

Adopted Levels, Gammas

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	N. Nica and B. Singh		NDS 181, 1 (2022)	9-Mar-2022

$Q(\beta^-)=895.2$ 6; $S(n)=5292.20$ 9; $S(p)=8760$ 30; $Q(\alpha)=1034.7$ 22 [2021Wa16](#)
 $S(2n)=12857.43$ 12, $S(2p)=15660$ 30 ([2021Wa16](#)).

 ^{147}Nd LevelsCross Reference (XREF) Flags

A	$^{147}\text{Pr} \beta^-$ decay (13.44 min)	D	$^{148}\text{Nd}(\text{d,t}),(\text{pol d,t})$
B	$^{146}\text{Nd}(\text{n},\gamma)$ E=th	E	$^{148}\text{Nd}({}^3\text{He},\alpha)$
C	$^{146}\text{Nd}(\text{d,p})$	F	$^{238}\text{U}({}^{12}\text{C},\text{x}\gamma)$

E(level) [†]	J ^π	T _{1/2} [‡]	XREF	Comments
0.0 ^b	5/2 ⁻	11.03 d 3	ABCDEF	$\% \beta^- = 100$ $\mu = 0.554$ 10 (2019StZV); $Q = 0.9$ 3 (2016St14) J^π: J from 1957Ke13 by microwave paramagnetic resonance absorption technique and π from L=3 in $^{148}\text{Nd}(\text{d,t})$. $T_{1/2}$: weighted average (NRM) of 11.26 d 1 (2019Br01, decay curve for 91.1-keV γ, also 11.27 d 2 from decay curve for 120.5-keV γ, uncertainty gets increased to 0.11 d in averaging procedure, note that no details are given in the paper about counting losses and systematic uncertainties); 10.98 d 1 (1971Ba28, proportional counter, uncertainty gets increased to 0.03 d in the averaging procedure); 11.02 d 5 (1963Ho15, proportional counter); 11.14 d 6 (1960Al33, β counting); and 11.06 d 4 (1957Wr37, ionization chamber). Regular weighted average is 11.12 d 7, but with reduced $\chi^2=100$, which implies a discrepant dataset, primarily due to the value in 2019Br01. Unweighted average is 11.09 d 9. NRM=Normalized Residuals Method. Other (less precise) measurements: 11.2 d 2 (1999Po32, from decay curve for γ rays, 95% confidence level, no details provided); 11.5 d 5 (1960Wi10, proportional counter); 11.9 d 3 (1952Ru10, β with magnetic spectrometer); 11.1 d 5 (1951Em23, β spectrometer); 11.6 d 3 (1951Ko01, 1952Ko27, β spectrometer); 11.0 d 3 (1951MaZZ, 1947Ma28, integral β,γ counting); 11.1 d 2 (1946Bo25). Weighted average (NRM) of all the values is 11.05 d 3, with the same inflation of uncertainties for values from 2019Br01 and 1971Ba28 as above. Regular weighted average is 11.12 d 5, but with reduced $\chi^2=37$. Unweighted average is 11.24 d 21. Additional information 1. μ: from 1970PiZR measured by atomic beam magnetic resonance; other value: 0.578 3 (2005St24) measured by electron paramagnetic resonance (1957Ke13). Q: measured by atomic beam magnetic resonance – thermal beam (1970PiZR). $\mu/Q < 0$ and $Q > 0$ are likely (1970PiZR). J^π: L=3 (d,t) 1977St22, J=L+1/2 (pol d,t) 1977St23. Interpreted as an f7/2 neutron state. J^π: L=3 (d,t) 1977St22, J=L-1/2 (pol d,t) 1977St23. J^π: (9/2)⁻ is consistent with L=5 (${}^3\text{He},\alpha$) and N=87 syst. Assumed to be $\nu h_{9/2}$; analogous to states at 285 keV in ^{149}Sm and at 380 keV in ^{151}Gd. J^π: L=1 (d,t) 1977St22, J=L-1/2 (pol d,t) 1977St23. J^π: L=1 (d,t) 1977St22, J=L+1/2 (pol d,t) 1977St23. J^π: L=1 (d,t) 1977St22, J=L+1/2 (pol d,t) 1977St23. J^π: L=3 (d,t) 1977St22, J=L-1/2 (pol d,t) 1977St23. XREF: C(580)D(575). J^π: L=3 (d,t) 1977St22, J=L+1/2 (pol d,t) 1977St23.
49.9268 10	7/2 ⁻	1.0 ns 3	ABCDEF	
127.9189 10	5/2 ⁻	0.4 ns 1	ABCDE	
190.291 ^b 6	(9/2) ⁻		BCDEF	
214.5949 12	1/2 ⁻	4.53 ns 6	ABCD	
314.6799 23	3/2 ⁻	≤0.1 ns	ABCD	
463.614 3	3/2 ⁻	≤0.1 ns	ABCD	
516.679 5	5/2 ⁻		ABCDE	
581.0 3	7/2 ⁻		A CDE	

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Adopted Levels, Gammas (continued)

^{147}Nd Levels (continued)					
E(level) [†]	J ^π	T _{1/2} [‡]	XREF	Comments	
596.2 ^b 3	(13/2 ⁻)&	<0.8 ns	F		
604.511 4	1/2 ⁻		ABCD	J ^π : L=1 (d,t) 1977St22, J=L-1/2 (pol d,t) 1977St23.	
631.479 4	3/2 ⁻		ABCD	J ^π : L=1 (d,t) 1977St22, J=L+1/2 (pol d,t) 1977St23.	
656 2	9/2 ⁻ , 11/2 ⁻		CDE	XREF: C(665). J ^π : L=5 (d,p) 1982Ja09.	
749 5			D		
769.305 21	3/2 ⁺		ABCDE	XREF: C(778). J ^π : L=2 (d,t) 1977St22, J=L-1/2 (pol d,t) 1977St23.	
792.522 21	3/2 ⁺		AB D	J ^π : 1/2 ⁺ , 3/2 ⁺ from E1 γ to 1/2 ⁻ , 215 level; 1/2 ⁺ less likely from γ from (1/2 ⁻ , 3/2, 5/2 ⁻), 1261 level.	
809 2			D	E(level): from 1977St22. E=814 keV in 1980Lo06.	
829.98 4	(1/2, 3/2, 5/2 ⁻)		A	J ^π : γ to 1/2 ⁻ , 215 level.	
859 2	1/2 ⁻ , 3/2 ⁻ @		CD	XREF: C(862).	
904? 2			D		
934 2	(13/2) ⁺ @		CDE	XREF: C(938). J ^π : L=6 (³ He, α) and N=87 syst (analogous to states at 878 keV in ¹⁴⁹ Sm and at 854 keV in ¹⁵¹ Gd); i _{13/2} neutron state.	
942.14 6	(1/2 ⁻ , 3/2, 5/2)		AB	J ^π : (1/2, 3/2, 5/2) from log ft=7.2 from (3/2 ⁺); (1/2 ⁻ , 3/2, 5/2) from γ to 5/2 ⁻ , g.s.	
957.50 4	3/2 ⁻		ABCD	XREF: C(963). J ^π : L=1 (d,t) 1977St22, J=L+1/2 (pol d,t) 1977St23.	
983 5	5/2 ⁻ , 7/2 ⁻ @		CD	XREF: C(993). E(level): from (d,t), 1980Lo06.	
1029? 2			D		
1041.48 4	1/2 ⁻		ABCD	J ^π : L=1 (d,t) 1977St22, J=L-1/2 (pol d,t) 1977St23.	
1111.91 8	3/2 ⁺		BCDE	XREF: C(1125). J ^π : L=2 (d,t) 1977St22, J=L-1/2 (pol d,t) 1977St23.	
1115.1 ^c 4	(15/2 ⁺)&		F		
1154 [#] 2	5/2 ⁻ , 7/2 ⁻ @		CD		
1189.9 ^b 4	(17/2 ⁻)&		F		
1205 2	5/2 ⁻ , 7/2 ⁻ @		CD	XREF: C(1212).	
1215 2			D		
1236 10	(9/2 ⁻ , 11/2 ⁻)		DE	J ^π : L=(5) (³ He, α) (1980Lo06) and (d,t) (1982Ja09).	
1260.82 5	(1/2 ⁻ , 3/2, 5/2 ⁻)		A	J ^π : γ's to 1/2 ⁻ , 605 level and 5/2 ⁻ , g.s. respectively.	
1263.95 7	3/2 ⁺		A CD	XREF: C(1269)D(1262). J ^π : L=2 (d,t) 1977St22, J=L-1/2 (pol d,t) 1977St23.	
1293 6	5/2 ⁻ , 7/2 ⁻ @		C		
1310.89 6	3/2 ⁺		AB D	J ^π : L=2 (d,t) 1977St22, J=L-1/2 (pol d,t) 1977St23.	
1333 2	(9/2 ⁻ , 11/2 ⁻)@		D		
1334 6	1/2 ⁻ , 3/2 ⁻ @		C		
1351.01 6	5/2 ⁻ @		A C	XREF: C(1355). 5/2 ⁻ , 7/2 ⁻ from L=3 (d,t) 1977St22; (3/2 ⁻ , 5/2 ⁻) from γ to 1/2 ⁻ , 214 level and γ to 7/2 ⁻ , 50 level.	
1353 2	1/2 ⁺		D	J ^π : L=0 (d,t) 1977St22, J=L+1/2 (pol d,t) 1977St23.	
1377 2			D		
1386 6	1/2 ⁻ , 3/2 ⁻ @		C		
1398.12 8	3/2 ⁺		AB DE	J ^π : L=2 (d,t) 1977St22, J=L-1/2 (pol d,t) 1977St23.	
1444.86 8	1/2 ⁺		AB D	J ^π : L=0 (d,t) 1977St22, J=L+1/2 (pol d,t) 1977St23.	
1464 2	(11/2 ⁻)		DE	J ^π : L=4, 5, 6 (d,t); (11/2 ⁻) from N=87 syst; deformed 11/2[505] state.	
1499.1 ^c 4	(19/2 ⁺)&		F		
1503 6	5/2 ⁻ , 7/2 ⁻ @		C		
1509 2	9/2 ⁻ , 11/2 ⁻		DE	J ^π : L=5 in (³ He, α).	

