Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 113,715 (2012)	31-May-2011

Q(β^-)=−1042 *3*; S(n)=6123.57 *7*; S(p)=7502.9 *15*; Q(α)=523 *8* 2012Wa38
Note: Current evaluation has used the following Q record −1041.3 286123.57 *7* 7502.9 *15523* 7 2011AuZZ.
2003Au03: Q(β^-)=1041.7 keV 24, S(p)=7503.7 keV 15, Q(α)=520 keV 7.
Isotope shift: 1990Wa25, 1992Wa30, 1993Au09.
RMS radii: 1999GaZX.
Nuclear structure, calculations: 1992Co21, 1993Tr02, 1996Lo01, 2005Od04, 2005Od03, 2007Sa07, 2008Od01.
Calculated average neutron-captured and neutron induced fission cross sections: 2010Pr07.
Fission products, neutron induced reaction data: 2001Ka25.

^{143}Nd Levels

Level configurations using various models: 1994HeZY, 1994Te05, 1998Fa09, 2000Zh12.

Cross Reference (XREF) Flags

A	^{143}Pr β^- decay	G	^{142}Nd(d,p),(d,pγ),(pol d,p)	M	^{144}Nd(d,t)
B	^{143}Pm ε decay	H	^{142}Nd(n,γ) E=th	N	^{144}Nd(pol d,t)
C	^{147}Sm α decay	I	^{143}Nd(p,p′)	O	^{144}Nd(^{3}He,α)
D	^{130}Te(^{18}O,5nγ)	J	^{143}Nd(d,d′)	P	^{145}Nd(p,t)
E	^{140}Ce(α,nγ)	K	Coulomb excitation	Q	^{143}Nd(γ,γ′)
F	^{142}Ce(α,3nγ)	L	^{144}Nd(pol p,d)	R	^{142}Nd(α,^{3}He)

E(level)†	Jπa	T$_{1/2}$@	XREF	Comments
0.0	7/2−	stable	ABCDEFGHIJKLMNOP	μ=−1.065 *5* (1965Sm04,1989Ra17,2011StZZ) Q=−0.61 *2* (1992Au04,2011StZZ) Jπ: L=3 in (d,p), atomic beam (1976Fu06). Isotope shift: 2001Mb05, 2005Ma10. Calculated μ: 2005Pa26. Measurement of hyperfine coupling constant: 2001Ga72, 2004Ma04. μ: from atomic-beam magnetic resonance (1965Sm04). Q: others: −0.59 *3* (1992Le09), −0.56 *6* (1972Ch54), −0.48 *2* (1965Sm04), all using the atomic beam method. Q: From atomic beam laser spectroscopy (1992Au04).
742.05 *4*	3/2−	2.8 ps *1*	AB EFGHIJKLM P	T$_{1/2}$: from B(E2)=0.045 *2* in Coul. ex. Jπ: From L and vector analyzing power data in (pol d,p).
1228.04 *8*	13/2+	6.79 ns *2*	DEFG IJ M OP R	μ=+0.38 *3* (1994Ka23,1993KaZN,2011StZZ) μ: From integral perturbed angular distribution includes correction for paramagnetism. T$_{1/2}$: from (α,3nγ); others: 6 ns *2* (^{7}Li,3nγ) (1975Kl01), 4.0 ns *12* ^{130}Te(^{18}O,5nγ). Jπ: L=6 in (d,p), γ ray to 7/2− is E3 (from T$_{1/2}$ and $\gamma(\theta)$); shell model. Dominant component as configuration=((ν f7/2)⊗3−).
1305.86 *6*	1/2−		E GHIJ M	Jπ: From L and vector analyzing power data in (pol d,p).
1407.08 *6*	9/2−	53 fs *+26−13*	EFG IJK M OPQR	Jπ: L=5 in (d,p),(d,t); γ ray to 7/2− is D+Q in (α,3nγ).
1431.23 *7*	11/2−	68 fs *+33−17*	EFG IJK OPQ	Jπ: γ ray to 7/2− is ΔJ=2, E2 in (α,3nγ); γ ray to 13/2+. T$_{1/2}$: 0.135 ps *14* from B(E2)=0.105 *11* in Coul. ex.
1506	(+)		J	Jπ: L=(3) in (d,d′).
1555.54 *7*	5/2−	0.19 ps *+7−4*	E GHIJ M PQ	XREF: M(1545). Jπ: L=3 and vector analyzing power in (d,p) (1974Ba49) and data

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Adopted Levels, Gammas (continued)

^{143}Nd Levels (continued)

E(level)[†]	Jπ[a]	$T_{1/2}$[@]	XREF	Comments
				from 1990Wr01 and 1989Tr03.
1556.44 *10*	3/2+		E HI MNOP	Jπ: L=2 in (d,t), γ ray to 1/2−.
1558.8 *4*			H	
1608.38 *7*	1/2+		E GHIJ MNOP	Jπ: L=0 in (d,p).
1690 *1*			Q	
1739.21 *8*	9/2−	63 fs *+25−14*	E G IJ OPQ	Jπ: L=5 in (d,p); γ ray to 7/2− is M1+E2.
1774.85 *15*	1/2+		E HI MN P	Jπ: L=0 in (d,t), note however the observation of 1774γ to 7/2−.
1799.52 *8*	3/2+#		E HIJ N	
1851.5 *3*	7/2−	50 fs *+19−11*	E G IJ PQ	Jπ: γ ray to 7/2− is ΔJ=0, M1+E2.
1852.56 *6*	3/2−		E GHIJ P	Jπ: L=1 in (d,p), γ ray to 7/2−.
1900.3 *4*			H	
1910.81 *9*	5/2−	67 fs *+24−14*	E GHIJ Q	Jπ: L=3 in (d,p), γ ray to 7/2− is ΔJ=1, M1+E2.
1920.6 *3*			H	
1966 *6*	(5/2+,3/2+)		M	Jπ: L=(2) in (d,t).
1988.22 *8*	11/2−		E I OP	Jπ: γ ray to 9/2− is ΔJ=1, M1+E2; γ ray to 13/2+.
1996.40 *10*	5/2+#	<0.1 ps	E IJ Q	
2004.67 *6*	1/2−		E GH	Jπ: From L and vector analyzing power data in (pol d,p).
2011.3 *3*	9/2+#	27 fs *+3−2*	E I Q	Jπ: γ ray to 7/2− is ΔJ=1, D; L=3 in (p,p′).
2018.87 *11*	15/2−		DEF	Jπ: γ ray to 13/2+ is ΔJ=1, E1; excit in (α,nγ).
2019.2 *5*	5/2−,7/2−		G IJ	Jπ: L=3 in (d,p).
2035.60 *13*	7/2−		E I P	Jπ: γ ray to 3/2− is ΔJ=2, Q; γ ray to 9/2−; γ ray to 5/2− is M1,E2.
2063.85 *24*	(7/2−,9/2−)		E I	Jπ: L=(4) in (p,p′).
2066.84 *10*	13/2−		E	Jπ: γ ray to 13/2+ is ΔJ=0, E1; γ ray to 11/2− is ΔJ=1, M1,E2.
2074 *10*	(+)		J P	Jπ: L=(3) in (d,d′).
2075.13 *12*	11/2−		EFG I O	Jπ: L=5 in (d,p); γ ray to 13/2+ is ΔJ=1, E1.
2090.60 *9*	7/2+#	≈30 fs	E IJ PQ	Jπ: γ rays to 5/2− and 9/2− are E1.
2094.39 *10*	11/2−		E	Jπ: γ ray to 7/2−; γ ray to 13/2+ is ΔJ=1, E1.
2101 *5*	7/2−,5/2−		G	Jπ: L=3 in (d,p).
2125.82 *8*	3/2−		E GH	Jπ: L=1 in (d,p); γ ray to 7/2−.
2134.43 *15*	9/2−		E IJ	Jπ: γ ray to 9/2− is ΔJ=0, M1.
2137 *5*	3/2−,1/2−		G	Jπ: L=1 in (d,p).
2147.9 *3*			H	
2173.58 *15*	7/2+		E I P	XREF: P(2168). Jπ: γ ray to 7/2− is ΔJ=0, D+Q; γ ray to 3/2+.
2183 *10*	(9/2−,11/2−)		J O	Jπ: L=(5) in (^{3}He,α).
2187.04 *10*	5/2−		E	Jπ: γ ray to 3/2− is ΔJ=1, D; excit.
2196.91 *16*	7/2−		E g	Jπ: γ ray to 7/2− is ΔJ=0, D+Q; L=3 in (d,p).
2201.21 *9*	11/2−		E M	Jπ: L=(5) in (d,t), γ ray to 9/2− is ΔJ=1, M1.
2220.69 *18*	5/2+	<0.1 ps	E M PQ	XREF: P(2216). Jπ: excit; see 1990Wr01.
2223.20 *11*	13/2−		E I	Jπ: γ ray to 13/2+ is ΔJ=0, E1.
2242.20 *15*	11/2+#		E I P	Jπ: γ ray to 9/2− is ΔJ=1, E1; γ ray to 13/2+ is ΔJ=1, M1.
2249.31 *14*	11/2−		E J M O	Jπ: L=5 in (d,t), excit.
2255.73 *7*	(5/2−)		E GH	Jπ: γ rays to 7/2−,3/2− are ΔJ=1, D; possible L=(3) in (d,p) (1975Bo03).
2257 *5*	3/2−,1/2−		G	Jπ: L=1 in (d,p).
2283.95 *15*	7/2−		E I P	Jπ: excit, γ ray to 5/2− is M1.
2294.53 *12*	13/2−		E I	Jπ: γ rays to 11/2− and 15/2− are ΔJ=1, D; γ ray to 11/2− is M1+E2.
2317.9 *4*	(7/2)		E I PQ	Jπ: excit.

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Adopted Levels, Gammas (continued)

^{143}Nd Levels (continued)

E(level)[†]	Jπ[a]	$T_{1/2}$[@]	XREF	Comments
2323.18 *11*	3/2⁻,1/2⁻		E GH	Jπ: L=1 in (d,p).
2323.26 *10*	11/2⁻		E	Jπ: γ ray to 7/2⁻ is ΔJ=2, Q; γ ray to 11/2⁻ is ΔJ=0, M1,E2.
2346.98 *15*	9/2(⁻)		E	Jπ: excit, γ ray to 7/2⁻ is ΔJ=1, M1+E2 (D+Q with significant δ).
2359.46 *17*	15/2⁺		EF	Jπ: γ ray to 15/2⁻ is E1; excit in (α,nγ).
2361.58 *11*	3/2⁻		E GH	Jπ: γ ray to 5/2⁻ is ΔJ=1, D; L=1 in (d,p).
2398.17 *15*	17/2⁻	≤0.3[&] ns	DEF	Jπ: excit, γ ray to 15/2⁻ is ΔJ=1, M1.
2398.63 *11*	9/2⁻		E O	Jπ: γ ray to 9/2⁻ is ΔJ=0, M1,E2; L=(5) in (^{3}He,α).
2405.52 *19*	5/2		E	Jπ: excit.
2405.71 *12*	(1/2⁻,3/2⁻)		E GH	Jπ: strong primary γ ray from 1/2⁺ in (n,γ); γ rays to 1/2⁺ and 1/2⁻; L=(1) in (d,p).
2415.5 *3*			E Q	
2420.01 *13*	3/2⁻		E GH	Jπ: L=1 in (d,p); γ ray to 7/2⁻.
2433.4 *3*	5/2⁻		E G	Jπ: L=3 in (d,p); γ ray to 3/2⁻ is ΔJ=1, D.
2443.28 *15*	9/2⁻		E	Jπ: γ ray to 11/2⁻ is ΔJ=1, M1,E2; excit in (α,nγ).
2451.54 *10*	1/2,3/2		E H	Jπ: γ rays to 1/2⁺ and 1/2⁻; no γ ray to J>3/2.
2451.9 *3*			E	
2460.01 *17*	5/2⁻		E G I	Jπ: Branching for γ rays to 7/2⁻ and 3/2⁻; L=3 in (d,p).
2462 *10*	(3/2⁻,1/2⁻)		G	Jπ: L=(1) in (d,p).
2463.75 *19*	11/2⁻		E	Jπ: γ ray to 9/2⁻ is M1, γ ray to 13/2⁺.
2475.94 *23*	(1/2⁻,3/2⁻)		GH P	Jπ: L(2496 *10*)=1 in (d,p).
2483.05 *13*	17/2⁺		E I	Jπ: excit in (α,nγ), γ ray to 13/2⁺ is E2.
2489.8 *6*	19/2⁻	≤0.3[&] ns	DEF I	Jπ: γ ray to 17/2⁻ is ΔJ=1, M1; excit.
2496.16 *14*	7/2⁻		E Q	XREF: Q(2493). Jπ: γ rays to 3/2⁻ and 11/2⁻, L=3 in (d,p).
2504.65 *23*	(15/2)⁻		E	Jπ: γ ray to 15/2⁻ is ΔJ=0, M1+E2; γ ray to 11/2⁻ is ΔJ=2, (E2).
2506.43 *11*	1/2⁻,3/2⁻		GH	Jπ: L=1 in (d,p).
2517.36 *16*	(11/2,13/2)⁻		E H	Jπ: γ ray to 11/2⁻ is ΔJ=0,1, M1+E2.
2528.16 *18*	7/2⁻		E I	Jπ: γ ray to 9/2⁻ and 3/2⁻.
2530.01 *7*	3/2⁻		E GH P	Jπ: L=1 in (d,p), γ ray to 7/2⁻.
2554 *1*			Q	
2557.0 *5*	(9/2)⁺		E G Q	Jπ: L=3 in (p,p′); γ ray to 7/2⁻ is ΔJ=1, D; no γ ray to ≤7/2.
2563 *5*	7/2⁻,5/2⁻		G O Q	Jπ: L=3 in (d,p).
2577.83 *22*	11/2,13/2		E I	Jπ: excit in (α,nγ).
2588.00 *17*	5/2⁻		E	Jπ: γ rays to 9/2⁻ and 1/2⁻.
2588.76 *12*	1/2,3/2[‡]		H	
2590.18 *21*	11/2⁻		E	Jπ: excit in (α,nγ), γ ray to 15/2⁻ is E2.
2596 *5*			G P	
2623.10 *17*	3/2⁻,1/2⁻		GH	Jπ: L=1 in (d,p).
2626.00 *14*	1/2,3/2[‡]		HI Q	XREF: Q(2629).
2662.46 *12*	3/2⁻		E GH	XREF: G(2673). Jπ: L=1 in (d,p), γ ray to 7/2⁻.
2672.21 *20*	(9/2⁻)		E	Jπ: excit in (α,nγ).
2683.68 *13*	3/2⁻		E GH	XREF: G(2695). Jπ: L=1 in (d,p), γ ray to 7/2⁻.
2700.58 *23*			E	
2730.8 *5*			E	
2737.94 *12*	3/2⁻[‡]		H O	Jπ: γ ray to 7/2⁻.
2750.0 *4*	13/2⁻		E P	Jπ: γ ray to 9/2⁻; excit in (α,nγ).
2752.9 *5*	17/2⁺		D	
2759.2 *4*			E G P	XREF: G(2750).
2775.22 *17*	1/2,3/2[‡]		GH	
2785.1 *3*			E	

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Adopted Levels, Gammas (continued)

^{143}Nd Levels (continued)

