

Adopted Levels, Gammas

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Yu. Khazov and A. Rodionov, F. G. Kondev		NDS 112,855 (2011)	31-Oct-2010

$Q(\beta^-) = -6.92 \times 10^3$ 7; $S(n) = 8.98 \times 10^3$ 6; $S(p) = 4.41 \times 10^3$ 8; $Q(\alpha) = 1.53 \times 10^3$ 6 [2012Wa38](#)

Note: Current evaluation has used the following Q record -6925 69 8978 52 4408 73 1530 54 [2009AuZZ](#).

$Q(\epsilon p) = 2852$ 51 ([2009AuZZ](#)).

 ^{133}Nd LevelsCross Reference (XREF) Flags

A ^{133}Pm ϵ decay
B (HI,xny)

E(level) [†]	J ^π [‡]	T _{1/2}	XREF	Comments
0.0 ^a	(7/2 ⁺)	70 s 10	AB	$\% \epsilon + \% \beta^+ = 100$ J^π : from direct feeding of 5/2 ⁺ , 7/2 ⁺ states in ^{133}Pr , following $\% \epsilon + \% \beta^+$ decay; systematics of structures in neighboring N=73 isotones. T _{1/2} : from 1977Bo02 . configuration: $\nu 7/2[404]$ ($g_{7/2}$). $\% \epsilon + \% \beta^+ = ?$; $\% IT = ?$ J^π : 127.9 γ M3 to (7/2 ⁺). T _{1/2} : Value quoted in 1995Br21 (^{133}Pm ϵ decay), but a direct evidence was not presented. configuration: Admixture between $\nu 1/2[400]$ ($s_{1/2}$) and $1/2[411]$ ($d_{3/2}$) orbitals.
127.97 ^c 12	(1/2 ⁺)	≈ 70 s	AB	J^π : 45.1 γ M1 to (1/2 ⁺). J^π : 176.1 γ E1 to (7/2 ⁺). T _{1/2} : From 176.1 γ (t) in 1998Ba81 . Other: >100 ns (1995Br21). configuration: $\nu 9/2[514]$ ($h_{11/2}$).
173.05 ^d 10	(3/2 ⁺)		AB	J^π : 245.5 γ M1+E2 to (7/2 ⁺); band assignment.
176.10 ^e 10	(9/2 ⁻)	301 ns 18	AB	J^π : 118.3 γ M1 to (3/2 ⁺), 291.4 γ M1 to (7/2 ⁺). configuration: $\nu 5/2[402]$ ($d_{5/2}$).
245.50 ^b 9	(9/2 ⁺)		AB	J^π : 162.90 γ M1 to (9/2 ⁻); band assignment.
291.37 ^g 8	(5/2 ⁺)		AB	J^π : 345.2 γ E2 to (7/2 ⁺), 54.0 γ to (5/2 ⁺).
338.95 ^f 16	(11/2 ⁻)		AB	J^π : 180.6 γ E1 to (3/2 ⁺), 62.3 γ to (5/2 ⁺).
345.23 9	(3/2 ⁺)		A	T _{1/2} : from 180.6 γ (t) in 1995Br21 . Other: >50 ns (1994Ba25). configuration: $\nu 1/2[541]$ ($h_{9/2}$).
353.62 ⁱ 12	(3/2 ⁻)	46 ns 9	AB	J^π : 258.5 γ to (1/2 ⁺), 137.0 γ from (5/2 ⁻); band assignment.
386.7 ^j 5	(1/2 ⁻)		B	J^π : 224.9 γ M1+E2 to (3/2 ⁺), 270.0 γ E2 to (1/2 ⁺).
397.93 ^c 12	(5/2 ⁺)		AB	J^π : 271.9 γ M1 to (1/2 ⁺).
399.81 20	(1/2 ⁺ , 3/2 ⁺)		A	J^π : 266.4 γ M1+E2 to (9/2 ⁻).
442.51 14	(7/2 ⁻ , 9/2 ⁻ , 11/2 ⁻)		A	J^π : 271.4 γ to (3/2 ⁺), 316.7 γ to (1/2 ⁺).
444.66 15	(1/2, 3/2, 5/2 ⁺)		A	J^π : 299.1 γ E2 to (3/2 ⁺), 180.8 γ M1+E2 to (5/2 ⁺), 472.2 γ to (7/2 ⁺).
472.13 14	(3/2 ⁺ , 5/2 ⁺ , 7/2 ⁺)		A	J^π : 192.11 γ M1+E2 to (5/2 ⁺); band assignment.
483.51 ^h 10	(7/2 ⁺)		AB	J^π : 200.5 γ M1+E2 to (5/2 ⁺), 318.8 γ E2 γ to (3/2 ⁺).
491.87 ^d 21	(7/2 ⁺)		AB	J^π : 138.7 γ E2 to (3/2 ⁻).
492.31 ⁱ 19	(7/2 ⁻)		AB	J^π : 519.5 γ E2 to (7/2 ⁺), 274.0 γ M1 to (9/2 ⁺).
519.48 ^a 14	(11/2 ⁺)	6.7 [#] ps 4	B	J^π : 170.2 γ M1+E2 to (3/2 ⁻), 137.0 γ to (1/2 ⁻); band assignment.
523.81 ^j 15	(5/2 ⁻)		AB	J^π : 381.9 γ M1+E2 to (3/2 ⁺).
554.99 13	(1/2 ⁺ , 3/2 ⁺ , 5/2 ⁺)		A	
585.4 4			A	
587.1 5			A	

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Adopted Levels, Gammas (continued) ^{133}Nd Levels (continued)

E(level) [†]	J ^π [‡]	T _{1/2}	XREF	Comments
628.3 4			A	
646.68 ^e 17	(13/2 ⁻)		B	J ^π : 470.5γ E2 to (9/2 ⁻), 307.8γ M1 to (11/2 ⁻).
660.25 22	(1/2,3/2,5/2 ⁺)		A	J ^π : 487.2γ to (3/2 ⁺) and 532.7γ to (1/2 ⁺).
674.60 16	(5/2 ⁺)		A	J ^π : 546.6γ to (1/2 ⁺), 429.1γ to (9/2 ⁺).
687.8 ^g 3	(9/2 ⁺)		B	J ^π : 396.4γ E2 to (5/2 ⁺), 204.3γ M1 to (7/2 ⁺).
738.83 23			A	
758.76 ^j 22	(9/2 ⁻)		B	J ^π : 235.0γ E2 to (5/2 ⁻), 266.3γ M1+E2 to (7/2 ⁻).
787.82 14	(3/2 ⁺ ,5/2,7/2 ⁺)		A	J ^π : 442.5γ to (3/2 ⁺), 788.0γ to (7/2 ⁺).
806.44 21			A	
808.31 ⁱ 24	(11/2 ⁻)	17.5 [#] ps 16	B	J ^π : 316γ E2 to (7/2 ⁻); band assignment.
825.5 ^c 3	(9/2 ⁺)		B	J ^π : 427.6γ E2 to (5/2 ⁺), 333.6γ M1+E2 to (7/2 ⁺).
826.92 ^b 15	(13/2 ⁺)	2.40 [#] ps 24	B	J ^π : 581.4γ E2 to (9/2 ⁺), 307.4γ M1 to (7/2 ⁺).
837.26 ^f 19	(15/2 ⁻)	4.3 [#] ps 4	B	J ^π : 498.3γ E2 to (11/2 ⁻), 190.6γ M1 to (13/2 ⁻).
837.5 5			A	
879.37 17	(5/2 ⁺ ,7/2 ⁺)		A	J ^π : 706.3γ to (3/2 ⁺), 633.9γ to (9/2 ⁺).
913.4 ^h 4	(11/2 ⁺)		B	J ^π : 429.8γ E2 to (7/2 ⁺), 225.6γ M1 to (9/2 ⁺).
932.2 6			A	
937.08 18			A	
962.90 ^d 25	(11/2 ⁺)		B	J ^π : 471.0γ E2 to (7/2 ⁺); band assignment.
979.8 7			A	
985.90 16	(1/2 ⁺ ,3/2,5/2 ⁺)		A	J ^π : 857.8γ to (1/2 ⁺), 588.1γ to (5/2 ⁺).
999.2 5			A	
1007.0 5			A	
1013.66 14	(3/2 ⁺ ,5/2 ⁺)		A	J ^π : 885.7γ to (1/2 ⁺), 1013γ to (7/2 ⁺), 660.1γ to 3/2 ⁻ .
1116.8 ^j 3	(13/2 ⁻)	8.1 [#] ps 8	B	J ^π : 358.1γ E2 to (9/2 ⁻), 308.5γ M1+E2 to (11/2 ⁻).
1120.20 22	(5/2 ⁺ ,7/2 ⁺)		A	J ^π : 720.5γ to (1/2 ⁺ ,3/2 ⁺), 874.7γ to (9/2 ⁺).
1130.8 ^g 4	(13/2 ⁺)		B	J ^π : 443.0γ E2 to (9/2 ⁺), 217.5γ M1 to (11/2 ⁺).
1150.45 ^a 17	(15/2 ⁺)&	1.07 [#] ps 17	B	
1154.5 3			A	
1183.1 6			A	
1185.68 ^k 25	(15/2 ⁻)		B	J ^π : 539.0γ M1 to (13/2 ⁻), 630γ E2 from (19/2 ⁻).
1195.6 5			A	
1206.0 7			A	
1209.1 4			A	
1230.1 5	(5/2 ⁺ ,7/2 ⁻)		A	J ^π : 876.5γ to (3/2 ⁻), 984.5γ to (9/2 ⁺).
1271.8 ^e 3	(17/2 ⁻)&		B	
1280.4 7			A	
1280.7 ⁱ 3	(15/2 ⁻)&	2.18 [#] ps 25	B	
1359.8 ^c 3	(13/2 ⁺)&		B	
1365.8 ^h 4	(15/2 ⁺)&		B	
1460.76 ^f 23	(19/2 ⁻)&		B	
1491.95 ^b 18	(17/2 ⁺)&	0.69 [#] ps 25	B	
1540.7 ^d 3	(15/2 ⁺)&		B	
1595.8 4	(3/2 ⁺ ,5/2,7/2 ⁺)		A	J ^π : 1251.0γ to (3/2 ⁺), 1595.2γ to (7/2 ⁺).
1599.1 ^j 4	(17/2 ⁻)&	1.9 [#] ps 4	B	
1623.9 ^g 4	(17/2 ⁺)&		B	
1770.5 5			A	
1799.03 ^a 18	(19/2 ⁺)&	0.70 [#] ps 15	B	
1815.7 ^k 3	(19/2 ⁻)		B	J ^π : 630.0γ E2 to (15/2 ⁻), 712.0γ E2 from (23/2 ⁻); band assignment.
1834.3 8			A	

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Adopted Levels, Gammas (continued)

^{133}Nd Levels (continued)				
E(level) [†]	J π [‡]	T _{1/2}	XREF	Comments
1872.1 ⁱ 4	(19/2 ⁻)&		B	
1886.5 4			A	
1936.6? 8			B	
1936.7 ^h 6	(19/2 ⁺)&		B	
1963.1 ^c 4	(17/2 ⁺)&		B	
2005.0 4			A	
2010.7 ^e 3	(21/2 ⁻)&		B	
2027.0 ^l 4	(17/2 ⁺)&	1.1 @ ps 3	B	
2043.4 4			A	
2076.7 4			A	
2089.43 ^b 19	(21/2 ⁺)&		B	
2160.2 ^d 4	(19/2 ⁺)&		B	
2186.3 ^j 4	(21/2 ⁻)&		B	
2199.7 ^f 3	(23/2 ⁻)&		B	
2312.7 ^g 7	(21/2 ⁺)&		B	
2312.7? 3			B	
2372.3 ^l 4	(21/2 ⁺)&	5.55 @ ps 21	B	T _{1/2} : Other: 5.3 ps 15 (1995Fo12).
2384.59 ^a 20	(23/2 ⁺)&		B	
2451.2 3			A	
2527.7 ^k 4	(23/2 ⁻)		B	J π : 655.6 γ E2 to (19/2 ⁻), band assignment.
2538.9 ⁱ 4	(23/2 ⁻)&		B	
2554.0 ^c 6	(21/2 ⁺)&		B	
2677.5? 5			B	
2677.6 ^h 8	(23/2 ⁺)&		B	
2694.14 ^b 21	(25/2 ⁺)&		B	
2765.5 ^d 6	(23/2 ⁺)&		B	
2775.7 ^o 6	(23/2 ⁺)		B	J π : from 615.5 γ E2 to (19/2 ⁺); band head.
2813.2 ^l 4	(25/2 ⁺)&	1.94 @ ps 7	B	T _{1/2} : Other: 2.1 ps 7 (1995Fo12).
2813.5 ^e 3	(25/2 ⁻)&		B	
2849.4 ^j 4	(25/2 ⁻)&		B	
2946.7? 12			B	
2992.2 ^p 6	(25/2 ⁺)		B	J π : 216.6 γ M1 to (23/2 ⁺); band assignment.
3019.6 ⁿ 5	(23/2 ⁻)		B	J π : 149.2 γ stretched in-band E2 from (27/2 ⁻); band head assignment.
3020.70 ^a 23	(27/2 ⁺)&		B	
3027.5 ^f 3	(27/2 ⁻)&		B	
3031.0 ^m 5	(25/2 ⁻)		B	J π : 1020.3 γ E2 to (21/2 ⁻); band assignment.
3090.6 ^g 11	(25/2 ⁺)&		B	
3129.1 ^c 12	(25/2 ⁺)&		B	
3168.7 ⁿ 3	(27/2 ⁻)		B	J π : 969.0 γ E2 to (23/2 ⁻); band assignment.
3207.1 ⁱ 4	(27/2 ⁻)&		B	
3271.1 ^o 7	(27/2 ⁺)		B	J π : 278.9 γ M1 to (27/2 ⁻); band assignment.
3327.3 ^l 4	(29/2 ⁺)&	<1.3 ps	B	T _{1/2} : from 1995Fo12.
3366.16 ^b 25	(29/2 ⁺)&		B	
3401.6 ^m 3	(29/2 ⁻)		B	J π : from 233.0 γ M1 to (27/2 ⁻); band assignment.
3419.5 8	(27/2 ⁺)		B	J π : 643.8 γ E2 to (23/2 ⁺).
3419.7 ^d 8	(27/2 ⁺)&		B	
3551.7 ^j 5	(29/2 ⁻)&		B	

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Adopted Levels, Gammas (continued) ^{133}Nd Levels (continued)

E(level) [†]	J ^π [‡]	XREF	Comments
3568.5 ^e 4	(29/2 ⁻)&	B	J ^π : 325.5γ M1 to (27/2 ⁺); band assignment. J ^π : 490.2γ stretched E2 to (27/2 ⁻), 257.4γ M1 to (29/2 ⁻).
3596.5 ^p 8	(29/2 ⁺)	B	
3658.9 ⁿ 3	(31/2 ⁻)	B	
3715.4 ^a 3	(31/2 ⁺)&	B	J ^π : 702.4γ E2 to (27/2 ⁻).
3764.8 ^c 16	(29/2 ⁺)&	B	
3772.1 ⁱ 5	(31/2 ⁻)&	B	
3909.4 ^f 6	(31/2 ⁻)&	B	
3909.5 7	(31/2 ⁻)	B	
3931.6 ^l 4	(33/2 ⁺)&	B	
3941.4 ^o 8	(31/2 ⁺)&	B	
4000.3 ^m 4	(33/2 ⁻)&	B	
4078.4 ^b 3	(33/2 ⁺)&	B	
4103.2 6		B	
4121.8 6		B	
4124.8 ^d 9	(31/2 ⁺)&	B	
4149.7 13		B	
4281.9 ^j 7	(33/2 ⁻)&	B	
4308.9 ^e 7	(33/2 ⁻)&	B	
4347.0 ^p 10	(33/2 ⁺)&	B	
4367.3 ⁿ 4	(35/2 ⁻)&	B	
4405.8 8		B	
4409.4 ⁱ 5	(35/2 ⁻)&	B	
4458.8 ^a 4	(35/2 ⁺)&	B	
4469.0 ^c 19	(33/2 ⁺)&	B	
4511.6 6		B	
4615.1 ^l 4	(37/2 ⁺)&	B	
4650.3 8	(35/2 ⁻)&	B	
4685.4 ^f 8	(35/2 ⁻)&	B	
4715.1 8		B	
4726.5 ^o 9	(35/2 ⁺)&	B	
4787.2 ^m 5	(37/2 ⁻)&	B	
4861.3 ^b 5	(37/2 ⁺)&	B	
4878.3 ^d 11	(35/2 ⁺)&	B	
4927.8 8		B	
5057.2 ^j 9	(37/2 ⁻)&	B	
5104.3 ^e 8	(37/2 ⁻)&	B	
5157.3 ^p 12	(37/2 ⁺)&	B	
5169.9 ⁱ 7	(39/2 ⁻)&	B	
5211.0 ^c 21	(37/2 ⁺)&	B	
5238.4 ⁿ 5	(39/2 ⁻)&	B	
5279.8 ^a 6	(39/2 ⁺)&	B	
5368.3 8		B	
5376.9 ^l 5	(41/2 ⁺)&	B	
			μ=6.4 16 (1995Me08)
			μ: from g=0.31 8 (1995Me08) using transient magnetic field technique in coincidence mode with the GASP array.
5428.3 10	(39/2 ⁻)	B	J ^π : from 778.0γ stretched E2 to (35/2 ⁻).

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Adopted Levels, Gammas (continued) ^{133}Nd Levels (continued)

E(level) [†]	J ^π [‡]	XREF	E(level) [†]	J ^π [‡]	XREF	E(level) [†]	J ^π [‡]	XREF
5560.5 ^o 14	(39/2 ⁺)&	B	7096.0 ^a 9	(47/2 ⁺)&	B	10316.3 ^a 13	(59/2 ⁺)&	B
5668.6 ^d 15	(39/2 ⁺)&	B	7116.1 ^l 6	(49/2 ⁺)&	B	10516.0 ⁱ 18	(59/2 ⁻)&	B
5713.2 ^b 7	(41/2 ⁺)&	B	7587.3 ^b 10	(49/2 ⁺)&	B	10913.3 ^b 16	(61/2 ⁺)&	B
5721.4 ^m 6	(41/2 ⁻)&	B	7825.5 ^j 15	(49/2 ⁻)&	B	11363.5 ^l 10	(65/2 ⁺)&	B
5841.8 13		B	8083.2 ^l 6	(53/2 ⁺)&	B	11540.8 ^a 16	(63/2 ⁺)&	B
5899.0 ^j 10	(41/2 ⁻)&	B	8097.7 ^a 11	(51/2 ⁺)&	B	12179.3 ^b 19	(65/2 ⁺)&	B
5969.0 ^c 23	(41/2 ⁺)&	B	8118.4 ⁱ 11	(51/2 ⁻)&	B	12591.5 ^l 11	(69/2 ⁺)&	B
6054.5 ⁱ 9	(43/2 ⁻)&	B	8622.9 ^b 11	(53/2 ⁺)&	B	12840.8 ^a 19	(67/2 ⁺)&	B
6158.9 ^a 8	(43/2 ⁺)&	B	8913.3 ^j 18	(53/2 ⁻)&	B	13892.4 ^l 12	(73/2 ⁺)&	B
6212.5 ^l 5	(45/2 ⁺)&	B	9112.4 ^l 6	(57/2 ⁺)&	B	15270.4 ^l 13	(77/2 ⁺)&	B
6258.6 11		B	9169.7 ^a 12	(55/2 ⁺)&	B	16728.4 ^l 17	(81/2 ⁺)&	B
6619.8 ^b 9	(45/2 ⁺)&	B	9278.0 ⁱ 15	(55/2 ⁻)&	B	18273.6 ^l 19	(85/2 ⁺)&	B
6744.3 ^m 8	(45/2 ⁻)&	B	9729.8 ^b 12	(57/2 ⁺)&	B	19905.7 ^l 22	(89/2 ⁺)&	B
6819.3 ^j 11	(45/2 ⁻)&	B	10095.0 ^j 21	(57/2 ⁻)&	B			
7041.5 ⁱ 10	(47/2 ⁻)&	B	10204.8 ^l 8	(61/2 ⁺)&	B			

[†] From a least-squares fit to E γ 's.[‡] From deduced γ -ray multiplicities, decay pattern and apparent band structures.

Using recoil-distance DSAM (2001Pe01).

@ Using recoil-distance DSAM (2005Pe18).

& From the apparent band structure with $\Delta J=2$ cascade transitions or with $\Delta J=1$ cascade and $\Delta J=2$ crossover transitions.^a Band(A): 1-qp band based on the (7/2⁺) ground state, $\alpha=-1/2$; configuration= $\nu 7/2[404]$; $Q_t=4.7$ 5, $\beta_2=0.25$ 2 (1999Br29).^b Band(B): 1-qp band based on the (9/2⁺) state at 245.5-keV, $\alpha=+1/2$; configuration= $\nu 7/2[404]$; $Q_t=4.7$ 5, $\beta_2=0.25$ 2 (1999Br29).^c Band(C): 1-qp band based on the (1/2⁺) state at 128-keV, $\alpha=+1/2$; configuration= $\nu(1/2[400]+1/2[411])$.^d Band(D): (3/2⁺) state at 173-keV, $\alpha=-1/2$; configuration= $\nu(1/2[400]+1/2[411])$.^e Band(E): 1-qp band based on the (9/2⁻) state at 176.1-keV, $\alpha=+1/2$; configuration= $\nu 9/2[514]$.^f Band(F): 1-qp band based on the (11/2⁻) state at 338.9-keV, $\alpha=-1/2$; configuration= $\nu 9/2[514]$.^g Band(G): 1-qp band based on the (5/2⁺) state at 291.4-keV, $\alpha=+1/2$; configuration= $\nu 5/2[402]$.^h Band(H): 1-qp band based on the (7/2⁺) state at 483.5-keV, $\alpha=-1/2$; configuration= $\nu 5/2[402]$.ⁱ Band(I): 1-qp band based on the (3/2⁻) state at 353.6-keV, $\alpha=-1/2$; configuration= $\nu 1/2[541]$; $Q_t=5.6$ 5, $\beta_2 \approx 0.30$ (1999Br29).^j Band(J): 1-qp band based on the (1/2⁻) state at 386.7-keV, $\alpha=+1/2$; configuration= $\nu 1/2[541]$; $Q_t=5.6$ 5, $\beta_2 \approx 0.30$ (1999Br29).^k Band(K): $\Delta J=2$ band based on the (15/2⁻) state at 1185.7-keV, $\alpha=+1/2$.^l Band(L): 1-qp band based on the (17/2⁺) state at 2027-keV, $\alpha=+1/2$; configuration= $\nu 1/2[660]$; highly-deformed band; $Q_t=7.4$ 4, $\beta_2=0.38$ 2 (1999Br29); $Q_t=6.5$ 2, $\beta_2=0.36$ 1 (1999Ko28); $Q_t=6.7$ 7, $\beta_2=0.37$ 4 (1992Mu09); $Q_t=7.4$ 7, $\beta_2=0.41$ 3 (1995Me08); $Q_t=6.7$ 11, $\beta_2=0.37$ 6 (1995Fo12); percent population=20% (1987Wa18) and $\approx 9\%$ (1995Me08).^m Band(M): 3-qp band based on the (25/2⁻) state at 3031-keV, $\alpha=+1/2$. configuration= $\nu 9/2[514] \otimes \pi^2(h_{11/2}^2)$; $Q_t=4.8$ 8 (1999Br29).ⁿ Band(N): 3-qp band based on the (23/2⁻) state at 3019.5-keV, $\alpha=-1/2$; configuration= $\nu 9/2[514] \otimes \pi^2(h_{11/2}^2)$; $Q_t=4.8$ 8 (1999Br29).^o Band(O): 3-qp band based on the (23/2⁺) state at 2775.7-keV, $\alpha=+1/2$; configuration= $\nu(1/2[400]+1/2[411]) \otimes \pi^2(h_{11/2}^2)$.^p Band(P): 3-qp band based on the (25/2⁺) state at 2992.3-keV, $\alpha=-1/2$; configuration= $\nu(1/2[400]+1/2[411]) \otimes \pi^2(h_{11/2}^2)$.