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Adopted Levels, Gammas (continued) ^{147}Nd Levels (continued)

E(level) [†]	J ^π	XREF	Comments
1523.48 8	(1/2 ⁻ , 3/2 ⁻) [@]	BC	XREF: C(1531).
1544.50 7	(1/2 ⁻ , 3/2, 5/2 ⁺)	AB	J ^π : (1/2 ⁻ , 3/2, 5/2) from γ to 5/2 ⁻ , 128 level and (1/2, 3/2, 5/2 ⁺) from primary γ from 1/2 ⁺ to this level, in $^{146}\text{Nd}(n, \gamma)$.
1550.10 9	3/2 ⁻	BCD	XREF: C(1558)D(1553).
1593.46 19	5/2 ⁺	A DE	J ^π : L=1 (d,t) 1977St22, J=L+1/2 (pol d,t) 1977St23. XREF: D(1597).
			J ^π : 3/2 ⁺ , 5/2 ⁺ from L=2 in (d,t) and γ to 7/2 ⁻ , 50 level.
1610 6	5/2 ⁻ , 7/2 ⁻ [@]	C	
1617.42 14	3/2 ⁺ , 5/2 ⁺ [@]	A D	XREF: D(1624).
1647 5	1/2 ⁻ , 3/2 ⁻ [@]	CD	XREF: C(1660).
1671 10	(9/2 ⁻ , 11/2 ⁻)	E	J ^π : L=(5) in ($^3\text{He}, \alpha$).
1673 2	1/2 ⁺	D	J ^π : L=0 (d,t) 1977St22, J=L+1/2 (pol d,t) 1977St23.
1673.69 14	3/2 ⁻ , 5/2	A	J ^π : from γ 's to 3/2 ⁺ , 769 level, 3/2 ⁻ , 315 level, and 7/2 ⁻ , 50 level, respectively.
1694 6	5/2 ⁻ , 7/2 ⁻ [@]	C	
1698 6	(9/2 ⁻ , 11/2 ⁻) [@]	D	
1711 2	5/2 ⁻ , 7/2 ⁻ [@]	C	
1733.51 9	5/2 ⁻ [@]	A CD	XREF: C(1739).
			J ^π : 5/2 ⁻ , 7/2 ⁻ from L in (d,p) or (d,t); 7/2 ⁻ excluded by log ft=6.7 from (3/2 ⁺).
1759 5	(1/2 ⁻ , 3/2 ⁻) [@]	CD	
1761.96 7	(1/2, 3/2, 5/2 ⁻)	A	J ^π : (1/2, 3/2, 5/2) from log ft=7.0; (1/2, 3/2, 5/2 ⁻) from γ to (1/2 ⁻), 215 level.
1770? 2		D	
1791 6	5/2 ⁻ , 7/2 ⁻ [@]	C	
1824 5	5/2 ⁻ , 7/2 ⁻ [@]	CD	XREF: C(1817).
1841.05 7	(1/2 ⁻ , 3/2, 5/2 ⁺)	B	J ^π : primary γ from 1/2 ⁺ , and γ to 5/2 ⁻ , g.s.
1846 5	3/2 ⁺ , 5/2 ⁺ [@]	D	
1851 6	1/2 ⁻ , 3/2 ⁻ [@]	C	
1854 10	(5/2 ⁺)	DE	J ^π : L=(2), J=L+1/2 (pol d,t) 1977St23.
1881 6	5/2 ⁻ , 7/2 ⁻ [@]	C	
1936 6	1/2 ⁻ , 3/2 ⁻ [@]	C	
1943 5	5/2 ⁻ , 7/2 ⁻ [@]	CD	XREF: C(1953).
1979.47 10	(1/2 ⁻ , 3/2 ⁻) [@]	BC	XREF: C(1987).
2010 6	1/2 ⁻ , 3/2 ⁻ [@]	C	
2018 5	1/2 ⁺ [@]	D	
2030.2 ^C 4	(23/2 ⁺) ^{&}	F	
2038 5	3/2 ⁺ , 5/2 ⁺ [@]	DE	
2042 6	(5/2 ⁻ , 7/2 ⁻) [@]	C	
2068 5		D	
2070.36 15	(1/2, 3/2, 5/2 ⁻)	A	J ^π : (1/2, 3/2, 5/2) from log ft=7.0; (1/2, 3/2, 5/2 ⁻) from γ to (1/2 ⁻), 128 level.
2086 5	1/2 ⁻ , 3/2 ⁻ [@]	CD	
2110 6	(5/2 ⁻ , 7/2 ⁻) [@]	C	
2123.2 4	(1/2, 3/2, 5/2 ⁻)	A	J ^π : γ to 1/2 ⁻ , 604 level.
2146 5	3/2 ⁺ , 5/2 ⁺ [@]	D	
2164.58 24	(1/2 ⁻ , 3/2, 5/2 ⁻)	A E	XREF: E(2159).
			J ^π : γ to 1/2 ⁻ , 1310 level, and γ to 5/2 ⁻ , g.s.
2177 5	3/2 ⁺ , 5/2 [@]	D	
2189 6	(1/2 ⁻ , 3/2 ⁻) [@]	C	
2204 5	5/2 ⁻ , 7/2 ⁻ [@]	D	
2226 6	(5/2 ⁻ , 7/2 ⁻) [@]	CDE	

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Adopted Levels, Gammas (continued) ^{147}Nd Levels (continued)

E(level) [†]	J ^π	XREF	Comments
2250 5	3/2 ⁺ , 5/2 ⁺ @	D	
2276 6	(9/2 ⁻ , 11/2 ⁻) @	C	
2281 10		E	
2297 5		D	
2301 6	1/2 ⁻ , 3/2 ⁻ @	C	
2310.21 15	(3/2 ⁺ , 5/2 ⁺)	A	J ^π : (1/2 ⁺ , 3/2 ⁺ , 5/2 ⁺) from log ft=5.4 from (3/2 ⁺); γ to 5/2 ⁻ , g.s.
2335.7 3	(5/2 ⁺)	A D	J ^π : (1/2 ⁺ , 3/2 ⁺ , 5/2 ⁺) from log ft=5.5 from (3/2 ⁺); γ to 7/2 ⁻ , 581 level.
2350 ^a 5		DE	
2366 6	(5/2 ⁻ , 7/2 ⁻) @	C	
2373 5		D	
2392 6	1/2 ⁻ , 3/2 ⁻ @	C	
2398 5	3/2 ⁺ , 5/2 ⁺ @	D	
2413 10		E	
2423.2 4	1/2 ⁺ @	A D	
2425 6	(1/2 ⁻ , 3/2 ⁻) @	C	
2430 5	(9/2 ⁻ , 11/2 ⁻)	DE	J ^π : L=(5) in (³ He, α).
2445 [#] 6	5/2 ⁻ , 7/2 ⁻ @	CD	
2468 5		D	
2484 5	3/2 ⁺ , 5/2 ⁺ @	D	
2484 10	(9/2 ⁻ , 11/2 ⁻)	E	J ^π : L=(5) in (³ He, α).
2486 6	5/2 ⁻ , 7/2 ⁻ @	C	
2513 5		D	
2524 6	(1/2 ⁻ , 3/2 ⁻) @	C	
2536 5	3/2 ⁺ , 5/2 ⁺ @	D	
2541 10	(9/2 ⁻ , 11/2 ⁻)	E	J ^π : L=(5) in (³ He, α).
2563 [#] 4	3/2 ⁺ , 5/2 ⁺ @	CD	
2591 6	1/2 ⁻ , 3/2 ⁻ @	C	
2593 5	1/2 ⁺ @	D	
2622 5	3/2 ⁺ , 5/2 ⁺ @	D	
2641 6	(1/2 ⁻ , 3/2 ⁻) @	C	
2653 5	3/2 ⁺ , 5/2 ⁺ @	D	
2676 6	1/2 ⁻ , 3/2 ⁻ @	C	
2689 5	3/2 ⁺ , 5/2 ⁺ @	DE	
2711.4 ^c 4	(27/2 ⁺) &	F	
2713 10		E	
2722 5	3/2 ⁺ , 5/2 ⁺ @	D	
2724 6	(1/2 ⁻ , 3/2 ⁻) @	C	
2754 6	1/2 ⁻ , 3/2 ⁻ @	C	
2787 5		D	
2805 6	1/2 ⁻ , 3/2 ⁻ @	C	
2866 5	5/2 ⁻ , 7/2 ⁻ @	CD	
2900 6	5/2 ⁻ , 7/2 ⁻ @	C	
2928 6	(1/2 ⁻ , 3/2 ⁻) @	C	
3195.5 ^d 4	(29/2 ⁺) &	F	
3504.5 ^c 4	(31/2 ⁺) &	F	
3807.4 ^d 4	(33/2 ⁺) &	F	
4493.6 ^d 3	(37/2 ⁺) &	F	

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Adopted Levels, Gammas (continued) ^{147}Nd Levels (continued)

E(level) [†]	J ^π	XREF	Comments
5207.2 ^d 8	(41/2 ⁺) ^{&}	F	Additional information 2.
(5292.20 9)	1/2 ⁺	B	Additional information 3.
			E(level): level energy held fixed in least-squares adjustment.
			E(level): from 2021Wa16 ; others: 5292.19 15 (1975Ro16).
			J ^π : from s-wave capture.

[†] From least-squares fit to Eγ's including primary γ's with capture state held fixed; normalized $\chi^2=8.8$ is greater than critical $\chi^2=1.3$.

[‡] From ^{147}Pr β^- decay, except where noted.

Average of (d,p) and (d,t).

@ From L in (d,p) or (d,t).

& From $^{238}\text{U}(^{12}\text{C},X\gamma)$ based on systematics for N=87 isotones, (^{149}Sm , ^{151}Gd), band assignments and theoretical configurations.

^a From (d,t).

^b Band(A): Band based on 5/2⁻. Configuration= $\nu f_{7/2}^{-3}$ for 5/2⁻ and 7/2⁻ states. Above 9/2⁻, configuration= $\nu h_{9/2}$ coupled to quadrupole modes.

^c Band(B): Band based on (15/2⁺). Configuration= $\nu h_{9/2}$ coupled to octupole modes as suggested by interband E1 transitions.

^d Band(C): Band based on (29/2⁺). Possible configuration= $\nu f_{7/2} \nu h_{9/2} \nu i_{13/2}$.

Adopted Levels, Gammas (continued)

$\gamma(^{147}\text{Nd})$

For unplaced γ 's see ¹⁴⁷Pr β^- decay and ¹⁴⁶Nd(n, γ) datasets.

