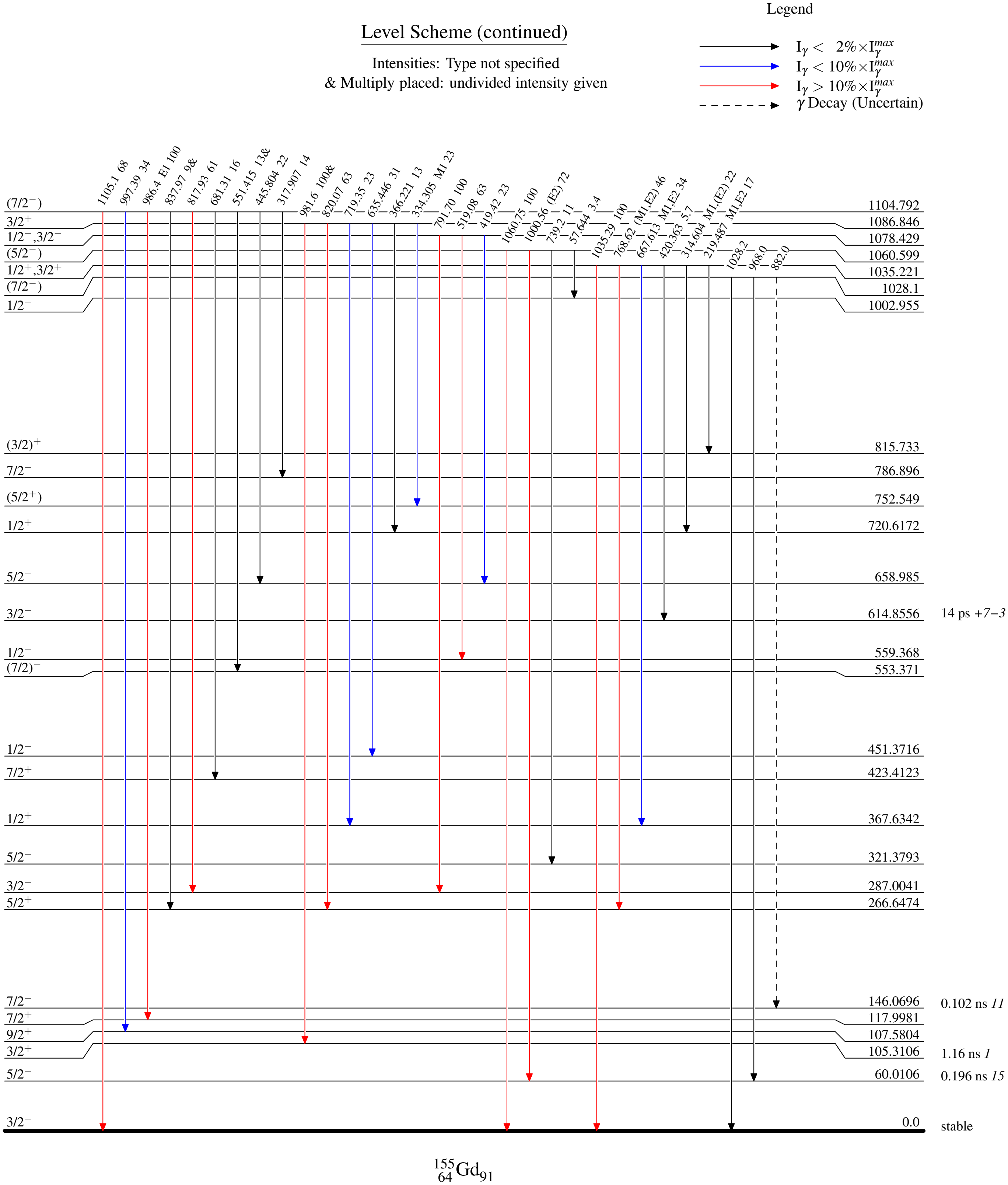
Intensities: Type not specified
& Multiply placed: undivided intensity given



Adopted Levels, Gammas

Level Scheme (continued)