Adopted Levels, Gammas (continued)

$E_i(\text{level})$	J_i^π	$E_\gamma^{\ddagger}$	$I_\gamma^{\ddagger}$	E_f	J_f^π	Mult. @	$\gamma(^{133}\text{Nd})$		Comments
							$\delta^{\ddagger}$	$\alpha^{\dagger}$	
127.97	(1/2 ⁺)	127.9 [#] 6	100 [#]	0.0	(7/2 ⁺)	M3		38.4 10	B(M3)(W.u.) $\approx$ 0.00086 $\alpha(\text{K})=24.4$ 6; $\alpha(\text{L})=10.7$ 3; $\alpha(\text{M})=2.55$ 8; $\alpha(\text{N}+..)=0.654$ 19 $\alpha(\text{N})=0.571$ 17; $\alpha(\text{O})=0.0800$ 23; $\alpha(\text{P})=0.00338$ 9
173.05	(3/2 ⁺)	45.1 [#] 1	100 [#]	127.97	(1/2 ⁺)	M1		14.03 22	$\alpha(\text{K})=11.87$ 18; $\alpha(\text{L})=1.71$ 3; $\alpha(\text{M})=0.362$ 6; $\alpha(\text{N}+..)=0.0941$ 15 $\alpha(\text{N})=0.0810$ 13; $\alpha(\text{O})=0.01227$ 19; $\alpha(\text{P})=0.000788$ 13
176.10	(9/2 ⁻)	176.1 [#] 1	100 [#]	0.0	(7/2 ⁺)	E1		0.0553	B(E1)(W.u.)= 1.50×10^{-7} 9 $\alpha(\text{K})=0.0471$ 7; $\alpha(\text{L})=0.00644$ 9; $\alpha(\text{M})=0.001359$ 20; $\alpha(\text{N}+..)=0.000348$ 5 $\alpha(\text{N})=0.000301$ 5; $\alpha(\text{O})=4.43\times 10^{-5}$ 7; $\alpha(\text{P})=2.52\times 10^{-6}$ 4
245.50	(9/2 ⁺)	245.5 [#] 1	100 [#]	0.0	(7/2 ⁺)	M1+E2		0.108 9	$\alpha(\text{K})=0.088$ 12; $\alpha(\text{L})=0.0158$ 22; $\alpha(\text{M})=0.0034$ 6; $\alpha(\text{N}+..)=0.00087$ 13 $\alpha(\text{N})=0.00076$ 12; $\alpha(\text{O})=0.000109$ 12; $\alpha(\text{P})=5.2\times 10^{-6}$ 12
291.37	(5/2 ⁺)	118.3 [#] 1	36 [#] 5	173.05	(3/2 ⁺)	M1		0.877	$\alpha(\text{K})=0.746$ 11; $\alpha(\text{L})=0.1036$ 15; $\alpha(\text{M})=0.0220$ 4; $\alpha(\text{N}+..)=0.00572$ 9 $\alpha(\text{N})=0.00492$ 7; $\alpha(\text{O})=0.000748$ 11; $\alpha(\text{P})=4.83\times 10^{-5}$ 7
		291.4 [#] 1	100 [#] 9	0.0	(7/2 ⁺)	M1		0.0738	$\alpha(\text{K})=0.0629$ 9; $\alpha(\text{L})=0.00856$ 12; $\alpha(\text{M})=0.00181$ 3; $\alpha(\text{N}+..)=0.000472$ 7 $\alpha(\text{N})=0.000406$ 6; $\alpha(\text{O})=6.18\times 10^{-5}$ 9; $\alpha(\text{P})=4.04\times 10^{-6}$ 6
338.95	(11/2 ⁻)	162.90 15	100	176.10	(9/2 ⁻)	M1		0.357	$\alpha(\text{K})=0.304$ 5; $\alpha(\text{L})=0.0420$ 6; $\alpha(\text{M})=0.00891$ 13; $\alpha(\text{N}+..)=0.00232$ 4 $\alpha(\text{N})=0.00200$ 3; $\alpha(\text{O})=0.000303$ 5; $\alpha(\text{P})=1.97\times 10^{-5}$ 3
345.23	(3/2 ⁺)	54.0 [#] 2	2.3 [#] 8	291.37	(5/2 ⁺)				
		345.2 [#] 1	100 [#] 11	0.0	(7/2 ⁺)	E2		0.0340	$\alpha(\text{K})=0.0273$ 4; $\alpha(\text{L})=0.00524$ 8; $\alpha(\text{M})=0.001142$ 16; $\alpha(\text{N}+..)=0.000289$ 4 $\alpha(\text{N})=0.000252$ 4; $\alpha(\text{O})=3.58\times 10^{-5}$ 5; $\alpha(\text{P})=1.534\times 10^{-6}$ 22
353.62	(3/2 ⁻)	62.3 [#] 3	2.4 [#] 8	291.37	(5/2 ⁺)	[E1]		0.933 18	$\alpha(\text{K})=0.781$ 15; $\alpha(\text{L})=0.1201$ 24; $\alpha(\text{M})=0.0254$ 5; $\alpha(\text{N}+..)=0.00637$ 13 $\alpha(\text{N})=0.00555$ 11; $\alpha(\text{O})=0.000780$ 16; $\alpha(\text{P})=3.64\times 10^{-5}$ 7 B(E1)(W.u.)= 5.1×10^{-7} 20
		180.6 [#] 1	100 [#] 5	173.05	(3/2 ⁺)	E1		0.0516	$\alpha(\text{K})=0.0440$ 7; $\alpha(\text{L})=0.00601$ 9; $\alpha(\text{M})=0.001267$ 18; $\alpha(\text{N}+..)=0.000325$ 5 $\alpha(\text{N})=0.000281$ 4; $\alpha(\text{O})=4.14\times 10^{-5}$ 6; $\alpha(\text{P})=2.36\times 10^{-6}$ 4 B(E1)(W.u.)= 8.7×10^{-7} 19
386.7	(1/2 ⁻)	258.5 10	100	127.97	(1/2 ⁺)				
397.93	(5/2 ⁺)	224.9 [#] 1	100 [#] 15	173.05	(3/2 ⁺)	M1+E2	≈ 0.35	≈ 0.1460	$\alpha(\text{K})\approx 0.1230$; $\alpha(\text{L})\approx 0.0181$; $\alpha(\text{M})\approx 0.00386$; $\alpha(\text{N}+..)\approx 0.000999$ $\alpha(\text{N})\approx 0.000862$; $\alpha(\text{O})\approx 0.0001291$; $\alpha(\text{P})\approx 7.79\times 10^{-6}$
		270.0 [#] 4	92 [#] 17	127.97	(1/2 ⁺)	E2		0.0731	$\alpha(\text{K})=0.0571$ 9; $\alpha(\text{L})=0.01258$ 19; $\alpha(\text{M})=0.00277$ 5; $\alpha(\text{N}+..)=0.000695$ 11 $\alpha(\text{N})=0.000607$ 10; $\alpha(\text{O})=8.46\times 10^{-5}$ 13; $\alpha(\text{P})=3.08\times 10^{-6}$ 5

Adopted Levels, Gammas (continued)

$\gamma(^{133}\text{Nd})$ (continued)									
$E_i(\text{level})$	J_i^π	$E_\gamma^{\ddagger}$	$I_\gamma^{\ddagger}$	E_f	J_f^π	Mult. @	$\delta^{\ddagger}$	$\alpha^\ddagger$	Comments
399.81	(1/2 ⁺ , 3/2 ⁺)	271.9 [#] 4	100 [#]	127.97	(1/2 ⁺)	M1		0.0887	$\alpha(\text{K})=0.0756$ 11; $\alpha(\text{L})=0.01030$ 15; $\alpha(\text{M})=0.00218$ 4; $\alpha(\text{N}+..)=0.000568$ 9
442.51	(7/2 ⁻ , 9/2 ⁻ , 11/2 ⁻)	266.4 [#] 1	100 [#]	176.10	(9/2 ⁻)	M1+E2		0.085 9	$\alpha(\text{N})=0.000489$ 8; $\alpha(\text{O})=7.44 \times 10^{-5}$ 11; $\alpha(\text{P})=4.86 \times 10^{-6}$ 7 $\alpha(\text{K})=0.070$ 11; $\alpha(\text{L})=0.0121$ 12; $\alpha(\text{M})=0.0026$ 3; $\alpha(\text{N}+..)=0.00067$ 7 $\alpha(\text{N})=0.00058$ 7; $\alpha(\text{O})=8.4 \times 10^{-5}$ 6; $\alpha(\text{P})=4.2 \times 10^{-6}$ 10
444.66	(1/2, 3/2, 5/2 ⁺)	271.4 [#] 4 316.7 [#] 1	84 [#] 20 100 [#] 24	173.05 (3/2 ⁺) 127.97 (1/2 ⁺)					
472.13	(3/2 ⁺ , 5/2 ⁺ , 7/2 ⁺)	180.8 [#] 5	19 [#] 4	291.37 (5/2 ⁺)	M1+E2	<0.6		0.272 6	$\alpha(\text{K})=0.214$ 15; $\alpha(\text{L})=0.046$ 15; $\alpha(\text{M})=0.010$ 4; $\alpha(\text{N}+..)=0.0025$ 8 $\alpha(\text{N})=0.0022$ 8; $\alpha(\text{O})=0.00031$ 9; $\alpha(\text{P})=1.23 \times 10^{-5}$ 25 Mult.: ce(K)=1.5 3, ce(L)=0.61 13, $\alpha(\text{K})_{\text{exp}}=0.33$ 10 and L/K=0.41 12. δ : Deduced by evaluators from ce(K), ce(L) and $\alpha(\text{K})_{\text{exp}}$ and the BriceMixing program.
		299.1 [#] 1	100 [#] 13	173.05 (3/2 ⁺)	E2			0.0529	$\alpha(\text{K})=0.0418$ 6; $\alpha(\text{L})=0.00866$ 13; $\alpha(\text{M})=0.00190$ 3; $\alpha(\text{N}+..)=0.000478$ 7 $\alpha(\text{N})=0.000417$ 6; $\alpha(\text{O})=5.87 \times 10^{-5}$ 9; $\alpha(\text{P})=2.30 \times 10^{-6}$ 4
483.51	(7/2 ⁺)	472.2 ^{#&} 2 192.11 [#] 10	42 [#] 8 100 [#] 14	0.0 (7/2 ⁺) 291.37 (5/2 ⁺)	M1+E2	2.0 10		0.225	$\alpha(\text{K})=0.170$ 9; $\alpha(\text{L})=0.043$ 7; $\alpha(\text{M})=0.0095$ 15; $\alpha(\text{N}+..)=0.0024$ 4 $\alpha(\text{N})=0.0021$ 3; $\alpha(\text{O})=0.00029$ 4; $\alpha(\text{P})=9.1 \times 10^{-6}$ 13
		310.2 5 483.5 [#] 2	36 6 55 [#] 6	173.05 (3/2 ⁺) 0.0 (7/2 ⁺)					
491.87	(7/2 ⁺)	200.5 [#] 4	100 [#] 27	291.37 (5/2 ⁺)	M1+E2			0.198 5	$\alpha(\text{K})=0.158$ 15; $\alpha(\text{L})=0.032$ 8; $\alpha(\text{M})=0.0069$ 19; $\alpha(\text{N}+..)=0.0017$ 5 $\alpha(\text{N})=0.0015$ 4; $\alpha(\text{O})=0.00022$ 5; $\alpha(\text{P})=9.2 \times 10^{-6}$ 19
		318.8 [#] 4	55 [#] 27	173.05 (3/2 ⁺)	E2			0.0434	$\alpha(\text{K})=0.0346$ 5; $\alpha(\text{L})=0.00691$ 11; $\alpha(\text{M})=0.001509$ 23; $\alpha(\text{N}+..)=0.000381$ 6 $\alpha(\text{N})=0.000332$ 5; $\alpha(\text{O})=4.69 \times 10^{-5}$ 7; $\alpha(\text{P})=1.92 \times 10^{-6}$ 3
		491.9 ^{#&} 3	40 [#] 5	0.0 (7/2 ⁺)					
492.31	(7/2 ⁻)	138.7 [#] 2	100 [#] 10	353.62 (3/2 ⁻)	E2			0.687	$\alpha(\text{K})=0.455$ 7; $\alpha(\text{L})=0.181$ 3; $\alpha(\text{M})=0.0409$ 7; $\alpha(\text{N}+..)=0.01007$ 16 $\alpha(\text{N})=0.00888$ 14; $\alpha(\text{O})=0.001172$ 18; $\alpha(\text{P})=2.13 \times 10^{-5}$ 4
519.48	(11/2 ⁺)	316.1 10 274.0 2	33 3	176.10 (9/2 ⁻) 245.50 (9/2 ⁺)	M1			0.0869	$\alpha(\text{K})=0.0741$ 11; $\alpha(\text{L})=0.01009$ 15; $\alpha(\text{M})=0.00214$ 3; $\alpha(\text{N}+..)=0.000557$ 8

Adopted Levels, Gammas (continued)

<u>$\gamma(^{133}\text{Nd})$ (continued)</u>									Comments
<u>$E_i(\text{level})$</u>	<u>J_i^π</u>	<u>$E_\gamma^{\ddagger}$</u>	<u>$I_\gamma^{\ddagger}$</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult. @</u>	<u>$\delta^{\ddagger}$</u>	<u>$\alpha^\ddagger$</u>	
519.48	(11/2 ⁺)	519.5 2	100 7	0.0	(7/2 ⁺)	E2		0.01063	$\alpha(\text{N})=0.000479$ 7; $\alpha(\text{O})=7.29\times 10^{-5}$ 11; $\alpha(\text{P})=4.76\times 10^{-6}$ 7 B(M1)(W.u.)=0.038 5 $\alpha(\text{K})=0.00882$ 13; $\alpha(\text{L})=0.001423$ 20; $\alpha(\text{M})=0.000306$ 5; $\alpha(\text{N}+..)=7.83\times 10^{-5}$ 11 $\alpha(\text{N})=6.79\times 10^{-5}$ 10; $\alpha(\text{O})=9.92\times 10^{-6}$ 14; $\alpha(\text{P})=5.19\times 10^{-7}$ 8 B(E2)(W.u.)=40 5
523.81	(5/2 ⁻)	137.0 5 170.2 1	100 30 57 6	386.7 (1/2 ⁻) 353.62 (3/2 ⁻)		M1+E2	≈ 0.35	≈ 0.319	$\alpha(\text{K})\approx 0.266$; $\alpha(\text{L})\approx 0.0415$; $\alpha(\text{M})\approx 0.00890$; $\alpha(\text{N}+..)\approx 0.00229$ $\alpha(\text{N})\approx 0.00198$; $\alpha(\text{O})\approx 0.000294$; $\alpha(\text{P})\approx 1.681\times 10^{-5}$
554.99	(1/2 ⁺ , 3/2 ⁺ , 5/2 ⁺)	157.2 [#] 2 381.9 [#] 1	6.7 [#] 11 100 [#] 22	397.93 (5/2 ⁺) 173.05 (3/2 ⁺)		M1+E2		0.031 6	$\alpha(\text{K})=0.026$ 6; $\alpha(\text{L})=0.00396$ 24; $\alpha(\text{M})=0.00085$ 4; $\alpha(\text{N}+..)=0.000218$ 13 $\alpha(\text{N})=0.000189$ 11; $\alpha(\text{O})=2.79\times 10^{-5}$ 24; $\alpha(\text{P})=1.6\times 10^{-6}$ 5
585.4		427.0 [#] 4 409.4 [#] 4	78 [#] 19 100 [#]	127.97 (1/2 ⁺) 176.10 (9/2 ⁻)					
587.1		414.0 [#] 4	100 [#]	173.05 (3/2 ⁺)					
628.3		289.6 [#] 5 452.1 [#] 4	30 [#] 4 100 [#] 19	338.95 (11/2 ⁻) 176.10 (9/2 ⁻)					
646.68	(13/2 ⁻)	307.8 2	100 4	338.95 (11/2 ⁻)		M1		0.0638	$\alpha(\text{K})=0.0545$ 8; $\alpha(\text{L})=0.00740$ 11; $\alpha(\text{M})=0.001566$ 22; $\alpha(\text{N}+..)=0.000408$ 6 $\alpha(\text{N})=0.000351$ 5; $\alpha(\text{O})=5.34\times 10^{-5}$ 8; $\alpha(\text{P})=3.49\times 10^{-6}$ 5
		470.5 2	41.4 23	176.10 (9/2 ⁻)		E2		0.01389	$\alpha(\text{K})=0.01146$ 16; $\alpha(\text{L})=0.00192$ 3; $\alpha(\text{M})=0.000413$ 6; $\alpha(\text{N}+..)=0.0001055$ 15 $\alpha(\text{N})=9.15\times 10^{-5}$ 13; $\alpha(\text{O})=1.330\times 10^{-5}$ 19; $\alpha(\text{P})=6.68\times 10^{-7}$ 10
660.25	(1/2, 3/2, 5/2 ⁺)	215.6 [#] 6 487.2 [#] 2 532.7 ^{#&} 6	68 [#] 9 100 [#] 30 8 [#] 2	444.66 (1/2, 3/2, 5/2 ⁺) 173.05 (3/2 ⁺) 127.97 (1/2 ⁺)					
674.60	(5/2 ⁺)	274.7 [#] 6 329.4 [#] 2 429.1 [#] 4 546.6 [#] 4	21 [#] 3 100 [#] 10 100 [#] 20 50 [#] 20	399.81 (1/2 ⁺ , 3/2 ⁺) 345.23 (3/2 ⁺) 245.50 (9/2 ⁺) 127.97 (1/2 ⁺)					

Adopted Levels, Gammas (continued)

$\gamma(^{133}\text{Nd})$ (continued)

$E_i(\text{level})$	J_i^π	$E_\gamma^{\ddagger}$	$I_\gamma^{\ddagger}$	E_f	J_f^π	Mult. @	$\delta^{\ddagger}$	$\alpha^\dagger$	Comments
674.60	(5/2 ⁺)	674.6 [#] 4	83 [#] 8	0.0	(7/2 ⁺)				
687.8	(9/2 ⁺)	196.1 5	75 13	491.87	(7/2 ⁺)	M1		0.214 4	$\alpha(\text{K})=0.183$ 3; $\alpha(\text{L})=0.0251$ 4; $\alpha(\text{M})=0.00532$ 9; $\alpha(\text{N}+..)=0.001385$ 22 $\alpha(\text{N})=0.001192$ 19; $\alpha(\text{O})=0.000181$ 3; $\alpha(\text{P})=1.178\times 10^{-5}$ 19
		204.3 5	75 25	483.51	(7/2 ⁺)	M1		0.192	$\alpha(\text{K})=0.163$ 3; $\alpha(\text{L})=0.0224$ 4; $\alpha(\text{M})=0.00475$ 8; $\alpha(\text{N}+..)=0.001237$ 20 $\alpha(\text{N})=0.001065$ 17; $\alpha(\text{O})=0.000162$ 3; $\alpha(\text{P})=1.053\times 10^{-5}$ 17
		396.4 5	100 25	291.37	(5/2 ⁺)	E2		0.0226	$\alpha(\text{K})=0.0184$ 3; $\alpha(\text{L})=0.00330$ 5; $\alpha(\text{M})=0.000715$ 11; $\alpha(\text{N}+..)=0.000182$ 3 $\alpha(\text{N})=0.0001579$ 23; $\alpha(\text{O})=2.27\times 10^{-5}$ 4; $\alpha(\text{P})=1.051\times 10^{-6}$ 16
		442.5 10		245.50	(9/2 ⁺)				
738.83		340.9 [#] 2	100 [#] 33	397.93	(5/2 ⁺)				
		565.8 [#] 7	83 [#] 33	173.05	(3/2 ⁺)				
758.76	(9/2 ⁻)	235.0 2	100 13	523.81	(5/2 ⁻)	E2		0.1147	$\alpha(\text{K})=0.0876$ 13; $\alpha(\text{L})=0.0212$ 3; $\alpha(\text{M})=0.00469$ 7; $\alpha(\text{N}+..)=0.001173$ 17 $\alpha(\text{N})=0.001027$ 15; $\alpha(\text{O})=0.0001415$ 21; $\alpha(\text{P})=4.60\times 10^{-6}$ 7
		266.3 5	44 13	492.31	(7/2 ⁻)	M1+E2	≈ 0.35	≈ 0.0918	$\alpha(\text{K})\approx 0.0777$; $\alpha(\text{L})\approx 0.01115$; $\alpha(\text{M})\approx 0.00237$; $\alpha(\text{N}+..)\approx 0.000615$ $\alpha(\text{N})\approx 0.000530$; $\alpha(\text{O})\approx 7.98\times 10^{-5}$; $\alpha(\text{P})\approx 4.93\times 10^{-6}$
787.82	(3/2 ⁺ , 5/2, 7/2 ⁺)	389.9 [#] 2	100 [#] 9	397.93	(5/2 ⁺)				
		442.5 [#] 2	80 [#] 9	345.23	(3/2 ⁺)				
		614.8 [#] 4	4 [#] 1	173.05	(3/2 ⁺)				
		788.0 [#] 3	91 [#] 23	0.0	(7/2 ⁺)				
806.44		334.5 [#] 3	64 [#] 6	472.13	(3/2 ⁺ , 5/2 ⁺ , 7/2 ⁺)				
		361.7 [#] 4	50 [#] 13	444.66	(1/2, 3/2, 5/2 ⁺)				
		406.5 [#] 4	50 [#] 13	399.81	(1/2 ⁺ , 3/2 ⁺)				
		408.4 [#] 4	75 [#] 25	397.93	(5/2 ⁺)				
		514.9 [#] 8	100 [#] 25	291.37	(5/2 ⁺)				
808.31	(11/2 ⁻)	316.0 2	100	492.31	(7/2 ⁻)	E2		0.0446	$\alpha(\text{K})=0.0355$ 5; $\alpha(\text{L})=0.00712$ 11; $\alpha(\text{M})=0.001557$ 22; $\alpha(\text{N}+..)=0.000393$ 6 $\alpha(\text{N})=0.000343$ 5; $\alpha(\text{O})=4.84\times 10^{-5}$ 7; $\alpha(\text{P})=1.97\times 10^{-6}$ 3 B(E2)(W.u.)=244 23
825.5	(9/2 ⁺)	333.6 10	13 3	491.87	(7/2 ⁺)	M1+E2	≈ 0.35	≈ 0.0502	$\alpha(\text{K})\approx 0.0426$; $\alpha(\text{L})\approx 0.00596$; $\alpha(\text{M})\approx 0.001267$;

Adopted Levels, Gammas (continued)