$E_i(\text{level})$	J_i^π	$E_\gamma^\#$	$I_\gamma^\text{@}$	E_f	J_f^π	Mult.&	$\delta^\ddagger\&$	$\alpha^\dagger$	Comments
49.9268	7/2 ⁻	49.927 1	100	0.0	5/2 ⁻	M1+E2	<0.42	12.0 16	B(M1)(W.u.)=0.012 +11-4 $\alpha(\text{K})=8.6$ 4; $\alpha(\text{L})=2.7$ 14; $\alpha(\text{M})=0.59$ 33 $\alpha(\text{N})=0.129$ 70; $\alpha(\text{O})=0.0177$ 86; $\alpha(\text{P})=0.00056$ 3
127.9189	5/2 ⁻	77.9921 3	100 6	49.9268	7/2 ⁻	M1+E2	<0.48	3.13 24	B(M1)(W.u.)=0.017 +13-5 $\alpha(\text{K})=2.45$ 4; $\alpha(\text{L})=0.54$ 20; $\alpha(\text{M})=0.117$ 45 $\alpha(\text{N})=0.0258$ 96; $\alpha(\text{O})=0.0037$ 12; $\alpha(\text{P})=0.000154$ 6 Branching: $I_\gamma(78\gamma)/I_\gamma(128\gamma)=1.8$ 3 (1975Ro16), 1.0 1 (1977Re11, ¹⁴⁷ Pr β^- decay).
		127.919 6	76 4	0.0	5/2 ⁻	M1(+E2)	<0.40	0.718 18	B(M1)(W.u.)=0.0032 +24-10 $\alpha(\text{K})=0.597$ 9; $\alpha(\text{L})=0.095$ 12; $\alpha(\text{M})=0.020$ 3 $\alpha(\text{N})=0.0045$ 6; $\alpha(\text{O})=0.00067$ 8; $\alpha(\text{P})=3.79\times 10^{-5}$ 10 I_γ : 54 5 (n, γ).
190.291	(9/2) ⁻	140.364 6	100	49.9268	7/2 ⁻	[M1+E2]		0.60 6	$\alpha(\text{K})=0.450$ 13; $\alpha(\text{L})=0.118$ 55; $\alpha(\text{M})=0.026$ 13 $\alpha(\text{N})=0.0057$ 27; $\alpha(\text{O})=7.9\times 10^{-4}$ 33; $\alpha(\text{P})=2.5\times 10^{-5}$ 5
214.5949	1/2 ⁻	86.6759 6	100 6	127.9189	5/2 ⁻	E2		3.68	B(E2)(W.u.)=111.8 20 $\alpha(\text{K})=1.79$ 3; $\alpha(\text{L})=1.468$ 21; $\alpha(\text{M})=0.335$ 5 $\alpha(\text{N})=0.0724$ 11; $\alpha(\text{O})=0.00926$ 13; $\alpha(\text{P})=7.67\times 10^{-5}$ 11 Branching: $I_\gamma(87\gamma)/I_\gamma(214\gamma)=6.7$ 3 (1975Ro16), 4.0 3 (av: ¹⁴⁷ Pr β^- decay).
		214.594 6	23.9 15	0.0	5/2 ⁻	E2		0.1548	B(E2)(W.u.)=0.287 24 $\alpha(\text{K})=0.1163$ 17; $\alpha(\text{L})=0.0302$ 5; $\alpha(\text{M})=0.00669$ 10 $\alpha(\text{N})=0.001463$ 21; $\alpha(\text{O})=0.000200$ 3; $\alpha(\text{P})=6.00\times 10^{-6}$ 9 I_γ : 15.1 12 (n, γ).
314.6799	3/2 ⁻	100.078 3	2.4 3	214.5949	1/2 ⁻	[M1]		1.413	Mult., δ : E2(+M1), $\delta^2>1.0$ in ¹⁴⁷ Pr β^- decay; M1 mixing excluded from $\Delta J=2$, $\Delta\pi=\text{no}$ transition. $\alpha(\text{K})=1.201$ 17; $\alpha(\text{L})=0.1672$ 24; $\alpha(\text{M})=0.0355$ 5 $\alpha(\text{N})=0.00795$ 12; $\alpha(\text{O})=0.001206$ 17; $\alpha(\text{P})=7.79\times 10^{-5}$ 11 Branching: $I_\gamma(315\gamma)/I_\gamma(265\gamma)/I_\gamma(187\gamma)/I_\gamma(100\gamma)=100/2.0$ 3/4.0 6/3.5 5 (1975Ro16), 100/1.1 1/6 1/1.3 2 (1975Do15, ¹⁴⁷ Pr β^- decay).
		186.752 6	5.6 7	127.9189	5/2 ⁻	E2		0.247	$\alpha(\text{K})=0.180$ 3; $\alpha(\text{L})=0.0525$ 8; $\alpha(\text{M})=0.01170$ 17 $\alpha(\text{N})=0.00255$ 4; $\alpha(\text{O})=0.000345$ 5; $\alpha(\text{P})=9.01\times 10^{-6}$ 13 I_γ : 4.0 3 (n, γ).
		264.70 4	1.9 5	49.9268	7/2 ⁻	[E2]		0.0779	$\alpha(\text{K})=0.0606$ 9; $\alpha(\text{L})=0.01354$ 19; $\alpha(\text{M})=0.00298$ 5 $\alpha(\text{N})=0.000653$ 10; $\alpha(\text{O})=9.10\times 10^{-5}$ 13; $\alpha(\text{P})=3.26\times 10^{-6}$ 5 I_γ : 2.0 2 (n, γ).
		314.675 4	100 5	0.0	5/2 ⁻	M1+E2	1.3 +9-4	0.051 4	$\alpha(\text{K})=0.042$ 4; $\alpha(\text{L})=0.00713$ 12; $\alpha(\text{M})=0.00154$ 3 $\alpha(\text{N})=0.000341$ 6; $\alpha(\text{O})=4.96\times 10^{-5}$ 8; $\alpha(\text{P})=2.5\times 10^{-6}$ 3

Adopted Levels, Gammas (continued)

$\gamma(^{147}\text{Nd})$ (continued)

$E_i(\text{level})$	J_i^π	$E_\gamma^\#$	$I_\gamma^\text{@}$	E_f	J_f^π	Mult. &	$\delta^\ddagger \&$	$\alpha^\dagger$	Comments
463.614	3/2 ⁻	148.7 3	0.8 3	314.6799	3/2 ⁻	[M1+E2]		0.50 4	$\alpha(\text{K})=0.379$ 14; $\alpha(\text{L})=0.095$ 41; $\alpha(\text{M})=0.0209$ 94 $\alpha(\text{N})=0.0046$ 20; $\alpha(\text{O})=6.3\times 10^{-4}$ 25; $\alpha(\text{P})=2.1\times 10^{-5}$ 4 $\alpha(\text{K})=0.087$ 13; $\alpha(\text{L})=0.0146$ 23; $\alpha(\text{M})=0.0032$ 6 $\alpha(\text{N})=0.00070$ 12; $\alpha(\text{O})=0.000102$ 11; $\alpha(\text{P})=5.3\times 10^{-6}$ 13 I _γ : 25 2 (n,γ). Branching: I _γ (464γ)/I _γ (414γ)/I _γ (336γ)/I _γ (249γ)=3.2 5/22 3/100/25 4 (1975Ro16), -/20 3/100/27 3 (av: ¹⁴⁷ Pr β ⁻ decay).
		249.029 4	28 3	214.5949	1/2 ⁻	M1+E2	0.8 +35-9	0.105 10	
		335.700 5	100 5	127.9189	5/2 ⁻	E2(+M1)	3.6 +20-8	0.0380 8	$\alpha(\text{K})=0.0307$ 8; $\alpha(\text{L})=0.00577$ 8; $\alpha(\text{M})=0.001257$ 18 $\alpha(\text{N})=0.000277$ 4; $\alpha(\text{O})=3.95\times 10^{-5}$ 6; $\alpha(\text{P})=1.74\times 10^{-6}$ 6 $\alpha(\text{K})=0.01630$ 23; $\alpha(\text{L})=0.00287$ 4; $\alpha(\text{M})=0.000622$ 9 $\alpha(\text{N})=0.0001374$ 20; $\alpha(\text{O})=1.98\times 10^{-5}$ 3; $\alpha(\text{P})=9.37\times 10^{-7}$ 14
		413.680 15	21.3 14	49.9268	7/2 ⁻	[E2]		0.0199	$\alpha(\text{K})=0.015$ 4; $\alpha(\text{L})=0.0023$ 3; $\alpha(\text{M})=0.00048$ 6 $\alpha(\text{N})=0.000108$ 13; $\alpha(\text{O})=1.61\times 10^{-5}$ 23; $\alpha(\text{P})=9.5\times 10^{-7}$ 26 I _γ : ≤0.32, ¹⁴⁷ Pr β ⁻ decay (uncertain placement for this γ).
		463.53 13	4.4 ^b 5	0.0	5/2 ⁻	[M1+E2]		0.018 4	$\alpha(\text{K})=0.155$ 14; $\alpha(\text{L})=0.031$ 8; $\alpha(\text{M})=0.0067$ 19 $\alpha(\text{N})=0.00148$ 39; $\alpha(\text{O})=0.00021$ 5; $\alpha(\text{P})=9.0\times 10^{-6}$ 19 Branching: I _γ (389γ)/I _γ (467γ)/I _γ (517γ)/I _γ (202γ)=100/ 91 13/81 11/27 4 (1975Ro16), 100/86 20/53 15/- (1975Do15, ¹⁴⁷ Pr β ⁻ decay).
516.679	5/2 ⁻	201.926 ^d 7	8 4	314.6799	3/2 ⁻	[M1+E2]		0.194 5	$\alpha(\text{K})=0.0276$ 21; $\alpha(\text{L})=0.00390$ 12; $\alpha(\text{M})=0.000829$ 21 $\alpha(\text{N})=0.000185$ 5; $\alpha(\text{O})=2.79\times 10^{-5}$ 11; $\alpha(\text{P})=1.74\times 10^{-6}$ 16 $\alpha(\text{K})=0.015$ 4; $\alpha(\text{L})=0.0022$ 3; $\alpha(\text{M})=0.00048$ 6 $\alpha(\text{N})=0.000106$ 13; $\alpha(\text{O})=1.58\times 10^{-5}$ 22; $\alpha(\text{P})=9.3\times 10^{-7}$ 26 $\alpha(\text{K})=0.012$ 3; $\alpha(\text{L})=0.00168$ 24; $\alpha(\text{M})=0.00036$ 5 $\alpha(\text{N})=8.0\times 10^{-5}$ 11; $\alpha(\text{O})=1.20\times 10^{-5}$ 19; $\alpha(\text{P})=7.2\times 10^{-7}$ 20
		388.815 ^d 12	83 5	127.9189	5/2 ⁻	M1+E2	<0.82	0.0325 23	$\alpha(\text{K})=0.0087$ 21; $\alpha(\text{L})=0.00123$ 20; $\alpha(\text{M})=0.00026$ 4 $\alpha(\text{N})=5.8\times 10^{-5}$ 10; $\alpha(\text{O})=8.8\times 10^{-6}$ 16; $\alpha(\text{P})=5.4\times 10^{-7}$ 15
		466.750 12	100 18	49.9268	7/2 ⁻	[M1+E2]		0.018 4	$\alpha(\text{K})=0.01719$ 25; $\alpha(\text{L})=0.00305$ 5; $\alpha(\text{M})=0.000661$ 10 $\alpha(\text{N})=0.0001461$ 21; $\alpha(\text{O})=2.10\times 10^{-5}$ 3; $\alpha(\text{P})=9.86\times 10^{-7}$ 14
		516.78 5	78 18	0.0	5/2 ⁻	[M1+E2]		0.014 3	$\alpha(\text{K})=1.79$ 3; $\alpha(\text{L})=1.467$ 21; $\alpha(\text{M})=0.335$ 5 $\alpha(\text{N})=0.0723$ 11; $\alpha(\text{O})=0.00926$ 14; $\alpha(\text{P})=7.66\times 10^{-5}$ 11 $\alpha(\text{K})=0.445$ 13; $\alpha(\text{L})=0.116$ 54; $\alpha(\text{M})=0.026$ 13 $\alpha(\text{N})=0.0056$ 27; $\alpha(\text{O})=7.8\times 10^{-4}$ 32; $\alpha(\text{P})=2.5\times 10^{-5}$ 5
581.0	7/2 ⁻	581.0 ^a 3	100	0.0	5/2 ⁻	[M1+E2]		0.0103 24	
596.2	(13/2 ⁻)	405.9 ^c 3	100	190.291	(9/2 ⁻)	[E2]		0.0211	
604.511	1/2 ⁻	86.69 ^{ad} 5	20 3	516.679	5/2 ⁻	[E2]		3.67	
		140.898 1	41 4	463.614	3/2 ⁻	[M1+E2]		0.59 6	

Adopted Levels, Gammas (continued)