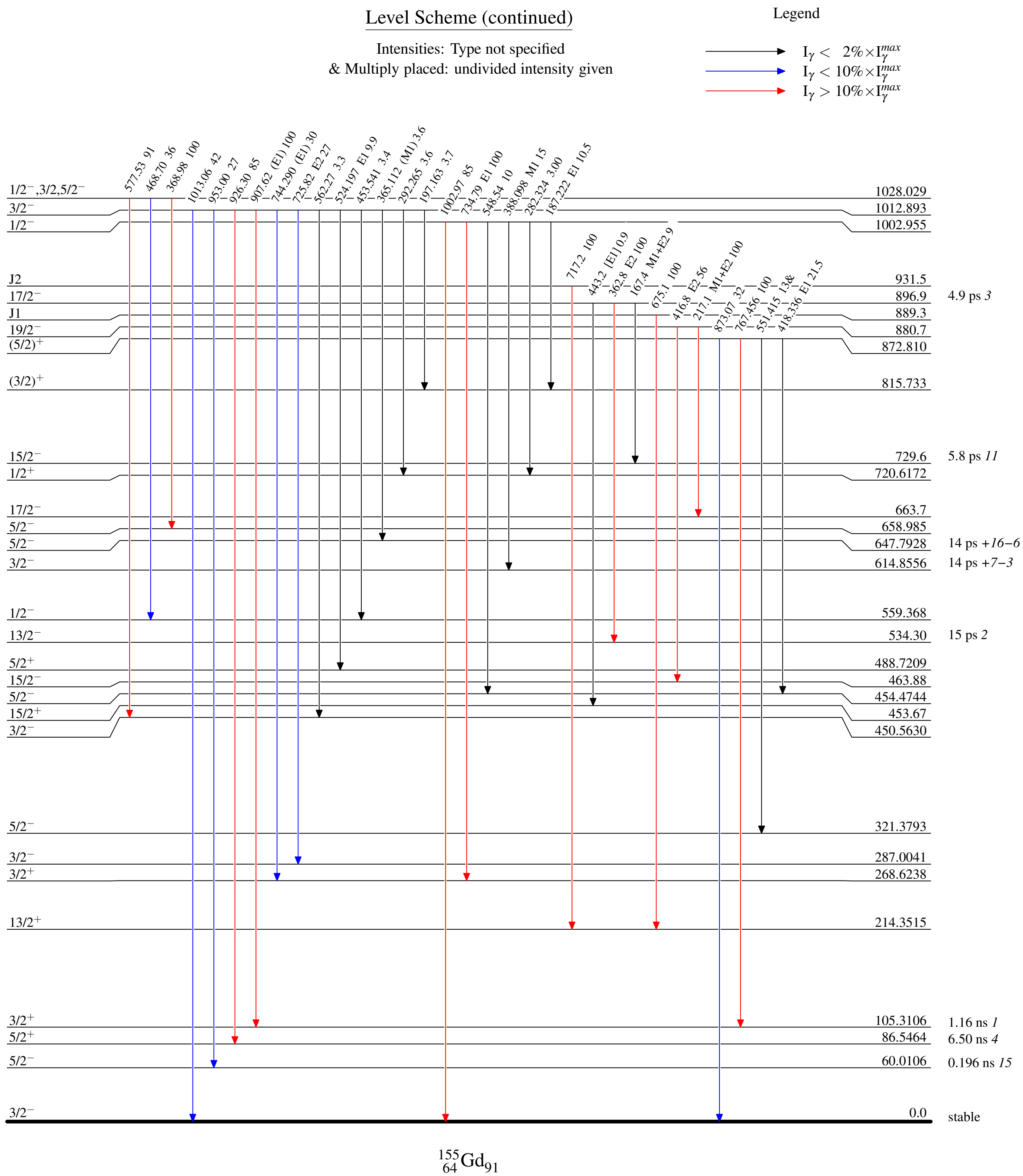
Intensities: Type not specified
& Multiply placed: undivided intensity given



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified
& Multiply placed: undivided intensity given