$\gamma(^{133}\text{Nd})$ (continued)							
$E_i(\text{level})$	J_i^π	$E_\gamma^\ddagger$	$I_\gamma^\ddagger$	E_f	J_f^π	Mult. @	$\alpha^\dagger$
							Comments
825.5	(9/2 ⁺)	342.0 5	33 7	483.51 (7/2 ⁺)		M1	0.0484
		427.6 5	100 20	397.93 (5/2 ⁺)		E2	0.0181
826.92	(13/2 ⁺)	534 ^{&} 1 307.4 5	10.0 6	291.37 (5/2 ⁺) 519.48 (11/2 ⁺)		M1	0.0641
		581.40 15	100 5	245.50 (9/2 ⁺)		E2	0.00792 12
837.26	(15/2 ⁻)	190.6 2	29.2 11	646.68 (13/2 ⁻)		M1	0.232
		498.30 15	100 4	338.95 (11/2 ⁻)		E2	0.01188
837.5		392.8 [#] 4	100 [#]	444.66 (1/2,3/2,5/2 ⁺)			
879.37	(5/2 ⁺ , 7/2 ⁺)	387.5 [#] 4 588.0 [#] 6 633.9 [#] 2 706.3 [#] 4	30 [#] 15 30 [#] 15 56 [#] 6 30 [#] 15	491.87 (7/2 ⁺) 291.37 (5/2 ⁺) 245.50 (9/2 ⁺) 173.05 (3/2 ⁺)			
913.4	(11/2 ⁺)	879.2 [#] 5 225.6 5	100 [#] 11 100 20	0.0 (7/2 ⁺) 687.8 (9/2 ⁺)		M1	0.1464 23
		429.8 5	100 20	483.51 (7/2 ⁺)		E2	0.0179
932.2		587.0 [#] 6	100 [#] 25	345.23 (3/2 ⁺)			

Adopted Levels, Gammas (continued)

$\gamma(^{133}\text{Nd})$ (continued)									
$E_i(\text{level})$	J_i^π	E_γ [‡]	I_γ [‡]	E_f	J_f^π	Mult. [@]	δ [‡]	α [†]	Comments
937.08		537.3 [#] 3	11 [#] 5	399.81	(1/2 ⁺ , 3/2 ⁺)				
		539.1 [#] 4	14 [#] 6	397.93	(5/2 ⁺)				
		591.9 [#] 8	25 [#] 4	345.23	(3/2 ⁺)				
962.90	(11/2 ⁺)	645.7 [#] 2	100 [#] 27	291.37	(5/2 ⁺)				
		471.0 2	100 10	491.87	(7/2 ⁺)	E2		0.01385	$\alpha(\text{K})=0.01142$ 16; $\alpha(\text{L})=0.00191$ 3; $\alpha(\text{M})=0.000412$ 6; $\alpha(\text{N}+..)=0.0001052$ 15 $\alpha(\text{N})=9.12 \times 10^{-5}$ 13; $\alpha(\text{O})=1.326 \times 10^{-5}$ 19; $\alpha(\text{P})=6.66 \times 10^{-7}$ 10
		479.5 5	10 2	483.51	(7/2 ⁺)	E2		0.01319	$\alpha(\text{K})=0.01089$ 16; $\alpha(\text{L})=0.00181$ 3; $\alpha(\text{M})=0.000390$ 6; $\alpha(\text{N}+..)=9.96 \times 10^{-5}$ 15 $\alpha(\text{N})=8.64 \times 10^{-5}$ 13; $\alpha(\text{O})=1.257 \times 10^{-5}$ 18; $\alpha(\text{P})=6.36 \times 10^{-7}$ 9
979.8		626.2 [#] 6	100 [#]	353.62	(3/2 ⁻)				
985.90	(1/2 ⁺ , 3/2, 5/2 ⁺)	586.1 [#] 6	9 [#] 4	399.81	(1/2 ⁺ , 3/2 ⁺)				
		588.1 [#] 6	35 [#] 9	397.93	(5/2 ⁺)				
		632.4 [#] 3	22 [#] 9	353.62	(3/2 ⁻)				
		812.9 [#] 2	100 [#] 17	173.05	(3/2 ⁺)				
		857.8 [#] 2	37 [#] 4	127.97	(1/2 ⁺)				
999.2		413.9 [#] 4	42 [#] 12	585.4					
		556.4 [#] 6	100 [#] 50	442.51	(7/2 ⁻ , 9/2 ⁻ , 11/2 ⁻)				
1007.0		421.6 [#] 2	100 [#]	585.4					
1013.66	(3/2 ⁺ , 5/2 ⁺)	521.5 [#] 4	15.8 [#] 17	492.31	(7/2 ⁻)				
		529.9 [#] 3	15.0 [#] 17	483.51	(7/2 ⁺)				
		660.1 [#] 2	30.8 [#] 33	353.62	(3/2 ⁻)				
		722.2 [#] 4	75 [#] 17	291.37	(5/2 ⁺)				
		885.7 [#] 2	100 [#] 8	127.97	(1/2 ⁺)				
1116.8	(13/2 ⁻)	1013.7 [#] 4	19 [#] 4	0.0	(7/2 ⁺)				
		308.5 5	21 8	808.31	(11/2 ⁻)	M1+E2	0.35 5	0.0618 10	$\alpha(\text{K})=0.0524$ 9; $\alpha(\text{L})=0.00739$ 11; $\alpha(\text{M})=0.001572$ 24; $\alpha(\text{N}+..)=0.000408$ 6 $\alpha(\text{N})=0.000351$ 6; $\alpha(\text{O})=5.30 \times 10^{-5}$ 8; $\alpha(\text{P})=3.32 \times 10^{-6}$ 7
		358.1 2	100 8	758.76	(9/2 ⁻)	E2		0.0305	B(M1)(W.u.)=0.014 6; B(E2)(W.u.)=11 6 $\alpha(\text{K})=0.0246$ 4; $\alpha(\text{L})=0.00462$ 7; $\alpha(\text{M})=0.001006$ 15; $\alpha(\text{N}+..)=0.000255$ 4

Adopted Levels, Gammas (continued)

$\gamma(^{133}\text{Nd})$ (continued)								
$E_i(\text{level})$	J_i^π	$E_\gamma^{\ddagger}$	$I_\gamma^{\ddagger}$	E_f	J_f^π	Mult. @	$\alpha^\dagger$	Comments
								$\alpha(\text{N})=0.000222$ 4; $\alpha(\text{O})=3.16\times 10^{-5}$ 5; $\alpha(\text{P})=1.386\times 10^{-6}$ 20 $\text{B(E2)}(\text{W.u.})=2.3\times 10^2$ 4
1120.20	(5/2 ⁺ , 7/2 ⁺)	636.5 [#] 5	22 [#] 11	483.51 (7/2 ⁺)				
		720.5 [#] 4	29 [#] 16	399.81 (1/2 ⁺ , 3/2 ⁺)				
		722.3 [#] 4	44 [#] 22	397.93 (5/2 ⁺)				
		828.8 [#] 5	100 [#] 11	291.37 (5/2 ⁺)				
		874.7 [#] 5	67 [#] 22	245.50 (9/2 ⁺)				
1130.8	(13/2 ⁺)	217.5 5	69 15	913.4 (11/2 ⁺)		M1	0.1616 25	$\alpha(\text{K})=0.1377$ 22; $\alpha(\text{L})=0.0189$ 3; $\alpha(\text{M})=0.00400$ 7; $\alpha(\text{N}+..)=0.001042$ 16
		443.0 5	100 15	687.8 (9/2 ⁺)		E2	0.01642	$\alpha(\text{N})=0.000897$ 14; $\alpha(\text{O})=0.0001363$ 21; $\alpha(\text{P})=8.88\times 10^{-6}$ 14 $\alpha(\text{K})=0.01349$ 20; $\alpha(\text{L})=0.00231$ 4; $\alpha(\text{M})=0.000499$ 8; $\alpha(\text{N}+..)=0.0001272$ 19
1150.45	(15/2 ⁺)	323.6 5	8.3 6	826.92 (13/2 ⁺)		M1	0.0560	$\alpha(\text{N})=0.0001104$ 16; $\alpha(\text{O})=1.598\times 10^{-5}$ 23; $\alpha(\text{P})=7.81\times 10^{-7}$ 12 $\alpha(\text{K})=0.0478$ 7; $\alpha(\text{L})=0.00647$ 10; $\alpha(\text{M})=0.001371$ 20; $\alpha(\text{N}+..)=0.000357$ 6
		631.00 15	100 5	519.48 (11/2 ⁺)		E2	0.00645 9	$\alpha(\text{N})=0.000307$ 5; $\alpha(\text{O})=4.67\times 10^{-5}$ 7; $\alpha(\text{P})=3.06\times 10^{-6}$ 5 $\text{B(M1)}(\text{W.u.})=0.046$ 9 $\text{B(E2)}(\text{W.u.})=121$ 21 $\alpha(\text{K})=0.00541$ 8; $\alpha(\text{L})=0.000821$ 12; $\alpha(\text{M})=0.0001757$ 25; $\alpha(\text{N}+..)=4.51\times 10^{-5}$ 7
1154.5		863.1 [#] 4	56 [#] 15	291.37 (5/2 ⁺)				$\alpha(\text{N})=3.90\times 10^{-5}$ 6; $\alpha(\text{O})=5.77\times 10^{-6}$ 8; $\alpha(\text{P})=3.22\times 10^{-7}$ 5
		1154.5 [#] 4	100 [#] 19	0.0 (7/2 ⁺)				
1183.1		829.5 [#] 5	100 [#]	353.62 (3/2 ⁻)				
1185.68	(15/2 ⁻)	539.0 2	100	646.68 (13/2 ⁻)		M1	0.01516	$\alpha(\text{K})=0.01297$ 19; $\alpha(\text{L})=0.001728$ 25; $\alpha(\text{M})=0.000365$ 6; $\alpha(\text{N}+..)=9.51\times 10^{-5}$ 14
								$\alpha(\text{N})=8.18\times 10^{-5}$ 12; $\alpha(\text{O})=1.247\times 10^{-5}$ 18; $\alpha(\text{P})=8.24\times 10^{-7}$ 12
1195.6		842.0 [#] 4	100 [#]	353.62 (3/2 ⁻)				
1206.0		713.7 [#] 6	100 [#]	492.31 (7/2 ⁻)				
1209.1		855.5 [#] 3	100 [#]	353.62 (3/2 ⁻)				
1230.1	(5/2 ⁺ , 7/2 ⁻)	876.5 [#] 5	100 [#] 24	353.62 (3/2 ⁻)				
		984.5 [#] 8	26 [#] 26	245.50 (9/2 ⁺)				
1271.8	(17/2 ⁻)	434.5 5	61 3	837.26 (15/2 ⁻)		M1	0.0261	$\alpha(\text{K})=0.0223$ 4; $\alpha(\text{L})=0.00300$ 5; $\alpha(\text{M})=0.000634$ 9; $\alpha(\text{N}+..)=0.0001650$ 24
								$\alpha(\text{N})=0.0001419$ 21; $\alpha(\text{O})=2.16\times 10^{-5}$ 3; $\alpha(\text{P})=1.424\times 10^{-6}$ 21
		625.0 5	100 5	646.68 (13/2 ⁻)				
1280.4		926.8 [#] 6	100 [#]	353.62 (3/2 ⁻)				

Adopted Levels, Gammas (continued)

$\gamma(^{133}\text{Nd})$ (continued)									
$E_i(\text{level})$	J_i^π	$E_\gamma^{\ddagger}$	$I_\gamma^{\ddagger}$	E_f	J_f^π	Mult. @	$\delta^{\ddagger}$	$\alpha^\dagger$	Comments
1280.7	(15/2 ⁻)	472.4 2	100 7	808.31	(11/2 ⁻)	E2		0.01374	$\alpha(\text{K})=0.01133$ 16; $\alpha(\text{L})=0.00189$ 3; $\alpha(\text{M})=0.000408$ 6; $\alpha(\text{N}+..)=0.0001042$ 15 $\alpha(\text{N})=9.04\times 10^{-5}$ 13; $\alpha(\text{O})=1.314\times 10^{-5}$ 19; $\alpha(\text{P})=6.61\times 10^{-7}$ 10 B(E2)(W.u.)= 2.7×10^2 3
1359.8	(13/2 ⁺)	396.9 10	12 4	962.90	(11/2 ⁺)	M1+E2	≈ 0.35	≈ 0.0318	$\alpha(\text{K})\approx 0.0271$; $\alpha(\text{L})\approx 0.00373$; $\alpha(\text{M})\approx 0.000792$; $\alpha(\text{N}+..)\approx 0.000206$ $\alpha(\text{N})\approx 0.000177$; $\alpha(\text{O})\approx 2.68\times 10^{-5}$; $\alpha(\text{P})\approx 1.72\times 10^{-6}$
		534.3 2	100 6	825.5	(9/2 ⁺)	E2		0.00986 14	$\alpha(\text{K})=0.00820$ 12; $\alpha(\text{L})=0.001311$ 19; $\alpha(\text{M})=0.000282$ 4; $\alpha(\text{N}+..)=7.21\times 10^{-5}$ 11 $\alpha(\text{N})=6.25\times 10^{-5}$ 9; $\alpha(\text{O})=9.15\times 10^{-6}$ 13; $\alpha(\text{P})=4.83\times 10^{-7}$ 7
1365.8	(15/2 ⁺)	672& 1 235.1 5	70 20	687.8 1130.8	(9/2 ⁺) (13/2 ⁺)	M1		0.1309 20	$\alpha(\text{K})=0.1116$ 17; $\alpha(\text{L})=0.01527$ 24; $\alpha(\text{M})=0.00324$ 5; $\alpha(\text{N}+..)=0.000842$ 13 $\alpha(\text{N})=0.000725$ 11; $\alpha(\text{O})=0.0001103$ 17; $\alpha(\text{P})=7.19\times 10^{-6}$ 11
		452.5 5	100 20	913.4	(11/2 ⁺)	E2		0.01548	$\alpha(\text{K})=0.01273$ 19; $\alpha(\text{L})=0.00216$ 4; $\alpha(\text{M})=0.000467$ 7; $\alpha(\text{N}+..)=0.0001190$ 18 $\alpha(\text{N})=0.0001033$ 15; $\alpha(\text{O})=1.498\times 10^{-5}$ 22; $\alpha(\text{P})=7.39\times 10^{-7}$ 11
1460.76	(19/2 ⁻)	188.9 5 623.50 15	5.8 4 100 4	1271.8 837.26	(17/2 ⁻) (15/2 ⁻)	E2		0.00664 10	$\alpha(\text{K})=0.00557$ 8; $\alpha(\text{L})=0.000848$ 12; $\alpha(\text{M})=0.000182$ 3; $\alpha(\text{N}+..)=4.66\times 10^{-5}$ 7 $\alpha(\text{N})=4.03\times 10^{-5}$ 6; $\alpha(\text{O})=5.96\times 10^{-6}$ 9; $\alpha(\text{P})=3.31\times 10^{-7}$ 5
1491.95	(17/2 ⁺)	341.5 5	8.2 6	1150.45	(15/2 ⁺)	M1		0.0486	B(M1)(W.u.)=0.061 23 $\alpha(\text{K})=0.0415$ 6; $\alpha(\text{L})=0.00562$ 9; $\alpha(\text{M})=0.001189$ 18; $\alpha(\text{N}+..)=0.000309$ 5 $\alpha(\text{N})=0.000266$ 4; $\alpha(\text{O})=4.05\times 10^{-5}$ 6; $\alpha(\text{P})=2.66\times 10^{-6}$ 4
		665.00 15	100 5	826.92	(13/2 ⁺)	E2		0.00567 8	B(E2)(W.u.)= 1.4×10^2 6 $\alpha(\text{K})=0.00476$ 7; $\alpha(\text{L})=0.000713$ 10; $\alpha(\text{M})=0.0001524$ 22; $\alpha(\text{N}+..)=3.92\times 10^{-5}$ 6 $\alpha(\text{N})=3.39\times 10^{-5}$ 5; $\alpha(\text{O})=5.02\times 10^{-6}$ 7; $\alpha(\text{P})=2.85\times 10^{-7}$ 4
1540.7	(15/2 ⁺)	577.8 2	100	962.90	(11/2 ⁺)	E2		0.00805 12	$\alpha(\text{K})=0.00672$ 10; $\alpha(\text{L})=0.001048$ 15; $\alpha(\text{M})=0.000225$ 4; $\alpha(\text{N}+..)=5.76\times 10^{-5}$ 8 $\alpha(\text{N})=4.99\times 10^{-5}$ 7; $\alpha(\text{O})=7.34\times 10^{-6}$ 11; $\alpha(\text{P})=3.98\times 10^{-7}$ 6

Adopted Levels, Gammas (continued)								
$\gamma(^{133}\text{Nd})$ (continued)								
$E_i(\text{level})$	J_i^π	$E_\gamma^{\ddagger}$	$I_\gamma^{\ddagger}$	E_f	J_f^π	Mult. @	$\alpha^\dagger$	Comments
1595.8	(3/2 ⁺ , 5/2, 7/2 ⁺)	1041.1 [#] 9 1251.0 [#] 5 1595.2 [#] 5	24 [#] 24 82 [#] 11 100 [#] 16	554.99 (1/2 ⁺ , 3/2 ⁺ , 5/2 ⁺) 345.23 (3/2 ⁺) 0.0 (7/2 ⁺)				
1599.1	(17/2 ⁻)	482.3 2	100	1116.8 (13/2 ⁻)		E2	0.01298	B(E2)(W.u.)=2.8×10 ² 6 $\alpha(\text{K})=0.01072$ 15; $\alpha(\text{L})=0.001777$ 25; $\alpha(\text{M})=0.000383$ 6; $\alpha(\text{N}+..)=9.78\times 10^{-5}$ 14 $\alpha(\text{N})=8.48\times 10^{-5}$ 12; $\alpha(\text{O})=1.235\times 10^{-5}$ 18; $\alpha(\text{P})=6.26\times 10^{-7}$ 9
1623.9	(17/2 ⁺)	258.0 5	43 14	1365.8 (15/2 ⁺)		M1	0.1020	$\alpha(\text{K})=0.0870$ 13; $\alpha(\text{L})=0.01187$ 18; $\alpha(\text{M})=0.00251$ 4; $\alpha(\text{N}+..)=0.000655$ 10 $\alpha(\text{N})=0.000563$ 9; $\alpha(\text{O})=8.57\times 10^{-5}$ 13; $\alpha(\text{P})=5.59\times 10^{-6}$ 9
1770.5	(19/2 ⁺)	493.0 5	100 14	1130.8 (13/2 ⁺)				
1799.03		1425.3 [#] 5 307.0 2	2.4 [#] 5 23.9 16	345.23 (3/2 ⁺) 1491.95 (17/2 ⁺)		M1	0.0643	B(M1)(W.u.)=0.19 5 $\alpha(\text{K})=0.0548$ 8; $\alpha(\text{L})=0.00745$ 11; $\alpha(\text{M})=0.001577$ 23; $\alpha(\text{N}+..)=0.000410$ 6 $\alpha(\text{N})=0.000353$ 5; $\alpha(\text{O})=5.38\times 10^{-5}$ 8; $\alpha(\text{P})=3.52\times 10^{-6}$ 5
		433.3 5	12.5 7	1365.8 (15/2 ⁺)		[E2]	0.0175	$\alpha(\text{K})=0.01433$ 21; $\alpha(\text{L})=0.00248$ 4; $\alpha(\text{M})=0.000535$ 8; $\alpha(\text{N}+..)=0.0001364$ 20 $\alpha(\text{N})=0.0001184$ 18; $\alpha(\text{O})=1.712\times 10^{-5}$ 25; $\alpha(\text{P})=8.28\times 10^{-7}$ 12
		648.60 15	100 5	1150.45 (15/2 ⁺)		E2	0.00602 9	B(E2)(W.u.)=1.2×10 ² 3 B(E2)(W.u.)=1.3×10 ² 3 $\alpha(\text{K})=0.00506$ 7; $\alpha(\text{L})=0.000762$ 11; $\alpha(\text{M})=0.0001630$ 23; $\alpha(\text{N}+..)=4.19\times 10^{-5}$ 6 $\alpha(\text{N})=3.62\times 10^{-5}$ 5; $\alpha(\text{O})=5.36\times 10^{-6}$ 8; $\alpha(\text{P})=3.02\times 10^{-7}$ 5
1815.7	(19/2 ⁻)	630.0 2	100	1185.68 (15/2 ⁻)		E2	0.00647 9	$\alpha(\text{K})=0.00543$ 8; $\alpha(\text{L})=0.000825$ 12; $\alpha(\text{M})=0.0001764$ 25; $\alpha(\text{N}+..)=4.53\times 10^{-5}$ 7 $\alpha(\text{N})=3.92\times 10^{-5}$ 6; $\alpha(\text{O})=5.80\times 10^{-6}$ 9; $\alpha(\text{P})=3.23\times 10^{-7}$ 5
1834.3	(19/2 ⁻)	1489.1 [#] 8	100 [#]	345.23 (3/2 ⁺)				
1872.1		591.4 2	100	1280.7 (15/2 ⁻)		E2	0.00759 11	$\alpha(\text{K})=0.00634$ 9; $\alpha(\text{L})=0.000982$ 14; $\alpha(\text{M})=0.000210$ 3; $\alpha(\text{N}+..)=5.40\times 10^{-5}$ 8 $\alpha(\text{N})=4.67\times 10^{-5}$ 7; $\alpha(\text{O})=6.88\times 10^{-6}$ 10; $\alpha(\text{P})=3.76\times 10^{-7}$ 6
1886.5		1532.7 [#] 4	100 [#] 30	353.62 (3/2 ⁻)				

Adopted Levels, Gammas (continued)