E(level)[†]	Jπ[a]	$T_{1/2}$[@]	XREF	Comments
2788.0 *5*			E	
2791			P	
2798.2 *3*			E	
2799.9 *3*			E	
2805.3 *3*	13/2$^+$		E G I OP	XREF: G(2811). Jπ: L=6 in (d,p), excit in (α,nγ).
2821.57 *21*	3/2,1/2[‡]		H	
2834			P	
2840.75 *15*	1/2$^{(-)}$,3/2$^{(-)}$[‡]		GH	Jπ: L=(1) in (d,p).
2876.08 *15*	1/2,3/2[‡]		H	
2884.5 *6*			E I	
2886.1 *5*			E	
2891.55 *22*			E	
2905 *10*	(3/2$^+$,5/2$^+$)		O	Jπ: L=(2) in (^{3}He,α).
2910.7 *6*	21/2$^+$	0.48[&] ns *3*	DEF	μ=+7.2 *13* (1994Ka23,2011StZZ) Jπ: γ ray to 19/2$^-$ is ΔJ=1, E1; no γ ray to <19/2. Configuration=((ν f7/2)⊗7$^-$) (1994Ka23). μ: from integral perturbed angular distribution includes correction for paramagnetism.
2911.7 *5*			E	
2922.65 *11*	1/2,3/2		H	
2926 *5*	5/2$^-$,7/2$^-$		G Q	Jπ: L=3 in (d,p) (1975Ve08).
2939.32 *25*	1/2,3/2[‡]		H	
2943.0 *5*	(13/2)		E	Jπ: excit in (α,nγ).
2954.15 *15*	3/2$^{(+)}$[‡]		H O	L: L=(2) in (^{3}He,α).
2957.41 *16*	3/2$^-$[‡]		gH	XREF: g(2968). Jπ: γ ray to 7/2$^-$.
2969.85 *23*	1/2,3/2[‡]		gHI Q	XREF: g(2968).
2987.9 *3*	1/2,3/2[‡]		H	
2998.58 *22*	3/2$^-$[‡]		H	Jπ: γ ray to 7/2$^-$.
3008 *10*			O	
3013.42 *19*	3/2$^-$[‡]		H	Jπ: γ ray to 7/2$^-$.
3023.05 *14*			GH	
3023.7 *7*	21/2$^+$	≤1.04[&] ps	DEF	Jπ: γ ray to 19/2$^-$ is ΔJ=1, E1; no γ ray to J<19/2.
3033.94 *16*	1/2,3/2[‡]		H	
3040	7/2$^-$		P	Jπ: L=0 in (p,t).
3047.84 *13*	1/2,3/2[‡]		H Q	
3049 *5*	(9/2)$^+$		G	Jπ: L=4 in (d,p), shell model.
3058 *10*			O	
3064.03 *19*	1/2,3/2[‡]		H	
3071	7/2$^-$		P Q	Jπ: L=0 in (p,t).
3080.36 *16*			H Q	
3084.5 *7*	23/2$^+$	7.6[&] ps *35*	D	Jπ: γ ray to 21/2$^+$ is ΔJ=1, M1.
3090.93 *23*	1/2,3/2[‡]		GH P Q	XREF: G(3096).
3103 *2*			I	
3112 *2*			I P	
3122 *5*	–		G	Jπ: L=3 (1975Ve08) or L=1 (1975Bo03) in (d,p).
3132	–		P	Jπ: L=4 in (p,t).
3153	–		P	Jπ: L=4 in (p,t).
3168 *10*	(9/2$^-$,11/2$^-$)		O	Jπ: L=(5) in (^{3}He,α).
3168.1 *10*	1/2$^+$		GH	Jπ: L=0 in (d,p).

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Adopted Levels, Gammas (continued)

^{143}Nd Levels (continued)

E(level)[†]	Jπ[a]	$T_{1/2}$[@]	XREF	Comments
3185.53 *9*	1/2,3/2[‡]		H P	
3189.6 *8*			D	
3202 *5*	3/2⁻,1/2⁻		G	Jπ: L=1 in (d,p).
3214 *1*			Q	
3220.79 *19*			H	
3225 *10*	(9/2⁻,11/2⁻)		OP	Jπ: L=(5) in (^{3}He,α).
3233 *5*	7/2⁻,5/2⁻		G	Jπ: L=(5) in (^{3}He,α), L=3 in (d,p).
3245			PQ	
3255 *5*	7/2⁻,5/2⁻		G P	Jπ: L=3 in (d,p).
3271.9 *3*			GH Q	
3293.7 *3*			H	
3297.71 *23*	1/2⁻,3/2⁻[‡]		H P	Jπ: L=4 in (p,t).
3311 *5*	(9/2⁻,11/2⁻)		G O	Jπ: L=(5) in (^{3}He,α).
3317 *1*			Q	
3329 *5*			G P	
3334.6 *9*			D	$T_{1/2}$: 2000Zh03 suggest this level to be an isomer.
3379 *5*	5/2⁻,7/2⁻		G P	Jπ: L=3 in (d,p).
3400 *5*	⁻		G OP	Jπ: L=2 in (p,t).
3413 *5*	⁻		G	Jπ: L=1 or 3 in (d,p).
3425.90 *18*			H P	
3435 *5*	5/2⁻,7/2⁻		G	Jπ: L=3 in (d,p).
3448 *1*			Q	
3456			P	
3456.9 *7*	25/2⁺	48[&] ps *24*	D F	Jπ: γ ray to 23/2⁺ is ΔJ=1, M1+E2; no γ ray to J<23/2.
3457.6 *9*	(3/2)⁺		G	Jπ: L=2 in (d,p), shell model.
3470.7 *3*			H	
3485.48 *19*	⁻		GH	Jπ: L=1 or 3 in (d,p).
3515 *5*	7/2⁻,5/2⁻		G	Jπ: L=3 in (d,p).
3519 *1*			Q	
3538 *5*	7/2⁻,5/2⁻		G	Jπ: L=3 in (d,p), L=2 in (p,t).
3579 *5*	⁻		G P	Jπ: L=3 or 1 in (d,p).
3603 *5*			G	
3619.3 *7*			D	
3625 *5*			G O	
3645 *5*			G	
3668 *5*	5/2⁻,7/2⁻		G	Jπ: L=3 in (d,p).
3685 *5*	⁻		G	Jπ: L=3 or 1 in (d,p).
3703 *10*			O	
3733 *5*			G	
3744 *5*			G O	
3759 *1*			Q	
3774 *5*			G	
3790	⁻		P	Jπ: L=2 in (p,t).
3806.3? *12*			F	
3815 *5*	3/2⁻,1/2⁻		G	Jπ: L=1 in (d,p).
3831 *5*			G	
3856 *5*			G	
3882 *5*			G	
3899.5 *4*			H	
3916 *5*	7/2⁻,5/2⁻		G	Jπ: L=3 in (d,p).
3939 *5*			G	
3955 *5*			G	
3970 *5*			G	
4010 *5*			G	
4062.8 *8*			D G	

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Adopted Levels, Gammas (continued)

^{143}Nd Levels (continued)

E(level)[†]	J$^{\pi}$[a]	T$_{1/2}$[@]	XREF	Comments
4075.5 *7*	(27/2$^+$)		D	J$^{\pi}$: stretched (E2) from 31/2$^+$.
4087 *5*			G	
4129 *5*			G	
4168 *5*			G	
4198 *5*			G	
4224.3 *7*	27/2$^+$		D F	J$^{\pi}$: γ ray to 23/2$^+$ is ΔJ=2, [E2].
4267 *5*			G	
4287 *5*			G	
4316.0 *12*			FG	
4348 *5*			G	
4399 *5*			G	
4430 *5*			G	
4523.5 *7*	29/2$^+$		D	
4634.6 *8*	29/2$^+$		D F	J$^{\pi}$: γ ray to 25/2$^+$ is ΔJ=2, E2; γ ray to 27/2$^+$ is ΔJ=1, M1.
4706.2 *7*			D	
4821.0 *8*			D	
4999.1 *7*	31/2$^+$		D	J$^{\pi}$: γ ray to 29/2$^+$ is ΔJ=1, M1; DCO.
5129.1 *8*	31/2$^+$	≤36[&] ps	D F	J$^{\pi}$: M1+E2 γ ray to 29/2$^+$.
5282.6 *8*	31/2$^+$		D	J$^{\pi}$: stretched M1 from 33/2$^+$.
5343.6 *8*	33/2$^+$	≤36[&] ps	D F	J$^{\pi}$: M1 γ ray to 31/2$^+$.
5426.9 *8*	33/2		D	
5506.1 *8*	33/2$^+$		D	
5791.3 *9*	35/2	0.6[&] ps *3*	D F	
5913.7 *8*	35/2$^-$		D	
5990.7 *8*	35/2$^{(-)}$		D	J$^{\pi}$: 647γ to 33/2$^+$ is (E1).
6056.1 *8*			D	
6237.3 *8*	($^-$)	≤2.8[&] ps	D	
6489.5 *8*			D	
6502.3 *8*	35/2		D	
6516.5 *9*			D	
6695.9 *8*	(39/2$^-$)		D	J$^{\pi}$: stretched E2 to 35/2$^-$.
6800.9 *11*			D	
6824.9 *9*			D	
7019.3 *8*			D	
7294.4 *9*			D	
7296.0 *9*			D	
7529.2 *9*	43/2$^-$		D	
7847.9 *9*	43/2$^-$		D	
7889.4 *8*			D	
7967.5 *9*			D	
8649.3 *9*	47/2$^-$		D	
8686.8 *9*			D	
8987.7 *9*	49/2$^+$	35[&] ns *8*	D	
9167.4 *10*			D	
10130.9 *10*	53/2$^+$		D	
10529.3 *11*			D	
10668.6 *11*			D	
10754.8 *11*			D	
11466.6 *11*			D	
11557.4 *12*			D	
11788.2 *12*			D	
12559.5 *16*			D	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{143}Nd Levels (continued)

† From least-squares fit to adopted γ-ray energies.
‡ Primary γ rays from $1/2^+$ state in thermal neutron capture.
# From L=3 and σ(J) in (p,p′); for analysis of (3^-; 2f7/2) octupole vibration multiplet see 1989Tr10.
@ From (γ,γ') unless stated otherwise. See (α,nγ) for assigned limits for $T_{1/2}$ of various levels.
& From (^{18}O,5nγ).
a J^π for E(level)>4063 based on DCO ratios, linear polarization measurements in (^{18}O,5nγ).

Adopted Levels, Gammas (continued)

γ(^{143}Nd)

E_i(level)	J_i^π	E_γ[#]	I_γ	E_f	J_f^π	Mult.[‡]	δ	α[†]	Comments
742.05	3/2$^-$	741.98 *4*	100	0.0	7/2$^-$	E2		0.00436 *7*	B(E2)(W.u.)=20.2 *8* α(K)=0.00368 *6*; α(L)=0.000537 *8*; α(M)=0.0001144 *16*; α(N+..)=2.95×10^{-5} *5* α(N)=2.55×10^{-5} *4*; α(O)=3.79×10^{-6} *6*; α(P)=2.21×10^{-7} *3* E_γ: from ε decay.
1228.04	13/2$^+$	1228.1 *2*	100	0.0	7/2$^-$	E3		0.00293 *5*	B(E3)(W.u.)=34.96 *11* α(K)=0.00247 *4*; α(L)=0.000365 *6*; α(M)=7.80×10^{-5} *11*; α(N+..)=2.27×10^{-5} *4* α(N)=1.741×10^{-5} *25*; α(O)=2.61×10^{-6} *4*; α(P)=1.551×10^{-7} *22*; α(IPF)=2.52×10^{-6} *4* Additional information 1.
1305.86	1/2$^-$	563.84 *10*	100	742.05	3/2$^-$	M1		0.01355	α(K)=0.01160 *17*; α(L)=0.001542 *22*; α(M)=0.000326 *5*; α(N+..)=8.49×10^{-5} *12* α(N)=7.30×10^{-5} *11*; α(O)=1.113×10^{-5} *16*; α(P)=7.36×10^{-7} *11*
1407.08	9/2$^-$	1407.0 *1*	100	0.0	7/2$^-$	M1+E2	0.65	0.001462 *21*	α(K)=0.001214 *17*; α(L)=0.0001575 *22*; α(M)=3.32×10^{-5} *5*; α(N+..)=5.70×10^{-5} α(N)=7.43×10^{-6} *11*; α(O)=1.134×10^{-6} *16*; α(P)=7.54×10^{-8} *11*; α(IPF)=4.84×10^{-5} *7* B(M1)(W.u.)=0.10 *+3−6*; B(E2)(W.u.)=13 *+4−7*
1431.23	11/2$^-$	203.3 *3*	0.63	1228.04	13/2$^+$				
		1431.2 *1*	100	0.0	7/2$^-$	[E2]		0.001136 *16*	α(K)=0.000928 *13*; α(L)=0.0001219 *17*; α(M)=2.57×10^{-5} *4*; α(N+..)=6.08×10^{-5} α(N)=5.74×10^{-6} *8*; α(O)=8.71×10^{-7} *13*; α(P)=5.63×10^{-8} *8*; α(IPF)=5.41×10^{-5} *8* B(E2)(W.u.)=31 *+8−15*
1555.54	5/2$^-$	813.1 *3*	11.0 *13*	742.05	3/2$^-$	M1		0.00554 *8*	α(K)=0.00475 *7*; α(L)=0.000624 *9*; α(M)=0.0001316 *19*; α(N+..)=3.43×10^{-5} *5* α(N)=2.95×10^{-5} *5*; α(O)=4.50×10^{-6} *7*; α(P)=3.00×10^{-7} *5* B(M1)(W.u.)=0.021 *+6−9*
		1555.58 *21*	100 *2*	0.0	7/2$^-$	M1+E2	0.23	0.001312 *19*	α(K)=0.001041 *15*; α(L)=0.0001341 *19*; α(M)=2.82×10^{-5} *4*; α(N+..)=0.000108 α(N)=6.33×10^{-6} *9*; α(O)=9.67×10^{-7} *14*; α(P)=6.49×10^{-8} *9*; α(IPF)=0.0001014 *15* B(M1)(W.u.)=0.026 *+6−10*; B(E2)(W.u.)=0.33 *+7−13*
1556.44	3/2$^+$	250.7 *2*	4.3 *22*	1305.86	1/2$^-$				
		814.5 *2*	100 *1*	742.05	3/2$^-$	E1		0.001390 *20*	α(K)=0.001197 *17*; α(L)=0.0001527 *22*; α(M)=3.21×10^{-5} *5*; α(N+..)=8.32×10^{-6} α(N)=7.17×10^{-6} *10*; α(O)=1.086×10^{-6} *16*; α(P)=7.06×10^{-8} *10*
1558.8		1558.81 *40*	100	0.0	7/2$^-$				

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Adopted Levels, Gammas (continued)