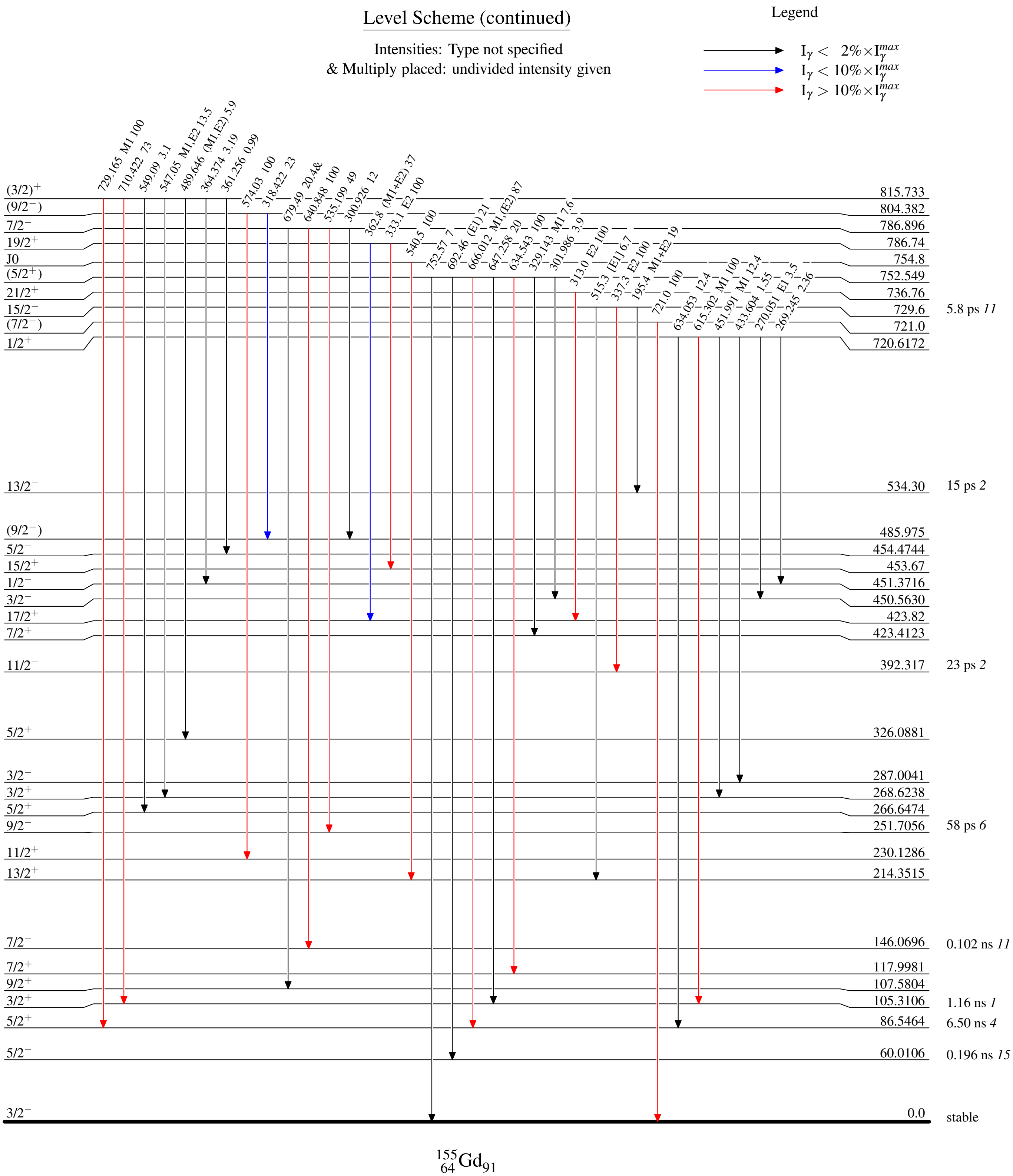


Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

& Multiply placed: undivided intensity given



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

& Multiply placed: undivided intensity given

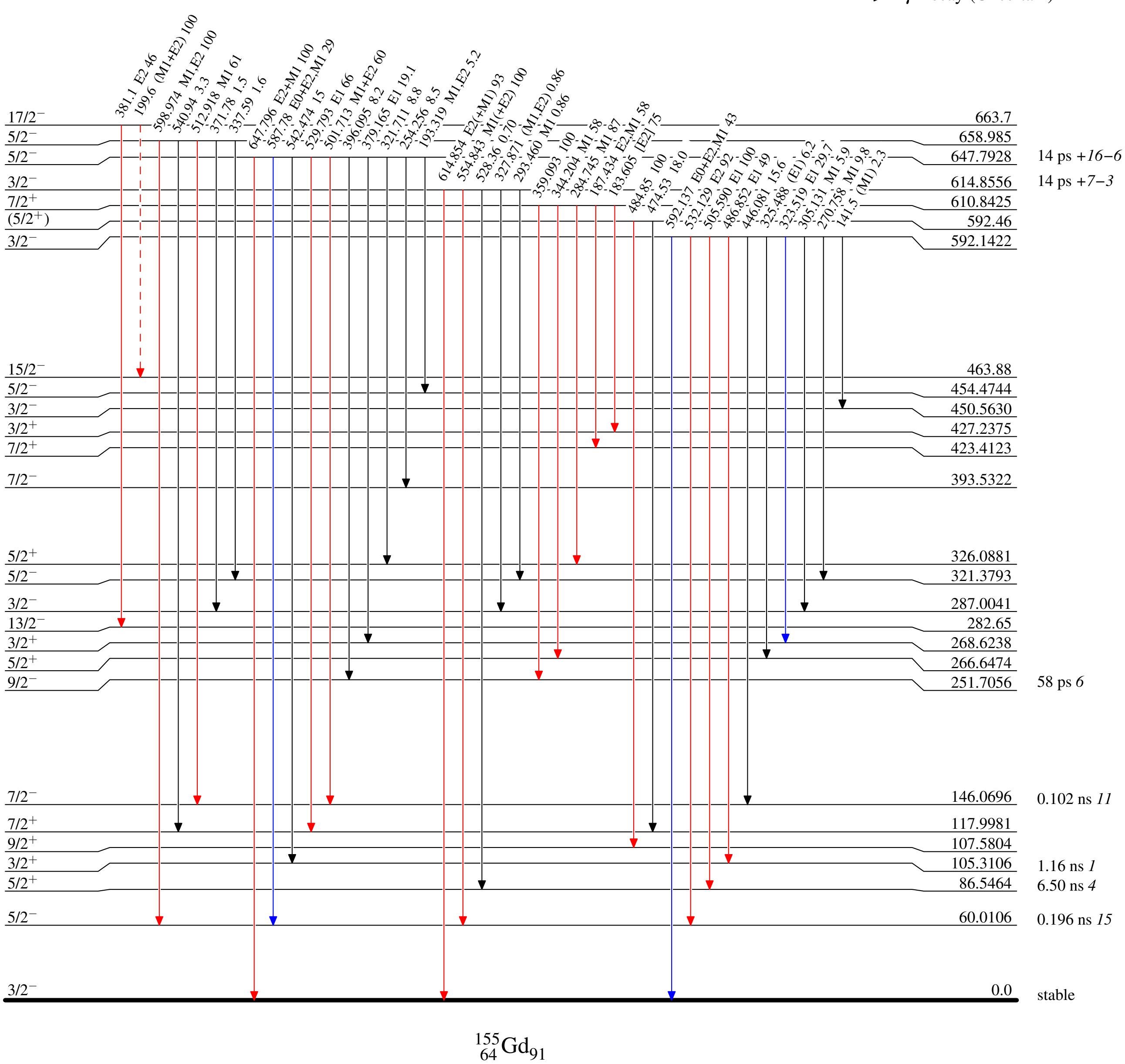
Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$