$\gamma(^{133}\text{Nd})$ (continued)									
$E_i(\text{level})$	J_i^π	$E_\gamma^{\ddagger}$	$I_\gamma^{\ddagger}$	E_f	J_f^π	Mult. @	$\delta^{\ddagger}$	$\alpha^\ddagger$	Comments
1886.5		1541.6 [#] 6	50 [#] 30	345.23	(3/2 ⁺)				
1936.6?		786.2 10		1150.45	(15/2 ⁺)				
1936.7	(19/2 ⁺)	313 1	20 10	1623.9	(17/2 ⁺)				
		570.8 5	100 20	1365.8	(15/2 ⁺)				
1963.1	(17/2 ⁺)	422.3 10	10 6	1540.7	(15/2 ⁺)	M1+E2	≈ 0.35	≈ 0.0271	$\alpha(\text{K})\approx 0.0231$; $\alpha(\text{L})\approx 0.00317$; $\alpha(\text{M})\approx 0.000671$; $\alpha(\text{N}+..)\approx 0.000174$
		603.2 5	100 10	1359.8	(13/2 ⁺)	E2		0.00722 11	$\alpha(\text{N})\approx 0.0001501$; $\alpha(\text{O})\approx 2.28\times 10^{-5}$; $\alpha(\text{P})\approx 1.461\times 10^{-6}$ $\alpha(\text{K})=0.00604$ 9; $\alpha(\text{L})=0.000929$ 14; $\alpha(\text{M})=0.000199$ 3; $\alpha(\text{N}+..)=5.11\times 10^{-5}$ 8 $\alpha(\text{N})=4.42\times 10^{-5}$ 7; $\alpha(\text{O})=6.52\times 10^{-6}$ 10; $\alpha(\text{P})=3.59\times 10^{-7}$ 5
2005.0		1651.4 [#] 3	100 [#]	353.62	(3/2 ⁻)				
2010.7	(21/2 ⁻)	550.0 5	40 3	1460.76	(19/2 ⁻)	M1		0.01441	$\alpha(\text{K})=0.01233$ 18; $\alpha(\text{L})=0.001642$ 24; $\alpha(\text{M})=0.000347$ 5; $\alpha(\text{N}+..)=9.04\times 10^{-5}$ 13
		738.9 2	100 7	1271.8	(17/2 ⁻)	E2		0.00441 7	$\alpha(\text{N})=7.77\times 10^{-5}$ 11; $\alpha(\text{O})=1.185\times 10^{-5}$ 17; $\alpha(\text{P})=7.83\times 10^{-7}$ 12 $\alpha(\text{K})=0.00372$ 6; $\alpha(\text{L})=0.000542$ 8; $\alpha(\text{M})=0.0001156$ 17; $\alpha(\text{N}+..)=2.98\times 10^{-5}$ 5
2027.0	(17/2 ⁺)	486.2 10	13 8	1540.7	(15/2 ⁺)	[M1]		0.0196	$\alpha(\text{N})=2.57\times 10^{-5}$ 4; $\alpha(\text{O})=3.83\times 10^{-6}$ 6; $\alpha(\text{P})=2.23\times 10^{-7}$ 4 $\alpha(\text{K})=0.0168$ 3; $\alpha(\text{L})=0.00225$ 4; $\alpha(\text{M})=0.000475$ 8; $\alpha(\text{N}+..)=0.0001236$ 19
		667.1 5	100 15	1359.8	(13/2 ⁺)	[E2]		0.00562 8	$\alpha(\text{N})=0.0001063$ 16; $\alpha(\text{O})=1.621\times 10^{-5}$ 25; $\alpha(\text{P})=1.069\times 10^{-6}$ 16 B(M1)(W.u.)=0.014 10 B(E2)(W.u.)=59 20 $\alpha(\text{K})=0.00473$ 7; $\alpha(\text{L})=0.000707$ 10; $\alpha(\text{M})=0.0001511$ 22; $\alpha(\text{N}+..)=3.89\times 10^{-5}$ 6
		746.3 10	25 8	1280.7	(15/2 ⁻)	[E1]		0.001658 24	$\alpha(\text{N})=3.36\times 10^{-5}$ 5; $\alpha(\text{O})=4.98\times 10^{-6}$ 7; $\alpha(\text{P})=2.83\times 10^{-7}$ 4 $\alpha(\text{K})=0.001427$ 21; $\alpha(\text{L})=0.000183$ 3; $\alpha(\text{M})=3.84\times 10^{-5}$ 6; $\alpha(\text{N}+..)=9.96\times 10^{-6}$ 15
		1189.7 10	25 8	837.26	(15/2 ⁻)	[E1]		0.000702 10	$\alpha(\text{N})=8.57\times 10^{-6}$ 13; $\alpha(\text{O})=1.299\times 10^{-6}$ 19; $\alpha(\text{P})=8.40\times 10^{-8}$ 12 B(E1)(W.u.)=9.E-5 4 $\alpha(\text{K})=0.000586$ 9; $\alpha(\text{L})=7.37\times 10^{-5}$ 11; $\alpha(\text{M})=1.546\times 10^{-5}$ 22; $\alpha(\text{N}+..)=2.70\times 10^{-5}$ 6
									$\alpha(\text{N})=3.46\times 10^{-6}$ 5; $\alpha(\text{O})=5.26\times 10^{-7}$ 8; $\alpha(\text{P})=3.48\times 10^{-8}$ 5; $\alpha(\text{IPF})=2.30\times 10^{-5}$ 6 B(E1)(W.u.)=2.1 $\times 10^{-5}$ 10
2043.4		1689.8 [#] 3	100 [#]	353.62	(3/2 ⁻)				
2076.7		1723.1 [#] 3	100 [#]	353.62	(3/2 ⁻)				
2089.43	(21/2 ⁺)	290.5 2	28.1 16	1799.03	(19/2 ⁺)	M1		0.0744	$\alpha(\text{K})=0.0634$ 9; $\alpha(\text{L})=0.00863$ 13; $\alpha(\text{M})=0.00183$ 3; $\alpha(\text{N}+..)=0.000476$ 7 $\alpha(\text{N})=0.000409$ 6; $\alpha(\text{O})=6.23\times 10^{-5}$ 9; $\alpha(\text{P})=4.07\times 10^{-6}$ 6

Adopted Levels, Gammas (continued)

$\gamma(^{133}\text{Nd})$ (continued)								
$E_i(\text{level})$	J_i^π	$E_\gamma^{\ddagger}$	$I_\gamma^{\ddagger}$	E_f	J_f^π	Mult. @	$\alpha^\dagger$	Comments
2089.43	(21/2 ⁺)	465.5 5 597.50 15	11.2 8 100 5	1623.9 1491.95	(17/2 ⁺) (17/2 ⁺)	E2	0.00739 11	$\alpha(\text{K})=0.00618$ 9; $\alpha(\text{L})=0.000954$ 14; $\alpha(\text{M})=0.000204$ 3; $\alpha(\text{N}+..)=5.25\times 10^{-5}$ 8 $\alpha(\text{N})=4.54\times 10^{-5}$ 7; $\alpha(\text{O})=6.69\times 10^{-6}$ 10; $\alpha(\text{P})=3.67\times 10^{-7}$ 6 $\alpha(\text{K})=0.00565$ 8; $\alpha(\text{L})=0.000863$ 13; $\alpha(\text{M})=0.000185$ 3; $\alpha(\text{N}+..)=4.75\times 10^{-5}$ 7 $\alpha(\text{N})=4.11\times 10^{-5}$ 6; $\alpha(\text{O})=6.06\times 10^{-6}$ 9; $\alpha(\text{P})=3.37\times 10^{-7}$ 5 $\alpha(\text{K})=0.00645$ 9; $\alpha(\text{L})=0.001001$ 14; $\alpha(\text{M})=0.000215$ 3; $\alpha(\text{N}+..)=5.51\times 10^{-5}$ 8 $\alpha(\text{N})=4.77\times 10^{-5}$ 7; $\alpha(\text{O})=7.02\times 10^{-6}$ 10; $\alpha(\text{P})=3.83\times 10^{-7}$ 6
2160.2	(19/2 ⁺)	619.5 2	100	1540.7	(15/2 ⁺)	E2	0.00675 10	$\alpha(\text{K})=0.00372$ 6; $\alpha(\text{L})=0.000542$ 8; $\alpha(\text{M})=0.0001156$ 17; $\alpha(\text{N}+..)=2.98\times 10^{-5}$ 5 $\alpha(\text{N})=2.57\times 10^{-5}$ 4; $\alpha(\text{O})=3.83\times 10^{-6}$ 6; $\alpha(\text{P})=2.23\times 10^{-7}$ 4
2186.3	(21/2 ⁻)	587.2 2	100	1599.1	(17/2 ⁻)	E2	0.00773 11	$\alpha(\text{K})=0.0273$ 4; $\alpha(\text{L})=0.00523$ 8; $\alpha(\text{M})=0.001140$ 17; $\alpha(\text{N}+..)=0.000289$ 5 $\alpha(\text{N})=0.000251$ 4; $\alpha(\text{O})=3.57\times 10^{-5}$ 6; $\alpha(\text{P})=1.533\times 10^{-6}$ 23 $\text{B}(\text{E}2)(\text{W.u.})=2.7\times 10^2$ 4 $\alpha(\text{K})=0.01681$ 25; $\alpha(\text{L})=0.00298$ 5; $\alpha(\text{M})=0.000645$ 10; $\alpha(\text{N}+..)=0.0001639$ 24 $\alpha(\text{N})=0.0001425$ 21; $\alpha(\text{O})=2.05\times 10^{-5}$ 3; $\alpha(\text{P})=9.65\times 10^{-7}$ 14 $\text{B}(\text{E}2)(\text{W.u.})=83$ 13
2199.7	(23/2 ⁻)	189.0 5 738.90 15	3.0 8 100 3	2010.7 1460.76	(21/2 ⁻) (19/2 ⁻)	E2	0.00441 7	$\alpha(\text{K})=0.00338$ 5; $\alpha(\text{L})=0.000440$ 7; $\alpha(\text{M})=9.26\times 10^{-5}$ 14; $\alpha(\text{N}+..)=2.40\times 10^{-5}$ 4 $\alpha(\text{N})=2.07\times 10^{-5}$ 3; $\alpha(\text{O})=3.11\times 10^{-6}$ 5; $\alpha(\text{P})=1.96\times 10^{-7}$ 3 $\text{B}(\text{E}1)(\text{W.u.})=2.8\times 10^{-5}$ 9 $\alpha(\text{K})=0.0608$ 9; $\alpha(\text{L})=0.00826$ 12; $\alpha(\text{M})=0.001749$ 25; $\alpha(\text{N}+..)=0.000455$ 7 $\alpha(\text{N})=0.000392$ 6; $\alpha(\text{O})=5.96\times 10^{-5}$ 9; $\alpha(\text{P})=3.90\times 10^{-6}$ 6 $\alpha(\text{K})=0.00650$ 10; $\alpha(\text{L})=0.001010$ 15; $\alpha(\text{M})=0.000216$ 3; $\alpha(\text{N}+..)=5.55\times 10^{-5}$ 8 $\alpha(\text{N})=4.81\times 10^{-5}$ 7; $\alpha(\text{O})=7.07\times 10^{-6}$ 10; $\alpha(\text{P})=3.86\times 10^{-7}$ 6
2312.7	(21/2 ⁺)	377 ^{&} 1 688.8 5	100 20	1936.7 1623.9	(19/2 ⁺) (17/2 ⁺)			
2312.7?		820.8 2	100 18	1491.95	(17/2 ⁺)			
2372.3	(21/2 ⁺)	345.3 5	100 11	2027.0	(17/2 ⁺)	E2	0.0340	
		409.1 5	71 9	1963.1	(17/2 ⁺)	E2	0.0206	
		500.1 10	14 4	1872.1	(19/2 ⁻)	(E1)	0.00394 6	
2384.59	(23/2 ⁺)	295.3 2	35 2	2089.43	(21/2 ⁺)	M1	0.0712	
		585.50 15	100 6	1799.03	(19/2 ⁺)	E2	0.00778 11	
2451.2		2051.5 [#] 5 2053.0 [#] 5 2160.0 [#] 5	75 [#] 25 100 [#] 25 50 [#] 25	399.81 397.93 291.37	(1/2 ⁺ , 3/2 ⁺) (5/2 ⁺) (5/2 ⁺)			
2527.7	(23/2 ⁻)	655.6 5	38 5	1872.1	(19/2 ⁻)	E2	0.00587 9	$\alpha(\text{K})=0.00493$ 7; $\alpha(\text{L})=0.000741$ 11; $\alpha(\text{M})=0.0001583$ 23;

Adopted Levels, Gammas (continued)

$\gamma(^{133}\text{Nd})$ (continued)

$E_i(\text{level})$	J_i^π	$E_\gamma^{\ddagger}$	$I_\gamma^{\ddagger}$	E_f	J_f^π	Mult. @	$\alpha^\dagger$	Comments
2527.7	(23/2 ⁻)	712.0 5	100 13	1815.7	(19/2 ⁻)	E2	0.00481 7	$\alpha(\text{N}+..)=4.07\times 10^{-5}$ 6 $\alpha(\text{N})=3.52\times 10^{-5}$ 5; $\alpha(\text{O})=5.21\times 10^{-6}$ 8; $\alpha(\text{P})=2.94\times 10^{-7}$ 5 $\alpha(\text{K})=0.00405$ 6; $\alpha(\text{L})=0.000596$ 9; $\alpha(\text{M})=0.0001272$ 18; $\alpha(\text{N}+..)=3.28\times 10^{-5}$ 5
2538.9	(23/2 ⁻)	666.8 2	100	1872.1	(19/2 ⁻)	E2	0.00563 8	$\alpha(\text{N})=2.83\times 10^{-5}$ 4; $\alpha(\text{O})=4.21\times 10^{-6}$ 6; $\alpha(\text{P})=2.43\times 10^{-7}$ 4 $\alpha(\text{K})=0.00473$ 7; $\alpha(\text{L})=0.000708$ 10; $\alpha(\text{M})=0.0001513$ 22; $\alpha(\text{N}+..)=3.89\times 10^{-5}$ 6 $\alpha(\text{N})=3.36\times 10^{-5}$ 5; $\alpha(\text{O})=4.99\times 10^{-6}$ 7; $\alpha(\text{P})=2.83\times 10^{-7}$ 4
2554.0	(21/2 ⁺)	527.0 10	33 20	2027.0	(17/2 ⁺)			
		590.9 5	100 20	1963.1	(17/2 ⁺)			
2677.5?		741.0 10		1936.6?				
		878.4 5	100 15	1799.03	(19/2 ⁺)			
2677.6	(23/2 ⁺)	740.9 5	100	1936.7	(19/2 ⁺)			
2694.14	(25/2 ⁺)	309.6 2	33.3 19	2384.59	(23/2 ⁺)			
		604.70 15	100 10	2089.43	(21/2 ⁺)	E2	0.00717 10	$\alpha(\text{K})=0.00600$ 9; $\alpha(\text{L})=0.000923$ 13; $\alpha(\text{M})=0.000198$ 3; $\alpha(\text{N}+..)=5.07\times 10^{-5}$ 8 $\alpha(\text{N})=4.39\times 10^{-5}$ 7; $\alpha(\text{O})=6.48\times 10^{-6}$ 9; $\alpha(\text{P})=3.57\times 10^{-7}$ 5 $\alpha(\text{K})=0.00599$ 9; $\alpha(\text{L})=0.000921$ 13; $\alpha(\text{M})=0.000197$ 3; $\alpha(\text{N}+..)=5.06\times 10^{-5}$ 8 $\alpha(\text{N})=4.38\times 10^{-5}$ 7; $\alpha(\text{O})=6.46\times 10^{-6}$ 10; $\alpha(\text{P})=3.56\times 10^{-7}$ 5 $\alpha(\text{K})=0.00574$ 9; $\alpha(\text{L})=0.000879$ 13; $\alpha(\text{M})=0.000188$ 3; $\alpha(\text{N}+..)=4.83\times 10^{-5}$ 7 $\alpha(\text{N})=4.18\times 10^{-5}$ 6; $\alpha(\text{O})=6.17\times 10^{-6}$ 9; $\alpha(\text{P})=3.42\times 10^{-7}$ 5 $\alpha(\text{K})=0.01366$ 20; $\alpha(\text{L})=0.00234$ 4; $\alpha(\text{M})=0.000507$ 8; $\alpha(\text{N}+..)=0.0001291$ 19 $\alpha(\text{N})=0.0001121$ 16; $\alpha(\text{O})=1.622\times 10^{-5}$ 23; $\alpha(\text{P})=7.91\times 10^{-7}$ 12 B(E2)(W.u.)= 4.1×10^2 5 $\alpha(\text{K})=0.00390$ 6; $\alpha(\text{L})=0.000572$ 9; $\alpha(\text{M})=0.0001219$ 18; $\alpha(\text{N}+..)=3.14\times 10^{-5}$ 5 $\alpha(\text{N})=2.71\times 10^{-5}$ 4; $\alpha(\text{O})=4.04\times 10^{-6}$ 6; $\alpha(\text{P})=2.34\times 10^{-7}$ 4 B(E2)(W.u.)=1.4 6
2765.5	(23/2 ⁺)	605.2 5	100	2160.2	(19/2 ⁺)	E2	0.00716 11	
2775.7	(23/2 ⁺)	615.5 5	100	2160.2	(19/2 ⁺)	E2	0.00686 10	
2813.2	(25/2 ⁺)	440.9 2	100 8	2372.3	(21/2 ⁺)	E2	0.01664	
		723.7 10	4.2 17	2089.43	(21/2 ⁺)	[E2]	0.00463 7	
2813.5	(25/2 ⁻)	614.0 5	48 4	2199.7	(23/2 ⁻)			
		802.8 2	100 5	2010.7	(21/2 ⁻)	E2	0.00364 5	$\alpha(\text{K})=0.00308$ 5; $\alpha(\text{L})=0.000441$ 7; $\alpha(\text{M})=9.38\times 10^{-5}$ 14; $\alpha(\text{N}+..)=2.42\times 10^{-5}$ 4 $\alpha(\text{N})=2.09\times 10^{-5}$ 3; $\alpha(\text{O})=3.12\times 10^{-6}$ 5; $\alpha(\text{P})=1.85\times 10^{-7}$ 3 $\alpha(\text{K})=0.00479$ 7; $\alpha(\text{L})=0.000719$ 10; $\alpha(\text{M})=0.0001536$ 22; $\alpha(\text{N}+..)=3.95\times 10^{-5}$ 6 $\alpha(\text{N})=3.41\times 10^{-5}$ 5; $\alpha(\text{O})=5.06\times 10^{-6}$ 7; $\alpha(\text{P})=2.87\times 10^{-7}$ 4
2849.4	(25/2 ⁻)	663.1 2	100	2186.3	(21/2 ⁻)	E2	0.00571 8	
2946.7?		269.2 10		2677.5?				

Adopted Levels, Gammas (continued)

 $\gamma(^{133}\text{Nd})$ (continued)

$E_i(\text{level})$	J_i^π	$E_\gamma^{\ddagger}$	$I_\gamma^{\ddagger}$	E_f	J_f^π	Mult. @	$\alpha^\dagger$	Comments
2992.2	(25/2 ⁺)	216.6 5	75 13	2775.7	(23/2 ⁺)	M1	0.163 3	$\alpha(\text{K})=0.1392$ 22; $\alpha(\text{L})=0.0191$ 3; $\alpha(\text{M})=0.00405$ 7; $\alpha(\text{N}+..)=0.001054$ 17 $\alpha(\text{N})=0.000907$ 14; $\alpha(\text{O})=0.0001379$ 22; $\alpha(\text{P})=8.98\times 10^{-6}$ 14
3019.6	(23/2 ⁻)	226.7 5	100 13	2765.5	(23/2 ⁺)	D		
3020.70	(27/2 ⁺)	1009.0 5	100	2010.7	(21/2 ⁻)			
		326.6 2	21.3 13	2694.14	(25/2 ⁺)	M1	0.0546	$\alpha(\text{K})=0.0466$ 7; $\alpha(\text{L})=0.00632$ 9; $\alpha(\text{M})=0.001338$ 19; $\alpha(\text{N}+..)=0.000348$ 5 $\alpha(\text{N})=0.000300$ 5; $\alpha(\text{O})=4.56\times 10^{-5}$ 7; $\alpha(\text{P})=2.99\times 10^{-6}$ 5
		636.1 2	100 5	2384.59	(23/2 ⁺)	E2	0.00632 9	$\alpha(\text{K})=0.00530$ 8; $\alpha(\text{L})=0.000804$ 12; $\alpha(\text{M})=0.0001719$ 25; $\alpha(\text{N}+..)=4.42\times 10^{-5}$ 7 $\alpha(\text{N})=3.82\times 10^{-5}$ 6; $\alpha(\text{O})=5.65\times 10^{-6}$ 8; $\alpha(\text{P})=3.16\times 10^{-7}$ 5
3027.5	(27/2 ⁻)	214.0 5	6.5 16	2813.5	(25/2 ⁻)			
		827.8 2	100 4	2199.7	(23/2 ⁻)	E2	0.00339 5	$\alpha(\text{K})=0.00287$ 4; $\alpha(\text{L})=0.000409$ 6; $\alpha(\text{M})=8.69\times 10^{-5}$ 13; $\alpha(\text{N}+..)=2.24\times 10^{-5}$ 4 $\alpha(\text{N})=1.94\times 10^{-5}$ 3; $\alpha(\text{O})=2.90\times 10^{-6}$ 4; $\alpha(\text{P})=1.732\times 10^{-7}$ 25
3031.0	(25/2 ⁻)	1020.3 5	100	2010.7	(21/2 ⁻)	E2	0.00215 3	$\alpha(\text{K})=0.00183$ 3; $\alpha(\text{L})=0.000251$ 4; $\alpha(\text{M})=5.31\times 10^{-5}$ 8; $\alpha(\text{N}+..)=1.375\times 10^{-5}$ 20 $\alpha(\text{N})=1.186\times 10^{-5}$ 17; $\alpha(\text{O})=1.79\times 10^{-6}$ 3; $\alpha(\text{P})=1.108\times 10^{-7}$ 16
3090.6	(25/2 ⁺)	777.8 10	100	2312.7	(21/2 ⁺)			
3129.1	(25/2 ⁺)	575.1 10	100	2554.0	(21/2 ⁺)			
3168.7	(27/2 ⁻)	137.6 5	10.0 18	3031.0	(25/2 ⁻)			
		141.3 5	7.1 11	3027.5	(27/2 ⁻)			
		149.2 5	5.4 18	3019.6	(23/2 ⁻)	E2	0.533 10	$\alpha(\text{K})=0.363$ 7; $\alpha(\text{L})=0.133$ 3; $\alpha(\text{M})=0.0299$ 6; $\alpha(\text{N}+..)=0.00738$ 15 $\alpha(\text{N})=0.00650$ 13; $\alpha(\text{O})=0.000862$ 18; $\alpha(\text{P})=1.73\times 10^{-5}$ 3
		969.0 2	100 40	2199.7	(23/2 ⁻)	E2	0.00240 4	$\alpha(\text{K})=0.00204$ 3; $\alpha(\text{L})=0.000282$ 4; $\alpha(\text{M})=5.98\times 10^{-5}$ 9; $\alpha(\text{N}+..)=1.547\times 10^{-5}$ 22 $\alpha(\text{N})=1.334\times 10^{-5}$ 19; $\alpha(\text{O})=2.01\times 10^{-6}$ 3; $\alpha(\text{P})=1.235\times 10^{-7}$ 18
3207.1	(27/2 ⁻)	668.2 2	100 8	2538.9	(23/2 ⁻)			
		679.4 2	49 5	2527.7	(23/2 ⁻)			
3271.1	(27/2 ⁺)	278.9 5	100 20	2992.2	(25/2 ⁺)	M1	0.0829	$\alpha(\text{K})=0.0707$ 11; $\alpha(\text{L})=0.00962$ 15; $\alpha(\text{M})=0.00204$ 3; $\alpha(\text{N}+..)=0.000531$ 8 $\alpha(\text{N})=0.000457$ 7; $\alpha(\text{O})=6.95\times 10^{-5}$ 11; $\alpha(\text{P})=4.54\times 10^{-6}$ 7
3327.3	(29/2 ⁺)	495.4 5	100 20	2775.7	(23/2 ⁺)			
		306.6 10	7.7 23	3020.70	(27/2 ⁺)	[M1]	0.0645 11	$\alpha(\text{K})=0.0550$ 9; $\alpha(\text{L})=0.00747$ 13; $\alpha(\text{M})=0.00158$ 3; $\alpha(\text{N}+..)=0.000412$ 7 $\alpha(\text{N})=0.000354$ 6; $\alpha(\text{O})=5.39\times 10^{-5}$ 9; $\alpha(\text{P})=3.53\times 10^{-6}$ 6 B(M1)(W.u.)>0.030
		514.1 2	100 8	2813.2	(25/2 ⁺)	E2	0.01093	$\alpha(\text{K})=0.00906$ 13; $\alpha(\text{L})=0.001468$ 21; $\alpha(\text{M})=0.000316$ 5; $\alpha(\text{N}+..)=8.08\times 10^{-5}$ 12 $\alpha(\text{N})=7.00\times 10^{-5}$ 10; $\alpha(\text{O})=1.023\times 10^{-5}$ 15; $\alpha(\text{P})=5.32\times 10^{-7}$ 8 B(E2)(W.u.)>2.0×10 ²
		633.2 5	38 5	2694.14	(25/2 ⁺)	E2	0.00639 9	$\alpha(\text{K})=0.00536$ 8; $\alpha(\text{L})=0.000814$ 12; $\alpha(\text{M})=0.0001740$ 25; $\alpha(\text{N}+..)=4.47\times 10^{-5}$ 7

Adopted Levels, Gammas (continued)