$\gamma(^{147}\text{Nd})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ #	I_γ @	E_f	J_f^π	Mult. &	$\alpha^\dagger$	Comments
604.511	1/2 ⁻	389.94 6	7.3 ^b 18	214.5949	1/2 ⁻	[M1,E2]	0.029 6	$\alpha(\text{K})=0.024$ 6; $\alpha(\text{L})=0.00372$ 25; $\alpha(\text{M})=0.00080$ 5 $\alpha(\text{N})=0.000177$ 11; $\alpha(\text{O})=2.63\times 10^{-5}$ 24; $\alpha(\text{P})=1.49\times 10^{-6}$ 40
		476.80 ^{ad} 6	20 3	127.9189	5/2 ⁻	[E2]	0.01339	$\alpha(\text{K})=0.01106$ 16; $\alpha(\text{L})=0.00184$ 3; $\alpha(\text{M})=0.000397$ 6 $\alpha(\text{N})=8.79\times 10^{-5}$ 13; $\alpha(\text{O})=1.278\times 10^{-5}$ 18; $\alpha(\text{P})=6.45\times 10^{-7}$ 9
		604.57 3	100 ^b 7	0.0	5/2 ⁻	[E2]	0.00718	$\alpha(\text{K})=0.00600$ 9; $\alpha(\text{L})=0.000923$ 13; $\alpha(\text{M})=0.000198$ 3 $\alpha(\text{N})=4.39\times 10^{-5}$ 7; $\alpha(\text{O})=6.48\times 10^{-6}$ 9; $\alpha(\text{P})=3.57\times 10^{-7}$ 5
631.479	3/2 ⁻	114.781 ^d 6	9 ^b 3	516.679	5/2 ⁻	[M1+E2]	1.15 20	$\alpha(\text{K})=0.810$ 12; $\alpha(\text{L})=0.26$ 15; $\alpha(\text{M})=0.059$ 35 $\alpha(\text{N})=0.0128$ 75; $\alpha(\text{O})=0.00173$ 92; $\alpha(\text{P})=4.4\times 10^{-5}$ 9
		167.870 3	27 ^b 2	463.614	3/2 ⁻	[M1+E2]	0.342 14	$\alpha(\text{K})=0.266$ 15; $\alpha(\text{L})=0.060$ 22; $\alpha(\text{M})=0.0132$ 50 $\alpha(\text{N})=0.0029$ 11; $\alpha(\text{O})=4.0\times 10^{-4}$ 13; $\alpha(\text{P})=1.5\times 10^{-5}$ 3
		316.82 4	21 ^b 2	314.6799	3/2 ⁻	[M1+E2]	0.052 8	$\alpha(\text{K})=0.043$ 8; $\alpha(\text{L})=0.00695$ 15; $\alpha(\text{M})=0.00150$ 6 $\alpha(\text{N})=0.000332$ 9; $\alpha(\text{O})=4.87\times 10^{-5}$ 10; $\alpha(\text{P})=2.6\times 10^{-6}$ 7
		416.88 4	6 ^b 3	214.5949	1/2 ⁻	[M1+E2]	0.024 5	$\alpha(\text{K})=0.020$ 5; $\alpha(\text{L})=0.0031$ 3; $\alpha(\text{M})=0.00066$ 5 $\alpha(\text{N})=0.000146$ 13; $\alpha(\text{O})=2.17\times 10^{-5}$ 24; $\alpha(\text{P})=1.25\times 10^{-6}$ 34
		503.56 3	56 ^b 6	127.9189	5/2 ⁻	[M1+E2]	0.015 4	$\alpha(\text{K})=0.012$ 3; $\alpha(\text{L})=0.00181$ 25; $\alpha(\text{M})=0.00038$ 5 $\alpha(\text{N})=8.6\times 10^{-5}$ 12; $\alpha(\text{O})=1.28\times 10^{-5}$ 20; $\alpha(\text{P})=7.7\times 10^{-7}$ 21
		631.480 13	100 ^b 6	0.0	5/2 ⁻	[M1+E2]	0.0083 19	$\alpha(\text{K})=0.0071$ 17; $\alpha(\text{L})=0.00099$ 18; $\alpha(\text{M})=0.00021$ 4 $\alpha(\text{N})=4.7\times 10^{-5}$ 8; $\alpha(\text{O})=7.1\times 10^{-6}$ 14; $\alpha(\text{P})=4.4\times 10^{-7}$ 12
769.305	3/2 ⁺	305.75 20	1.2 2	463.614	3/2 ⁻	[E1]	0.01292	$\alpha(\text{K})=0.01106$ 16; $\alpha(\text{L})=0.001470$ 21; $\alpha(\text{M})=0.000310$ 5 $\alpha(\text{N})=6.89\times 10^{-5}$ 10; $\alpha(\text{O})=1.029\times 10^{-5}$ 15; $\alpha(\text{P})=6.24\times 10^{-7}$ 9 I_γ : 10.4 8 (n, γ).
		454.8 ^a 2	0.65 5	314.6799	3/2 ⁻	[E1]	0.00490	$\alpha(\text{K})=0.00420$ 6; $\alpha(\text{L})=0.000550$ 8; $\alpha(\text{M})=0.0001157$ 17 $\alpha(\text{N})=2.58\times 10^{-5}$ 4; $\alpha(\text{O})=3.88\times 10^{-6}$ 6; $\alpha(\text{P})=2.43\times 10^{-7}$ 4
		554.77 4	36.6 19	214.5949	1/2 ⁻	E1	0.00312	$\alpha(\text{K})=0.00268$ 4; $\alpha(\text{L})=0.000347$ 5; $\alpha(\text{M})=7.30\times 10^{-5}$ 11 $\alpha(\text{N})=1.629\times 10^{-5}$ 23; $\alpha(\text{O})=2.46\times 10^{-6}$ 4; $\alpha(\text{P})=1.562\times 10^{-7}$ 22 I_γ : 42 3 (n, γ). Branching: $I_\gamma(641\gamma)/I_\gamma(555\gamma)=100/42$ 6 (1975Ro16), 100/42 6 (1975Do15, ¹⁴⁷ Pr β^- decay).
		641.380 25	100 5	127.9189	5/2 ⁻	E1	0.00227	$\alpha(\text{K})=0.00196$ 3; $\alpha(\text{L})=0.000252$ 4; $\alpha(\text{M})=5.30\times 10^{-5}$ 8 $\alpha(\text{N})=1.182\times 10^{-5}$ 17; $\alpha(\text{O})=1.79\times 10^{-6}$ 3; $\alpha(\text{P})=1.146\times 10^{-7}$ 16
		718.9 ^a 2	2.1 7	49.9268	7/2 ⁻			
		769.3 ^a 2	2.2 2	0.0	5/2 ⁻	[E1]	1.56 $\times 10^{-3}$	$\alpha(\text{K})=0.001342$ 19; $\alpha(\text{L})=0.0001716$ 24; $\alpha(\text{M})=3.60\times 10^{-5}$ 5 $\alpha(\text{N})=8.05\times 10^{-6}$ 12; $\alpha(\text{O})=1.220\times 10^{-6}$ 17; $\alpha(\text{P})=7.90\times 10^{-8}$ 11
792.522	3/2 ⁺	161.1 ^a 2	3.4 27	631.479	3/2 ⁻	[E1]	0.0704	$\alpha(\text{K})=0.0600$ 9; $\alpha(\text{L})=0.00824$ 12; $\alpha(\text{M})=0.00174$ 3 $\alpha(\text{N})=0.000385$ 6; $\alpha(\text{O})=5.65\times 10^{-5}$ 9; $\alpha(\text{P})=3.18\times 10^{-6}$ 5
		328.84 5	28.6 15	463.614	3/2 ⁻	E1	0.01075	$\alpha(\text{K})=0.00920$ 13; $\alpha(\text{L})=0.001220$ 17; $\alpha(\text{M})=0.000257$ 4 $\alpha(\text{N})=5.72\times 10^{-5}$ 8; $\alpha(\text{O})=8.56\times 10^{-6}$ 12; $\alpha(\text{P})=5.22\times 10^{-7}$ 8 I_γ : 38 3 (n, γ). Branching: $I_\gamma(578\gamma)/I_\gamma(478\gamma)/I_\gamma(329\gamma)=100/17$ 6/38 5 (1975Ro16), 100/34 4/32 5 (1975Do15, ¹⁴⁷ Pr β^- decay).

Adopted Levels, Gammas (continued)