γ(^{143}Nd) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ	E_f	J_f^π	Mult.[‡]	δ	α[†]	Comments
1608.38	1/2+	866.27 *10*	100	742.05	3/2−	E1		0.001231 *18*	α(K)=0.001061 *15*; α(L)=0.0001349 *19*; α(M)=2.83×10^{-5} *4*; α(N+..)=7.35×10^{-6} α(N)=6.33×10^{-6} *9*; α(O)=9.60×10^{-7} *14*; α(P)=6.26×10^{-8} *9*
1739.21	9/2−	308.1 *2*	2.0 *13*	1431.23	11/2−				
		1739.2 *1*	100 *1*	0.0	7/2−	M1+E2	0.65	0.001073 *15*	α(K)=0.000769 *11*; α(L)=9.88×10^{-5} *14*; α(M)=2.08×10^{-5} *3*; α(N+..)=0.000185 *3* α(N)=4.66×10^{-6} *7*; α(O)=7.11×10^{-7} *10*; α(P)=4.76×10^{-8} *7*; α(IPF)=0.000180 *3* B(M1)(W.u.)=0.046 *+11−19*; B(E2)(W.u.)=3.7 *+9−15*
1774.85	1/2+	469.4 *5*	10	1305.86	1/2−				
		1032.7 *2*	100	742.05	3/2−	E1		0.000880 *13*	α(K)=0.000759 *11*; α(L)=9.59×10^{-5} *14*; α(M)=2.01×10^{-5} *3*; α(N+..)=5.23×10^{-6} *8* α(N)=4.50×10^{-6} *7*; α(O)=6.84×10^{-7} *10*; α(P)=4.49×10^{-8} *7*
		1774.54 *31*	1.3	0.0	7/2−				
1799.52	3/2+	191.1 *1*	15.6 *22*	1608.38	1/2+				
		243.5 *8*	2.2	1556.44	3/2+				
		244.0 *1*	11.1 *22*	1555.54	5/2−				
		493.3 *3*	11.1 *22*	1305.86	1/2−				
		1057.5 *2*	100 *11*	742.05	3/2−	E1		0.000842 *12*	α(K)=0.000726 *11*; α(L)=9.17×10^{-5} *13*; α(M)=1.92×10^{-5} *3*; α(N+..)=5.00×10^{-6} *7* α(N)=4.30×10^{-6} *6*; α(O)=6.54×10^{-7} *10*; α(P)=4.30×10^{-8} *6*
1851.5	7/2−	1851.5 *3*	100	0.0	7/2−	M1+E2	>0.65	0.00095 *7*	α(K)=0.00062 *6*; α(L)=8.0×10^{-5} *7*; α(M)=1.68×10^{-5} *14*; α(N+..)=0.000232 *8* α(N)=3.8×10^{-6} *4*; α(O)=5.7×10^{-7} *5*; α(P)=3.8×10^{-8} *4*; α(IPF)=0.000227 *7* B(M1)(W.u.)<0.049; B(E2)(W.u.)>3.5
1852.56	3/2−	546.6 *1*	51 *2*	1305.86	1/2−	M1		0.01464	α(K)=0.01253 *18*; α(L)=0.001668 *24*; α(M)=0.000352 *5*; α(N+..)=9.18×10^{-5} *13* α(N)=7.90×10^{-5} *11*; α(O)=1.204×10^{-5} *17*; α(P)=7.96×10^{-7} *12*
		1110.5 *1*	100 *4*	742.05	3/2−	M1+E2	≈0.20	≈0.0026	α(K)≈0.00225; α(L)≈0.000293; α(M)≈6.17×10^{-5} α(N)≈1.382×10^{-5}; α(O)≈2.11×10^{-6}; α(P)≈1.409×10^{-7}; α(IPF)≈5.19×10^{-7}
		1852.4 *2*	67 *8*	0.0	7/2−				
1900.3		1900.3 *4*	100	0.0	7/2−				
1910.81	5/2−	355.4 *2*	3.5 *12*	1555.54	5/2−				
		1910.8 *1*	100 *4*	0.0	7/2−	M1+E2	0.33	0.001028 *15*	α(K)=0.000656 *10*; α(L)=8.39×10^{-5} *12*; α(M)=1.766×10^{-5} *25*; α(N+..)=0.000271 α(N)=3.96×10^{-6} *6*; α(O)=6.05×10^{-7} *9*; α(P)=4.07×10^{-8} *6*; α(IPF)=0.000267 *4* B(M1)(W.u.)=0.041 *+9−15*; B(E2)(W.u.)=0.71 *+16−26*

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Adopted Levels, Gammas (continued)

γ(^{143}Nd) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ	E_f	J_f^π	Mult.[‡]	δ	α[†]	Comments
1920.6		1920.6 *3*	100	0.0	7/2$^-$				
1988.22	11/2$^-$	557.0 *2*	2.6 *9*	1431.23	11/2$^-$				
		581.1 *1*	100 *2*	1407.08	9/2$^-$	M1+E2	0.14	0.01248	α(K)=0.01068 *15*; α(L)=0.001422 *20*; α(M)=0.000300 *5*; α(N+..)=7.82×10^{-5} *11* α(N)=6.73×10^{-5} *10*; α(O)=1.026×10^{-5} *15*; α(P)=6.77×10^{-7} *10*
		760.2 *1*	4.4 *9*	1228.04	13/2$^+$				
		1988.3 *3*	10.5 *61*	0.0	7/2$^-$				
1996.40	5/2$^+$	1254.0 *5*	11.1 *19*	742.05	3/2$^-$	E1		0.000672 *10*	B(E1)(W.u.)>0.00013 α(K)=0.000534 *8*; α(L)=6.70×10^{-5} *10*; α(M)=1.405×10^{-5} *20*; α(N+..)=5.67×10^{-5} *9* α(N)=3.14×10^{-6} *5*; α(O)=4.78×10^{-7} *7*; α(P)=3.17×10^{-8} *5*; α(IPF)=5.30×10^{-5} *8*
		1996.4 *1*	100 *2*	0.0	7/2$^-$				
2004.67	1/2$^-$	152.02 *14*	2	1852.56	3/2$^-$				
		698.81 *2*	54	1305.86	1/2$^-$				
		1262.58 *10*	100	742.05	3/2$^-$	D			
2011.3	9/2$^+$	2011.3 *3*	100	0.0	7/2$^-$	(D)			
2018.87	15/2$^-$	790.8 *1*	100	1228.04	13/2$^+$	E1		0.001475 *21*	α(K)=0.001270 *18*; α(L)=0.0001621 *23*; α(M)=3.41×10^{-5} *5*; α(N+..)=8.84×10^{-6} α(N)=7.61×10^{-6} *11*; α(O)=1.153×10^{-6} *17*; α(P)=7.48×10^{-8} *11*
2035.60	7/2$^-$	480.0 *2*	29 *3*	1555.54	5/2$^-$	M1,E2		0.017 *4*	α(K)=0.014 *4*; α(L)=0.0021 *3*; α(M)=0.00044 *6*; α(N+..)=0.000113 *15* α(N)=9.8×10^{-5} *12*; α(O)=1.46×10^{-5} *22*; α(P)=8.7×10^{-7} *24*
		628.3 *4*	5.7	1407.08	9/2$^-$				
		1293.6 *2*	54 *6*	742.05	3/2$^-$	Q			
		2035.7 *3*	100 *6*	0.0	7/2$^-$	(D+Q)			
2063.85	(7/2$^-$,9/2$^-$)	657.0 *4*	10.4 *26*	1407.08	9/2$^-$				
		2063.7 *3*	100 *10*	0.0	7/2$^-$				
2066.84	13/2$^-$	635.6 *1*	54 *6*	1431.23	11/2$^-$	M1,E2		0.0082 *19*	α(K)=0.0070 *17*; α(L)=0.00097 *17*; α(M)=0.00021 *4*; α(N+..)=5.4×10^{-5} *10* α(N)=4.6×10^{-5} *8*; α(O)=7.0×10^{-6} *13*; α(P)=4.3×10^{-7} *12*
		838.8 *1*	100 *9*	1228.04	13/2$^+$	E1		0.001312 *19*	α(K)=0.001130 *16*; α(L)=0.0001439 *21*; α(M)=3.02×10^{-5} *5*; α(N+..)=7.84×10^{-6} α(N)=6.75×10^{-6} *10*; α(O)=1.024×10^{-6} *15*; α(P)=6.66×10^{-8} *10*
2075.13	11/2$^-$	847.1 *1*	100	1228.04	13/2$^+$	E1		0.001286 *18*	α(K)=0.001108 *16*; α(L)=0.0001411 *20*; α(M)=2.96×10^{-5} *5*; α(N+..)=7.69×10^{-6}

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Adopted Levels, Gammas (continued)

γ(^{143}Nd) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ	E_f	J_f^π	Mult.[‡]	δ	α[†]	Comments
									α(K)=0.001108 *16*; α(L)=0.0001411 *20*; α(M)=2.96×10^{-5} *5*; α(N+..)=7.69×10^{-6}
									α(N)=6.62×10^{-6} *10*; α(O)=1.004×10^{-6} *14*; α(P)=6.54×10^{-8} *10*
2090.60	7/2$^+$	535.1 *1*	95 *14*	1555.54	5/2$^-$	E1		0.00338 *5*	B(E1)(W.u.)≈0.022
									α(K)=0.00290 *4*; α(L)=0.000377 *6*; α(M)=7.93×10^{-5} *12*; α(N+..)=2.05×10^{-5} *3*
									α(N)=1.768×10^{-5} *25*; α(O)=2.67×10^{-6} *4*; α(P)=1.690×10^{-7} *24*
		683.5 *1*	100 *9*	1407.08	9/2$^-$	E1		0.00199 *3*	B(E1)(W.u.)≈0.011
									α(K)=0.001711 *24*; α(L)=0.000220 *3*; α(M)=4.62×10^{-5} *7*; α(N+..)=1.197×10^{-5} *17*
									α(N)=1.031×10^{-5} *15*; α(O)=1.561×10^{-6} *22*; α(P)=1.004×10^{-7} *14*
		2090.4 *3*	36 *18*	0.0	7/2$^-$				
2094.39	11/2$^-$	355.3 *2*	40 *8*	1739.21	9/2$^-$				
		866.3 *1*	88 *25*	1228.04	13/2$^+$	E1		0.001231 *18*	α(K)=0.001060 *15*; α(L)=0.0001349 *19*; α(M)=2.83×10^{-5} *4*; α(N+..)=7.35×10^{-6}
									α(N)=6.33×10^{-6} *9*; α(O)=9.60×10^{-7} *14*; α(P)=6.26×10^{-8} *9*
		2094.4 *3*	100 *18*	0.0	7/2$^-$	Q			
2125.82	3/2$^-$	273.4 *3*	13 *3*	1852.56	3/2$^-$				
		569.2 *3*	100 *33*	1556.44	3/2$^+$				
		1383.7 *1*	83 *7*	742.05	3/2$^-$	M1+E2	>0.33	0.00140 *20*	α(K)=0.00116 *18*; α(L)=0.000152 *22*; α(M)=3.2×10^{-5} *5*; α(N+..)=4.94×10^{-5} *21*
									α(N)=7.2×10^{-6} *10*; α(O)=1.09×10^{-6} *16*; α(P)=7.2×10^{-8} *12*; α(IPF)=4.11×10^{-5} *10*
		2125.6 *4*	27 *3*	0.0	7/2$^-$				
2134.43	9/2$^-$	703.0 *3*	6.3 *21*	1431.23	11/2$^-$				
		727.4 *2*	25 *2*	1407.08	9/2$^-$	M1		0.00725 *11*	α(K)=0.00621 *9*; α(L)=0.000819 *12*; α(M)=0.0001728 *25*; α(N+..)=4.50×10^{-5} *7*
									α(N)=3.87×10^{-5} *6*; α(O)=5.91×10^{-6} *9*; α(P)=3.92×10^{-7} *6*
		2134.5 *3*	100 *8*	0.0	7/2$^-$	D+Q			
2147.9		2147.87 *30*	100	0.0	7/2$^-$				
2173.58	7/2$^+$	617.0 *2*	21 *3*	1556.44	3/2$^+$	Q			
		2173.7 *2*	100 *8*	0.0	7/2$^-$	D+Q			
2187.04	5/2$^-$	631.3 *3*	3.2 *16*	1555.54	5/2$^-$				
		1445.0 *1*	100 *6*	742.05	3/2$^-$	D			
2196.91	7/2$^-$	458.1 *4*	12 *3*	1739.21	9/2$^-$				
		789.6 *3*	35 *3*	1407.08	9/2$^-$				
		2196.9 *2*	100 *9*	0.0	7/2$^-$	D+Q			
2201.21	11/2$^-$	212.8 *2*	32 *6*	1988.22	11/2$^-$	D+Q			
		462.2 *2*	21 *3*	1739.21	9/2$^-$	M1+(E2)		0.018 *4*	α(K)=0.016 *4*; α(L)=0.0023 *3*; α(M)=0.00049 *6*;

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Adopted Levels, Gammas (continued)

γ(^{143}Nd) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ	E_f	J_f^π	Mult.[‡]	α[†]	Comments
								α(N+..)=0.000126 *15* α(N)=0.000109 *13*; α(O)=1.62×10^{-5} *23*; α(P)=1.0×10^{-6} *3*
2201.21	11/2$^-$	769.6 *3*	32 *3*	1431.23	11/2$^-$	D+Q		
		794.2 *1*	100 *6*	1407.08	9/2$^-$	M1	0.00586 *9*	α(K)=0.00502 *7*; α(L)=0.000660 *10*; α(M)=0.0001394 *20*; α(N+..)=3.63×10^{-5} *5* α(N)=3.12×10^{-5} *5*; α(O)=4.77×10^{-6} *7*; α(P)=3.17×10^{-7} *5*
2220.69	5/2$^+$	664.4 *5*	9.4 *31*	1556.44	3/2$^+$			
		1478.3 *5*	9.4 *31*	742.05	3/2$^-$			
		2220.7 *2*	100 *9*	0.0	7/2$^-$			
2223.20	13/2$^-$	204.3 *2*	40 *10*	2018.87	15/2$^-$	D		
		234.8 *2*	20 *5*	1988.22	11/2$^-$	D		
		995.2 *1*	100 *10*	1228.04	13/2$^+$	E1	0.000943 *14*	α(K)=0.000813 *12*; α(L)=0.0001029 *15*; α(M)=2.16×10^{-5} *3*; α(N+..)=5.61×10^{-6} α(N)=4.83×10^{-6} *7*; α(O)=7.33×10^{-7} *11*; α(P)=4.81×10^{-8} *7*
2242.20	11/2$^+$	810.8 *5*	10 *5*	1431.23	11/2$^-$			
		835.1 *2*	60 *15*	1407.08	9/2$^-$	E1	0.001323 *19*	α(K)=0.001140 *16*; α(L)=0.0001452 *21*; α(M)=3.05×10^{-5} *5*; α(N+..)=7.91×10^{-6} α(N)=6.81×10^{-6} *10*; α(O)=1.033×10^{-6} *15*; α(P)=6.72×10^{-8} *10*
		1014.2 *2*	100 *10*	1228.04	13/2$^+$	M1	0.00328 *5*	α(K)=0.00281 *4*; α(L)=0.000367 *6*; α(M)=7.73×10^{-5} *11*; α(N+..)=2.01×10^{-5} *3* α(N)=1.733×10^{-5} *25*; α(O)=2.65×10^{-6} *4*; α(P)=1.768×10^{-7} *25*
2249.31	11/2$^-$	261.2 *2*	46 *8*	1988.22	11/2$^-$			
		817.9 *3*	21 *4*	1431.23	11/2$^-$			
		842.2 *2*	100 *21*	1407.08	9/2$^-$			
2255.73	(5/2$^-$)	344.8 *3*	10.8 *27*	1910.81	5/2$^-$			
		403.2 *1*	38 *5*	1852.56	3/2$^-$	M1	0.0316	α(K)=0.0270 *4*; α(L)=0.00364 *5*; α(M)=0.000769 *11*; α(N+..)=0.000200 *3* α(N)=0.0001723 *25*; α(O)=2.62×10^{-5} *4*; α(P)=1.725×10^{-6} *25*
		700.3 *4*	4.5	1555.54	5/2$^-$			E_γ,I_γ: observed only in (n,γ).
		949.9 *3*	10.8 *27*	1305.86	1/2$^-$			
		1513.6 *1*	100 *8*	742.05	3/2$^-$	M1,E2	0.00122 *17*	α(K)=0.00098 *15*; α(L)=0.000127 *18*; α(M)=2.7×10^{-5} *4*; α(N+..)=9.0×10^{-5} *4* α(N)=6.0×10^{-6} *9*; α(O)=9.1×10^{-7} *14*; α(P)=6.0×10^{-8} *10*; α(IPF)=8.3×10^{-5} *3*
		2256.3 *3*	32 *5*	0.0	7/2$^-$	D		
2283.95	7/2$^-$	728.2 *3*	37 *5*	1555.54	5/2$^-$	M1	0.00723 *11*	α(K)=0.00619 *9*; α(L)=0.000817 *12*; α(M)=0.0001723 *25*; α(N+..)=4.49×10^{-5} *7* α(N)=3.86×10^{-5} *6*; α(O)=5.89×10^{-6} *9*; α(P)=3.91×10^{-7} *6*
		1542.0 *2*	68 *11*	742.05	3/2$^-$			
		2283.9 *3*	100 *11*	0.0	7/2$^-$			
2294.53	13/2$^-$	200.1 *2*	29 *5*	2094.39	11/2$^-$	D		

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Adopted Levels, Gammas (continued)