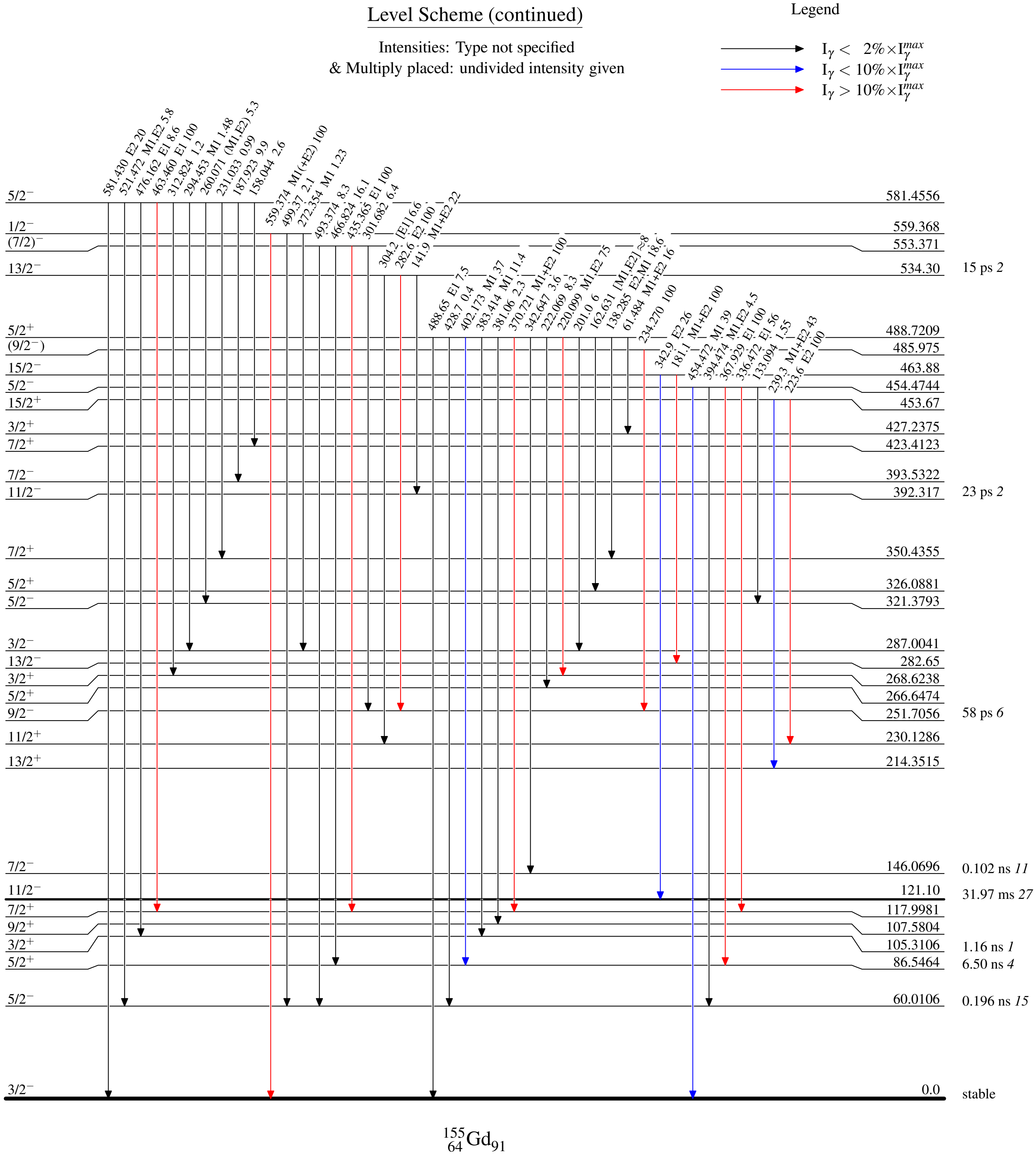
γ Decay (Uncertain)



Adopted Levels, Gammas

Level Scheme (continued)

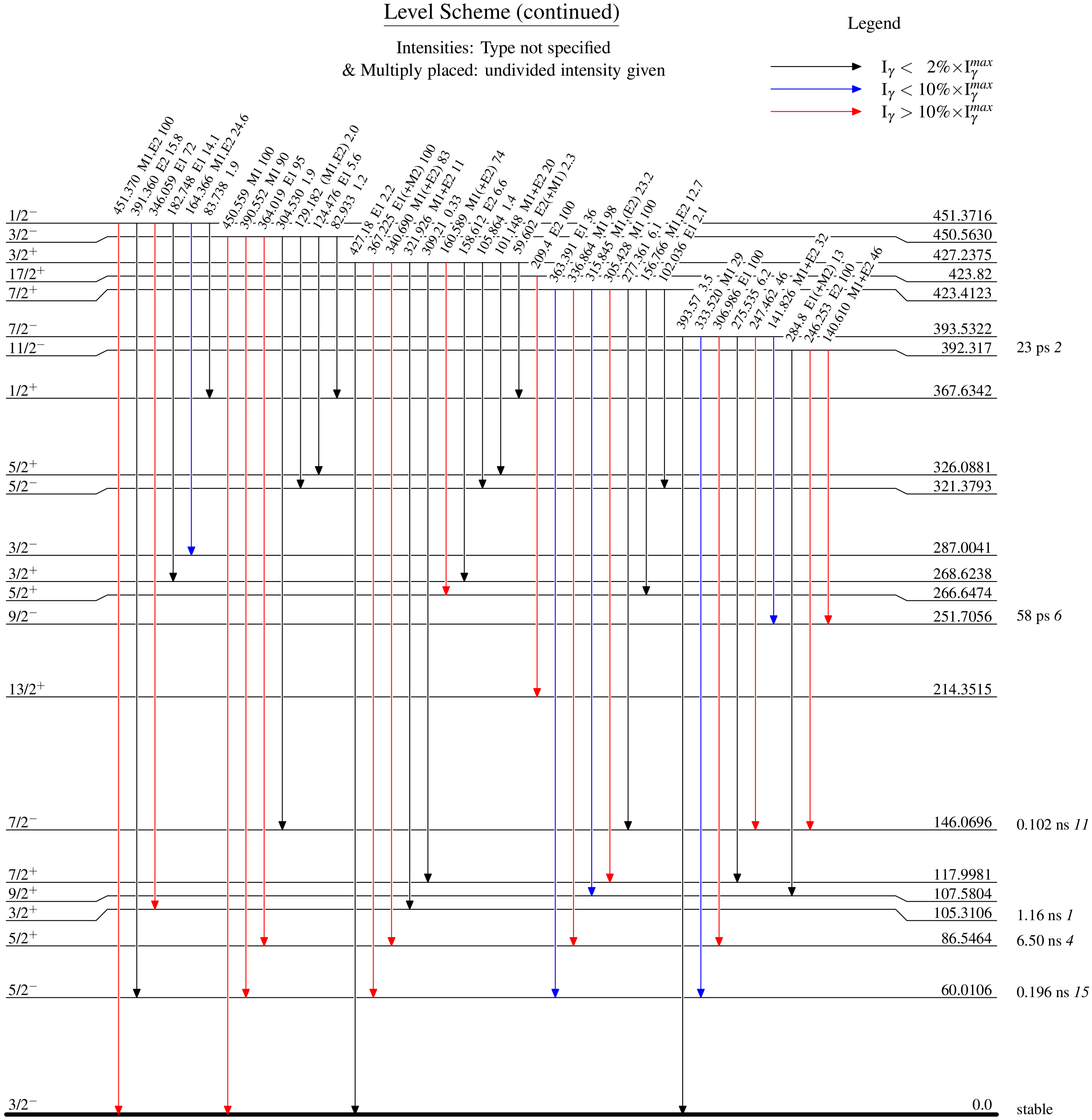
Intensities: Type not specified
& Multiply placed: undivided intensity given