$\gamma(^{147}\text{Nd})$ (continued)								
$E_i(\text{level})$	J_i^π	E_γ [#]	I_γ [@]	E_f	J_f^π	Mult. &	$\alpha^\dagger$	Comments
792.522	3/2 ⁺	478.03 ^d 5	32.7 15	314.6799	3/2 ⁻	E1	0.00437	$\alpha(\text{K})=0.00375$ 6; $\alpha(\text{L})=0.000489$ 7; $\alpha(\text{M})=0.0001029$ 15 $\alpha(\text{N})=2.29\times 10^{-5}$ 4; $\alpha(\text{O})=3.45\times 10^{-6}$ 5; $\alpha(\text{P})=2.17\times 10^{-7}$ 3
		577.95 3	100 5	214.5949	1/2 ⁻	E1	0.00285	$\alpha(\text{K})=0.00245$ 4; $\alpha(\text{L})=0.000317$ 5; $\alpha(\text{M})=6.66\times 10^{-5}$ 10 $\alpha(\text{N})=1.487\times 10^{-5}$ 21; $\alpha(\text{O})=2.24\times 10^{-6}$ 4; $\alpha(\text{P})=1.430\times 10^{-7}$ 20
		664.6 2	1.64 16	127.9189	5/2 ⁻	[E1]	0.00211	$\alpha(\text{K})=0.00181$ 3; $\alpha(\text{L})=0.000233$ 4; $\alpha(\text{M})=4.91\times 10^{-5}$ 7 $\alpha(\text{N})=1.095\times 10^{-5}$ 16; $\alpha(\text{O})=1.657\times 10^{-6}$ 24; $\alpha(\text{P})=1.065\times 10^{-7}$ 15
829.98	(1/2,3/2,5/2 ⁻)	366.59 ^{ad} 5	33 4	463.614	3/2 ⁻			
		615.07 ^{ad} 6	100 10	214.5949	1/2 ⁻			
942.14	(1/2 ⁻ ,3/2,5/2)	310.7 ^a 1	5.1 7	631.479	3/2 ⁻			
		478.51 ^a 8	28 3	463.614	3/2 ⁻			
		627.44 15	32 2	314.6799	3/2 ⁻			
957.50	3/2 ⁻	814.9 ^a 3	9.2 10	127.9189	5/2 ⁻			I_γ : 44 3 (n, γ). Branching: $I_\gamma(627\gamma)/I_\gamma(942\gamma)=44$ 5 (1975Ro16), 30 6 (1975Do15, ¹⁴⁷ Pr β^- decay).
		942.03 12	100 7	0.0	5/2 ⁻			
		165.02 ^a 4	100 13	792.522	3/2 ⁺	[E1]	0.0659	$\alpha(\text{K})=0.0562$ 8; $\alpha(\text{L})=0.00771$ 11; $\alpha(\text{M})=0.001626$ 23 $\alpha(\text{N})=0.000360$ 5; $\alpha(\text{O})=5.29\times 10^{-5}$ 8; $\alpha(\text{P})=2.99\times 10^{-6}$ 5
		493.48 15	73 7	463.614	3/2 ⁻	[M1+E2]	0.016 4	$\alpha(\text{K})=0.013$ 3; $\alpha(\text{L})=0.0019$ 3; $\alpha(\text{M})=0.00041$ 5 $\alpha(\text{N})=9.1\times 10^{-5}$ 12; $\alpha(\text{O})=1.36\times 10^{-5}$ 21; $\alpha(\text{P})=8.1\times 10^{-7}$ 22
		642.69 20	80 7	314.6799	3/2 ⁻	[M1+E2]	0.0080 19	$\alpha(\text{K})=0.0068$ 17; $\alpha(\text{L})=0.00095$ 17; $\alpha(\text{M})=0.00020$ 4 $\alpha(\text{N})=4.5\times 10^{-5}$ 8; $\alpha(\text{O})=6.8\times 10^{-6}$ 13; $\alpha(\text{P})=4.2\times 10^{-7}$ 12
		957.34 14	87 7	0.0	5/2 ⁻	[M1+E2]	0.0031 7	$\alpha(\text{K})=0.0027$ 6; $\alpha(\text{L})=0.00036$ 7; $\alpha(\text{M})=7.5\times 10^{-5}$ 14 $\alpha(\text{N})=1.7\times 10^{-5}$ 3; $\alpha(\text{O})=2.5\times 10^{-6}$ 5; $\alpha(\text{P})=1.6\times 10^{-7}$ 4
1041.48	1/2 ⁻	410.03 9	46 ^b 4	631.479	3/2 ⁻	[M1+E2]	0.025 5	$\alpha(\text{K})=0.021$ 5; $\alpha(\text{L})=0.0032$ 3; $\alpha(\text{M})=0.00069$ 5 $\alpha(\text{N})=0.000153$ 12; $\alpha(\text{O})=2.27\times 10^{-5}$ 24; $\alpha(\text{P})=1.31\times 10^{-6}$ 35
		436.91 6	76 ^b 6	604.511	1/2 ⁻	[M1,E2]	0.021 5	$\alpha(\text{K})=0.018$ 4; $\alpha(\text{L})=0.0027$ 3; $\alpha(\text{M})=0.00057$ 6 $\alpha(\text{N})=0.000128$ 13; $\alpha(\text{O})=1.90\times 10^{-5}$ 24; $\alpha(\text{P})=1.11\times 10^{-6}$ 30
		726.84 6	100 ^b 8	314.6799	3/2 ⁻	[M1+E2]	0.0059 14	$\alpha(\text{K})=0.0050$ 12; $\alpha(\text{L})=0.00069$ 13; $\alpha(\text{M})=0.00015$ 3 $\alpha(\text{N})=3.3\times 10^{-5}$ 6; $\alpha(\text{O})=5.0\times 10^{-6}$ 10; $\alpha(\text{P})=3.12\times 10^{-7}$ 81
1111.91	3/2 ⁺	595.20 20	<7.6 ^b	516.679	5/2 ⁻	[E1]	0.00267	$\alpha(\text{K})=0.00230$ 4; $\alpha(\text{L})=0.000297$ 5; $\alpha(\text{M})=6.24\times 10^{-5}$ 9 $\alpha(\text{N})=1.393\times 10^{-5}$ 20; $\alpha(\text{O})=2.10\times 10^{-6}$ 3; $\alpha(\text{P})=1.342\times 10^{-7}$ 19
		797.23 11	68 ^b 5	314.6799	3/2 ⁻	[E1]	1.45 $\times 10^{-3}$	$\alpha(\text{K})=0.001250$ 18; $\alpha(\text{L})=0.0001595$ 23; $\alpha(\text{M})=3.35\times 10^{-5}$ 5

Adopted Levels, Gammas (continued)

$\gamma(^{147}\text{Nd})$ (continued)								
$E_i(\text{level})$	J_i^π	$E_\gamma^{\#}$	$I_\gamma^{\textcircled{a}}$	E_f	J_f^π	Mult.&	$\alpha^\dagger$	Comments
								$\alpha(\text{N})=7.48\times10^{-6}$ 11; $\alpha(\text{O})=1.134\times10^{-6}$ 16; $\alpha(\text{P})=7.36\times10^{-8}$ 11
1111.91	3/2 ⁺	897.57 ^e 11	100 ^b 8	214.5949	1/2 ⁻	[E1]	1.15×10 ⁻³	$\alpha(\text{K})=0.000990$ 14; $\alpha(\text{L})=0.0001258$ 18; $\alpha(\text{M})=2.64\times10^{-5}$ 4 $\alpha(\text{N})=5.90\times10^{-6}$ 9; $\alpha(\text{O})=8.96\times10^{-7}$ 13; $\alpha(\text{P})=5.85\times10^{-8}$ 9
1115.1	(15/2 ⁺)	518.9 ^c 3		596.2	(13/2 ⁻)	[E1]	0.00362	$\alpha(\text{K})=0.00311$ 5; $\alpha(\text{L})=0.000404$ 6; $\alpha(\text{M})=8.50\times10^{-5}$ 12 $\alpha(\text{N})=1.90\times10^{-5}$ 3; $\alpha(\text{O})=2.86\times10^{-6}$ 4; $\alpha(\text{P})=1.81\times10^{-7}$ 3
1189.9	(17/2 ⁻)	593.8 ^c 3		596.2	(13/2 ⁻)	[E2]	0.00751	$\alpha(\text{K})=0.00628$ 9; $\alpha(\text{L})=0.000971$ 14; $\alpha(\text{M})=0.000208$ 3 $\alpha(\text{N})=4.62\times10^{-5}$ 7; $\alpha(\text{O})=6.81\times10^{-6}$ 10; $\alpha(\text{P})=3.73\times10^{-7}$ 6
1260.82	(1/2 ⁻ , 3/2, 5/2 ⁻)	468.37 ^a 5 491.4 ^a 3 656.1 ^a 2 1046.06 ^a 8 1261.1 ^a 3	3.4 4 11 2 4.4 5 3.2 4 100 4	792.522 769.305 604.511 214.5949 0.0	3/2 ⁺ 3/2 ⁺ 1/2 ⁻ 1/2 ⁻ 5/2 ⁻			
1263.95	3/2 ⁺	494.9 ^a 1	4.2 6	769.305	3/2 ⁺	[M1+E2]	0.015 4	$\alpha(\text{K})=0.013$ 3; $\alpha(\text{L})=0.0019$ 3; $\alpha(\text{M})=0.00040$ 5 $\alpha(\text{N})=9.0\times10^{-5}$ 12; $\alpha(\text{O})=1.35\times10^{-5}$ 21; $\alpha(\text{P})=8.0\times10^{-7}$ 22
		746.9 ^{ad} 1	7.9 6	516.679	5/2 ⁻	[E1]	1.66×10 ⁻³	$\alpha(\text{K})=0.001425$ 20; $\alpha(\text{L})=0.000182$ 3; $\alpha(\text{M})=3.83\times10^{-5}$ 6 $\alpha(\text{N})=8.56\times10^{-6}$ 12; $\alpha(\text{O})=1.296\times10^{-6}$ 19; $\alpha(\text{P})=8.39\times10^{-8}$ 12
		800.4 ^a 2	13.8 11	463.614	3/2 ⁻	[E1]	1.44×10 ⁻³	$\alpha(\text{K})=0.001240$ 18; $\alpha(\text{L})=0.0001582$ 23; $\alpha(\text{M})=3.32\times10^{-5}$ 5 $\alpha(\text{N})=7.42\times10^{-6}$ 11; $\alpha(\text{O})=1.125\times10^{-6}$ 16; $\alpha(\text{P})=7.31\times10^{-8}$ 11
		949.3 ^a 2	13.4 18	314.6799	3/2 ⁻	[E1]	1.03×10 ⁻³	$\alpha(\text{K})=0.000889$ 13; $\alpha(\text{L})=0.0001127$ 16; $\alpha(\text{M})=2.37\times10^{-5}$ 4 $\alpha(\text{N})=5.29\times10^{-6}$ 8; $\alpha(\text{O})=8.03\times10^{-7}$ 12; $\alpha(\text{P})=5.26\times10^{-8}$ 8
		1214.8 ^a 4 1264.2 ^a 3	27 3 100 5	49.9268 0.0	7/2 ⁻ 5/2 ⁻	[E1]	6.68×10 ⁻⁴	$\alpha(\text{K})=0.000526$ 8; $\alpha(\text{L})=6.60\times10^{-5}$ 10; $\alpha(\text{M})=1.385\times10^{-5}$ 20 $\alpha(\text{N})=3.10\times10^{-6}$ 5; $\alpha(\text{O})=4.71\times10^{-7}$ 7; $\alpha(\text{P})=3.12\times10^{-8}$ 5; $\alpha(\text{IPF})=5.81\times10^{-5}$ 9
1310.89	3/2 ⁺	518.43 ^a 8	1.8 2	792.522	3/2 ⁺	[M1+E2]	0.014 3	$\alpha(\text{K})=0.012$ 3; $\alpha(\text{L})=0.00167$ 24; $\alpha(\text{M})=0.00036$ 5 $\alpha(\text{N})=7.9\times10^{-5}$ 11; $\alpha(\text{O})=1.19\times10^{-5}$ 19; $\alpha(\text{P})=7.1\times10^{-7}$ 20
		706.8 ^a 3	12.2 9	604.511	1/2 ⁻	[E1]	0.00185	$\alpha(\text{K})=0.001596$ 23; $\alpha(\text{L})=0.000205$ 3; $\alpha(\text{M})=4.30\times10^{-5}$ 6 $\alpha(\text{N})=9.61\times10^{-6}$ 14; $\alpha(\text{O})=1.454\times10^{-6}$ 21; $\alpha(\text{P})=9.38\times10^{-8}$ 14

Adopted Levels, Gammas (continued)

 $\gamma(^{147}\text{Nd})$ (continued)