$\gamma(^{143}Nd)$ (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ	E_f	J_f^π	Mult.[‡]	δ	α[†]	Comments
2294.53	13/2$^-$	275.6 *1*	100 *10*	2018.87	15/2$^-$	D			
		306.7 *3*	29 *5*	1988.22	11/2$^-$	(M1+E2)		0.057 *8*	α(K)=0.047 *9*; α(L)=0.0077 *3*; α(M)=0.00166 *8*; α(N+..)=0.000424 *15* α(N)=0.000368 *15*; α(O)=5.38×10^{-5} *8*; α(P)=2.8×10^{-6} *7* Mult.: $\gamma(\theta)$ suggests large δ leading to M1+E2.
		863.5 *4*	4.8 *24*	1431.23	11/2$^-$				
		1066.8 *3*	14.3 *48*	1228.04	13/2$^+$				
2317.9	(7/2)	910.6 *5*	23 *3*	1407.08	9/2$^-$				
		2318.0 *5*	100 *10*	0.0	7/2$^-$				
2323.18	3/2$^-$,1/2$^-$	470.1 *5*	20 *10*	1852.56	3/2$^-$				
		714.7 *3*	13	1608.38	1/2$^+$				E_γ,I_γ: observed only in (n,γ).
		1017.1 *3*	100 *10*	1305.86	1/2$^-$	D			
2323.26	11/2$^-$	583.8 *2*	43 *7*	1739.21	9/2$^-$				
		892.0 *1*	100 *14*	1431.23	11/2$^-$	M1,E2		0.0037 *8*	α(K)=0.0031 *7*; α(L)=0.00042 *8*; α(M)=8.9×10^{-5} *17*; α(N+..)=2.3×10^{-5} *5* α(N)=2.0×10^{-5} *4*; α(O)=3.0×10^{-6} *6*; α(P)=1.9×10^{-7} *5*
		916.5 *3*	21 *7*	1407.08	9/2$^-$				
		2323.6 *4*	93 *50*	0.0	7/2$^-$	Q			
2346.98	9/2$^{(-)}$	916.0 *5*	31 *13*	1431.23	11/2$^-$				
		940.1 *5*	44 *13*	1407.08	9/2$^-$				
		2347.0 *2*	100 *13*	0.0	7/2$^-$	M1+E2	>0.23	0.00094 *6*	α(K)=0.00040 *3*; α(L)=5.1×10^{-5} *4*; α(M)=1.06×10^{-5} *8*; α(N+..)=0.000480 *22* α(N)=2.38×10^{-6} *18*; α(O)=3.6×10^{-7} *3*; α(P)=2.44×10^{-8} *20*; α(IPF)=0.000477 *21*
2359.46	15/2$^+$	340.8 *2*	100 *25*	2018.87	15/2$^-$	E1		0.00983 *14*	α(K)=0.00842 *12*; α(L)=0.001115 *16*; α(M)=0.000235 *4*; α(N+..)=6.06×10^{-5} *9* α(N)=5.23×10^{-5} *8*; α(O)=7.82×10^{-6} *11*; α(P)=4.79×10^{-7} *7*
		1131.2 *2*	50 *25*	1228.04	13/2$^+$				
2361.58	3/2$^-$	806.0 *1*	78 *11*	1555.54	5/2$^-$	D			
		1055.7 *3*	100 *11*	1305.86	1/2$^-$	(M1)		0.00298 *5*	α(K)=0.00256 *4*; α(L)=0.000334 *5*; α(M)=7.03×10^{-5} *10*; α(N+..)=1.83×10^{-5} *3* α(N)=1.575×10^{-5} *22*; α(O)=2.41×10^{-6} *4*; α(P)=1.608×10^{-7} *23*
		1620.3 *5*	56 *22*	742.05	3/2$^-$				E_γ: from (n,γ).
2398.17	17/2$^-$	379.3 *1*	100	2018.87	15/2$^-$	M1		0.0370	B(M1)(W.u.)>0.0013 α(K)=0.0316 *5*; α(L)=0.00426 *6*; α(M)=0.000902 *13*; α(N+..)=0.000235 *4* α(N)=0.000202 *3*; α(O)=3.08×10^{-5} *5*; α(P)=2.02×10^{-6} *3*
2398.63	9/2$^-$	332 *1*	2.4 *12*	2066.84	13/2$^-$				
		410 *1*	2.4 *12*	1988.22	11/2$^-$				
		967.4 *1*	39 *5*	1431.23	11/2$^-$	M1,E2		0.0030 *7*	α(K)=0.0026 *6*; α(L)=0.00035 *7*; α(M)=7.3×10^{-5} *14*;

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Adopted Levels, Gammas (continued)

γ(^{143}Nd) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ	E_f	J_f^π	Mult.[‡]	α[†]	Comments
								α(N+..)=1.9×10^{-5} *4* α(N)=1.6×10^{-5} *3*; α(O)=2.5×10^{-6} *5*; α(P)=1.6×10^{-7} *4*
2398.63	9/2$^-$	2398.6 *2*	100 *10*	0.0	7/2$^-$			
2405.52	5/2	495.4 *5*	16 *5*	1910.81	5/2$^-$			
		849 *1*	16 *5*	1556.44	3/2$^+$			
		849.6 *3*	53 *5*	1555.54	5/2$^-$			
		1663.0 *5*	32 *5*	742.05	3/2$^-$			
		2405.8 *3*	100 *11*	0.0	7/2$^-$			
2405.71	(1/2$^-$,3/2$^-$)	401.4 *4*	33	2004.67	1/2$^-$			E_γ,I_γ: observed only in (n,γ).
		606.1 *4*	100	1799.52	3/2$^+$			
		797.2 *3*	15	1608.38	1/2$^+$			E_γ,I_γ: observed only in (n,γ).
		1099.7 *2*	33	1305.86	1/2$^-$			E_γ,I_γ: observed only in (n,γ).
2415.5		2415.5 *3*	100	0.0	7/2$^-$			
2420.01	3/2$^-$	1114.2 *2*	100 *10*	1305.86	1/2$^-$	D		
		1678.0 *5*	80 *30*	742.05	3/2$^-$			I_γ: Iγ=50 in (n,γ).
		2420.8 *5*	92	0.0	7/2$^-$			
2433.4	5/2$^-$	522.3 *5*	7.4 *37*	1910.81	5/2$^-$			
		877.8 *5*	7.4 *37*	1555.54	5/2$^-$			
		1691.4 *5*	48 *7*	742.05	3/2$^-$	D		
		2434 *1*	100 *11*	0.0	7/2$^-$			
2443.28	9/2$^-$	242.0 *2*	57 *14*	2201.21	11/2$^-$			
		368.2 *2*	100 *14*	2075.13	11/2$^-$	M1,E2	0.034 *6*	α(K)=0.028 *6*; α(L)=0.00441 *21*; α(M)=0.00095 *4*; α(N+..)=0.000243 *12* α(N)=0.000210 *9*; α(O)=3.11×10^{-5} *23*; α(P)=1.7×10^{-6} *5*
		1012.1 *3*	57 *14*	1431.23	11/2$^-$			
2451.54	1/2,3/2	651.97 *15*	71	1799.52	3/2$^+$			E_γ,I_γ: observed only in (n,γ).
		843.21 *18*	100	1608.38	1/2$^+$			
		1145.82 *15*	95	1305.86	1/2$^-$			
		1709.0 *3*	81	742.05	3/2$^-$			E_γ,I_γ: observed only in (n,γ).
2451.9		433.2 *5*	40 *20*	2018.87	15/2$^-$			
		1020.6 *3*	100 *40*	1431.23	11/2$^-$			
2460.01	5/2$^-$	1717.9 *2*	75 *8*	742.05	3/2$^-$			
		2460.1 *3*	100 *8*	0.0	7/2$^-$			
2463.75	11/2$^-$	724.6 *3*	50 *13*	1739.21	9/2$^-$			
		1032.8 *5*	25 *13*	1431.23	11/2$^-$			
		1056.4 *3*	100 *13*	1407.08	9/2$^-$	M1	0.00298 *5*	α(K)=0.00256 *4*; α(L)=0.000333 *5*; α(M)=7.02×10^{-5} *10*; α(N+..)=1.83×10^{-5} *3* α(N)=1.573×10^{-5} *22*; α(O)=2.40×10^{-6} *4*; α(P)=1.606×10^{-7} *23*
		1236.0 *5*	25 *13*	1228.04	13/2$^+$			
2475.94	(1/2$^-$,3/2$^-$)	1733.88 *22*	100	742.05	3/2$^-$			
2483.05	17/2$^+$	1255.0 *1*	100	1228.04	13/2$^+$	E2	0.001416 *20*	α(K)=0.001200 *17*; α(L)=0.0001599 *23*; α(M)=3.38×10^{-5} *5*;

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Adopted Levels, Gammas (continued)

γ(^{143}Nd) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ	E_f	J_f^π	Mult.[‡]	α[†]	Comments
								α(N+..)=2.21×10^{-5}
								α(N)=7.54×10^{-6} *11*; α(O)=1.142×10^{-6} *16*; α(P)=7.28×10^{-8} *11*; α(IPF)=1.330×10^{-5} *19*
2489.8	19/2$^-$	91.6 *5*	100	2398.17	17/2$^-$	M1	1.82 *4*	B(M1)(W.u.)>0.033
								α(K)=1.55 *4*; α(L)=0.216 *5*; α(M)=0.0458 *10*; α(N+..)=0.0119 *3*
								α(N)=0.01025 *22*; α(O)=0.00156 *4*; α(P)=0.0001003 *22*
								Mult.: D from γ(θ), M1 or E1 from intensity balance in (α,3nγ).
2496.16	7/2$^-$	1065.4 *5*	23 *8*	1431.23	11/2$^-$			
		1089.0 *2*	31 *8*	1407.08	9/2$^-$			
		1754.1 *2*	100 *15*	742.05	3/2$^-$			
2504.65	(15/2)$^-$	485.6 *3*	25 *8*	2018.87	15/2$^-$	M1+E2	0.016 *4*	α(K)=0.014 *4*; α(L)=0.0020 *3*; α(M)=0.00043 *5*; α(N+..)=0.000110 *15*
								α(N)=9.5×10^{-5} *12*; α(O)=1.42×10^{-5} *21*; α(P)=8.4×10^{-7} *23*
		1073.6 *3*	100 *17*	1431.23	11/2$^-$	(E2)	0.00193 *3*	α(K)=0.001646 *23*; α(L)=0.000224 *4*; α(M)=4.74×10^{-5} *7*; α(N+..)=1.227×10^{-5} *18*
								α(N)=1.058×10^{-5} *15*; α(O)=1.595×10^{-6} *23*; α(P)=9.98×10^{-8} *14*
2506.43	1/2$^-$,3/2$^-$	183.18 *13*	15	2323.18	3/2$^-$,1/2$^-$			
		653.85 *15*	100	1852.56	3/2$^-$			
		1764.65 *26*	60	742.05	3/2$^-$			
2517.36	(11/2,13/2)$^-$	170.5 *2*	25 *13*	2346.98	9/2$^{(-)}$			
		316.6 *3*	50 *25*	2201.21	11/2$^-$			
		529.4 *5*	100 *25*	1988.22	11/2$^-$	M1+E2	0.013 *3*	α(K)=0.011 *3*; α(L)=0.00158 *24*; α(M)=0.00034 *5*; α(N+..)=8.7×10^{-5} *13*
								α(N)=7.5×10^{-5} *11*; α(O)=1.12×10^{-5} *19*; α(P)=6.8×10^{-7} *19*
		1774.5[@] *3*		742.05	3/2$^-$			
2528.16	7/2$^-$	973.3 *4*	33 *11*	1555.54	5/2$^-$	D		
		1120.9 *2*	100 *11*	1407.08	9/2$^-$			
		1786.1 *5*	67 *22*	742.05	3/2$^-$			
2530.01	3/2$^-$	206.81 *12*	3	2323.18	3/2$^-$,1/2$^-$			
		677.20 *20*	10	1852.56	3/2$^-$			
		921.62 *12*	16	1608.38	1/2$^+$			
		973.72 *13*	12	1556.44	3/2$^+$			
		1224.10 *11*	100	1305.86	1/2$^-$			
		1787.98 *21*	20	742.05	3/2$^-$			
		2529.82 *25*	12	0.0	7/2$^-$			
2557.0	(9/2)$^+$	2557.0 *5*	100	0.0	7/2$^-$	D		
2577.83	11/2,13/2	283.8 *5*	33 *17*	2294.53	13/2$^-$			
		354.6 *3*	100 *17*	2223.20	13/2$^-$			
		838.3 *5*	33 *17*	1739.21	9/2$^-$			
		1146.5 *5*	50 *17*	1431.23	11/2$^-$			

Adopted Levels, Gammas (continued)

γ(^{143}Nd) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ	E_f	J_f^π	Mult.[‡]	α[†]	Comments
2588.00	5/2⁻	1181 *1*	60 *20*	1407.08	9/2⁻			
		1282.1 *2*	60 *20*	1305.86	1/2⁻			
		1846.0 *3*	100 *20*	742.05	3/2⁻			
2588.76	1/2,3/2	462.80 *20*	11	2125.82	3/2⁻			
		678.15 *25*	18	1910.81	5/2⁻			
		1846.67 *22*	100	742.05	3/2⁻			
2590.18	11/2⁻	571.3 *2*	100 *14*	2018.87	15/2⁻	E2	0.00829 *12*	α(K)=0.00691 *10*; α(L)=0.001082 *16*; α(M)=0.000232 *4*; α(N+..)=5.95×10^{-5} *9* α(N)=5.15×10^{-5} *8*; α(O)=7.57×10^{-6} *11*; α(P)=4.10×10^{-7} *6*
		1159.0 *5*	43 *14*	1431.23	11/2⁻			
2623.10	3/2⁻,1/2⁻	217.39 *20*	8	2405.71	(1/2⁻,3/2⁻)			
		823.60 *30*	100	1799.52	3/2⁺			
		1317.25 *35*	38	1305.86	1/2⁻			
2626.00	1/2,3/2	370.56 *30*	5	2255.73	(5/2⁻)			
		500.20 *20*	10	2125.82	3/2⁻			
		1883.81 *19*	100	742.05	3/2⁻			
2662.46	3/2⁻	406.60 *35*	4	2255.73	(5/2⁻)			
		1106.84 *15*	35	1555.54	5/2⁻			
		1356.85 *30*	15	1305.86	1/2⁻			
		1920.64 *26*	100	742.05	3/2⁻			
		2662.28 *30*	12	0.0	7/2⁻			
2672.21	(9/2⁻)	1241.0 *2*	100 *8*	1431.23	11/2⁻			
		1265.0 *5*	17 *8*	1407.08	9/2⁻			
2683.68	3/2⁻	1378.4 *4*	55 *9*	1305.86	1/2⁻			E_γ,I_γ: observed only in (α,nγ).
		1941.28 *19*	100 *9*	742.05	3/2⁻			
		2683.82 *17*	100	0.0	7/2⁻			E_γ,I_γ: observed only in (n,γ).
2700.58		681.7 *2*	100	2018.87	15/2⁻			
2730.8		529.6 *5*	100	2201.21	11/2⁻			
2737.94	3/2⁻	207.84 *20*	2	2530.01	3/2⁻			
		332.12 *20*	6	2405.71	(1/2⁻,3/2⁻)			
		1996.04 *20*	100	742.05	3/2⁻			
		2738.30 *35*	26	0.0	7/2⁻			
2750.0	13/2⁻	1319.0 *5*	100 *10*	1431.23	11/2⁻			
		1342.6 *5*	20 *10*	1407.08	9/2⁻			
2752.9	17/2⁺	1524.9 *5*	100.0	1228.04	13/2⁺	E2	0.001043 *15*	α(K)=0.000822 *12*; α(L)=0.0001073 *15*; α(M)=2.26×10^{-5} *4*; α(N+..)=9.08×10^{-5} α(N)=5.06×10^{-6} *7*; α(O)=7.68×10^{-7} *11*; α(P)=4.99×10^{-8} *7*; α(IPF)=8.50×10^{-5} *12*
2759.2		1327.5 *5*	50 *17*	1431.23	11/2⁻			
		1352.5 *5*	100 *17*	1407.08	9/2⁻			
2775.22	1/2,3/2	2033.05 *18*	100	742.05	3/2⁻			