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified
& Multiply placed: undivided intensity given



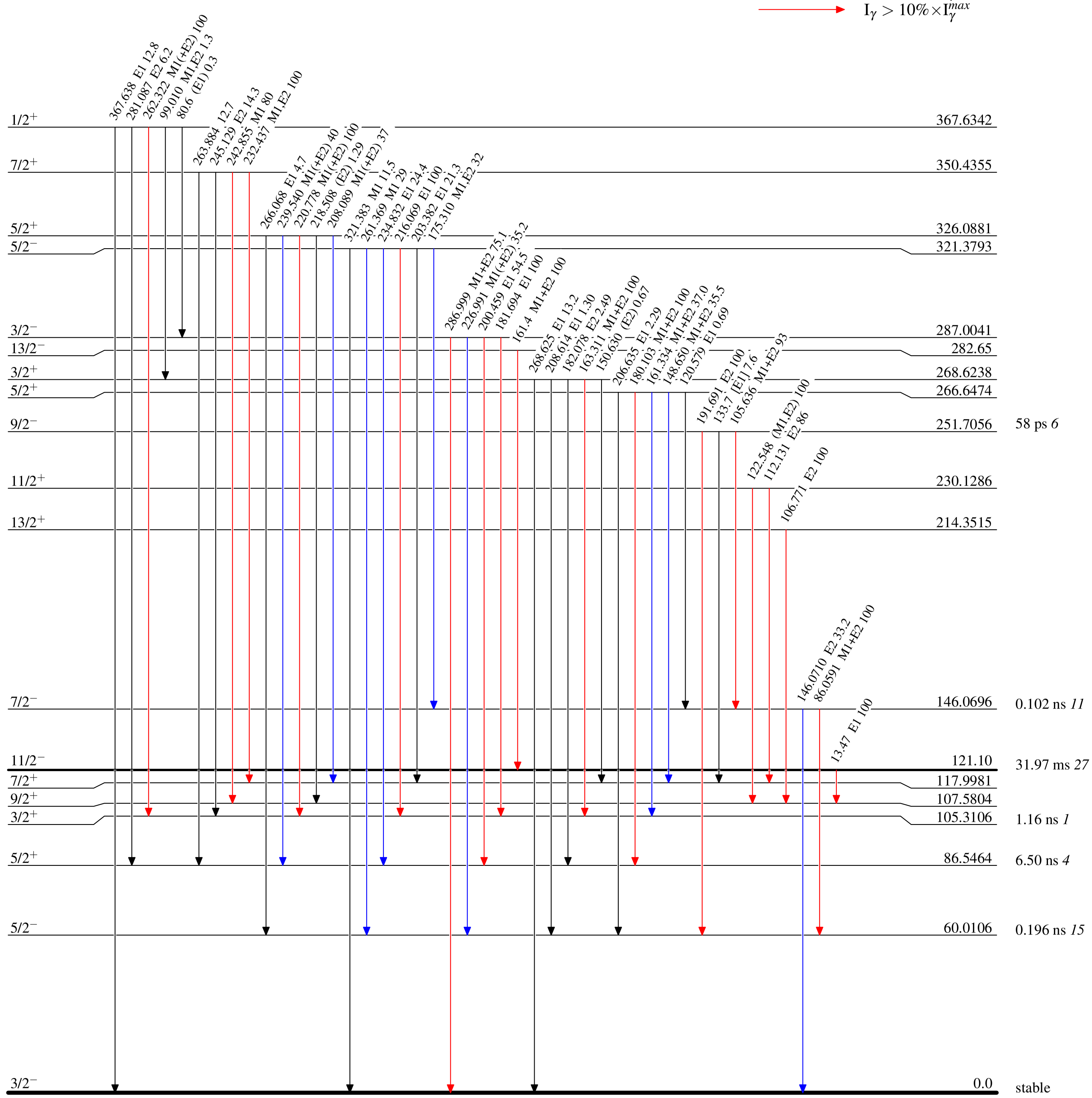
$^{155}_{64}Gd_{91}$

Adopted Levels, Gammas

Level Scheme (continued)

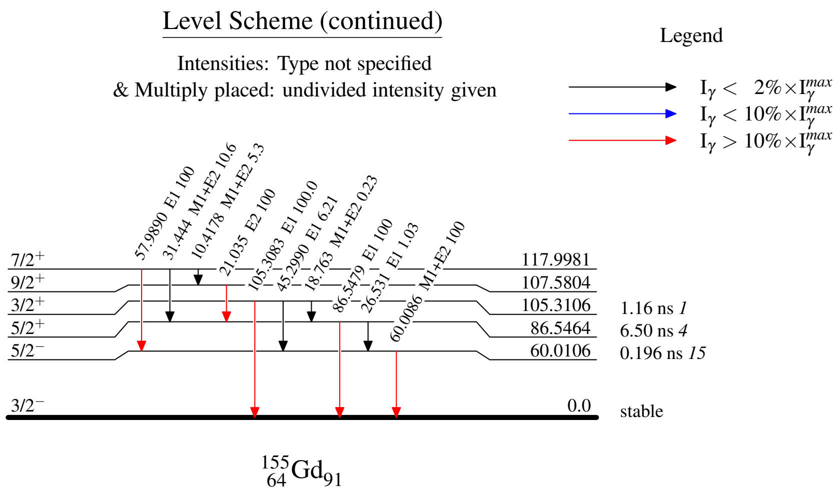
Intensities: Type not specified
& Multiply placed: undivided intensity given