$E_i(\text{level})$	J_i^π	$E_\gamma^{\#}$	$I_\gamma^{\text{@}}$	E_f	J_f^π	Mult.&	$\alpha^\dagger$	Comments
1310.89	3/2 ⁺	793.8 ^a 2	32.8 20	516.679	5/2 ⁻	[E1]	1.46×10 ⁻³	$\alpha(\text{K})=0.001260$ 18; $\alpha(\text{L})=0.0001609$ 23; $\alpha(\text{M})=3.38\times 10^{-5}$ 5 $\alpha(\text{N})=7.55\times 10^{-6}$ 11; $\alpha(\text{O})=1.144\times 10^{-6}$ 16; $\alpha(\text{P})=7.43\times 10^{-8}$ 11
		846.9 ^a 3	7 5	463.614	3/2 ⁻	[E1]	1.29×10 ⁻³	$\alpha(\text{K})=0.001109$ 16; $\alpha(\text{L})=0.0001412$ 20; $\alpha(\text{M})=2.96\times 10^{-5}$ 5 $\alpha(\text{N})=6.62\times 10^{-6}$ 10; $\alpha(\text{O})=1.005\times 10^{-6}$ 14; $\alpha(\text{P})=6.54\times 10^{-8}$ 10
		996.0 ^a 2	36.2 18	314.6799	3/2 ⁻	[E1]	9.42×10 ⁻⁴	$\alpha(\text{K})=0.000812$ 12; $\alpha(\text{L})=0.0001027$ 15; $\alpha(\text{M})=2.16\times 10^{-5}$ 3 $\alpha(\text{N})=4.82\times 10^{-6}$ 7; $\alpha(\text{O})=7.32\times 10^{-7}$ 11; $\alpha(\text{P})=4.80\times 10^{-8}$ 7
		1096.8 ^a 3	7 3	214.5949	1/2 ⁻	[E1]	7.87×10 ⁻⁴	$\alpha(\text{K})=0.000679$ 10; $\alpha(\text{L})=8.56\times 10^{-5}$ 12; $\alpha(\text{M})=1.80\times 10^{-5}$ 3 $\alpha(\text{N})=4.02\times 10^{-6}$ 6; $\alpha(\text{O})=6.11\times 10^{-7}$ 9; $\alpha(\text{P})=4.02\times 10^{-8}$ 6
		1182.8 ^a 3	25.0 14	127.9189	5/2 ⁻	[E1]	7.07×10 ⁻⁴	$\alpha(\text{K})=0.000592$ 9; $\alpha(\text{L})=7.45\times 10^{-5}$ 11; $\alpha(\text{M})=1.563\times 10^{-5}$ 22 $\alpha(\text{N})=3.49\times 10^{-6}$ 5; $\alpha(\text{O})=5.32\times 10^{-7}$ 8; $\alpha(\text{P})=3.51\times 10^{-8}$ 5; $\alpha(\text{IPF})=2.03\times 10^{-5}$ 3
		1261.1 ^a 3	100 5	49.9268	7/2 ⁻			
		1310.7 ^a 3	12.6 9	0.0	5/2 ⁻	[E1]	6.55×10 ⁻⁴	$\alpha(\text{K})=0.000494$ 7; $\alpha(\text{L})=6.19\times 10^{-5}$ 9; $\alpha(\text{M})=1.298\times 10^{-5}$ 19 $\alpha(\text{N})=2.90\times 10^{-6}$ 4; $\alpha(\text{O})=4.42\times 10^{-7}$ 7; $\alpha(\text{P})=2.93\times 10^{-8}$ 5; $\alpha(\text{IPF})=8.26\times 10^{-5}$ 12
1351.01	5/2 ⁻	239.1 ^a 1	2.0 3	1111.91	3/2 ⁺			
		718.9 ^{ad} 2	18 4	631.479	3/2 ⁻			
		746.9 ^a 3	12 1	604.511	1/2 ⁻			
		887.0 ^a 2	21.6 14	463.614	3/2 ⁻			
		1036.6 ^a 3	8.1 20	314.6799	3/2 ⁻			
		1136.53 ^a 7	62 3	214.5949	1/2 ⁻			
		1300.4 ^a 3	100 8	49.9268	7/2 ⁻			
1398.12	3/2 ⁺	881.5 ^a 3	41 4	516.679	5/2 ⁻	[E1]	1.19×10 ⁻³	$\alpha(\text{K})=0.001025$ 15; $\alpha(\text{L})=0.0001303$ 19; $\alpha(\text{M})=2.74\times 10^{-5}$ 4 $\alpha(\text{N})=6.12\times 10^{-6}$ 9; $\alpha(\text{O})=9.28\times 10^{-7}$ 13; $\alpha(\text{P})=6.05\times 10^{-8}$ 9
		934.45 ^a 9	11.3 9	463.614	3/2 ⁻	[E1]	1.06×10 ⁻³	$\alpha(\text{K})=0.000916$ 13; $\alpha(\text{L})=0.0001162$ 17; $\alpha(\text{M})=2.44\times 10^{-5}$ 4 $\alpha(\text{N})=5.45\times 10^{-6}$ 8; $\alpha(\text{O})=8.28\times 10^{-7}$ 12; $\alpha(\text{P})=5.42\times 10^{-8}$ 8
		1083.8 ^a 3	100 8	314.6799	3/2 ⁻	[E1]	8.05×10 ⁻⁴	$\alpha(\text{K})=0.000694$ 10; $\alpha(\text{L})=8.76\times 10^{-5}$ 13; $\alpha(\text{M})=1.84\times 10^{-5}$ 3 $\alpha(\text{N})=4.11\times 10^{-6}$ 6; $\alpha(\text{O})=6.25\times 10^{-7}$ 9; $\alpha(\text{P})=4.11\times 10^{-8}$ 6 E_γ : 1083.43 14 (n, γ).
		1398.0 ^a 4	12 3	0.0	5/2 ⁻	[E1]	6.50×10 ⁻⁴	$\alpha(\text{K})=0.000442$ 7; $\alpha(\text{L})=5.53\times 10^{-5}$ 8; $\alpha(\text{M})=1.158\times 10^{-5}$ 17 $\alpha(\text{N})=2.59\times 10^{-6}$ 4; $\alpha(\text{O})=3.95\times 10^{-7}$ 6; $\alpha(\text{P})=2.62\times 10^{-8}$ 4; $\alpha(\text{IPF})=0.0001386$ 20
1444.86	1/2 ⁺	840.62 11	100 ^b 7	604.511	1/2 ⁻	[E1]	1.31×10 ⁻³	$\alpha(\text{K})=0.001125$ 16; $\alpha(\text{L})=0.0001433$ 20; $\alpha(\text{M})=3.01\times 10^{-5}$ 5 $\alpha(\text{N})=6.72\times 10^{-6}$ 10; $\alpha(\text{O})=1.020\times 10^{-6}$ 15; $\alpha(\text{P})=6.64\times 10^{-8}$ 10
		981.0 ^a 1	100 9	463.614	3/2 ⁻	[E1]	9.69×10 ⁻⁴	$\alpha(\text{K})=0.000835$ 12; $\alpha(\text{L})=0.0001058$ 15; $\alpha(\text{M})=2.22\times 10^{-5}$ 4 $\alpha(\text{N})=4.96\times 10^{-6}$ 7; $\alpha(\text{O})=7.54\times 10^{-7}$ 11; $\alpha(\text{P})=4.94\times 10^{-8}$ 7
		1130.57 ^e 18	54 ^b 4	314.6799	3/2 ⁻	[E1]	7.51×10 ⁻⁴	$\alpha(\text{K})=0.000643$ 9; $\alpha(\text{L})=8.10\times 10^{-5}$ 12; $\alpha(\text{M})=1.698\times 10^{-5}$ 24 $\alpha(\text{N})=3.80\times 10^{-6}$ 6; $\alpha(\text{O})=5.78\times 10^{-7}$ 8; $\alpha(\text{P})=3.81\times 10^{-8}$ 6; $\alpha(\text{IPF})=5.94\times 10^{-6}$ 9

Adopted Levels, Gammas (continued)

$\gamma(^{147}\text{Nd})$ (continued)								
$E_i(\text{level})$	J_i^π	$E_\gamma^{\#}$	$I_\gamma^{\text{@}}$	E_f	J_f^π	Mult.&	$\alpha^\dagger$	Comments
1499.1	(19/2 ⁺)	309.2 ^c 3		1189.9	(17/2 ⁻)	[E1]	0.01255	$\alpha(\text{K})=0.01075$ 16; $\alpha(\text{L})=0.001429$ 21; $\alpha(\text{M})=0.000301$ 5 $\alpha(\text{N})=6.70\times 10^{-5}$ 10; $\alpha(\text{O})=1.000\times 10^{-5}$ 15; $\alpha(\text{P})=6.07\times 10^{-7}$ 9
		383.9 ^c 3		1115.1	(15/2 ⁺)	[E2]	0.0248	$\alpha(\text{K})=0.0201$ 3; $\alpha(\text{L})=0.00366$ 6; $\alpha(\text{M})=0.000795$ 12 $\alpha(\text{N})=0.0001756$ 25; $\alpha(\text{O})=2.52\times 10^{-5}$ 4; $\alpha(\text{P})=1.146\times 10^{-6}$ 17
1523.48	(1/2 ⁻ , 3/2 ⁻)	730.9 3	18 ^b 2	792.522	3/2 ⁺			
		754.36 19	29 ^b 3	769.305	3/2 ⁺			
		1208.79 12	100 ^b 8	314.6799	3/2 ⁻			
1544.50	(1/2 ⁻ , 3/2, 5/2 ⁺)	1080.4 ^{ad} 1	39 4	463.614	3/2 ⁻			I_γ : 100 9 (n, γ).
		1230.30 ^d 12	79 7	314.6799	3/2 ⁻			
		1416.4 ^a 4	100 11	127.9189	5/2 ⁻			
1550.10	3/2 ⁻	1033.18 14	63 ^b 4	516.679	5/2 ⁻	[M1+E2]	0.0026 6	$\alpha(\text{K})=0.0022$ 5; $\alpha(\text{L})=0.00030$ 6; $\alpha(\text{M})=6.3\times 10^{-5}$ 12 $\alpha(\text{N})=1.4\times 10^{-5}$ 3; $\alpha(\text{O})=2.1\times 10^{-6}$ 4; $\alpha(\text{P})=1.4\times 10^{-7}$ 3
		1235.47 14	100 ^b 9	314.6799	3/2 ⁻	[M1+E2]	0.0018 4	$\alpha(\text{K})=0.0015$ 3; $\alpha(\text{L})=0.00020$ 4; $\alpha(\text{M})=4.2\times 10^{-5}$ 7 $\alpha(\text{N})=9.3\times 10^{-6}$ 16; $\alpha(\text{O})=1.42\times 10^{-6}$ 25; $\alpha(\text{P})=9.3\times 10^{-8}$ 19; $\alpha(\text{IPF})=1.057\times 10^{-5}$ 22
1593.46	5/2 ⁺	1129.9 ^a 3	83 9	463.614	3/2 ⁻	[E1]	7.52×10^{-4}	$\alpha(\text{K})=0.000643$ 9; $\alpha(\text{L})=8.10\times 10^{-5}$ 12; $\alpha(\text{M})=1.700\times 10^{-5}$ 24 $\alpha(\text{N})=3.80\times 10^{-6}$ 6; $\alpha(\text{O})=5.78\times 10^{-7}$ 8; $\alpha(\text{P})=3.81\times 10^{-8}$ 6; $\alpha(\text{IPF})=5.83\times 10^{-6}$ 10
		1464.4 ^a 5	60 43	127.9189	5/2 ⁻	[E1]	6.58×10^{-4}	$\alpha(\text{K})=0.000408$ 6; $\alpha(\text{L})=5.10\times 10^{-5}$ 8; $\alpha(\text{M})=1.069\times 10^{-5}$ 15 $\alpha(\text{N})=2.39\times 10^{-6}$ 4; $\alpha(\text{O})=3.64\times 10^{-7}$ 6; $\alpha(\text{P})=2.42\times 10^{-8}$ 4; $\alpha(\text{IPF})=0.000186$ 3
		1544.0 ^a 4	100 26	49.9268	7/2 ⁻	[E1]	6.77×10^{-4}	$\alpha(\text{K})=0.000373$ 6; $\alpha(\text{L})=4.66\times 10^{-5}$ 7; $\alpha(\text{M})=9.76\times 10^{-6}$ 14 $\alpha(\text{N})=2.18\times 10^{-6}$ 3; $\alpha(\text{O})=3.33\times 10^{-7}$ 5; $\alpha(\text{P})=2.22\times 10^{-8}$ 4; $\alpha(\text{IPF})=0.000245$ 4
		1593.6 ^a 4	75 7	0.0	5/2 ⁻	[E1]	6.92×10^{-4}	$\alpha(\text{K})=0.000354$ 5; $\alpha(\text{L})=4.41\times 10^{-5}$ 7; $\alpha(\text{M})=9.25\times 10^{-6}$ 13 $\alpha(\text{N})=2.07\times 10^{-6}$ 3; $\alpha(\text{O})=3.15\times 10^{-7}$ 5; $\alpha(\text{P})=2.10\times 10^{-8}$ 3; $\alpha(\text{IPF})=0.000282$ 4
1617.42	3/2 ⁺ , 5/2 ⁺	1101.4 ^a 3	100 46	516.679	5/2 ⁻			
		1154.6 ^a 3	66 5	463.614	3/2 ⁻			
		1303.4 ^a 4	83 9	314.6799	3/2 ⁻			
		1616.6 ^{ad} 2	26 6	0.0	5/2 ⁻			
1673.69	3/2 ⁻ , 5/2	903.8 ^a 2	100 8	769.305	3/2 ⁺			
		1157.4 ^a 4	12.5 8	516.679	5/2 ⁻			