$\gamma(^{133}\text{Nd})$ (continued)								
$E_i(\text{level})$	J_i^π	$E_\gamma^{\ddagger}$	$I_\gamma^{\ddagger}$	E_f	J_f^π	Mult. @	$\alpha^\dagger$	Comments
								$\alpha(\text{K})=0.00536$ 8; $\alpha(\text{L})=0.000814$ 12; $\alpha(\text{M})=0.0001740$ 25; $\alpha(\text{N}+..)=4.47\times 10^{-5}$ 7 $\alpha(\text{N})=3.87\times 10^{-5}$ 6; $\alpha(\text{O})=5.72\times 10^{-6}$ 8; $\alpha(\text{P})=3.20\times 10^{-7}$ 5 B(E2)(W.u.)>27
3366.16	(29/2 ⁺)	345.5 2	33.3 21	3020.70	(27/2 ⁺)	M1	0.0472	$\alpha(\text{K})=0.0403$ 6; $\alpha(\text{L})=0.00545$ 8; $\alpha(\text{M})=0.001153$ 17; $\alpha(\text{N}+..)=0.000300$ 5 $\alpha(\text{N})=0.000258$ 4; $\alpha(\text{O})=3.93\times 10^{-5}$ 6; $\alpha(\text{P})=2.58\times 10^{-6}$ 4
		553.1 10	2.1 13	2813.2	(25/2 ⁺)	E2	0.00901 14	$\alpha(\text{K})=0.00750$ 11; $\alpha(\text{L})=0.001186$ 18; $\alpha(\text{M})=0.000255$ 4; $\alpha(\text{N}+..)=6.53\times 10^{-5}$ 10
		672.0 2	100 6	2694.14	(25/2 ⁺)	E2	0.00552 8	$\alpha(\text{N})=5.65\times 10^{-5}$ 9; $\alpha(\text{O})=8.29\times 10^{-6}$ 13; $\alpha(\text{P})=4.44\times 10^{-7}$ 7 $\alpha(\text{K})=0.00464$ 7; $\alpha(\text{L})=0.000694$ 10; $\alpha(\text{M})=0.0001482$ 21; $\alpha(\text{N}+..)=3.81\times 10^{-5}$ 6
3401.6	(29/2 ⁻)	233.0 2	100 3	3168.7	(27/2 ⁻)	M1	0.1341	$\alpha(\text{N})=3.30\times 10^{-5}$ 5; $\alpha(\text{O})=4.89\times 10^{-6}$ 7; $\alpha(\text{P})=2.78\times 10^{-7}$ 4 $\alpha(\text{K})=0.1143$ 17; $\alpha(\text{L})=0.01565$ 23; $\alpha(\text{M})=0.00332$ 5; $\alpha(\text{N}+..)=0.000863$ 13 $\alpha(\text{N})=0.000743$ 11; $\alpha(\text{O})=0.0001130$ 16; $\alpha(\text{P})=7.36\times 10^{-6}$ 11
		370.9 10 374.2 2	35.3 15	3031.0 3027.5	(25/2 ⁻) (27/2 ⁻)	M1	0.0383	$\alpha(\text{K})=0.0327$ 5; $\alpha(\text{L})=0.00442$ 7; $\alpha(\text{M})=0.000935$ 14; $\alpha(\text{N}+..)=0.000243$ 4 $\alpha(\text{N})=0.000209$ 3; $\alpha(\text{O})=3.19\times 10^{-5}$ 5; $\alpha(\text{P})=2.09\times 10^{-6}$ 3
3419.5	(27/2 ⁺)	588.1 2 643.8 5	50.0 15 100	2813.5 2775.7	(25/2 ⁻) (23/2 ⁺)	E2	0.00613 9	$\alpha(\text{K})=0.00515$ 8; $\alpha(\text{L})=0.000778$ 11; $\alpha(\text{M})=0.0001663$ 24; $\alpha(\text{N}+..)=4.28\times 10^{-5}$ 6
3419.7	(27/2 ⁺)	654.2 5	100	2765.5	(23/2 ⁺)	E2	0.00590 9	$\alpha(\text{N})=3.70\times 10^{-5}$ 6; $\alpha(\text{O})=5.47\times 10^{-6}$ 8; $\alpha(\text{P})=3.07\times 10^{-7}$ 5 $\alpha(\text{K})=0.00495$ 7; $\alpha(\text{L})=0.000745$ 11; $\alpha(\text{M})=0.0001592$ 23; $\alpha(\text{N}+..)=4.09\times 10^{-5}$ 6
3551.7	(29/2 ⁻)	702.3 2	100	2849.4	(25/2 ⁻)	E2	0.00497 7	$\alpha(\text{N})=3.54\times 10^{-5}$ 5; $\alpha(\text{O})=5.24\times 10^{-6}$ 8; $\alpha(\text{P})=2.96\times 10^{-7}$ 5 $\alpha(\text{K})=0.00418$ 6; $\alpha(\text{L})=0.000618$ 9; $\alpha(\text{M})=0.0001319$ 19; $\alpha(\text{N}+..)=3.40\times 10^{-5}$ 5
3568.5	(29/2 ⁻)	541.1 5 719.2 5	27 6 100 10	3027.5 2849.4	(27/2 ⁻) (25/2 ⁻)	E2	0.00469 7	$\alpha(\text{N})=2.93\times 10^{-5}$ 5; $\alpha(\text{O})=4.36\times 10^{-6}$ 7; $\alpha(\text{P})=2.51\times 10^{-7}$ 4 $\alpha(\text{K})=0.00396$ 6; $\alpha(\text{L})=0.000581$ 9; $\alpha(\text{M})=0.0001239$ 18; $\alpha(\text{N}+..)=3.19\times 10^{-5}$ 5
		754.9 5	55 6	2813.5	(25/2 ⁻)	E2	0.00419 6	$\alpha(\text{N})=2.76\times 10^{-5}$ 4; $\alpha(\text{O})=4.10\times 10^{-6}$ 6; $\alpha(\text{P})=2.37\times 10^{-7}$ 4 $\alpha(\text{K})=0.00354$ 5; $\alpha(\text{L})=0.000514$ 8; $\alpha(\text{M})=0.0001094$ 16; $\alpha(\text{N}+..)=2.82\times 10^{-5}$ 4
3596.5	(29/2 ⁺)	325.5 5	100	3271.1	(27/2 ⁺)	M1	0.0551	$\alpha(\text{N})=2.44\times 10^{-5}$ 4; $\alpha(\text{O})=3.63\times 10^{-6}$ 6; $\alpha(\text{P})=2.13\times 10^{-7}$ 3 $\alpha(\text{K})=0.0470$ 7; $\alpha(\text{L})=0.00637$ 10; $\alpha(\text{M})=0.001350$ 20; $\alpha(\text{N}+..)=0.000351$ 6
3658.9	(31/2 ⁻)	257.4 2	100 4	3401.6	(29/2 ⁻)	M1	0.1026	$\alpha(\text{N})=0.000302$ 5; $\alpha(\text{O})=4.60\times 10^{-5}$ 7; $\alpha(\text{P})=3.01\times 10^{-6}$ 5 $\alpha(\text{K})=0.0875$ 13; $\alpha(\text{L})=0.01194$ 17; $\alpha(\text{M})=0.00253$ 4; $\alpha(\text{N}+..)=0.000659$ 10
		490.2 2	38 4	3168.7	(27/2 ⁻)	E2	0.01242	$\alpha(\text{N})=0.000567$ 8; $\alpha(\text{O})=8.62\times 10^{-5}$ 13; $\alpha(\text{P})=5.63\times 10^{-6}$ 8 $\alpha(\text{K})=0.01027$ 15; $\alpha(\text{L})=0.001692$ 24; $\alpha(\text{M})=0.000364$ 6;

Adopted Levels, Gammas (continued)

$\gamma(^{133}\text{Nd})$ (continued)								
$E_i(\text{level})$	J_i^π	$E_\gamma^{\ddagger}$	$I_\gamma^{\ddagger}$	E_f	J_f^π	Mult. @	$\alpha^\dagger$	Comments
3658.9	(31/2 ⁻)	631.2 5	18.8 13	3027.5	(27/2 ⁻)	E2	0.00644 10	$\alpha(\text{N}+..)=9.31\times10^{-5}$ 13 $\alpha(\text{N})=8.08\times10^{-5}$ 12; $\alpha(\text{O})=1.177\times10^{-5}$ 17; $\alpha(\text{P})=6.01\times10^{-7}$ 9 $\alpha(\text{K})=0.00540$ 8; $\alpha(\text{L})=0.000821$ 12; $\alpha(\text{M})=0.0001755$ 25; $\alpha(\text{N}+..)=4.51\times10^{-5}$ 7 $\alpha(\text{N})=3.90\times10^{-5}$ 6; $\alpha(\text{O})=5.77\times10^{-6}$ 9; $\alpha(\text{P})=3.22\times10^{-7}$ 5
3715.4	(31/2 ⁺)	349.3 5 694.7 2	27.8 19 100 6	3366.16 3020.70	(29/2 ⁺) (27/2 ⁺)	E2	0.00510 8	$\alpha(\text{K})=0.00429$ 6; $\alpha(\text{L})=0.000636$ 9; $\alpha(\text{M})=0.0001357$ 19; $\alpha(\text{N}+..)=3.49\times10^{-5}$ 5 $\alpha(\text{N})=3.02\times10^{-5}$ 5; $\alpha(\text{O})=4.48\times10^{-6}$ 7; $\alpha(\text{P})=2.57\times10^{-7}$ 4
3764.8	(29/2 ⁺)	635.7 10	100	3129.1	(25/2 ⁺)			
3772.1	(31/2 ⁻)	565.0 2	100	3207.1	(27/2 ⁻)	E2	0.00853 12	$\alpha(\text{K})=0.00711$ 10; $\alpha(\text{L})=0.001116$ 16; $\alpha(\text{M})=0.000240$ 4; $\alpha(\text{N}+..)=6.14\times10^{-5}$ 9 $\alpha(\text{N})=5.32\times10^{-5}$ 8; $\alpha(\text{O})=7.81\times10^{-6}$ 11; $\alpha(\text{P})=4.21\times10^{-7}$ 6
3909.4	(31/2 ⁻)	881.9 5	100	3027.5	(27/2 ⁻)	E2	0.00294 5	$\alpha(\text{K})=0.00250$ 4; $\alpha(\text{L})=0.000351$ 5; $\alpha(\text{M})=7.46\times10^{-5}$ 11; $\alpha(\text{N}+..)=1.93\times10^{-5}$ 3 $\alpha(\text{N})=1.663\times10^{-5}$ 24; $\alpha(\text{O})=2.49\times10^{-6}$ 4; $\alpha(\text{P})=1.509\times10^{-7}$ 22
3909.5	(31/2 ⁻)	702.4 5	100	3207.1	(27/2 ⁻)	E2	0.00497 7	$\alpha(\text{K})=0.00418$ 6; $\alpha(\text{L})=0.000618$ 9; $\alpha(\text{M})=0.0001318$ 19; $\alpha(\text{N}+..)=3.39\times10^{-5}$ 5 $\alpha(\text{N})=2.93\times10^{-5}$ 5; $\alpha(\text{O})=4.36\times10^{-6}$ 7; $\alpha(\text{P})=2.51\times10^{-7}$ 4
3931.6	(33/2 ⁺)	565.6 5 604.3 2	7.4 21 100 8	3366.16 3327.3	(29/2 ⁺) (29/2 ⁺)	E2	0.00718 10	$\alpha(\text{K})=0.00601$ 9; $\alpha(\text{L})=0.000925$ 13; $\alpha(\text{M})=0.000198$ 3; $\alpha(\text{N}+..)=5.08\times10^{-5}$ 8 $\alpha(\text{N})=4.40\times10^{-5}$ 7; $\alpha(\text{O})=6.49\times10^{-6}$ 10; $\alpha(\text{P})=3.57\times10^{-7}$ 5
3941.4	(31/2 ⁺)	345.0 5	100 17	3596.5	(29/2 ⁺)	M1	0.0473	$\alpha(\text{K})=0.0404$ 6; $\alpha(\text{L})=0.00547$ 8; $\alpha(\text{M})=0.001157$ 17; $\alpha(\text{N}+..)=0.000301$ 5 $\alpha(\text{N})=0.000259$ 4; $\alpha(\text{O})=3.95\times10^{-5}$ 6; $\alpha(\text{P})=2.59\times10^{-6}$ 4
		670.2 5	100 17	3271.1	(27/2 ⁺)	E2	0.00556 8	$\alpha(\text{K})=0.00467$ 7; $\alpha(\text{L})=0.000699$ 10; $\alpha(\text{M})=0.0001492$ 22; $\alpha(\text{N}+..)=3.84\times10^{-5}$ 6 $\alpha(\text{N})=3.32\times10^{-5}$ 5; $\alpha(\text{O})=4.92\times10^{-6}$ 7; $\alpha(\text{P})=2.80\times10^{-7}$ 4
4000.3	(33/2 ⁻)	341.4 2	100 4	3658.9	(31/2 ⁻)	M1	0.0487	$\alpha(\text{K})=0.0415$ 6; $\alpha(\text{L})=0.00562$ 8; $\alpha(\text{M})=0.001190$ 17; $\alpha(\text{N}+..)=0.000310$ 5 $\alpha(\text{N})=0.000266$ 4; $\alpha(\text{O})=4.06\times10^{-5}$ 6; $\alpha(\text{P})=2.66\times10^{-6}$ 4
4078.4	(33/2 ⁺)	598.6 2 363.0 5 712.2 2	48 4 30.8 23 100 5	3401.6 3715.4 3366.16	(29/2 ⁻) (31/2 ⁺) (29/2 ⁺)	E2	0.00481 7	$\alpha(\text{K})=0.00405$ 6; $\alpha(\text{L})=0.000596$ 9; $\alpha(\text{M})=0.0001271$ 18; $\alpha(\text{N}+..)=3.27\times10^{-5}$ 5 $\alpha(\text{N})=2.83\times10^{-5}$ 4; $\alpha(\text{O})=4.21\times10^{-6}$ 6; $\alpha(\text{P})=2.43\times10^{-7}$ 4
4103.2		701.6 5	100	3401.6	(29/2 ⁻)			
4121.8		755.6 5	100	3366.16	(29/2 ⁺)			
4124.8	(31/2 ⁺)	705.1 5	100	3419.7	(27/2 ⁺)	E2	0.00492 7	$\alpha(\text{K})=0.00415$ 6; $\alpha(\text{L})=0.000612$ 9; $\alpha(\text{M})=0.0001305$ 19; $\alpha(\text{N}+..)=3.36\times10^{-5}$ 5 $\alpha(\text{N})=2.90\times10^{-5}$ 5; $\alpha(\text{O})=4.31\times10^{-6}$ 6; $\alpha(\text{P})=2.48\times10^{-7}$ 4

Adopted Levels, Gammas (continued)

$\gamma(^{133}\text{Nd})$ (continued)								
$E_i(\text{level})$	J_i^π	$E_\gamma^{\ddagger}$	$I_\gamma^{\ddagger}$	E_f	J_f^π	Mult. @	$\alpha^\dagger$	Comments
4149.7		730.2 10	100	3419.5	(27/2 ⁺)			
4281.9	(33/2 ⁻)	730.2 5	100	3551.7	(29/2 ⁻)	E2	0.00453 7	$\alpha(\text{K})=0.00382$ 6; $\alpha(\text{L})=0.000559$ 8; $\alpha(\text{M})=0.0001192$ 17; $\alpha(\text{N}+..)=3.07\times 10^{-5}$ 5 $\alpha(\text{N})=2.65\times 10^{-5}$ 4; $\alpha(\text{O})=3.95\times 10^{-6}$ 6; $\alpha(\text{P})=2.29\times 10^{-7}$ 4
4308.9	(33/2 ⁻)	740.4 5	100	3568.5	(29/2 ⁻)	E2	0.00438 7	$\alpha(\text{K})=0.00370$ 6; $\alpha(\text{L})=0.000540$ 8; $\alpha(\text{M})=0.0001150$ 17; $\alpha(\text{N}+..)=2.96\times 10^{-5}$ 5 $\alpha(\text{N})=2.56\times 10^{-5}$ 4; $\alpha(\text{O})=3.81\times 10^{-6}$ 6; $\alpha(\text{P})=2.22\times 10^{-7}$ 4
4347.0	(33/2 ⁺)	405.0 10	100 30	3941.4	(31/2 ⁺)			
		750.6 10	100 30	3596.5	(29/2 ⁺)			
4367.3	(35/2 ⁻)	367.0 2	100 7	4000.3	(33/2 ⁻)	M1	0.0403	$\alpha(\text{K})=0.0344$ 5; $\alpha(\text{L})=0.00465$ 7; $\alpha(\text{M})=0.000983$ 14; $\alpha(\text{N}+..)=0.000256$ 4 $\alpha(\text{N})=0.000220$ 3; $\alpha(\text{O})=3.35\times 10^{-5}$ 5; $\alpha(\text{P})=2.20\times 10^{-6}$ 3
		708.5 5	48 3	3658.9	(31/2 ⁻)	E2	0.00487 7	$\alpha(\text{K})=0.00410$ 6; $\alpha(\text{L})=0.000604$ 9; $\alpha(\text{M})=0.0001289$ 19; $\alpha(\text{N}+..)=3.32\times 10^{-5}$ 5 $\alpha(\text{N})=2.87\times 10^{-5}$ 4; $\alpha(\text{O})=4.26\times 10^{-6}$ 6; $\alpha(\text{P})=2.46\times 10^{-7}$ 4
4405.8		302.6 5	100	4103.2				
4409.4	(35/2 ⁻)	637.3 2	100	3772.1	(31/2 ⁻)	E2	0.00629 9	$\alpha(\text{K})=0.00528$ 8; $\alpha(\text{L})=0.000799$ 12; $\alpha(\text{M})=0.0001710$ 24; $\alpha(\text{N}+..)=4.39\times 10^{-5}$ 7 $\alpha(\text{N})=3.80\times 10^{-5}$ 6; $\alpha(\text{O})=5.62\times 10^{-6}$ 8; $\alpha(\text{P})=3.15\times 10^{-7}$ 5
4458.8	(35/2 ⁺)	380.5 5	21.2 18	4078.4	(33/2 ⁺)			
		743.4 2	100 6	3715.4	(31/2 ⁺)	E2	0.00434 6	$\alpha(\text{K})=0.00367$ 6; $\alpha(\text{L})=0.000534$ 8; $\alpha(\text{M})=0.0001138$ 16; $\alpha(\text{N}+..)=2.93\times 10^{-5}$ 5 $\alpha(\text{N})=2.53\times 10^{-5}$ 4; $\alpha(\text{O})=3.77\times 10^{-6}$ 6; $\alpha(\text{P})=2.20\times 10^{-7}$ 3
4469.0	(33/2 ⁺)	704.2 10	100	3764.8	(29/2 ⁺)			
4511.6		796.2 5	100	3715.4	(31/2 ⁺)			
4615.1	(37/2 ⁺)	683.5 2	100	3931.6	(33/2 ⁺)	E2	0.00530 8	$\alpha(\text{K})=0.00446$ 7; $\alpha(\text{L})=0.000663$ 10; $\alpha(\text{M})=0.0001416$ 20; $\alpha(\text{N}+..)=3.65\times 10^{-5}$ 6 $\alpha(\text{N})=3.15\times 10^{-5}$ 5; $\alpha(\text{O})=4.67\times 10^{-6}$ 7; $\alpha(\text{P})=2.67\times 10^{-7}$ 4
4650.3	(35/2 ⁻)	740.8 5	100	3909.5	(31/2 ⁻)	E2	0.00438 7	$\alpha(\text{K})=0.00370$ 6; $\alpha(\text{L})=0.000539$ 8; $\alpha(\text{M})=0.0001148$ 17; $\alpha(\text{N}+..)=2.96\times 10^{-5}$ 5 $\alpha(\text{N})=2.56\times 10^{-5}$ 4; $\alpha(\text{O})=3.81\times 10^{-6}$ 6; $\alpha(\text{P})=2.22\times 10^{-7}$ 4
4685.4	(35/2 ⁻)	776.0 5	100	3909.4	(31/2 ⁻)	E2	0.00393 6	$\alpha(\text{K})=0.00332$ 5; $\alpha(\text{L})=0.000479$ 7; $\alpha(\text{M})=0.0001021$ 15; $\alpha(\text{N}+..)=2.63\times 10^{-5}$ 4 $\alpha(\text{N})=2.27\times 10^{-5}$ 4; $\alpha(\text{O})=3.39\times 10^{-6}$ 5; $\alpha(\text{P})=2.00\times 10^{-7}$ 3
4715.1		805.7 5	100	3909.4	(31/2 ⁻)			
4726.5	(35/2 ⁺)	379.1 10	50 15	4347.0	(33/2 ⁺)			
		785.3 5	100 25	3941.4	(31/2 ⁺)	E2	0.00382 6	$\alpha(\text{K})=0.00323$ 5; $\alpha(\text{L})=0.000465$ 7; $\alpha(\text{M})=9.91\times 10^{-5}$ 14; $\alpha(\text{N}+..)=2.56\times 10^{-5}$ 4 $\alpha(\text{N})=2.21\times 10^{-5}$ 4; $\alpha(\text{O})=3.29\times 10^{-6}$ 5; $\alpha(\text{P})=1.95\times 10^{-7}$ 3
4787.2	(37/2 ⁻)	419.8 5	100 7	4367.3	(35/2 ⁻)			
		786.9 5	71 7	4000.3	(33/2 ⁻)			
4861.3	(37/2 ⁺)	402.6 5	31 5	4458.8	(35/2 ⁺)			
		782.8 5	100 8	4078.4	(33/2 ⁺)			
4878.3	(35/2 ⁺)	753.5 5	100	4124.8	(31/2 ⁺)			
4927.8		806.0 5	100	4121.8				
5057.2	(37/2 ⁻)	775.3 5	100	4281.9	(33/2 ⁻)			
5104.3	(37/2 ⁻)	795.4 5	100	4308.9	(33/2 ⁻)	E2	0.00371 6	$\alpha(\text{K})=0.00314$ 5; $\alpha(\text{L})=0.000451$ 7; $\alpha(\text{M})=9.59\times 10^{-5}$ 14; $\alpha(\text{N}+..)=2.48\times 10^{-5}$ 4 $\alpha(\text{N})=2.14\times 10^{-5}$ 3; $\alpha(\text{O})=3.19\times 10^{-6}$ 5; $\alpha(\text{P})=1.89\times 10^{-7}$ 3

Adopted Levels, Gammas (continued)