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Adopted Levels, Gammas (continued)

γ(^{143}Nd) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ	E_f	J_f^π	Mult.[‡]	α[†]	Comments
2785.1		1378.0 *3*	100	1407.08	9/2$^-$			
2788.0		1048.8 *5*	100	1739.21	9/2$^-$			
2798.2		1367.0 *3*	100	1431.23	11/2$^-$			
2799.9		1392.8 *3*	100	1407.08	9/2$^-$			
2805.3	13/2$^+$	817.3 *5*	20 *10*	1988.22	11/2$^-$			
		1374.5 *5*	70 *20*	1431.23	11/2$^-$			
		1576.7 *5*	100 *50*	1228.04	13/2$^+$			
2821.57	3/2,1/2	2079.50 *20*	100	742.05	3/2$^-$			
2840.75	1/2$^{(-)}$,3/2$^{(-)}$	714.70 *25*	26	2125.82	3/2$^-$			
		1535.03 *29*	81	1305.86	1/2$^-$			
		2098.76 *20*	100	742.05	3/2$^-$			
2876.08	1/2,3/2	1023.35 *25*	13	1852.56	3/2$^-$			
		2133.74 *22*	100	742.05	3/2$^-$			
		2876.8 *3*	27	0.0	7/2$^-$			
2884.5		1033.0 *5*	100	1851.5	7/2$^-$			
2886.1		1479.0 *5*	100	1407.08	9/2$^-$			
2891.55		1663.5 *2*	100	1228.04	13/2$^+$			
2910.7	21/2$^+$	420.9 *1*	100	2489.8	19/2$^-$	E1	0.00588 *9*	B(E1)(W.u.)=6.9×10^{-6} *5* α(K)=0.00504 *7*; α(L)=0.000662 *10*; α(M)=0.0001393 *20*; α(N+..)=3.60×10^{-5} *5* α(N)=3.10×10^{-5} *5*; α(O)=4.66×10^{-6} *7*; α(P)=2.90×10^{-7} *4*
2911.7		1480.5 *5*	100	1431.23	11/2$^-$			
2922.65	1/2,3/2	1070.05 *13*	36	1852.56	3/2$^-$			
		1314.00 *25*	15	1608.38	1/2$^+$			
		1616.8 *3*	66	1305.86	1/2$^-$			
		2180.50 *24*	100	742.05	3/2$^-$			
		2925.2 *6*	34	0.0	7/2$^-$			
2939.32	1/2,3/2	409.90 *70*	15	2530.01	3/2$^-$			
		2197.17 *26*	100	742.05	3/2$^-$			
2943.0	(13/2)	954.8 *5*	100	1988.22	11/2$^-$			
2954.15	3/2$^{(+)}$	447.70 *20*	7	2506.43	1/2$^-$,3/2$^-$			
		1648.26 *28*	32	1305.86	1/2$^-$			
		2212.13 *23*	100	742.05	3/2$^-$			
2957.41	3/2$^-$	368.57 *20*	22	2588.76	1/2,3/2			
		551.69 *20*	52	2405.71	(1/2$^-$,3/2$^-$)			
		2958.30 *60*	100	0.0	7/2$^-$			
2969.85	1/2,3/2	2227.78 *22*	100	742.05	3/2$^-$			
2987.9	1/2,3/2	399.40 *50*	13	2588.76	1/2,3/2			
		1681.75 *40*	16	1305.86	1/2$^-$			
		2245.90 *43*	100	742.05	3/2$^-$			
2998.58	3/2$^-$	223.16 *25*	13	2775.22	1/2,3/2			

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Adopted Levels, Gammas (continued)

γ(^{143}Nd) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ	E_f	J_f^π	Mult.[‡]	α[†]	Comments
2998.58	3/2$^-$	1390.49 *36*	100	1608.38	1/2$^+$			
		2998.90 *60*	67	0.0	7/2$^-$			
3013.42	3/2$^-$	1238.20 *30*	38	1774.85	1/2$^+$			
		1457.94 *40*	75	1555.54	5/2$^-$			
		2271.70 *30*	100	742.05	3/2$^-$			
		3013.20 *70*	100	0.0	7/2$^-$			
3023.05		434.33 *25*	7	2588.76	1/2,3/2			
		1717.24 *25*	37	1305.86	1/2$^-$			
		2280.90 *19*	100	742.05	3/2$^-$			
		3023.3 *6*	14	0.0	7/2$^-$			
3023.7	21/2$^+$	534.1 *5*	100	2489.8	19/2$^-$	E1	0.00339 *5*	B(E1)(W.u.)>0.0016 α(K)=0.00291 *5*; α(L)=0.000378 *6*; α(M)=7.96×10^{-5} *12*; α(N+..)=2.06×10^{-5} *3* α(N)=1.78×10^{-5} *3*; α(O)=2.68×10^{-6} *4*; α(P)=1.697×10^{-7} *24*
3033.94	1/2,3/2	1727.80 *25*	54	1305.86	1/2$^-$			
		2292.05 *20*	100	742.05	3/2$^-$			
3047.84	1/2,3/2	517.90 *25*	29	2530.01	3/2$^-$			
		1440.10 *50*	24	1608.38	1/2$^+$			
		1492.05 *24*	47	1555.54	5/2$^-$			
		2305.79 *18*	100	742.05	3/2$^-$			
3064.03	1/2,3/2	1508.37 *34*	9	1555.54	5/2$^-$			
		2322.00 *22*	100	742.05	3/2$^-$			
3080.36		342.50 *20*	24	2737.94	3/2$^-$			
		756.25 *50*	24	2323.18	3/2$^-$,1/2$^-$			
		2338.32 *22*	100	742.05	3/2$^-$			
		3080.8 *9*	41	0.0	7/2$^-$			
3084.5	23/2$^+$	61.0 *5*		3023.7	21/2$^+$	M1(+E2)	10 *4*	α(K)=4.5 *6*; α(L)=4 *4*; α(M)=0.9 *8*; α(N+..)=0.23 *20* α(N)=0.20 *18*; α(O)=0.026 *22*; α(P)=0.00025 *8*
		173.7 *5*		2910.7	21/2$^+$	M1	0.299	B(M1)(W.u.)=0.30 *15* α(K)=0.255 *5*; α(L)=0.0351 *6*; α(M)=0.00745 *12*; α(N+..)=0.00194 *4* α(N)=0.00167 *3*; α(O)=0.000254 *4*; α(P)=1.65×10^{-5} *3*
3090.93	1/2,3/2	1481.90 *50*	100	1608.38	1/2$^+$			
		1785.40 *40*	50	1305.86	1/2$^-$			
		2348.90 *32*	50	742.05	3/2$^-$			
3168.1	1/2$^+$	2426.0	100	742.05	3/2$^-$			
3185.53	1/2,3/2	655.23 *30*	33	2530.01	3/2$^-$			
		765.62 *15*	26	2420.01	3/2$^-$			
		929.80 *15*	31	2255.73	(5/2$^-$)			
		1059.54 *30*	36	2125.82	3/2$^-$			
		1180.81 *13*	62	2004.67	1/2$^-$			
		1630.40 *40*	12	1555.54	5/2$^-$			

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Adopted Levels, Gammas (continued)

γ(^{143}Nd) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ	E_f	J_f^π	Mult.[‡]	δ	α[†]	Comments
3185.53	1/2,3/2	1879.85 *39*	40	1305.86	1/2⁻				
		2443.40 *25*	100	742.05	3/2⁻				
3189.6		436.7 *5*	100.0	2752.9	17/2⁺				
3220.79		2478.72 *18*	100	742.05	3/2⁻				
3271.9		2529.82 *25*	100	742.05	3/2⁻				
3293.7		1987.8 *3*	100	1305.86	1/2⁻				
3297.71	1/2⁻,3/2⁻	1445.06 *23*	100	1852.56	3/2⁻				
		2556.20 *60*	19	742.05	3/2⁻				
3334.6		145.0 *5*	100.0	3189.6					
3425.90		2683.82[&] *17*	100[&]	742.05	3/2⁻				
3456.9	25/2⁺	372.5 *5*	100	3084.5	23/2⁺	M1+E2	0.115 *15*	0.0386	B(M1)(W.u.)=0.008 *5*; B(E2)(W.u.)=0.5 *3* α(K)=0.0330 *5*; α(L)=0.00446 *7*; α(M)=0.000945 *14*; α(N+..)=0.000246 *4* α(N)=0.000212 *3*; α(O)=3.22×10^{-5} *5*; α(P)=2.11×10^{-6} *3*
3470.7		2165.0	100	1305.86	1/2⁻				
		2728.61 *26*	40	742.05	3/2⁻				
3485.48	⁻	2182.4	82	1305.86	1/2⁻				
		2743.30 *19*	100	742.05	3/2⁻				
3619.3		1129.4 *5*	100	2489.8	19/2⁻				
3806.3?		349.4	100	3456.9	25/2⁺				
3899.5		3154.0 *6*	100	742.05	3/2⁻				
		3900.9 *4*	80	0.0	7/2⁻				
4062.8		978.3 *5*	100.0	3084.5	23/2⁺				
4075.5	(27/2⁺)	456.1 *5*	33 *16*	3619.3					
		618.7 *5*	1.0×10^2 *4*	3456.9	25/2⁺				
		1164.9[a] *5*	16 *7*	2910.7	21/2⁺				
4224.3	27/2⁺	161.5 *5*	9 *4*	4062.8					
		767.4 *5*	3.8 *19*	3456.9	25/2⁺				
		1139.8 *5*	100 *5*	3084.5	23/2⁺	[E2]		0.001707 *24*	α(K)=0.001456 *21*; α(L)=0.000196 *3*; α(M)=4.15×10^{-5} *6*; α(N+..)=1.212×10^{-5} *1* α(N)=9.28×10^{-6} *13*; α(O)=1.400×10^{-6} *20*; α(P)=8.83×10^{-8} *13*; α(IPF)=1.35×10^{-6} *3*
4316.0		859.1	100	3456.9	25/2⁺				
4523.5	29/2⁺	299.2 *5*	53 *6*	4224.3	27/2⁺	M1		0.0688	α(K)=0.0587 *9*; α(L)=0.00798 *12*; α(M)=0.001689 *25*; α(N+..)=0.000440 *7* α(N)=0.000378 *6*; α(O)=5.76×10^{-5} *9*; α(P)=3.77×10^{-6} *6*
		448.0 *5*	100 *20*	4075.5	(27/2⁺)				
4634.6	29/2⁺	410.3 *5*	100 *6*	4224.3	27/2⁺	M1		0.0302	α(K)=0.0258 *4*; α(L)=0.00347 *5*; α(M)=0.000735 *11*; α(N+..)=0.000191 *3*

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Adopted Levels, Gammas (continued)

γ(^{143}Nd) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ	E_f	J_f^π	Mult.[‡]	α[†]	Comments
								α(N)=0.0001646 *24*; α(O)=2.51×10^{-5} *4*; α(P)=1.649×10^{-6} *24*
4634.6	29/2$^+$	1177.0 *5*	93 *15*	3456.9	25/2$^+$	E2	0.001600 *23*	α(K)=0.001365 *20*; α(L)=0.000183 *3*; α(M)=3.87×10^{-5} *6*; α(N+..)=1.370×10^{-5} *2* α(N)=8.65×10^{-6} *13*; α(O)=1.307×10^{-6} *19*; α(P)=8.28×10^{-8} *12*; α(IPF)=3.65×10^{-6} *7*
4706.2		481.9 *5*	28 *15*	4224.3	27/2$^+$			
		1249.4 *5*	100 *24*	3456.9	25/2$^+$			
4821.0		1364.2 *5*	100.0	3456.9	25/2$^+$			
4999.1	31/2$^+$	178.2 *5*	29 *8*	4821.0				
		292.8 *5*	45 *7*	4706.2				
		364.5 *5*	100 *10*	4634.6	29/2$^+$	M1	0.0410	α(K)=0.0350 *5*; α(L)=0.00473 *7*; α(M)=0.001001 *15*; α(N+..)=0.000261 *4* α(N)=0.000224 *4*; α(O)=3.42×10^{-5} *5*; α(P)=2.24×10^{-6} *4*
		774.7 *5*	19 *8*	4224.3	27/2$^+$			
5129.1	31/2$^+$	423.0 *5*	15 *5*	4706.2				
		494.4 *5*	100 *13*	4634.6	29/2$^+$	M1+E2	0.015 *4*	α(K)=0.013 *3*; α(L)=0.0019 *3*; α(M)=0.00040 *5*; α(N+..)=0.000105 *14* α(N)=9.0×10^{-5} *12*; α(O)=1.35×10^{-5} *21*; α(P)=8.1×10^{-7} *22*
5282.6	31/2$^+$	1207.0 *5*	100.0	4075.5	(27/2$^+$)	(E2)	0.001524 *22*	α(K)=0.001297 *19*; α(L)=0.0001737 *25*; α(M)=3.67×10^{-5} *6*; α(N+..)=1.623×10^{-5} α(N)=8.20×10^{-6} *12*; α(O)=1.239×10^{-6} *18*; α(P)=7.87×10^{-8} *11*; α(IPF)=6.71×10^{-6} *12*
5343.6	33/2$^+$	214.5 *5*	100 *10*	5129.1	31/2$^+$	M1	0.168 *3*	B(M1)(W.u.)>0.036 α(K)=0.1430 *22*; α(L)=0.0196 *3*; α(M)=0.00416 *7*; α(N+..)=0.001082 *17* α(N)=0.000931 *15*; α(O)=0.0001416 *22*; α(P)=9.22×10^{-6} *15*
		344.4 *5*	16.9 *23*	4999.1	31/2$^+$	M1	0.0476	B(M1)(W.u.)>0.0015 α(K)=0.0406 *6*; α(L)=0.00549 *8*; α(M)=0.001162 *17*; α(N+..)=0.000303 *5* α(N)=0.000260 *4*; α(O)=3.96×10^{-5} *6*; α(P)=2.60×10^{-6} *4*
		709.1 *5*	35 *8*	4634.6	29/2$^+$	(E2)	0.00486 *7*	B(E2)(W.u.)>0.41 α(K)=0.00409 *6*; α(L)=0.000603 *9*; α(M)=0.0001286 *19*; α(N+..)=3.31×10^{-5} *5* α(N)=2.86×10^{-5} *4*; α(O)=4.25×10^{-6} *6*; α(P)=2.45×10^{-7} *4*
5426.9	33/2	427.7 *5*	100.00	4999.1	31/2$^+$			
5506.1	33/2$^+$	223.5 *5*	39 *10*	5282.6	31/2$^+$	M1	0.1501 *23*	α(K)=0.1279 *20*; α(L)=0.0175 *3*; α(M)=0.00372 *6*; α(N+..)=0.000967 *15* α(N)=0.000832 *13*; α(O)=0.0001266 *20*; α(P)=8.24×10^{-6} *13*
		982.7 *5*	100 *21*	4523.5	29/2$^+$	E2	0.00233 *4*	α(K)=0.00198 *3*; α(L)=0.000273 *4*; α(M)=5.79×10^{-5} *9*; α(N+..)=1.498×10^{-5} *21* α(N)=1.291×10^{-5} *19*; α(O)=1.94×10^{-6} *3*; α(P)=1.199×10^{-7} *17*
5791.3	35/2	448		5343.6	33/2$^+$			
5913.7	35/2$^-$	407.5 *5*	13 *3*	5506.1	33/2$^+$			
		486.7 *5*	12 *5*	5426.9	33/2			
		570.1 *5*	100 *9*	5343.6	33/2$^+$	E1	0.00294 *5*	α(K)=0.00252 *4*; α(L)=0.000327 *5*; α(M)=6.87×10^{-5} *10*;

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Adopted Levels, Gammas (continued)