Adopted Levels, Gammas (continued)

$\gamma(^{147}\text{Nd})$ (continued)

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$E_i(\text{level})$	J_i^π	$E_\gamma^{\#}$	$I_\gamma^{\text{@}}$	E_f	J_f^π	Mult.&	$\alpha^\dagger$	Comments
1673.69	3/2 ⁻ , 5/2	1358.7 ^a 4	22.7 25	314.6799	3/2 ⁻			
		1547.7 ^{ad} 4	36 4	127.9189	5/2 ⁻			
		1623.8 ^a 4	28.6 25	49.9268	7/2 ⁻			
		1673.9 ^a 4	16 3	0.0	5/2 ⁻			
1733.51	5/2 ⁻	1102.0 ^a 1	59 5	631.479	3/2 ⁻			
		1217.0 ^a 4	89 8	516.679	5/2 ⁻			
		1605.9 ^a 5	32 23	127.9189	5/2 ⁻			
		1683.3 ^a 4	82 18	49.9268	7/2 ⁻			
		1733.8 ^a 4	100 14	0.0	5/2 ⁻			
1761.96	(1/2, 3/2, 5/2 ⁻)	1130.2 ^{ae} 2	26 4	631.479	3/2 ⁻			
		1298.5 ^a 1	57 9	463.614	3/2 ⁻			
		1547.2 ^a 1	100 9	214.5949	1/2 ⁻			
1841.05	(1/2 ⁻ , 3/2, 5/2 ⁺)	1377.79 17	100 ^b 8	463.614	3/2 ⁻			
		1526.46 22	49 ^b 4	314.6799	3/2 ⁻			
		1840.86 10	100 ^b 8	0.0	5/2 ⁻			
1979.47	(1/2 ⁻ , 3/2 ⁻)	1186.89 15	100 ^b 8	792.522	3/2 ⁺			
		1375.5 4	32 ^b 2	604.511	1/2 ⁻			
2030.2	(23/2 ⁺)	531.1 ^c 3		1499.1	(19/2 ⁺)	[E2]	0.01002	$\alpha(\text{K})=0.00833$ 12; $\alpha(\text{L})=0.001334$ 19; $\alpha(\text{M})=0.000287$ 4 $\alpha(\text{N})=6.36\times 10^{-5}$ 9; $\alpha(\text{O})=9.31\times 10^{-6}$ 14; $\alpha(\text{P})=4.91\times 10^{-7}$ 7
2070.36	(1/2, 3/2, 5/2 ⁻)	1755.6 ^a 2	42 8	314.6799	3/2 ⁻			
		1942.5 ^a 2	100 8	127.9189	5/2 ⁻			
2123.2	(1/2, 3/2, 5/2 ⁻)	1518.8 ^a 4	100 20	604.511	1/2 ⁻			
		1808.4 ^a 5	34 20	314.6799	3/2 ⁻			
2164.58	(1/2 ⁻ , 3/2, 5/2 ⁻)	853.7 ^a 3	100 16	1310.89	3/2 ⁺			
		1559.9 ^a 5	68 27	604.511	1/2 ⁻			
		2164.7 ^a 5	88 20	0.0	5/2 ⁻			
2310.21	(3/2 ⁺ , 5/2 ⁺)	1518.0 ^a 2	60 8	792.522	3/2 ⁺			
		1793.5 ^a 4	100 9	516.679	5/2 ⁻			
		1846.2 ^a 5	23 4	463.614	3/2 ⁻			
		1995.9 ^a 4	64 11	314.6799	3/2 ⁻			
		2308.8 ^{ad} 4	33 7	0.0	5/2 ⁻			
2335.7	(5/2 ⁺)	1754.8 ^a 4	63 22	581.0	7/2 ⁻			
		2207.2 ^a 5	10 4	127.9189	5/2 ⁻			
		2336.1 ^a 5	100 30	0.0	5/2 ⁻			
2423.2	1/2 ⁺	1112.1 ^a 4	100 35	1310.89	3/2 ⁺	[M1+E2]	0.0022 5	$\alpha(\text{K})=0.0019$ 4; $\alpha(\text{L})=0.00025$ 5; $\alpha(\text{M})=5.3\times 10^{-5}$ 10 $\alpha(\text{N})=1.19\times 10^{-5}$ 21; $\alpha(\text{O})=1.8\times 10^{-6}$ 4; $\alpha(\text{P})=1.18\times 10^{-7}$ 25; $\alpha(\text{IPF})=5.44\times 10^{-7}$ 13
		2208.8 ^a 5	16 6	214.5949	1/2 ⁻	[E1]	9.70×10^{-4}	$\alpha(\text{K})=0.000210$ 3; $\alpha(\text{L})=2.59\times 10^{-5}$ 4; $\alpha(\text{M})=5.43\times 10^{-6}$ 8

Adopted Levels, Gammas (continued)

$\gamma(^{147}\text{Nd})$ (continued)

$E_i(\text{level})$	J_i^π	$E_\gamma^\#$	$I_\gamma^\oplus$	E_f	J_f^π	Mult. &	$\alpha^\dagger$	Comments
								$\alpha(\text{N})=1.214\times 10^{-6}$ 17; $\alpha(\text{O})=1.85\times 10^{-7}$ 3; $\alpha(\text{P})=1.246\times 10^{-8}$ 18; $\alpha(\text{IPF})=0.000728$ 11
2711.4	(27/2 ⁺)	681.2 ^c 3		2030.2	(23/2 ⁺)	[E2]	0.00535	$\alpha(\text{K})=0.00450$ 7; $\alpha(\text{L})=0.000669$ 10; $\alpha(\text{M})=0.0001429$ 20
3195.5	(29/2 ⁺)	484.1 ^c 3		2711.4	(27/2 ⁺)	[M1+E2]	0.016 4	$\alpha(\text{N})=3.18\times 10^{-5}$ 5; $\alpha(\text{O})=4.72\times 10^{-6}$ 7; $\alpha(\text{P})=2.69\times 10^{-7}$ 4
3504.5	(31/2 ⁺)	793.2 ^c 3		2711.4	(27/2 ⁺)	[E2]	0.00374	$\alpha(\text{K})=0.014$ 4; $\alpha(\text{L})=0.0020$ 3; $\alpha(\text{M})=0.00043$ 5
3807.4	(33/2 ⁺)	302.9 ^c 3 611.8 ^c 3		3504.5 3195.5	(31/2 ⁺) (29/2 ⁺)	[E2]	0.00696	$\alpha(\text{N})=9.6\times 10^{-5}$ 12; $\alpha(\text{O})=1.43\times 10^{-5}$ 21; $\alpha(\text{P})=8.5\times 10^{-7}$ 23
4493.6	(37/2 ⁺)	686.2 ^c 3		3807.4	(33/2 ⁺)	[E2]	0.00525	$\alpha(\text{K})=0.00316$ 5; $\alpha(\text{L})=0.000454$ 7; $\alpha(\text{M})=9.66\times 10^{-5}$ 14
5207.2	(41/2 ⁺)	713.6 ^c 3		4493.6	(37/2 ⁺)	[E2]	0.00478	$\alpha(\text{N})=2.15\times 10^{-5}$ 3; $\alpha(\text{O})=3.21\times 10^{-6}$ 5; $\alpha(\text{P})=1.90\times 10^{-7}$ 3
(5292.20)	1/2 ⁺	3312.70 13 3451.08 11 3741.69 20 3747.32 15 3768.72 12 3847.0 4 3893.8 3 4500.2 4 4523.6 3 4660.53 11 4687.78 20 4774.55 ^d 21 4828.61 12 4977.40 11 5077.56 12	19.8 ^b 15 36 ^b 3 5.7 ^b 6 9.3 ^b 6 20.1 ^b 15 10.8 ^b 9 8.4 ^b 6 4.2 ^b 3 2.1 ^b 3 100 ^b 7 96 ^b 8 5.4 ^b 6 18.0 ^b 15 39 ^b 3 13.8 ^b 12	1979.47 1841.05 1550.10 1544.50 1523.48 1444.86 1398.12 792.522 769.305 631.479 604.511 516.679 463.614 314.6799 214.5949	(1/2 ⁻ , 3/2 ⁻) (1/2 ⁻ , 3/2, 5/2 ⁺) 3/2 ⁻ (1/2 ⁻ , 3/2, 5/2 ⁺) (1/2 ⁻ , 3/2 ⁻) 1/2 ⁺ 3/2 ⁺ 3/2 ⁺ 3/2 ⁻ 1/2 ⁻ 5/2 ⁻ 3/2 ⁻ 3/2 ⁻ 1/2 ⁻			$\alpha(\text{N})=2.81\times 10^{-5}$ 4; $\alpha(\text{O})=4.18\times 10^{-6}$ 6; $\alpha(\text{P})=2.42\times 10^{-7}$ 4

I_γ : partially due to another isotope.

I_γ : partially due to another isotope.

I_γ : partially due to another isotope.

[†] Additional information 4.

[‡] Additional information 5.

[#] From (n, γ) (1975Ro16), unless noted otherwise.

[@] From ¹⁴⁷Pr β^- decay (1993Sh33), unless noted otherwise.

[&] From $\alpha(\text{exp})$, $\alpha(\text{Kexp})$, $\alpha(\text{Lexp})$, and K/L ratios (x- γ and conversion electron measurements) in ¹⁴⁷Pr β^- decay (1993Sh33).