$\gamma(^{133}\text{Nd})$ (continued)									
$E_i(\text{level})$	J_i^π	$E_\gamma^{\ddagger}$	$I_\gamma^{\ddagger}$	E_f	J_f^π	Mult. @	$\delta^{\ddagger}$	$\alpha^\dagger$	Comments
5157.3	(37/2 ⁺)	431.0 10 810.0 10	50 30 100 30	4726.5 (35/2 ⁺) 4347.0 (33/2 ⁺)		E2		0.00356 5	$\alpha(\text{K})=0.00302$ 5; $\alpha(\text{L})=0.000431$ 7; $\alpha(\text{M})=9.17\times 10^{-5}$ 14; $\alpha(\text{N}+..)=2.37\times 10^{-5}$ 4 $\alpha(\text{N})=2.04\times 10^{-5}$ 3; $\alpha(\text{O})=3.05\times 10^{-6}$ 5; $\alpha(\text{P})=1.82\times 10^{-7}$ 3
5169.9	(39/2 ⁻)	760.5 5	100	4409.4 (35/2 ⁻)		E2		0.00412 6	$\alpha(\text{K})=0.00348$ 5; $\alpha(\text{L})=0.000504$ 8; $\alpha(\text{M})=0.0001074$ 16; $\alpha(\text{N}+..)=2.77\times 10^{-5}$ 4 $\alpha(\text{N})=2.39\times 10^{-5}$ 4; $\alpha(\text{O})=3.56\times 10^{-6}$ 5; $\alpha(\text{P})=2.09\times 10^{-7}$ 3
5211.0	(37/2 ⁺)	742.0 10	100	4469.0 (33/2 ⁺)					
5238.4	(39/2 ⁻)	451.1 5 871.1 5	86 7 100 7	4787.2 (37/2 ⁻) 4367.3 (35/2 ⁻)		E2		0.00303 5	$\alpha(\text{K})=0.00257$ 4; $\alpha(\text{L})=0.000362$ 5; $\alpha(\text{M})=7.68\times 10^{-5}$ 11; $\alpha(\text{N}+..)=1.98\times 10^{-5}$ 3 $\alpha(\text{N})=1.713\times 10^{-5}$ 24; $\alpha(\text{O})=2.57\times 10^{-6}$ 4; $\alpha(\text{P})=1.550\times 10^{-7}$ 22
5279.8	(39/2 ⁺)	418.5 10 821.0 5	100	4861.3 (37/2 ⁺) 4458.8 (35/2 ⁺)		E2		0.00346 5	$\alpha(\text{K})=0.00293$ 5; $\alpha(\text{L})=0.000417$ 6; $\alpha(\text{M})=8.87\times 10^{-5}$ 13; $\alpha(\text{N}+..)=2.29\times 10^{-5}$ 4 $\alpha(\text{N})=1.98\times 10^{-5}$ 3; $\alpha(\text{O})=2.96\times 10^{-6}$ 5; $\alpha(\text{P})=1.764\times 10^{-7}$ 25
5368.3		856.7 5	100	4511.6					
5376.9	(41/2 ⁺)	761.8 2	100	4615.1 (37/2 ⁺)		E2		0.00410 6	$\alpha(\text{K})=0.00347$ 5; $\alpha(\text{L})=0.000502$ 7; $\alpha(\text{M})=0.0001069$ 15; $\alpha(\text{N}+..)=2.76\times 10^{-5}$ 4 $\alpha(\text{N})=2.38\times 10^{-5}$ 4; $\alpha(\text{O})=3.55\times 10^{-6}$ 5; $\alpha(\text{P})=2.08\times 10^{-7}$ 3
5428.3	(39/2 ⁻)	778.0 5	100	4650.3 (35/2 ⁻)		E2		0.00391 6	$\alpha(\text{K})=0.00330$ 5; $\alpha(\text{L})=0.000476$ 7; $\alpha(\text{M})=0.0001014$ 15; $\alpha(\text{N}+..)=2.62\times 10^{-5}$ 4 $\alpha(\text{N})=2.26\times 10^{-5}$ 4; $\alpha(\text{O})=3.37\times 10^{-6}$ 5; $\alpha(\text{P})=1.99\times 10^{-7}$ 3
5560.5	(39/2 ⁺)	403.0 & 10 834.0 10	50 30 100 30	5157.3 (37/2 ⁺) 4726.5 (35/2 ⁺)					
5668.6	(39/2 ⁺)	790.3 10	100	4878.3 (35/2 ⁺)					
5713.2	(41/2 ⁺)	851.9 5	100	4861.3 (37/2 ⁺)					
5721.4	(41/2 ⁻)	482.9 5 934.3 5	100 13 63 13	5238.4 (39/2 ⁻) 4787.2 (37/2 ⁻)					
5841.8		914 1		4927.8					
5899.0	(41/2 ⁻)	841.8 5	100	5057.2 (37/2 ⁻)					
5969.0	(41/2 ⁺)	758.0 10	100	5211.0 (37/2 ⁺)					
6054.5	(43/2 ⁻)	884.6 5	100	5169.9 (39/2 ⁻)		E2		0.00292 5	$\alpha(\text{K})=0.00248$ 4; $\alpha(\text{L})=0.000349$ 5; $\alpha(\text{M})=7.40\times 10^{-5}$ 11; $\alpha(\text{N}+..)=1.91\times 10^{-5}$ 3 $\alpha(\text{N})=1.651\times 10^{-5}$ 24; $\alpha(\text{O})=2.47\times 10^{-6}$ 4; $\alpha(\text{P})=1.499\times 10^{-7}$ 21
6158.9	(43/2 ⁺)	879.1 5	100	5279.8 (39/2 ⁺)					
6212.5	(45/2 ⁺)	835.6 2	100	5376.9 (41/2 ⁺)		E2		0.00332 5	$\alpha(\text{K})=0.00281$ 4; $\alpha(\text{L})=0.000400$ 6; $\alpha(\text{M})=8.50\times 10^{-5}$ 12; $\alpha(\text{N}+..)=2.19\times 10^{-5}$ 3 $\alpha(\text{N})=1.89\times 10^{-5}$ 3; $\alpha(\text{O})=2.83\times 10^{-6}$ 4; $\alpha(\text{P})=1.697\times 10^{-7}$ 24

Adopted Levels, Gammas (continued)

$\gamma(^{133}\text{Nd})$ (continued)									
$E_i(\text{level})$	J_i^π	$E_\gamma^{\ddagger}$	$L_\gamma^{\ddagger}$	E_f	J_f^π	Mult. @	$\alpha^\dagger$	Comments	
6258.6		830.3 5	100	5428.3	(39/2 ⁻)				
6619.8	(45/2 ⁺)	906.6 5	100	5713.2	(41/2 ⁺)				
6744.3	(45/2 ⁻)	1022.9 5	100	5721.4	(41/2 ⁻)				
6819.3	(45/2 ⁻)	920.3 5	100	5899.0	(41/2 ⁻)				
7041.5	(47/2 ⁻)	987.0 5	100	6054.5	(43/2 ⁻)				
7096.0	(47/2 ⁺)	937.1 5	100	6158.9	(43/2 ⁺)				
7116.1	(49/2 ⁺)	903.6 2	100	6212.5	(45/2 ⁺)	E2	0.00279 4	$\alpha(\text{K})=0.00237$ 4; $\alpha(\text{L})=0.000332$ 5; $\alpha(\text{M})=7.04\times 10^{-5}$ 10; $\alpha(\text{N}+..)=1.82\times 10^{-5}$ 3 $\alpha(\text{N})=1.570\times 10^{-5}$ 22; $\alpha(\text{O})=2.35\times 10^{-6}$ 4; $\alpha(\text{P})=1.432\times 10^{-7}$ 20	
7587.3	(49/2 ⁺)	967.5 5	100	6619.8	(45/2 ⁺)				
7825.5	(49/2 ⁻)	1006.2 10	100	6819.3	(45/2 ⁻)				
8083.2	(53/2 ⁺)	967.0 2	100	7116.1	(49/2 ⁺)	E2	0.00241 4	$\alpha(\text{K})=0.00205$ 3; $\alpha(\text{L})=0.000283$ 4; $\alpha(\text{M})=6.01\times 10^{-5}$ 9; $\alpha(\text{N}+..)=1.554\times 10^{-5}$ 22 $\alpha(\text{N})=1.340\times 10^{-5}$ 19; $\alpha(\text{O})=2.01\times 10^{-6}$ 3; $\alpha(\text{P})=1.240\times 10^{-7}$ 18	
8097.7	(51/2 ⁺)	1001.7 5	100	7096.0	(47/2 ⁺)				
8118.4	(51/2 ⁻)	1076.9 5	100	7041.5	(47/2 ⁻)				
8622.9	(53/2 ⁺)	1035.6 5	100	7587.3	(49/2 ⁺)				
8913.3	(53/2 ⁻)	1087.8 10	100	7825.5	(49/2 ⁻)				
9112.4	(57/2 ⁺)	1029.2 2	100	8083.2	(53/2 ⁺)	E2	0.00211 3	$\alpha(\text{K})=0.00180$ 3; $\alpha(\text{L})=0.000246$ 4; $\alpha(\text{M})=5.21\times 10^{-5}$ 8; $\alpha(\text{N}+..)=1.349\times 10^{-5}$ 19 $\alpha(\text{N})=1.163\times 10^{-5}$ 17; $\alpha(\text{O})=1.751\times 10^{-6}$ 25; $\alpha(\text{P})=1.088\times 10^{-7}$ 16	
9169.7	(55/2 ⁺)	1072.0 5	100	8097.7	(51/2 ⁺)				
9278.0	(55/2 ⁻)	1159.6 10	100	8118.4	(51/2 ⁻)				
9729.8	(57/2 ⁺)	1106.9 5	100	8622.9	(53/2 ⁺)				
10095.0	(57/2 ⁻)	1181.7 10	100	8913.3	(53/2 ⁻)				
10204.8	(61/2 ⁺)	1092.4 5	100	9112.4	(57/2 ⁺)	E2	0.00186 3	$\alpha(\text{K})=0.001589$ 23; $\alpha(\text{L})=0.000216$ 3; $\alpha(\text{M})=4.56\times 10^{-5}$ 7; $\alpha(\text{N}+..)=1.181\times 10^{-5}$ 17 $\alpha(\text{N})=1.018\times 10^{-5}$ 15; $\alpha(\text{O})=1.536\times 10^{-6}$ 22; $\alpha(\text{P})=9.63\times 10^{-8}$ 14	
10316.3	(59/2 ⁺)	1146.6 5	100	9169.7	(55/2 ⁺)				
10516.0	(59/2 ⁻)	1238.0 10	100	9278.0	(55/2 ⁻)				
10913.3	(61/2 ⁺)	1183.5 10	100	9729.8	(57/2 ⁺)				
11363.5	(65/2 ⁺)	1158.7 5	100	10204.8	(61/2 ⁺)	E2	0.001651 24	$\alpha(\text{K})=0.001409$ 20; $\alpha(\text{L})=0.000190$ 3; $\alpha(\text{M})=4.01\times 10^{-5}$ 6; $\alpha(\text{N}+..)=1.271\times 10^{-5}$ 1 $\alpha(\text{N})=8.95\times 10^{-6}$ 13; $\alpha(\text{O})=1.352\times 10^{-6}$ 19; $\alpha(\text{P})=8.54\times 10^{-8}$ 12; $\alpha(\text{IPF})=2.32\times 10^{-6}$ 5	
11540.8	(63/2 ⁺)	1224.5 10	100	10316.3	(59/2 ⁺)				
12179.3	(65/2 ⁺)	1266 1		10913.3	(61/2 ⁺)				
12591.5	(69/2 ⁺)	1228.0 5	100	11363.5	(65/2 ⁺)	E2	0.001475 21	$\alpha(\text{K})=0.001253$ 18; $\alpha(\text{L})=0.0001674$ 24; $\alpha(\text{M})=3.54\times 10^{-5}$ 5; $\alpha(\text{N}+..)=1.86\times 10^{-5}$ $\alpha(\text{N})=7.90\times 10^{-6}$ 11; $\alpha(\text{O})=1.195\times 10^{-6}$ 17; $\alpha(\text{P})=7.60\times 10^{-8}$ 11; $\alpha(\text{IPF})=9.38\times 10^{-6}$ 15	

Adopted Levels, Gammas (continued)

$\gamma(^{133}\text{Nd})$ (continued)									
$E_i(\text{level})$	J_i^π	$E_\gamma^\ddagger$	$I_\gamma^\ddagger$	E_f	J_f^π	Mult. @	$\alpha^\dagger$	Comments	
12840.8	(67/2 ⁺)	1300 1	100	11540.8	(63/2 ⁺)				
13892.4	(73/2 ⁺)	1300.9 5	100	12591.5	(69/2 ⁺)	E2	0.001327 19	$\alpha(\text{K})=0.001118$ 16; $\alpha(\text{L})=0.0001483$ 21; $\alpha(\text{M})=3.13\times 10^{-5}$ 5; $\alpha(\text{N}+..)=2.92\times 10^{-5}$ $\alpha(\text{N})=7.00\times 10^{-6}$ 10; $\alpha(\text{O})=1.059\times 10^{-6}$ 15; $\alpha(\text{P})=6.78\times 10^{-8}$ 10; $\alpha(\text{IPF})=2.11\times 10^{-5}$ 3	
15270.4	(77/2 ⁺)	1378.0 5	100	13892.4	(73/2 ⁺)				
16728.4	(81/2 ⁺)	1458.0 10	100	15270.4	(77/2 ⁺)				
18273.6	(85/2 ⁺)	1545.2 10	100	16728.4	(81/2 ⁺)				
19905.7	(89/2 ⁺)	1632.1 10	100	18273.6	(85/2 ⁺)				

[†] Additional information 1.

[‡] From (HI,xn γ), unless otherwise specified.

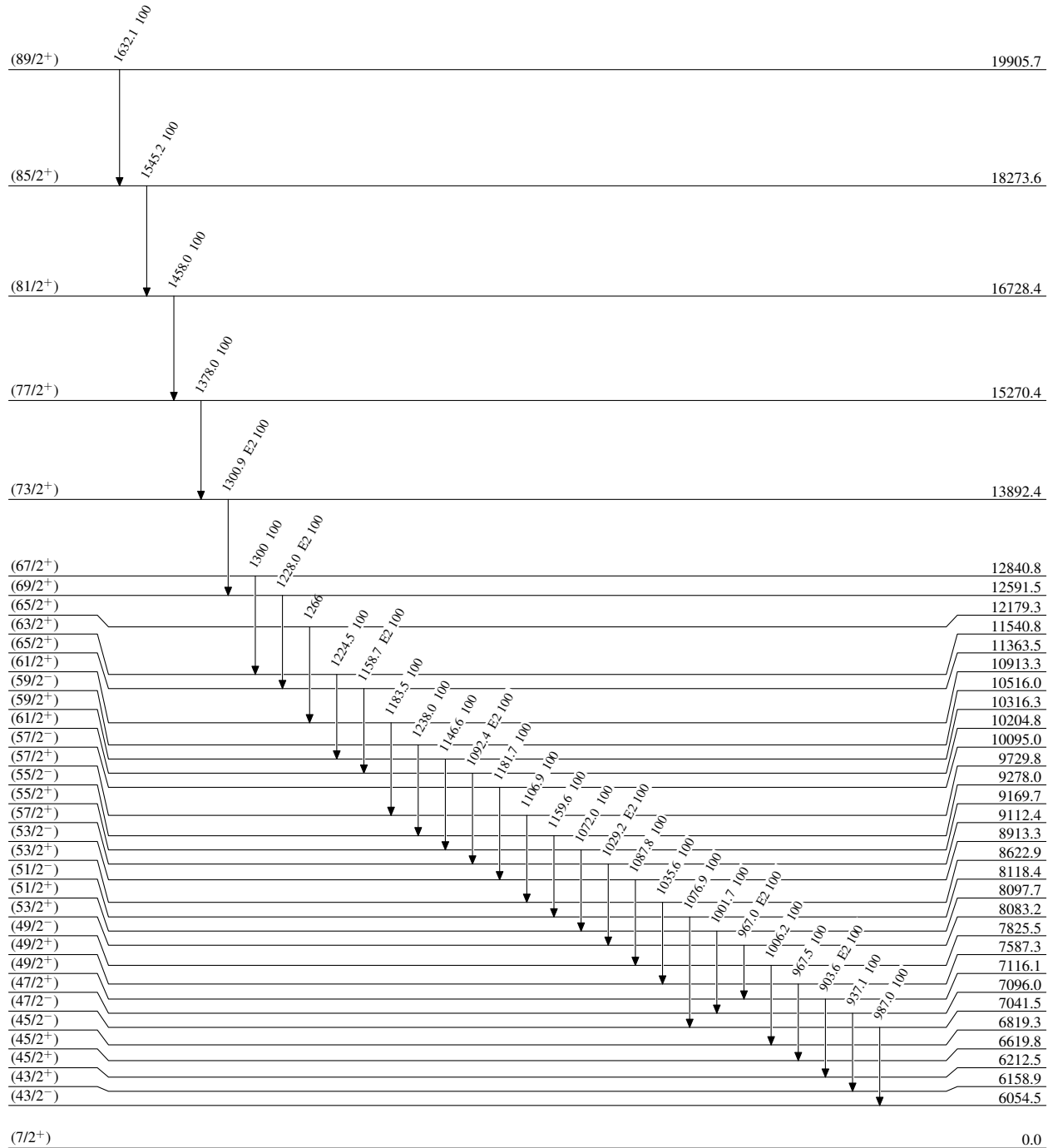
From ¹³³Pm ε decay.

@ From $\alpha(\text{K})\text{exp}$, $\alpha(\text{L})\text{exp}$, $\alpha(\text{M})\text{exp}$ and sub-shell ratios in ¹³³Pm ε decay, DCO analysis in (HI,xn γ) and the observed apparent band structures.

& Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas**Level Scheme**

Intensities: Relative photon branching from each level

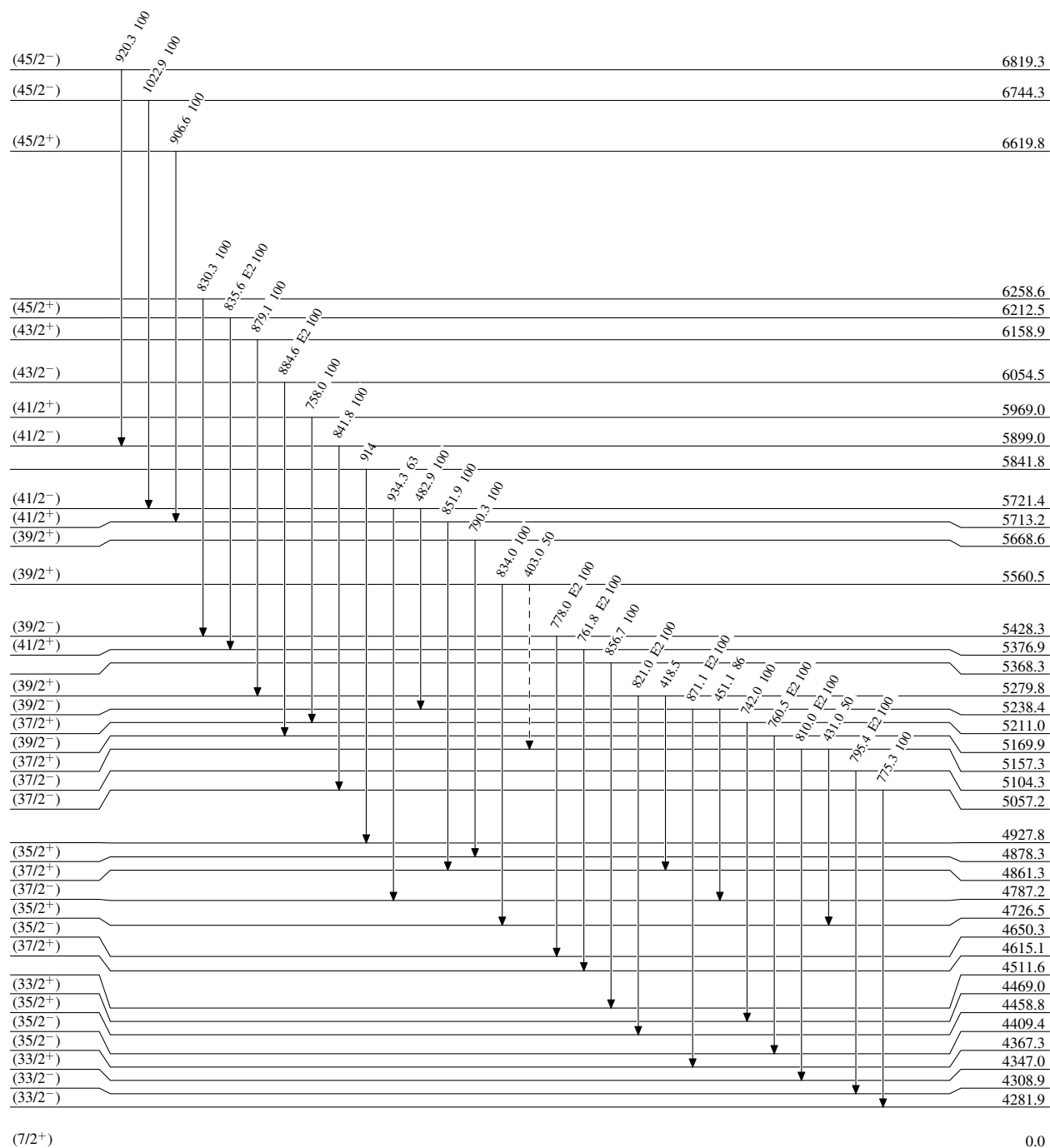


Adopted Levels, Gammas

Legend

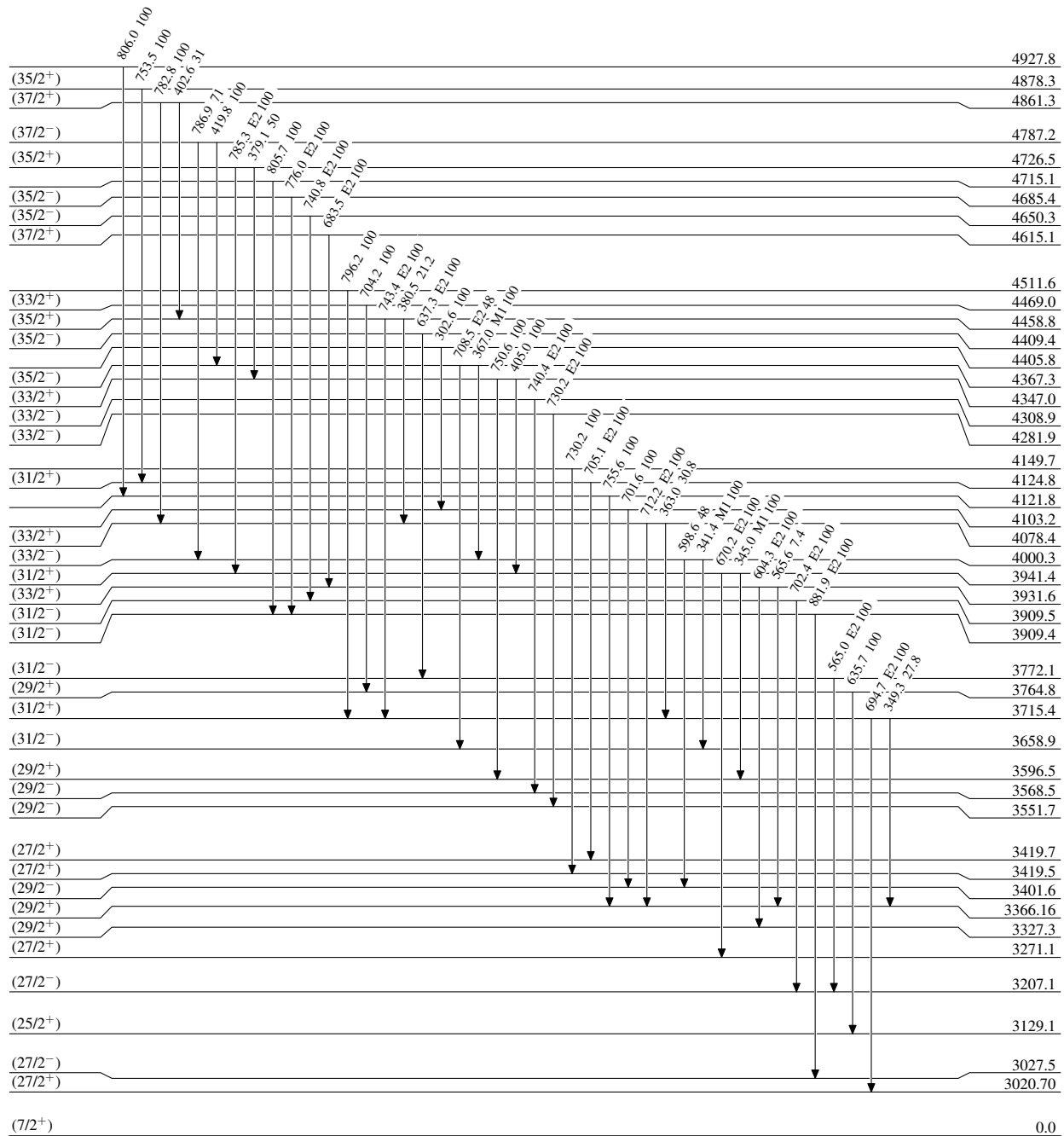
Level Scheme (continued)