γ(^{143}Nd) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ	E_f	J_f^π	Mult.[‡]	α[†]	Comments
								α(N+..)=1.78×10^{-5} *3* α(N)=1.533×10^{-5} *22*; α(O)=2.31×10^{-6} *4*; α(P)=1.472×10^{-7} *21* Mult.: γ(θ), linear pol (2000Zh03).
5990.7	35/2$^{(-)}$	484.7 *5*	36 *14*	5506.1	33/2$^+$			
		563.8 *5*	100 *20*	5426.9	33/2			
		647.2 *5*	87 *13*	5343.6	33/2$^+$	(E1)	0.00223 *4*	α(K)=0.00192 *3*; α(L)=0.000247 *4*; α(M)=5.19×10^{-5} *8*; α(N+..)=1.346×10^{-5} *19* α(N)=1.159×10^{-5} *17*; α(O)=1.753×10^{-6} *25*; α(P)=1.125×10^{-7} *16*
6056.1		550.0 *5*	100.0	5506.1	33/2$^+$			
6237.3	(−)	246.4 *5*	100 *12*	5990.7	35/2$^{(-)}$	M1+E2	0.107 *9*	α(K)=0.087 *12*; α(L)=0.0156 *22*; α(M)=0.0034 *6*; α(N+..)=0.00086 *12* α(N)=0.00075 *11*; α(O)=0.000108 *11*; α(P)=5.2×10^{-6} *12*
		323.5 *5*	44 *20*	5913.7	35/2$^-$			
		445.9 *5*	51 *20*	5791.3	35/2			
6489.5		575.8 *5*	100.0	5913.7	35/2$^-$			
6502.3	35/2	1158.5 *5*	100.0	5343.6	33/2$^+$			
6516.5		526.2 *5*	100.0	5990.7	35/2$^{(-)}$			
6695.9	(39/2$^-$)	193.4 *5*	47 *20*	6502.3	35/2			
		206.4 *5*	15 *10*	6489.5				
		639.7 *5*	19 *9*	6056.1				
		782.2 *5*	100 *17*	5913.7	35/2$^-$	(E2)	0.00386 *6*	α(K)=0.00326 *5*; α(L)=0.000470 *7*; α(M)=0.0001000 *14*; α(N+..)=2.58×10^{-5} *4* α(N)=2.23×10^{-5} *4*; α(O)=3.33×10^{-6} *5*; α(P)=1.96×10^{-7} *3*
6800.9		1010		5791.3	35/2			
6824.9		587.8 *5*	100.0	6237.3	(−)			
7019.3		503.2 *5*	1.0×10^2 *3*	6516.5				
		781.4 *5*	6.×10^1 *3*	6237.3	(−)			
7294.4		494		6800.9				
		804.9 *5*	1.0×10^2 *4*	6489.5				
7296.0		793.8 *5*	100.0	6502.3	35/2			
7529.2	43/2$^-$	833.5 *5*	100.0	6695.9	(39/2$^-$)			
7847.9	43/2$^-$	1152.0 *5*	100.0	6695.9	(39/2$^-$)	E2	0.001670 *24*	α(K)=0.001425 *20*; α(L)=0.000192 *3*; α(M)=4.06×10^{-5} *6*; α(N+..)=1.245×10^{-5} *1* α(N)=9.06×10^{-6} *13*; α(O)=1.369×10^{-6} *20*; α(P)=8.64×10^{-8} *13*; α(IPF)=1.93×10^{-6} *4*
7889.4		593.4 *5*	33 *10*	7296.0				
		869.8 *5*	9.×10^1 *3*	7019.3				
		1064.7 *5*	1.0×10^2 *4*	6824.9				
		1193.2 *5*	68 *20*	6695.9	(39/2$^-$)			
7967.5		673.3 *5*	100.0	7294.4				
8649.3	47/2$^-$	681.9 *5*	25 *7*	7967.5				

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Adopted Levels, Gammas (continued)

γ(^{143}Nd) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ	E_f	J_f^π	Mult.[‡]	α[†]	Comments
8649.3	47/2$^-$	759.7 *5*	100 *18*	7889.4				
		801.7 *5*	68 *14*	7847.9	43/2$^-$			
		1120.2 *5*	18 *9*	7529.2	43/2$^-$			
8686.8		838.7 *5*	100.0	7847.9	43/2$^-$			
8987.7	49/2$^+$	300.6 *5*	13 *5*	8686.8				
		338.6 *5*	100 *5*	8649.3	47/2$^-$			
9167.4		179.6 *5*	100.0	8987.7	49/2$^+$			
10130.9	53/2$^+$	963.4 *5*	16 *5*	9167.4				
		1143.4 *5*	100 *15*	8987.7	49/2$^+$	E2	0.001696 *24*	α(K)=0.001447 *21*; α(L)=0.000195 *3*; α(M)=4.12×10^{-5} *6*; α(N+..)=1.220×10^{-5} *1* α(N)=9.21×10^{-6} *13*; α(O)=1.391×10^{-6} *20*; α(P)=8.78×10^{-8} *13*; α(IPF)=1.51×10^{-6} *3*
10529.3		398.3 *5*	100.0	10130.9	53/2$^+$			
10668.6		139.3 *5*	1.0×10^2 *4*	10529.3		M1+E2	0.62 *7*	α(K)=0.460 *14*; α(L)=0.12 *6*; α(M)=0.027 *14*; α(N+..)=0.007 *4* α(N)=0.006 *3*; α(O)=0.0008 *4*; α(P)=2.6×10^{-5} *5*
		537.7 *5*	97 *15*	10130.9	53/2$^+$			
10754.8		623.9 *5*	100.0	10130.9	53/2$^+$			
11466.6		711.8 *5*	45 *12*	10754.8				
		798.0 *5*	100 *21*	10668.6				
11557.4		888.8 *5*	100.0	10668.6				
11788.2		230.7 *5*	8.×10^1 *5*	11557.4				
		321.6 *5*	1.0×10^2 *5*	11466.6				

[†] Additional information 2.
[‡] From γ(θ) and α(K)exp in (α,nγ), (^{18}O,5nγ).
[#] From (α,nγ), (n,γ), (^{18}O,5nγ), unless otherwise specified.
[@] Multiply placed.
[&] Multiply placed with undivided intensity.
[a] Placement of transition in the level scheme is uncertain.

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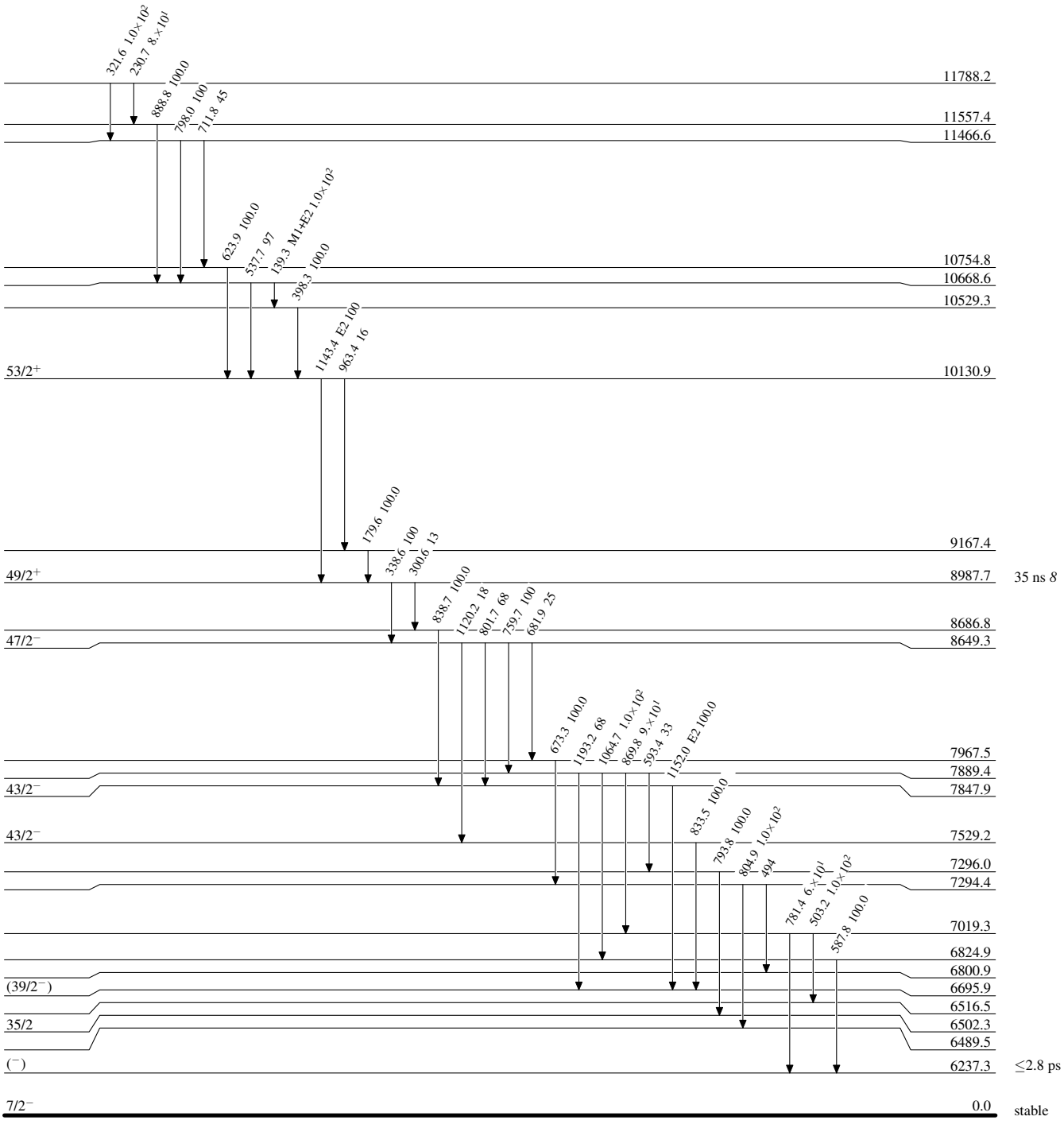
Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

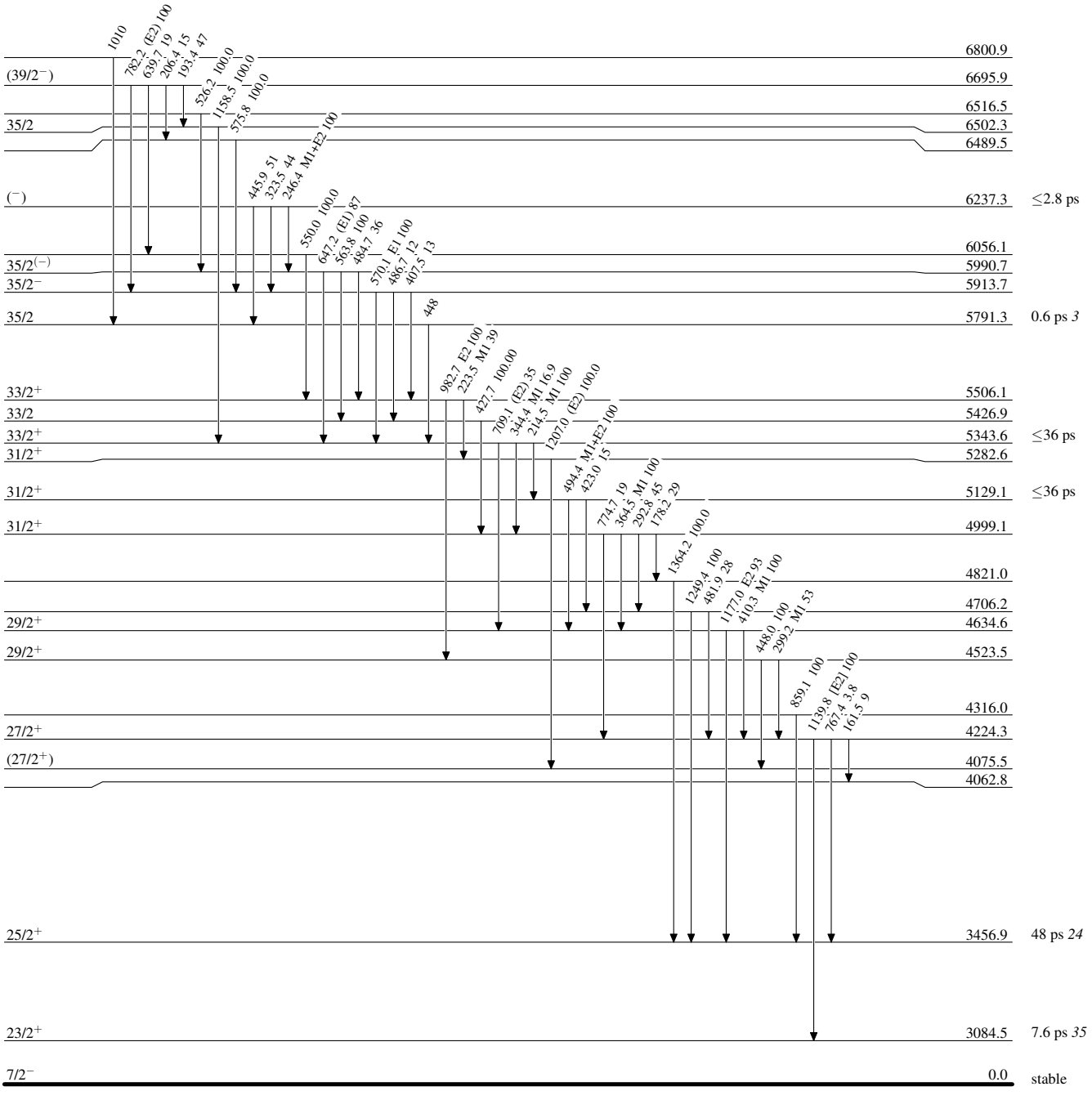


$^{143}_{60}Nd_{83}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{143}_{60}Nd_{83}$

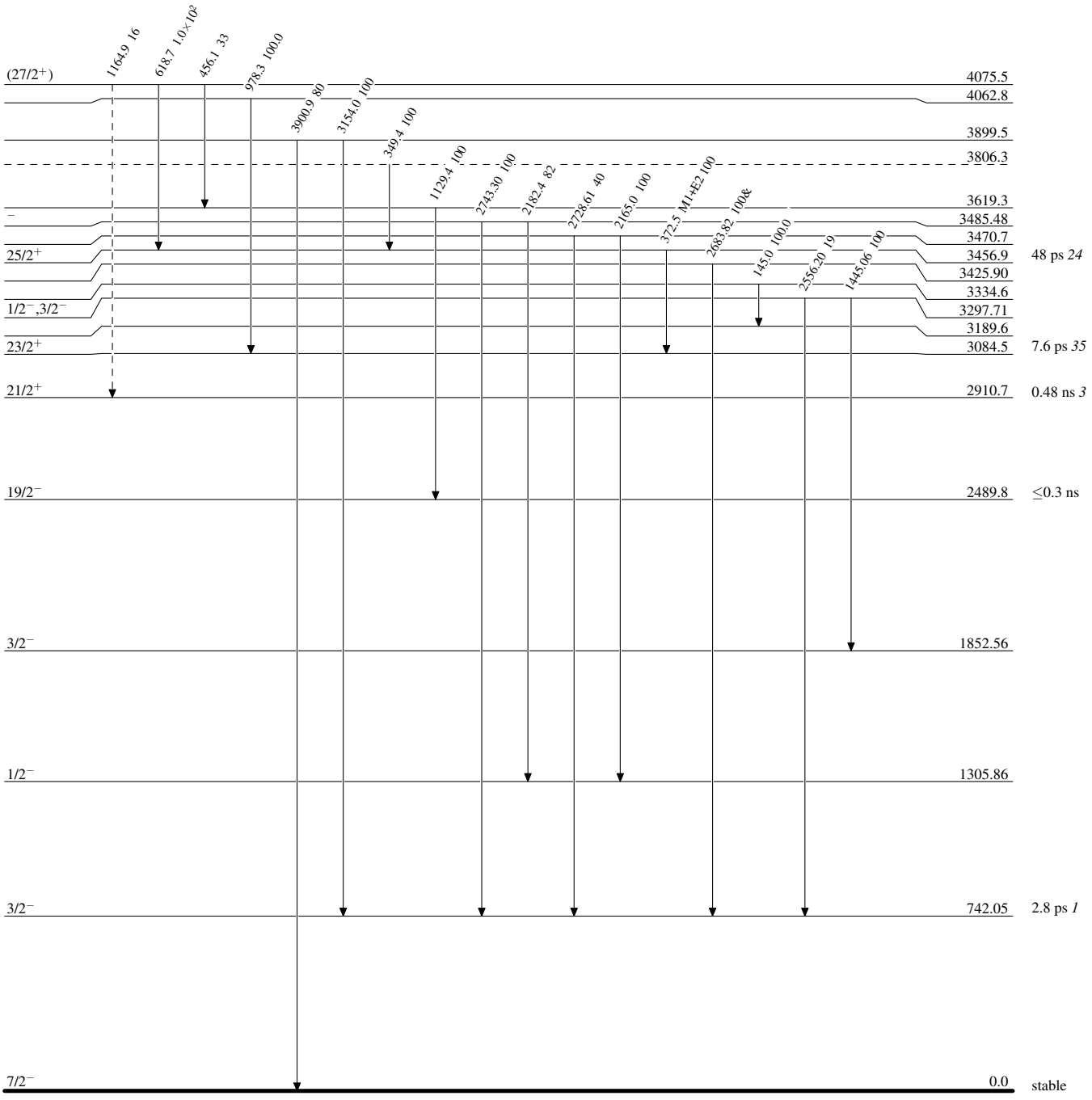
Adopted Levels, Gammas

Legend

Level Scheme (continued)