Legend
$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$

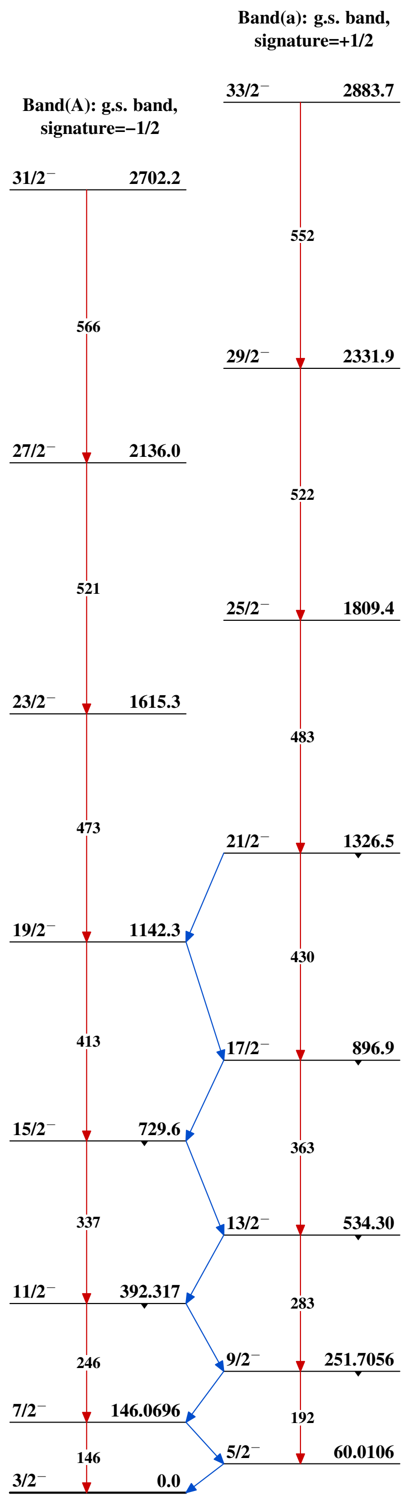


$^{155}_{64}Gd_{91}$

Adopted Levels, Gammas

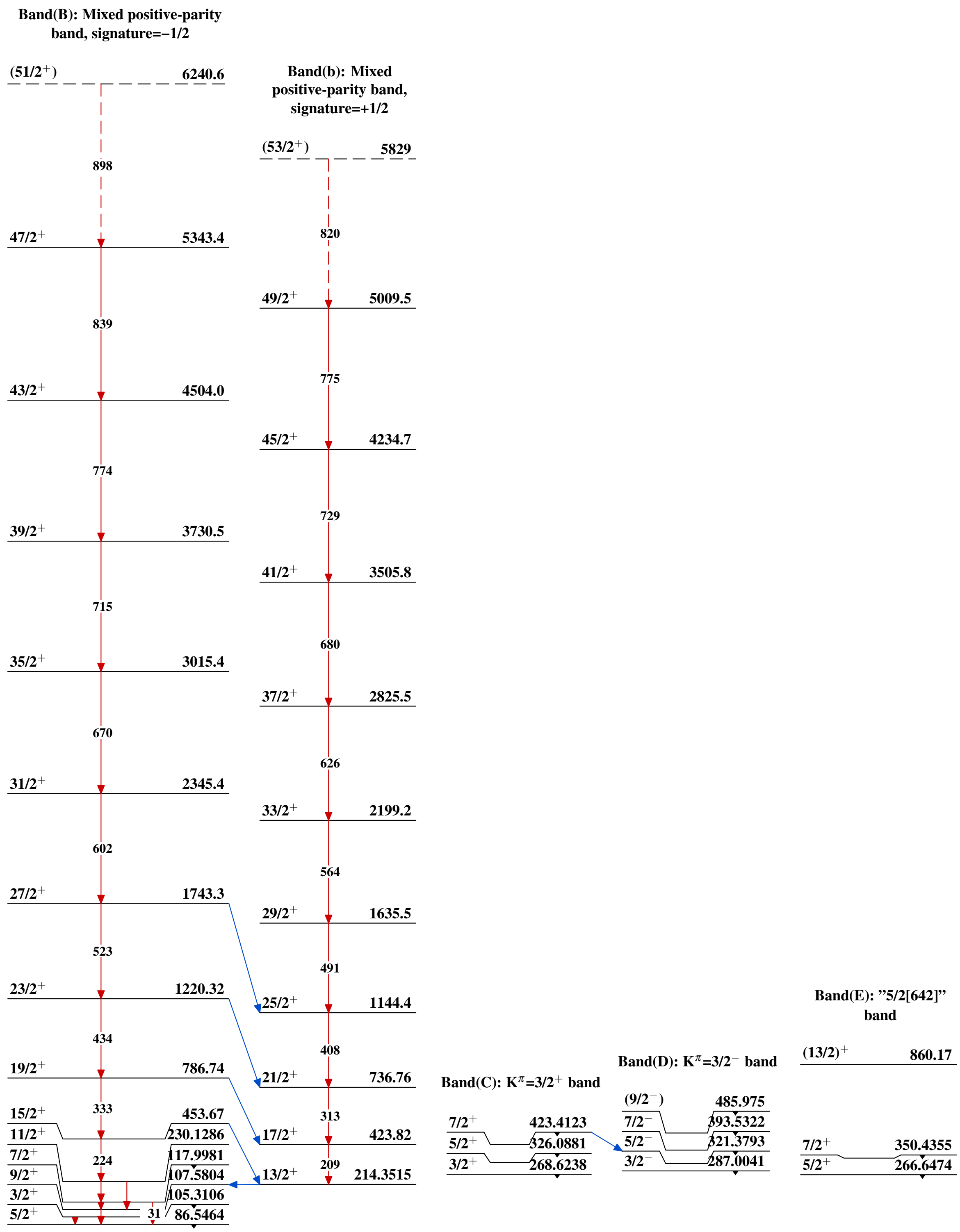


Adopted Levels, Gammas