Intensities: Relative photon branching from each level

-----► γ Decay (Uncertain)

Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level

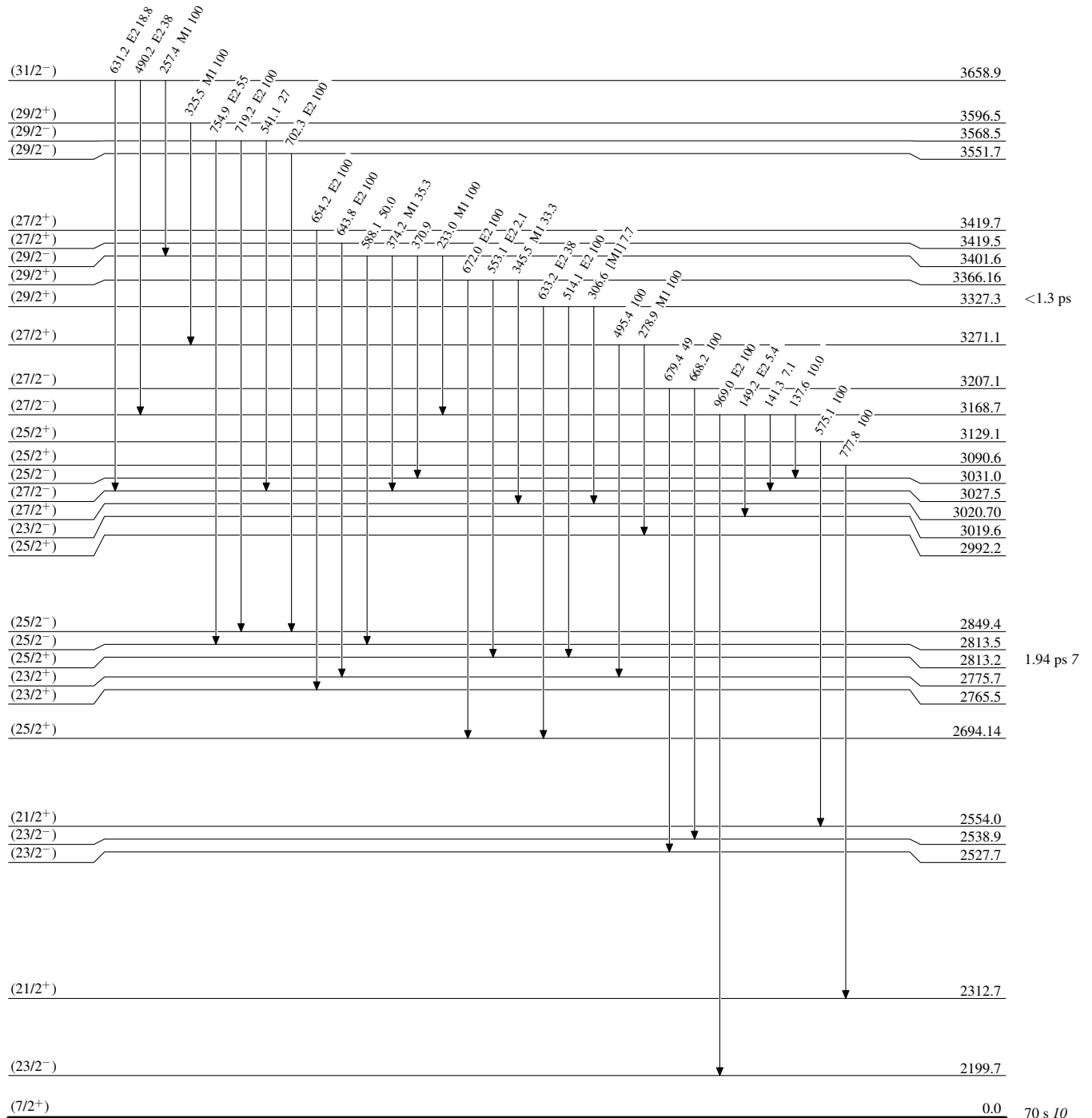


<1.3 ps

70 s 10

Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level

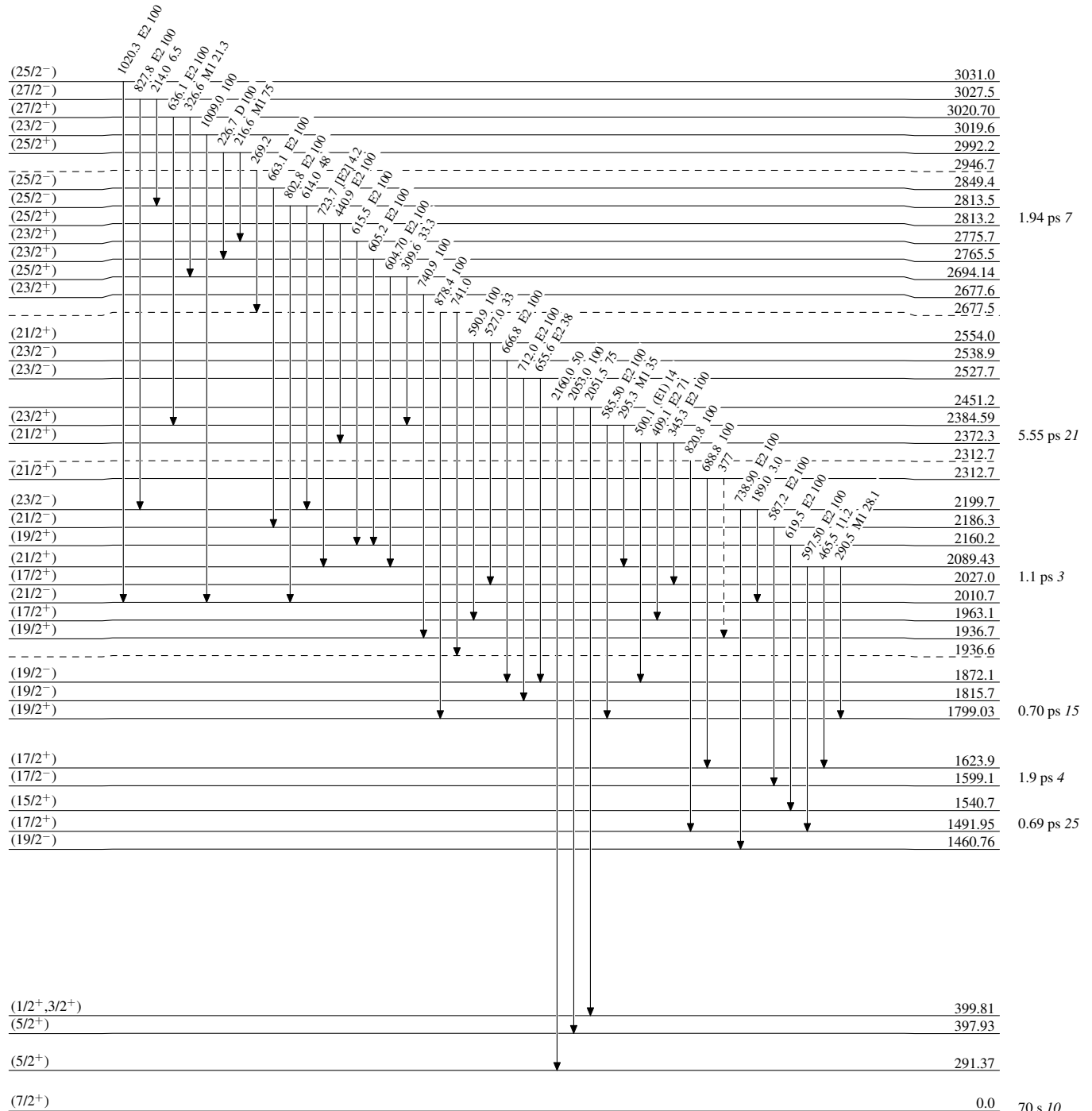


Adopted Levels, Gammas

Legend

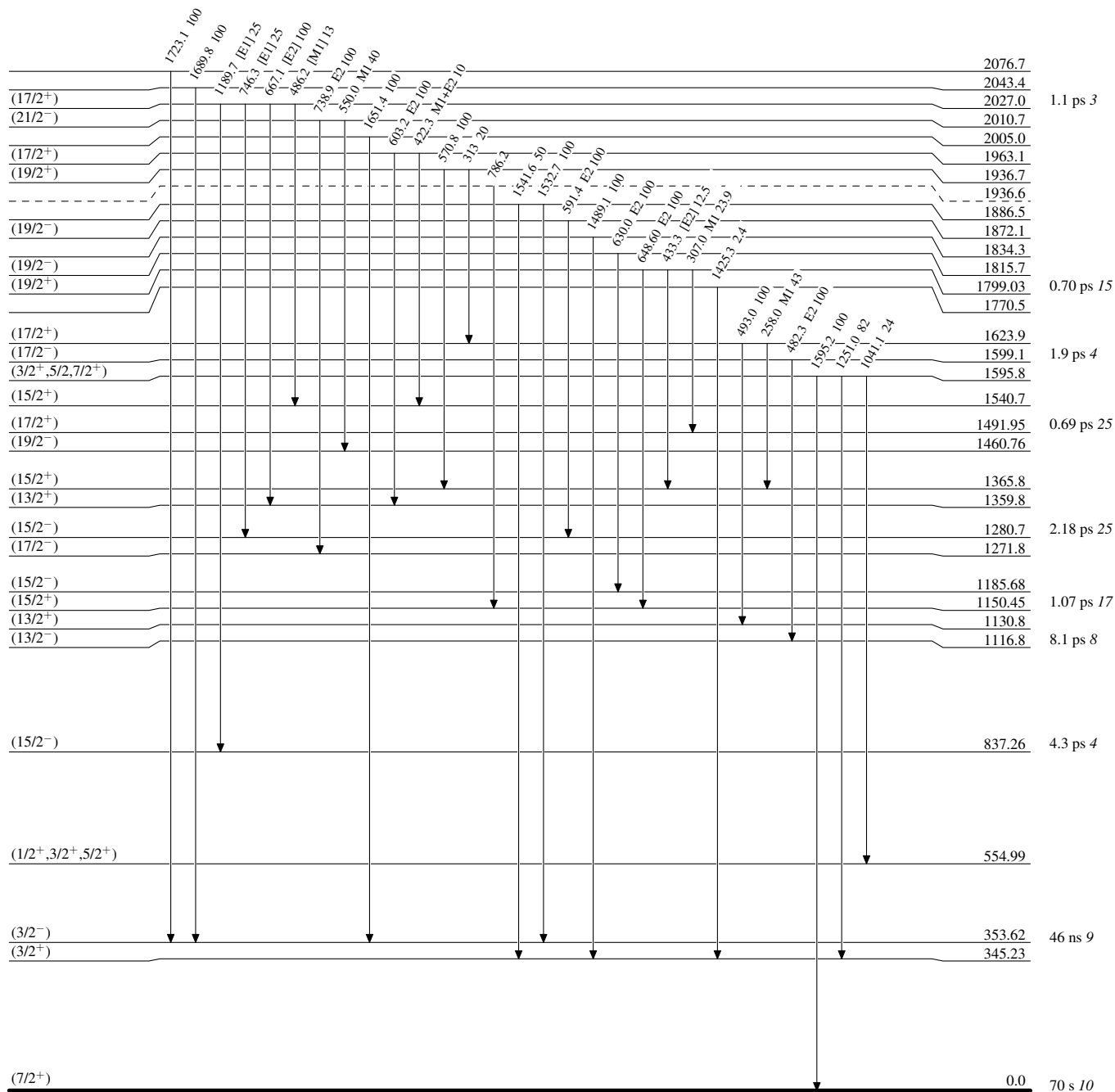
Level Scheme (continued)

Intensities: Relative photon branching from each level

-----► γ Decay (Uncertain)


Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level

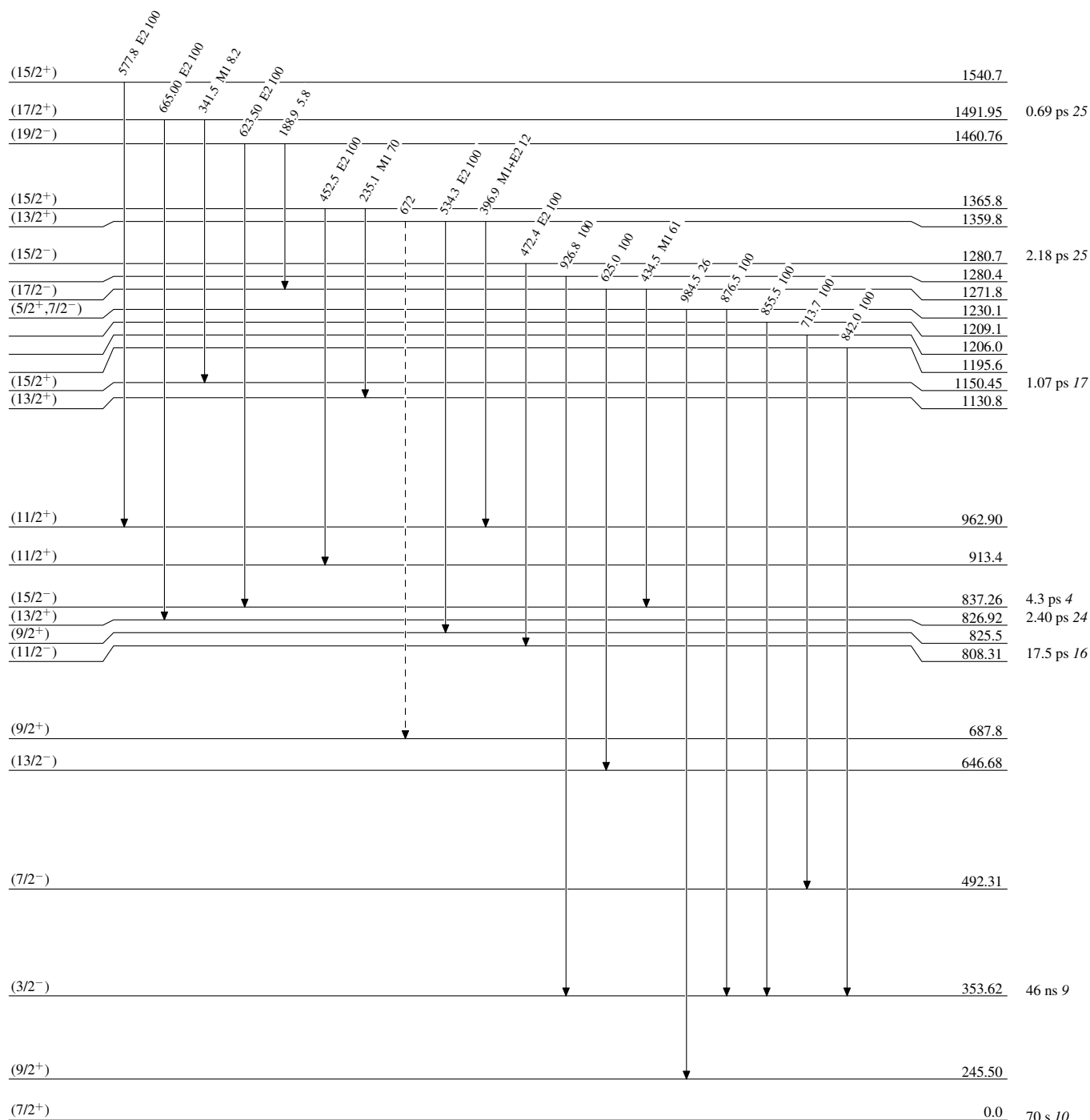


Adopted Levels, Gammas

Legend

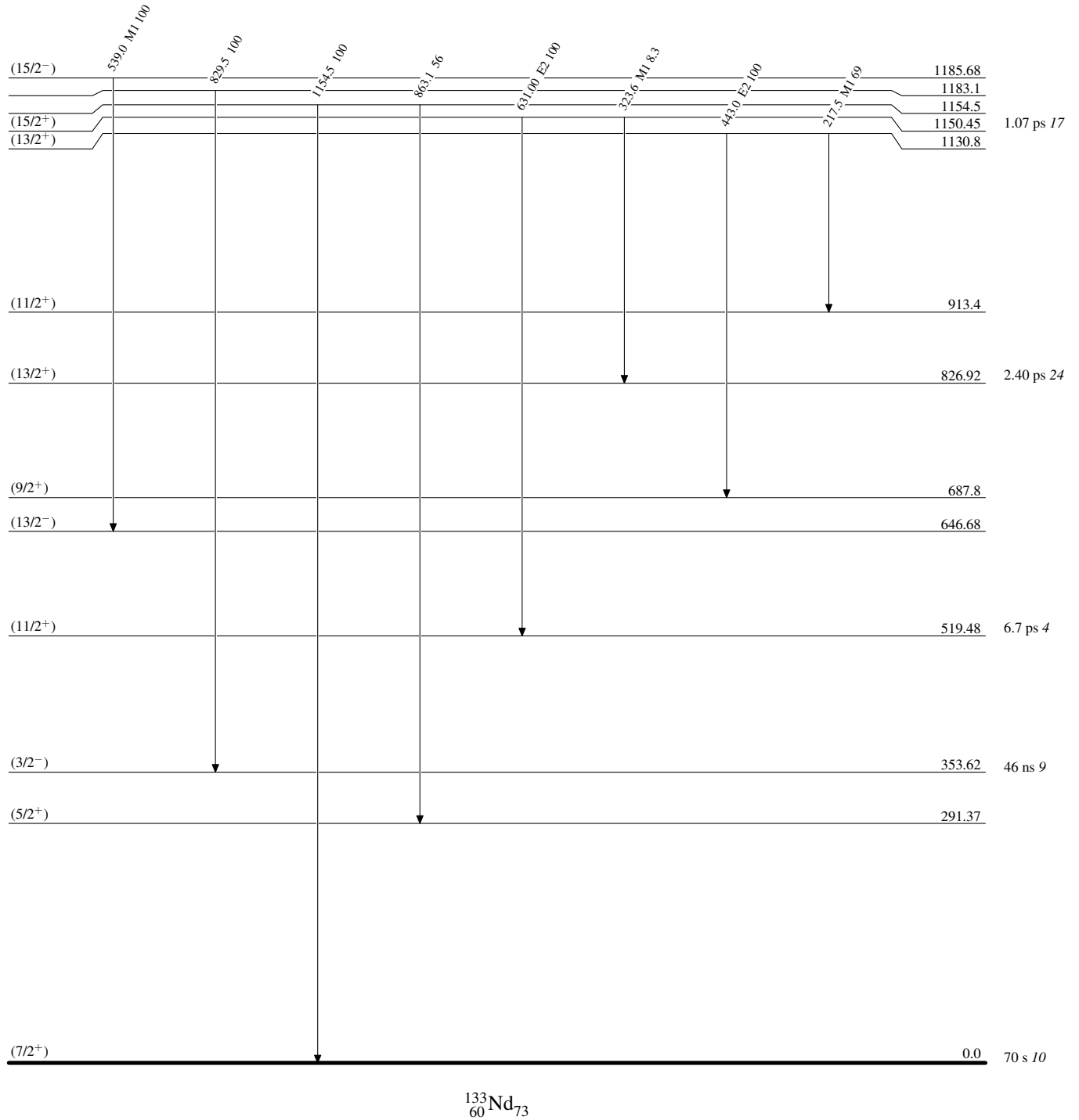
Level Scheme (continued)

Intensities: Relative photon branching from each level

-----► γ Decay (Uncertain)

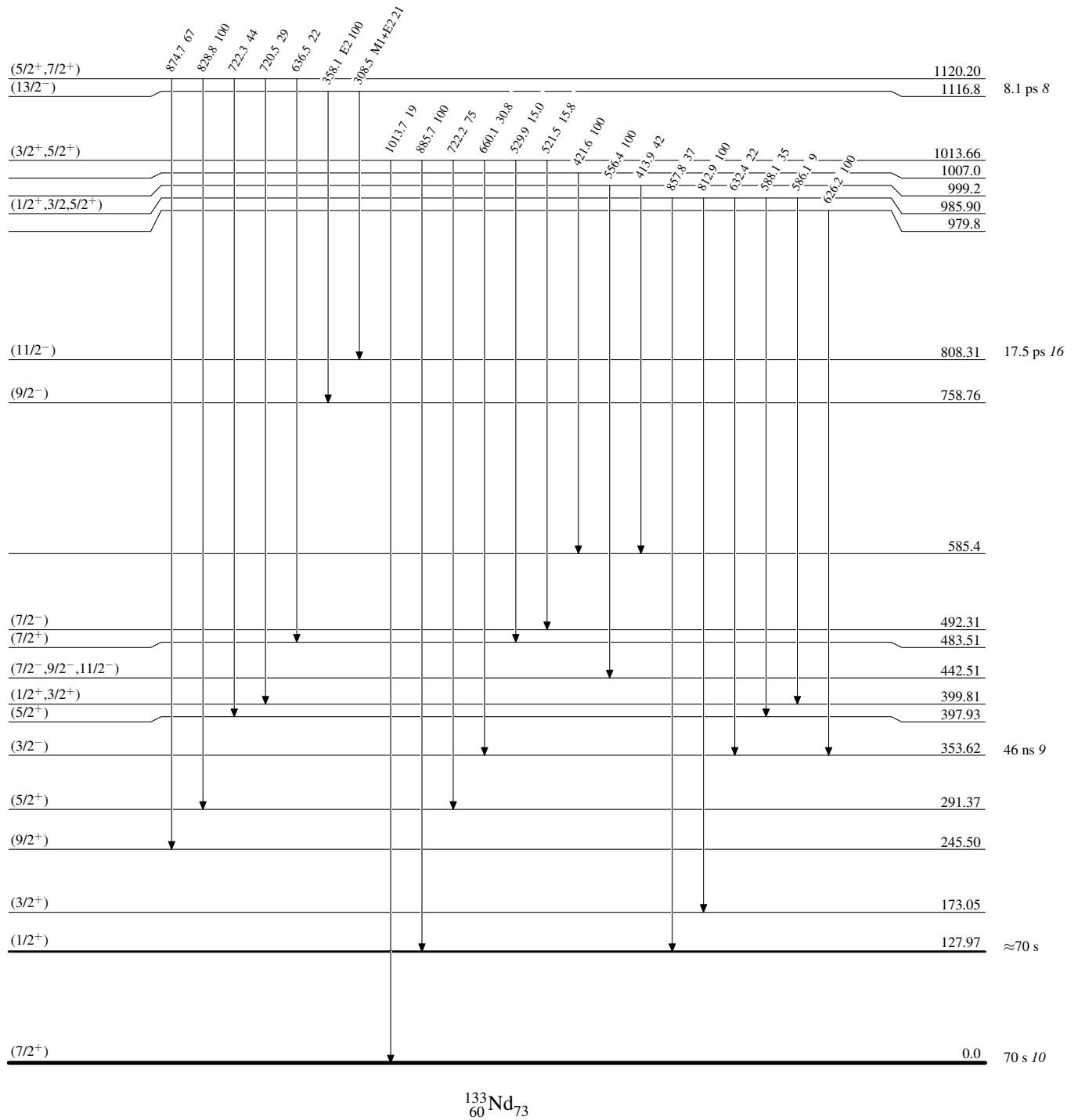
Adopted Levels, GammasLevel Scheme (continued)