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

γ Decay (Uncertain)

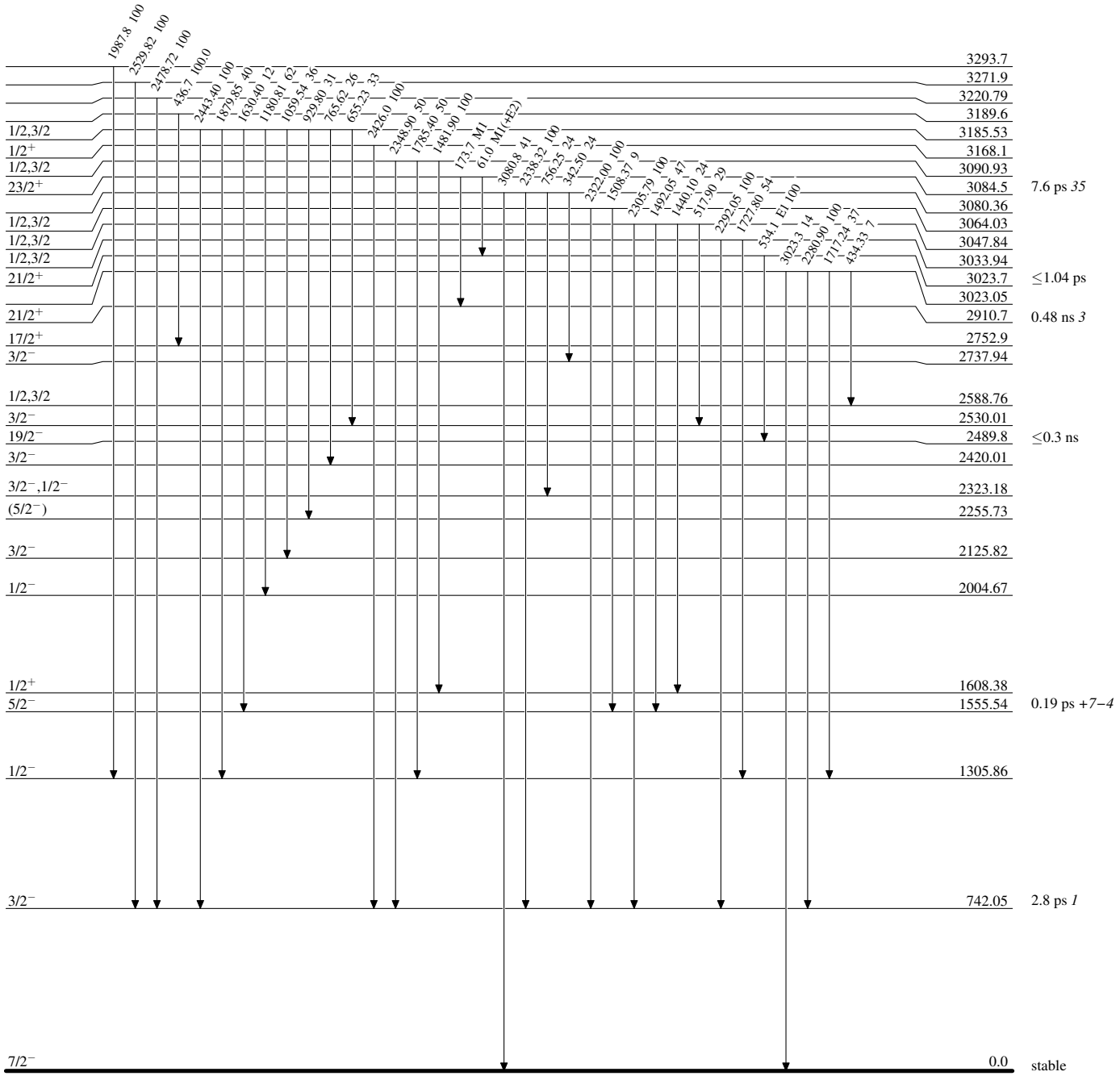


$^{143}_{60}Nd_{83}$

Adopted Levels, Gammas

Level Scheme (continued)

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

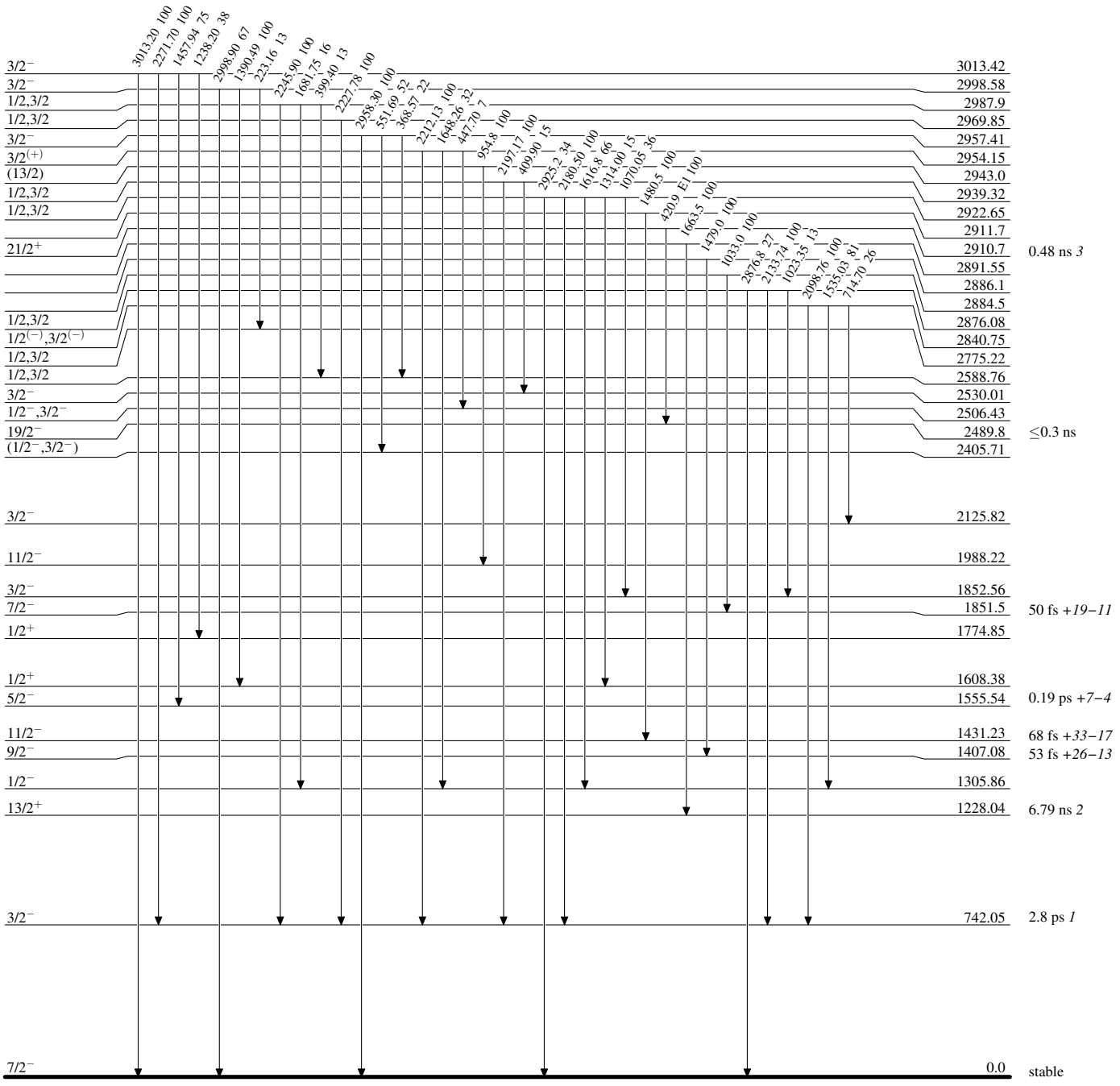


$^{143}_{60}Nd_{83}$

Adopted Levels, Gammas

Level Scheme (continued)

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

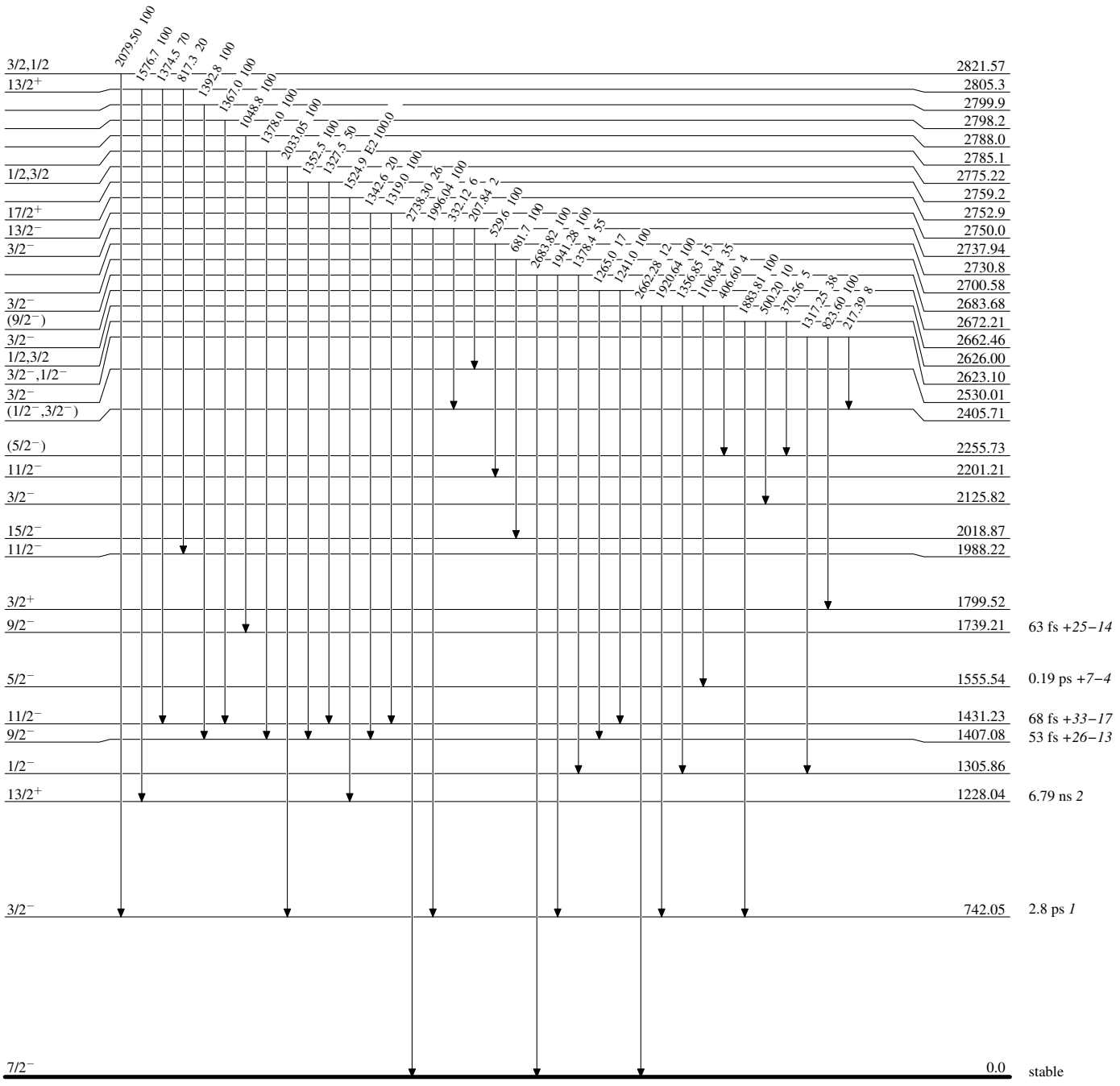


$^{143}_{60}Nd_{83}$

Adopted Levels, Gammas

Level Scheme (continued)

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

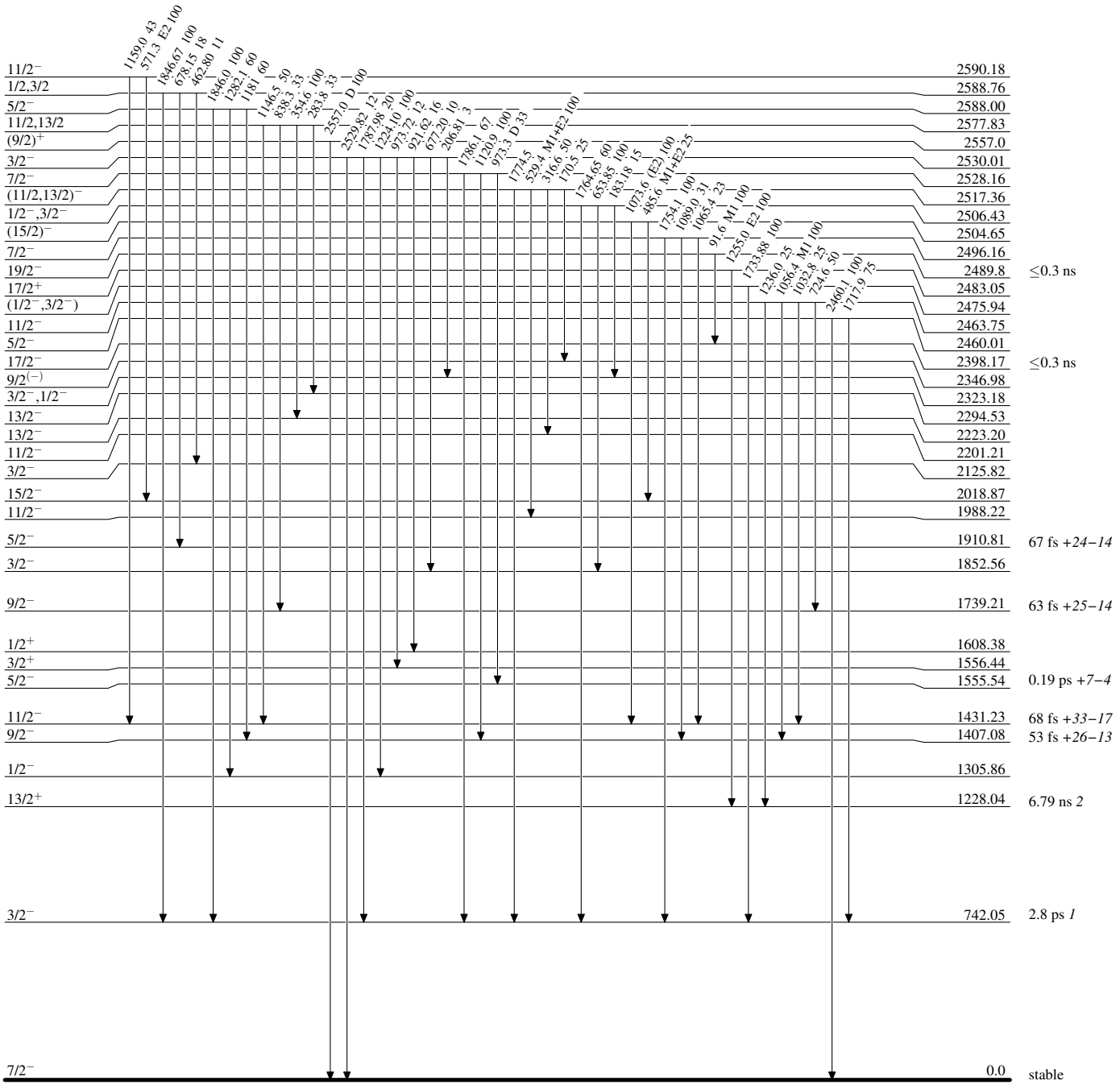


$^{143}_{60}Nd_{83}$

Adopted Levels, Gammas

Level Scheme (continued)