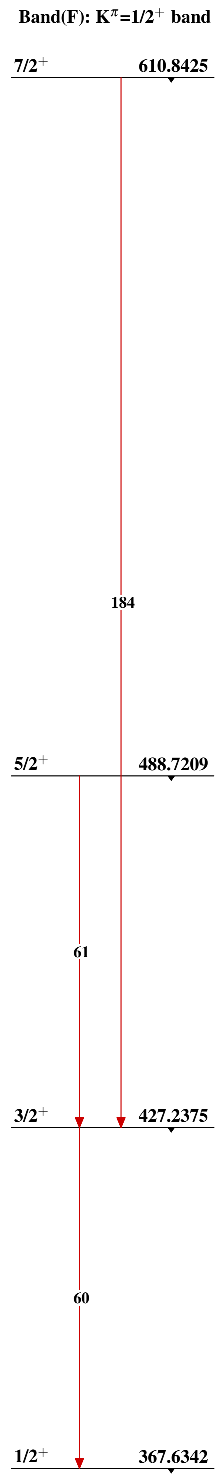
$^{155}_{64}Gd_{91}$

Adopted Levels, Gammas (continued)



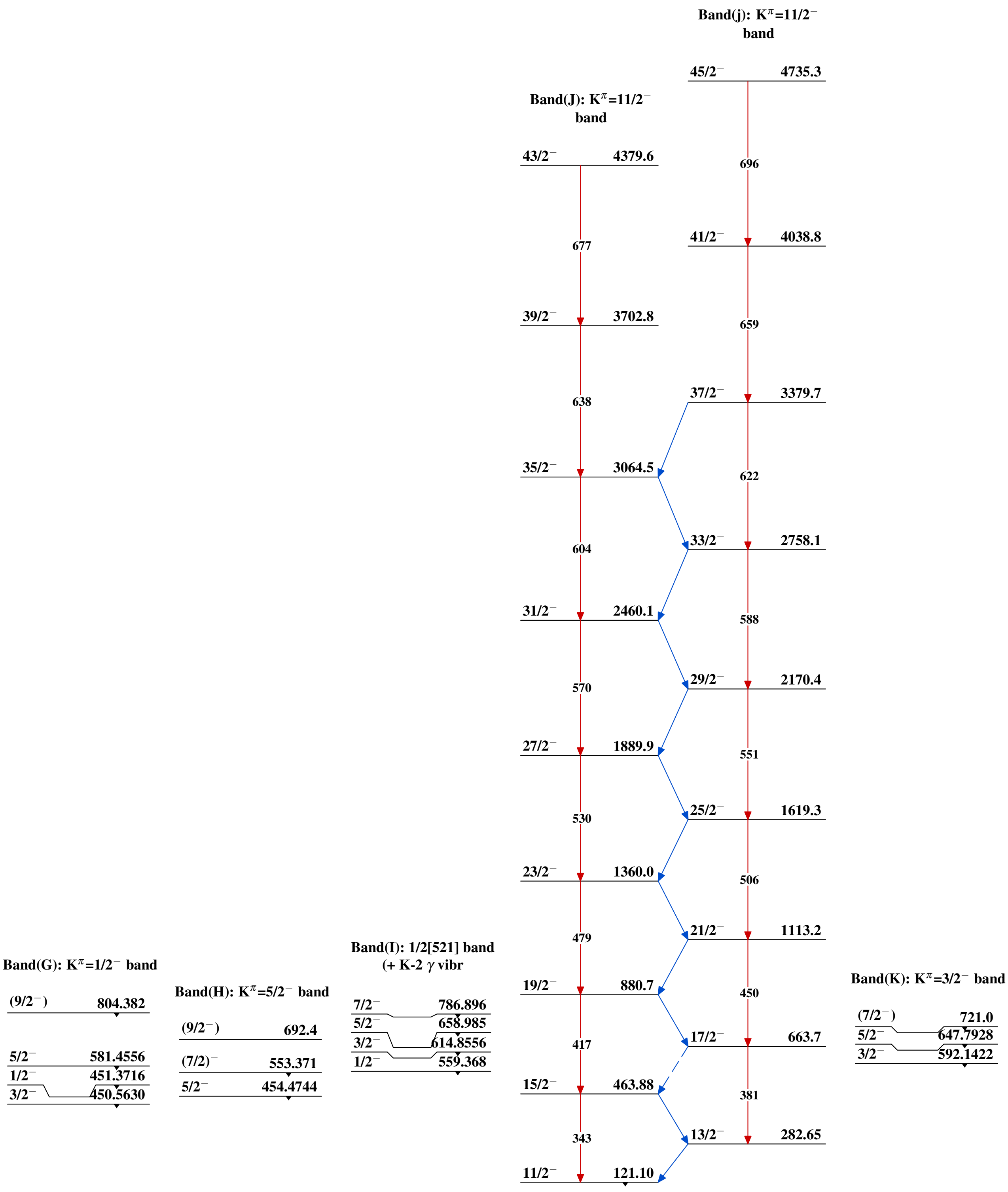
$^{155}_{64}Gd_{91}$

Adopted Levels, Gammas (continued)