Intensities: Relative photon branching from each level

 $^{133}_{60}\text{Nd}_{73}$

Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level

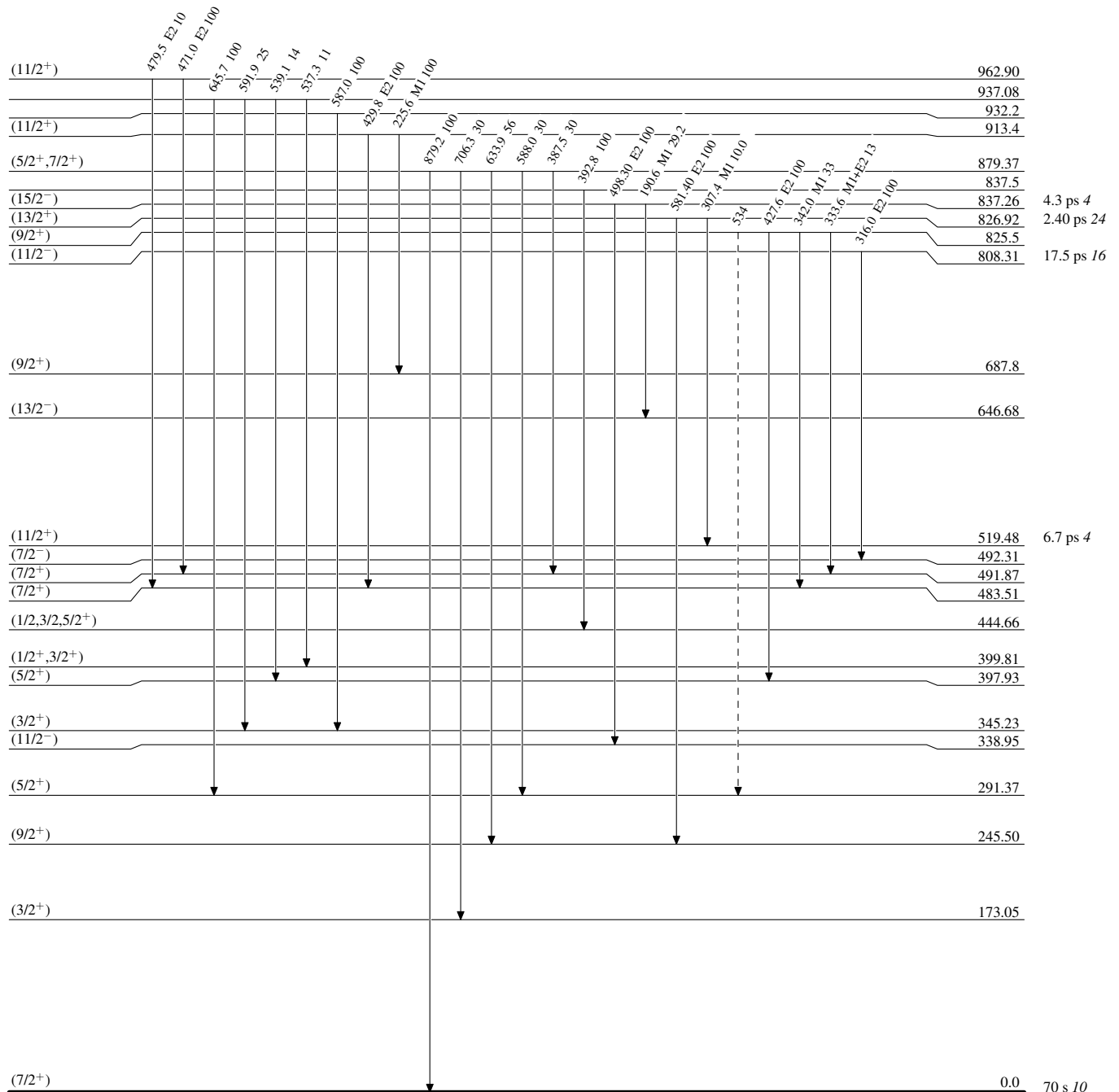


Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

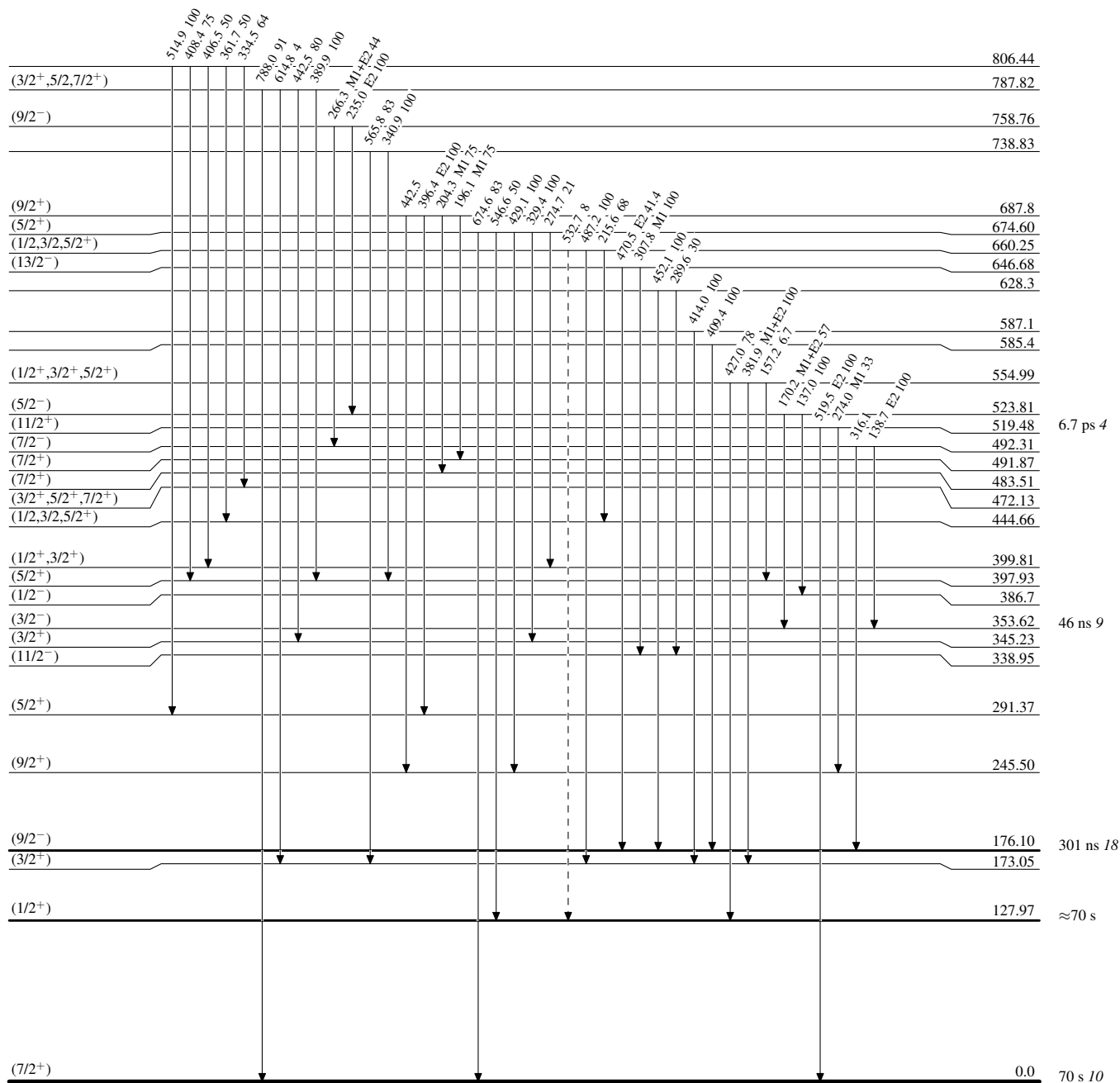
-----► γ Decay (Uncertain) $^{133}_{60}\text{Nd}_{73}$

Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

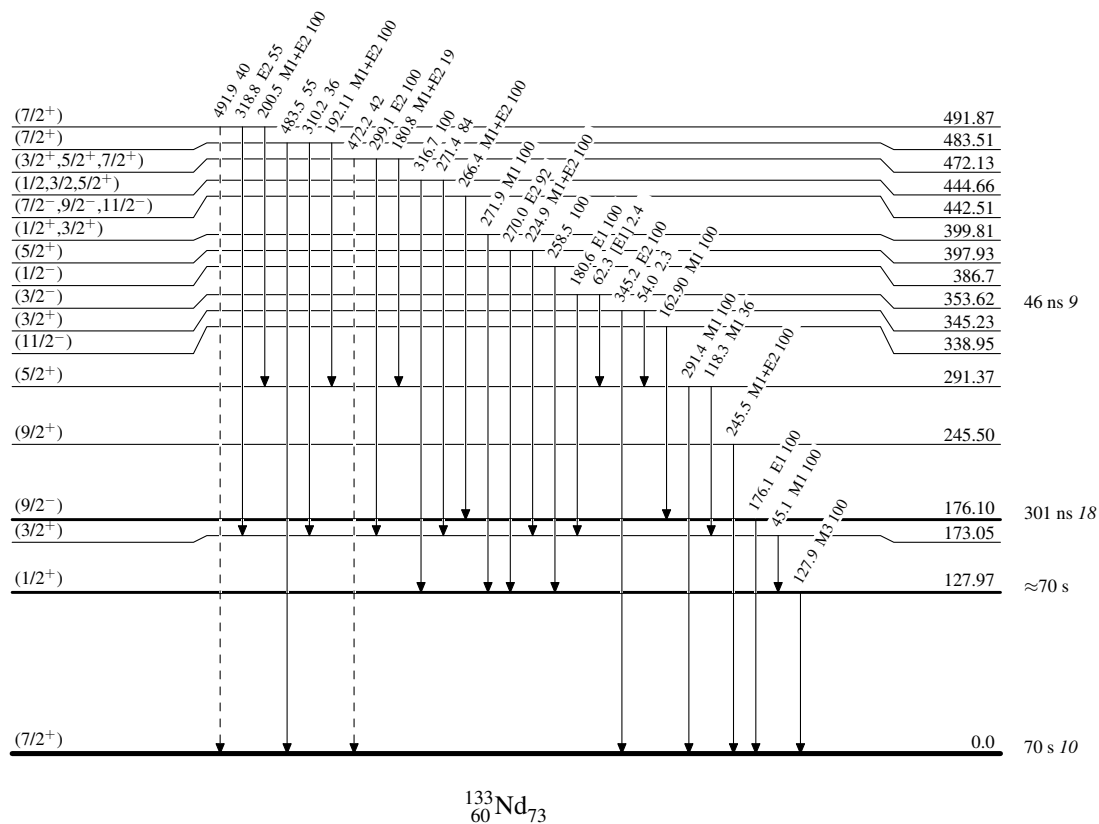
-----► γ Decay (Uncertain)

 $^{133}_{60}\text{Nd}_{73}$

Adopted Levels, Gammas

Legend

Level Scheme (continued)

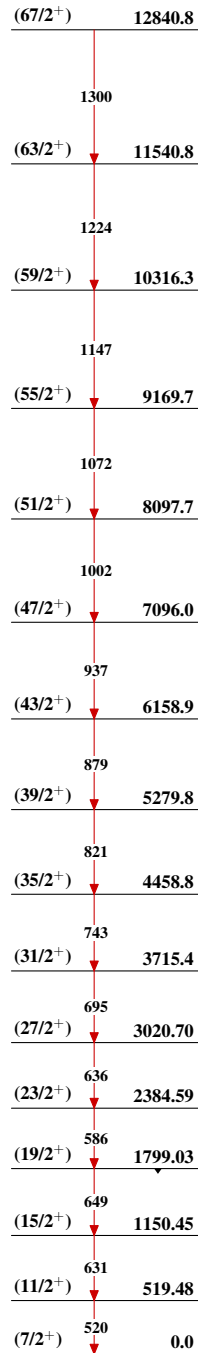
Intensities: Relative photon branching from each level

-----► γ Decay (Uncertain) $^{133}_{60}\text{Nd}_{73}$

Adopted Levels, Gammas

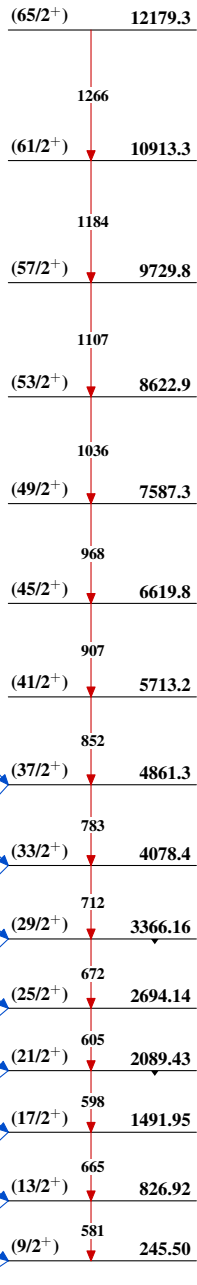
Band(A): 1-qp band based on the $(7/2^+)$ ground state, $\alpha=-1/2$;

**configuration= $\nu 7/2[404]$;
 $Q_1=4.75$, $\beta_2=0.252$
(1999Br29)**



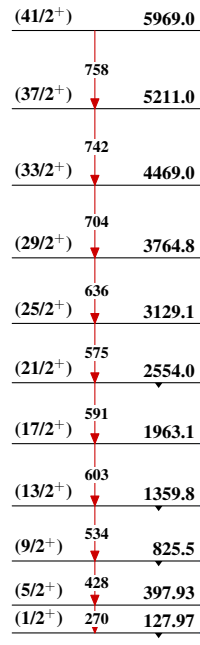
Band(B): 1-qp band based on the $(9/2^+)$ state at 245.5-keV, $\alpha=+1/2$;

**configuration= $\nu 7/2[404]$;
 $Q_1=4.75$, $\beta_2=0.252$
(1999Br29)**



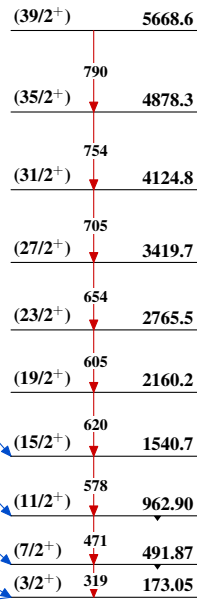
Band(C): 1-qp band based on the $(1/2^+)$ state at 128-keV, $\alpha=+1/2$;

configuration= $\nu(1/2[400]$ + $1/2[411]$)



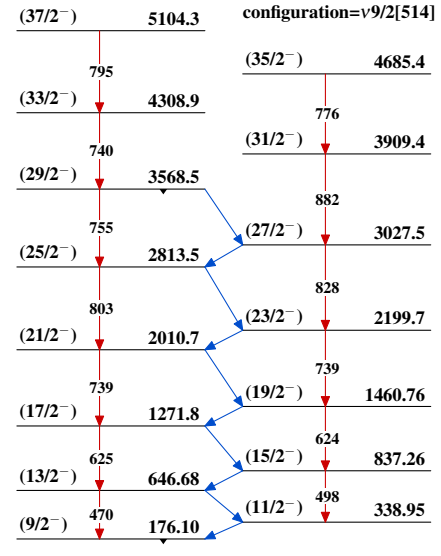
Band(D): $(3/2^+)$ state at 173-keV, $\alpha=-1/2$;

configuration= $\nu(1/2[400]$ + $1/2[411]$)



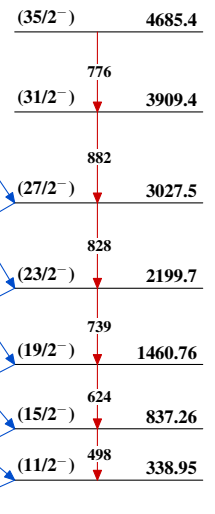
Band(E): 1-qp band based on the $(9/2^-)$ state at 176.1-keV, $\alpha=+1/2$;

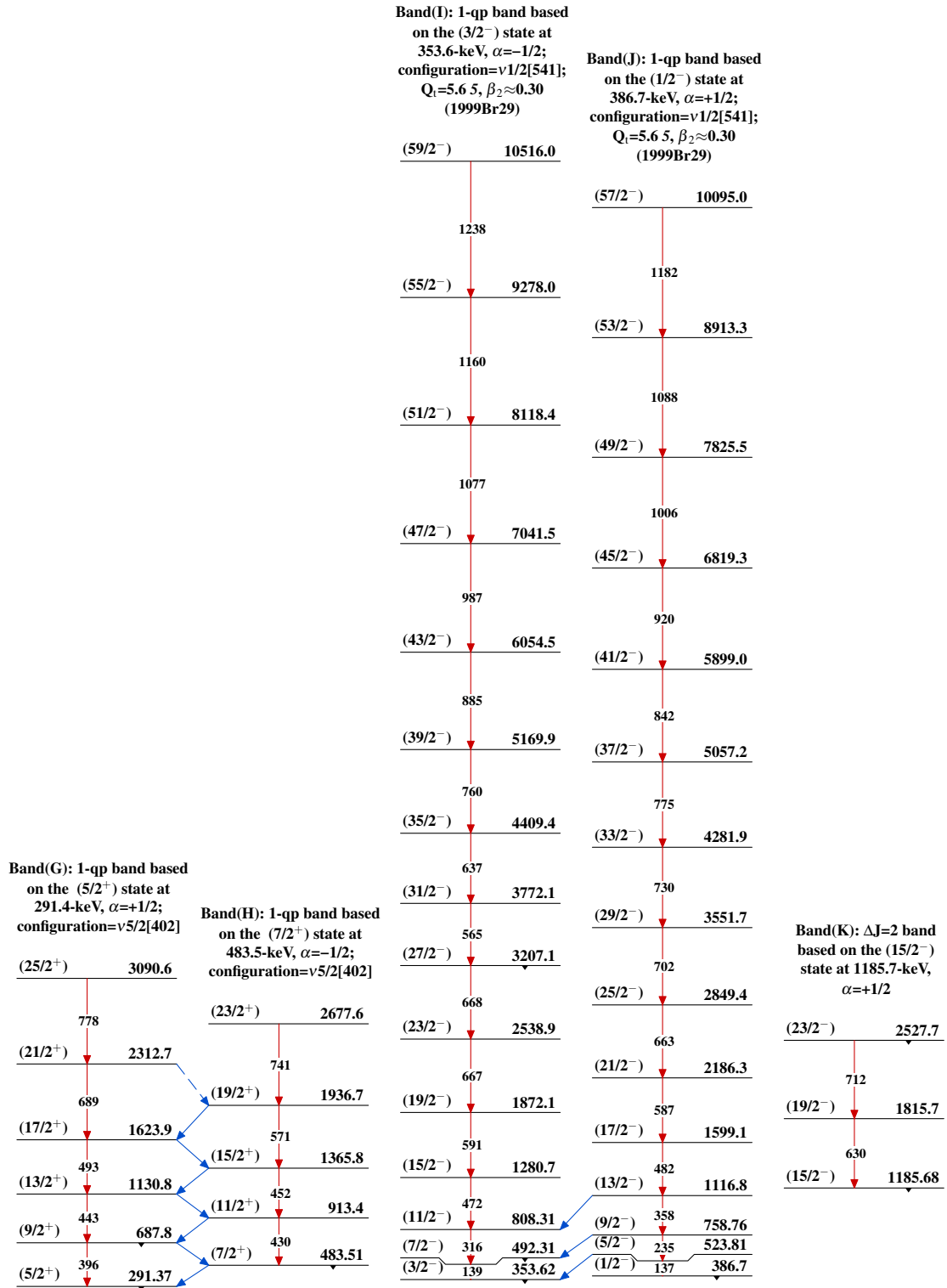
configuration= $\nu 9/2[514]$



Band(F): 1-qp band based on the $(11/2^-)$ state at 338.9-keV, $\alpha=-1/2$;

configuration= $\nu 9/2[514]$



Adopted Levels, Gammas (continued)

Adopted Levels, Gammas (continued)

Band(L): 1-qp band based on the $(17/2^+)$ state at 2027-keV, $\alpha=+1/2$; configuration= $\nu 1/2[660]$; highly-deformed band; $Q_t=7.4\ 4$, $\beta_2=0.38\ 2$ (1999Br29); $Q_t=6.5\ 2$, $\beta_2=0.36\ 1$ (1999Ko28); $Q_t=6.7\ 7$, $\beta_2=0.37\ 4$ (1992Mu09); $Q_t=7.4\ 7$, $\beta_2=0.41\ 3$ (1995Me08); $Q_t=6.7\ 11$, $\beta_2=0.37\ 6$ (1995Fo12); percent population=20% (1987Wa18) and $\approx 9\%$ (1995Me08)

$(89/2^+)$	19905.7
1632	
$(85/2^+)$	18273.6
1545	
$(81/2^+)$	16728.4
1458	
$(77/2^+)$	15270.4
1378	
$(73/2^+)$	13892.4
1301	
$(69/2^+)$	12591.5
1228	
$(65/2^+)$	11363.5
1159	
$(61/2^+)$	10204.8
1092	
$(57/2^+)$	9112.4
1029	
$(53/2^+)$	8083.2
967	
$(49/2^+)$	7116.1
904	
$(45/2^+)$	6212.5
836	
$(41/2^+)$	5376.9
762	
$(37/2^+)$	4615.1
684	
$(33/2^+)$	3931.6
604	
$(29/2^+)$	3327.3
514	
$(25/2^+)$	2813.2
441	
$(21/2^+)$	2372.3
345	
$(17/2^+)$	2027.0

Band(M): 3-qp band based on the $(25/2^-)$ state at 3031-keV, $\alpha=+1/2$

$(45/2^-)$	6744.3
1023	
$(41/2^-)$	5721.4
934	
$(37/2^-)$	4787.2
787	
$(33/2^-)$	4000.3
599	
$(29/2^-)$	3401.6
371	
$(25/2^-)$	3031.0

Band(N): 3-qp band based on the $(23/2^-)$ state at 3019.5-keV, $\alpha=-1/2$; configuration= $\nu 9/2[514] \otimes \pi^2(h_{1/2}^2)$; $Q_t=4.8\ 8$ (1999Br29)

$(39/2^-)$	5238.4
871	
$(35/2^-)$	4367.3
708	
$(31/2^-)$	3658.9
490	
$(27/2^-)$	3168.7
149	
$(23/2^-)$	3019.6

Band(O): 3-qp band based on the $(23/2^+)$ state at 2775.7-keV, $\alpha=+1/2$; configuration= $\nu(1/2[400] + 1/2[411]) \otimes \pi^2(h_{1/2}^2)$

$(39/2^+)$	5560.5
834	
$(35/2^+)$	4726.5
785	
$(31/2^+)$	3941.4
670	
$(27/2^+)$	3271.1
495	
$(23/2^+)$	2775.7

Band(P): 3-qp band based on the $(25/2^+)$ state at 2992.3-keV, $\alpha=-1/2$; configuration= $\nu(1/2[400] + 1/2[411]) \otimes \pi^2(h_{1/2}^2)$

$(37/2^+)$	5157.3
810	
$(33/2^+)$	4347.0
751	
$(29/2^+)$	3596.5
$(25/2^+)$	2992.2