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

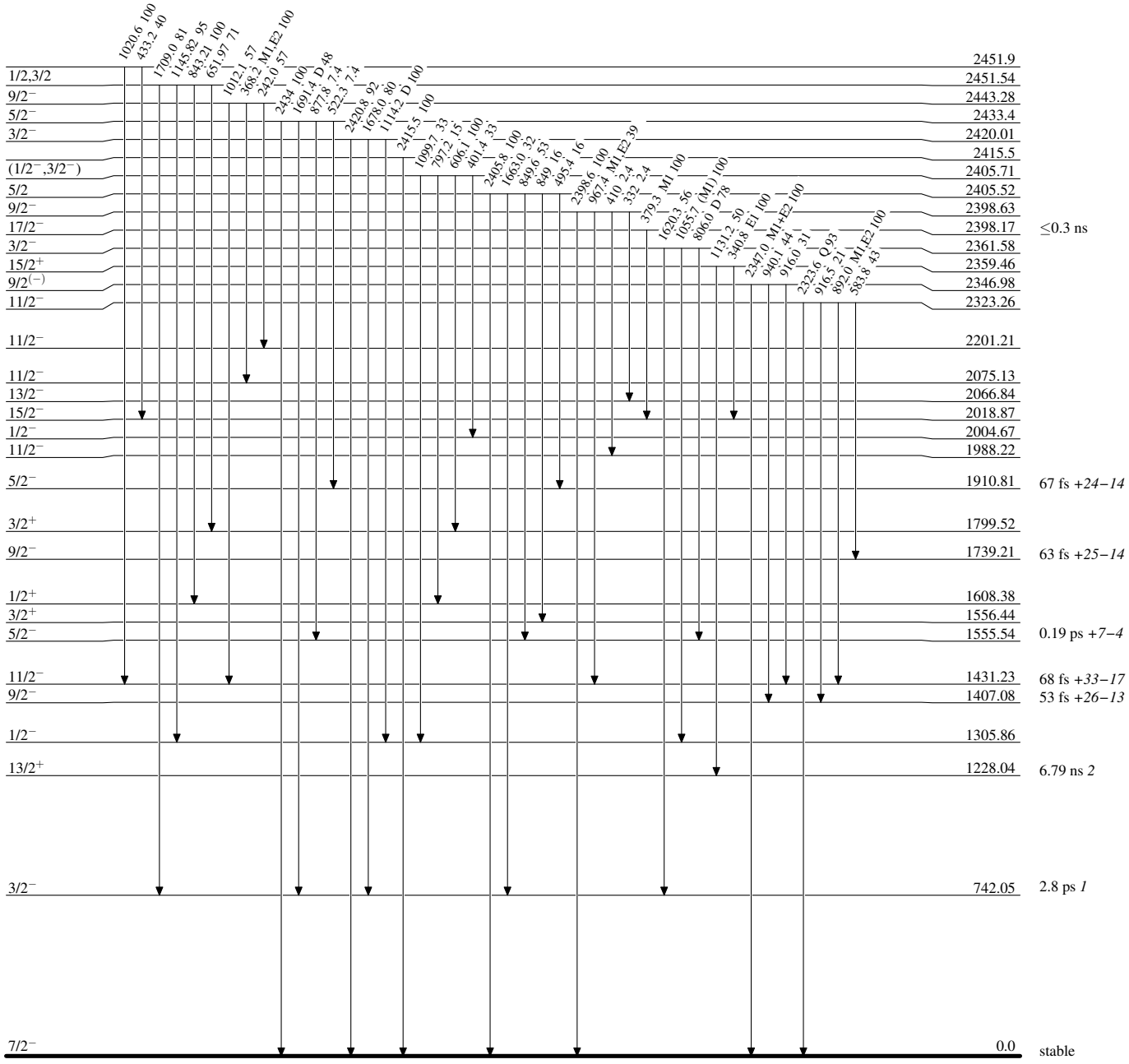


$^{143}_{60}Nd_{83}$

Adopted Levels, Gammas

Level Scheme (continued)

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

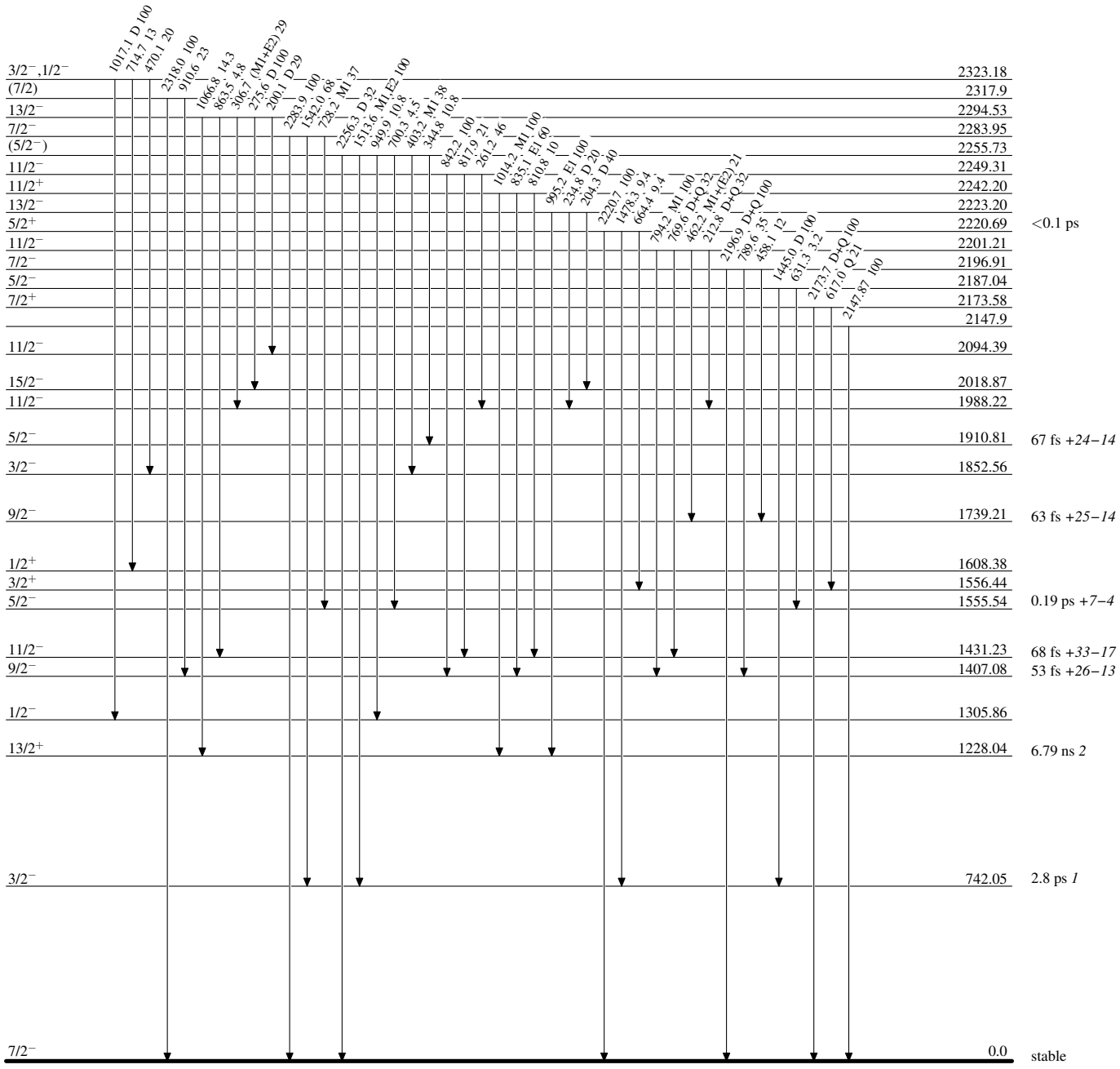


$^{143}_{60}Nd_{83}$

Adopted Levels, Gammas

Level Scheme (continued)

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

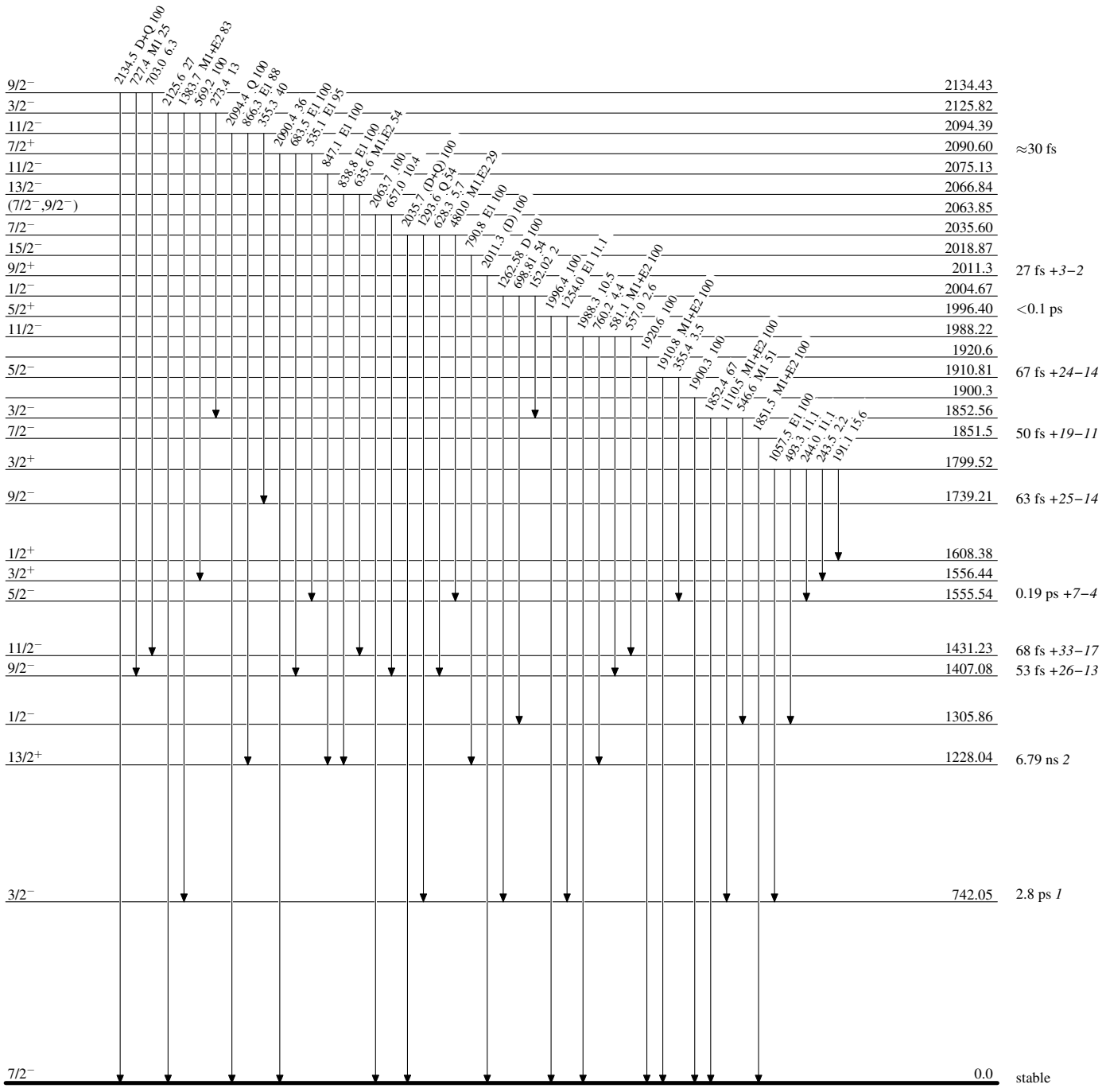


$^{143}_{60}Nd_{83}$

Adopted Levels, Gammas

Level Scheme (continued)

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

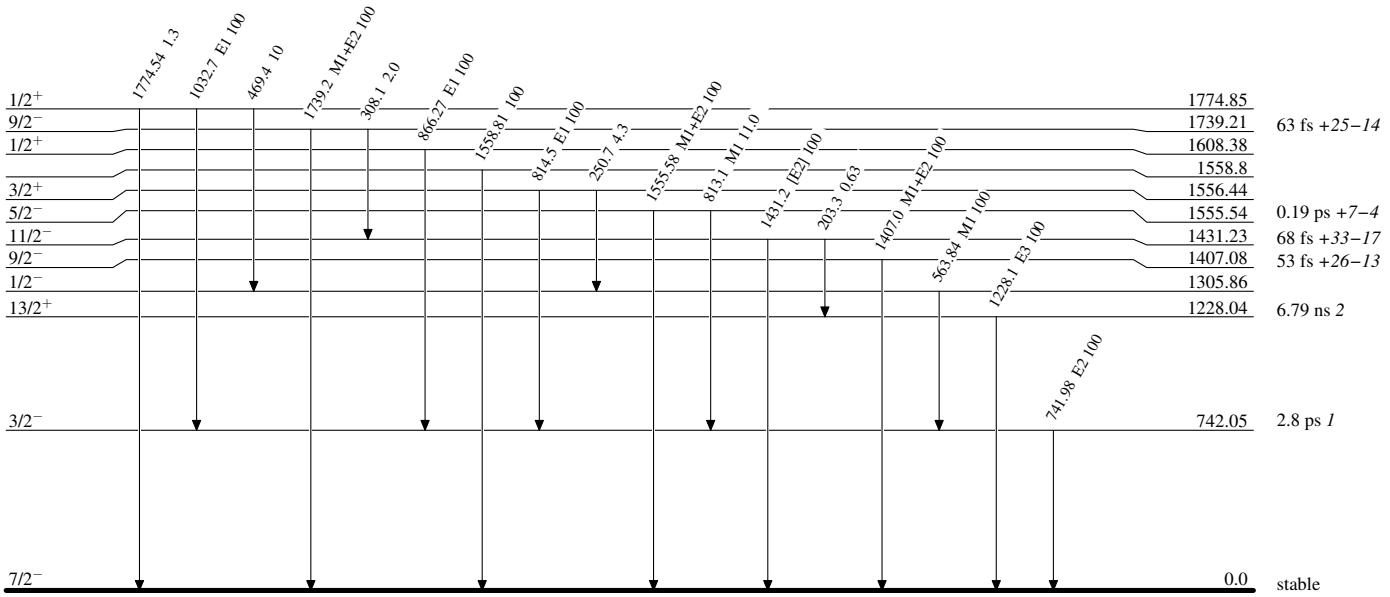


$^{143}_{60}Nd_{83}$

Adopted Levels, Gammas

Level Scheme (continued)

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



$^{143}_{60}Nd_{83}$