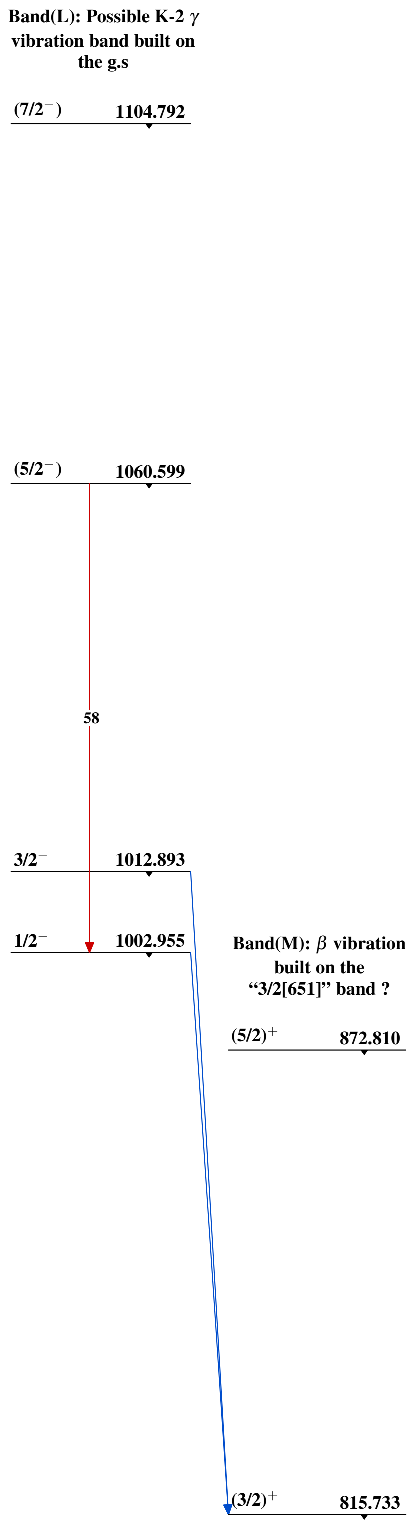
$^{155}_{64}Gd_{91}$

Adopted Levels, Gammas (continued)



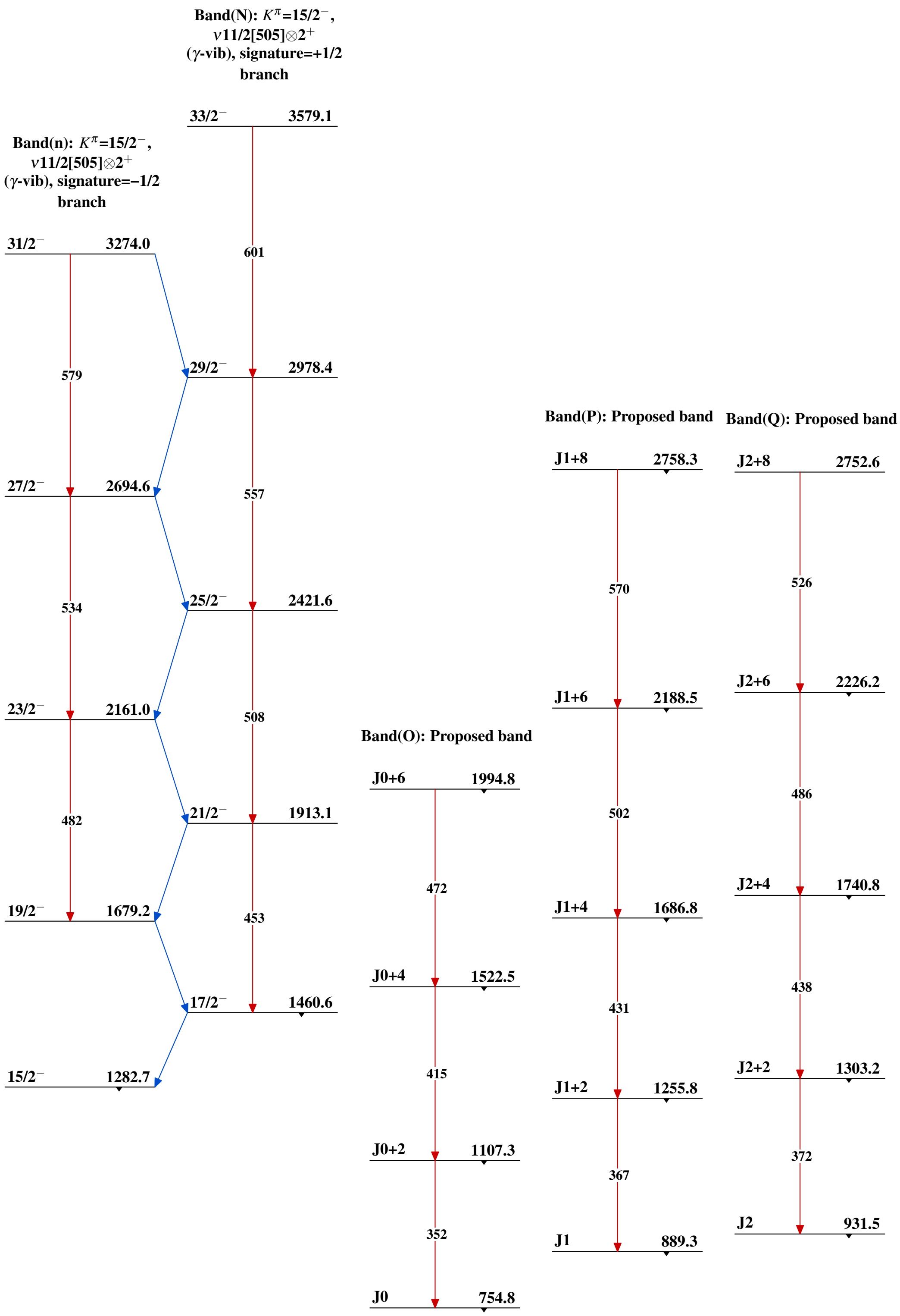
$^{155}_{64}Gd_{91}$

Adopted Levels, Gammas (continued)



$^{155}_{64}Gd_{91}$

Adopted Levels, Gammas (continued)



$^{155}_{64}Gd_{91}$