Adopted Levels, Gammas (continued)

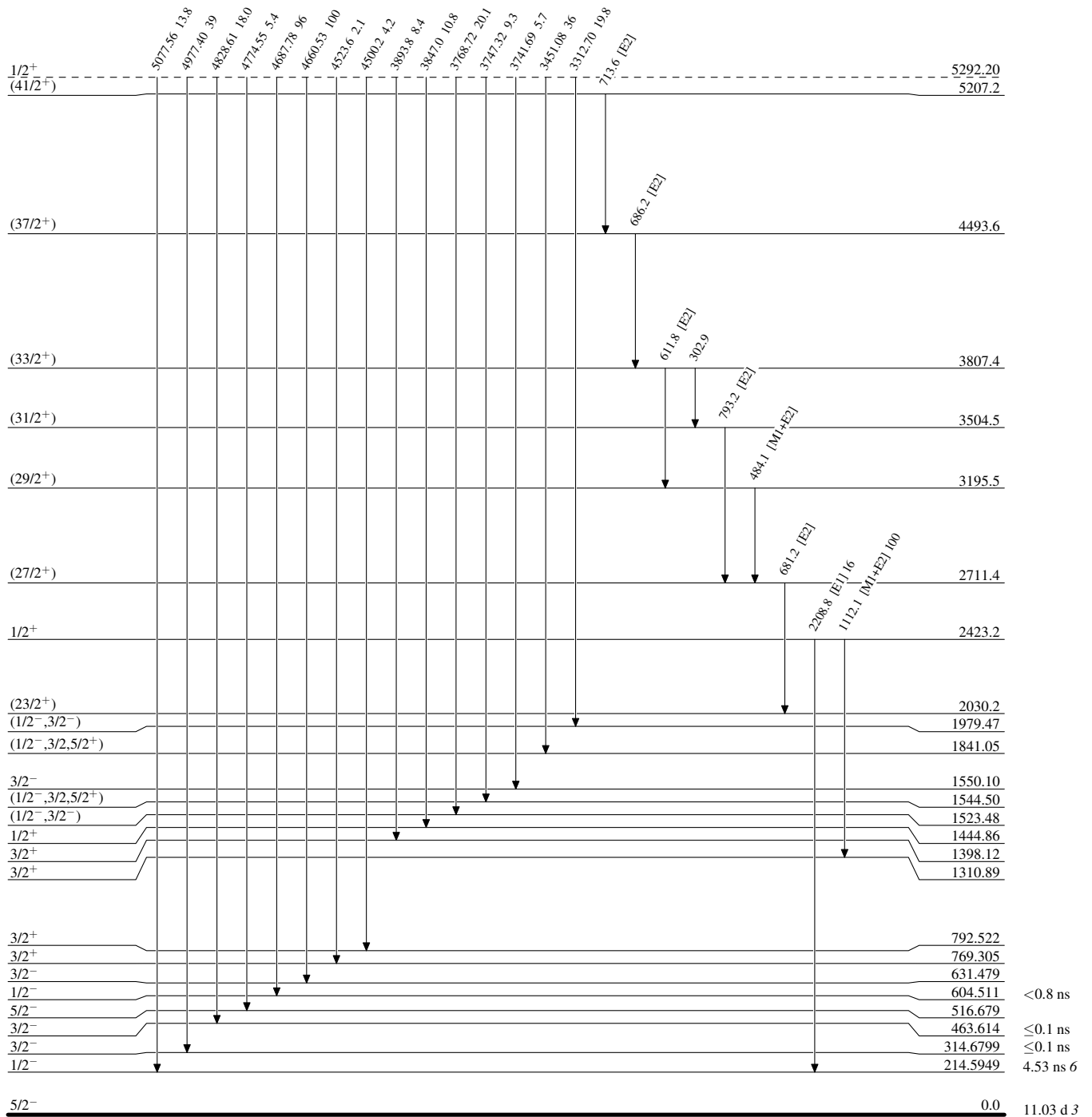
$\gamma(^{147}\text{Nd})$ (continued)

- ^a From ¹⁴⁷Pr β^- decay.
- ^b From (n, γ).
- ^c γ 's reported with no uncertainties in ²³⁸U(¹²C,X γ); $\Delta E\gamma=0.3$ keV assumed by evaluator.
- ^d Differs by 3σ or more from $\Delta E(\text{levels})$.
- ^e Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

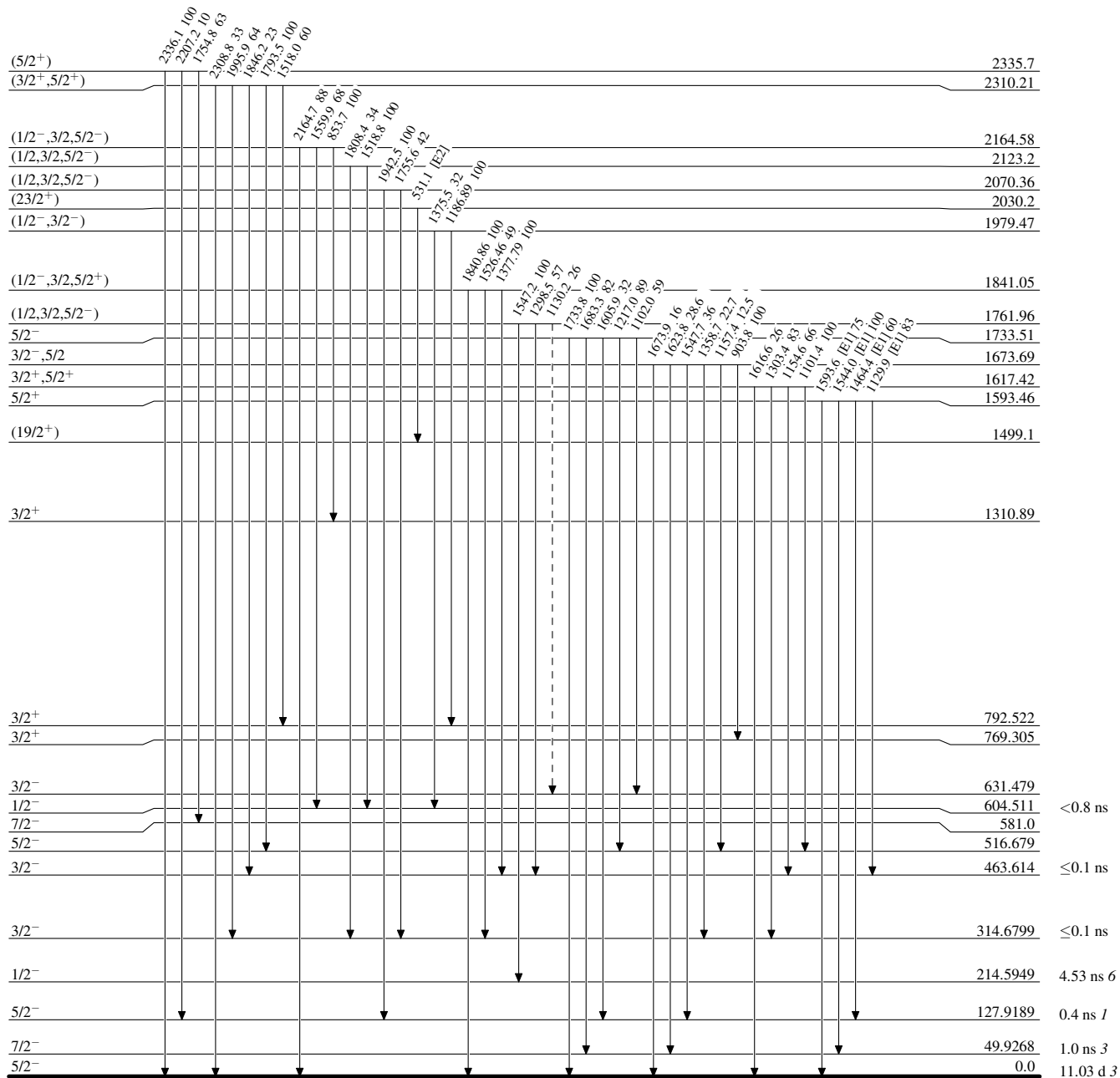


Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

-----► γ Decay (Uncertain) $^{147}_{60}\text{Nd}_{87}$

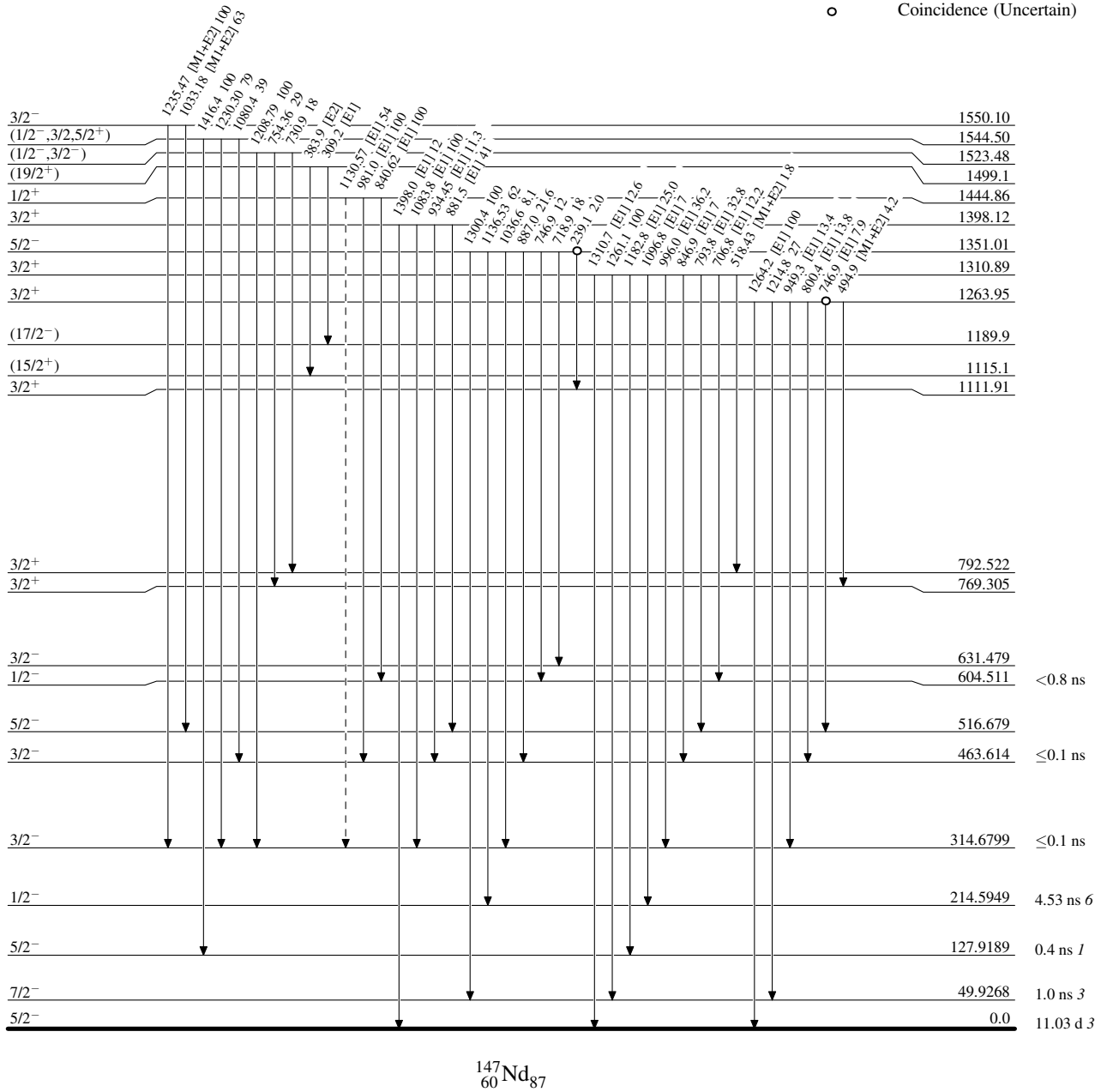
Legend

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

- ▶ γ Decay (Uncertain)
- Coincidence
- Coincidence (Uncertain)


 $^{147}_{60}\text{Nd}_{87}$

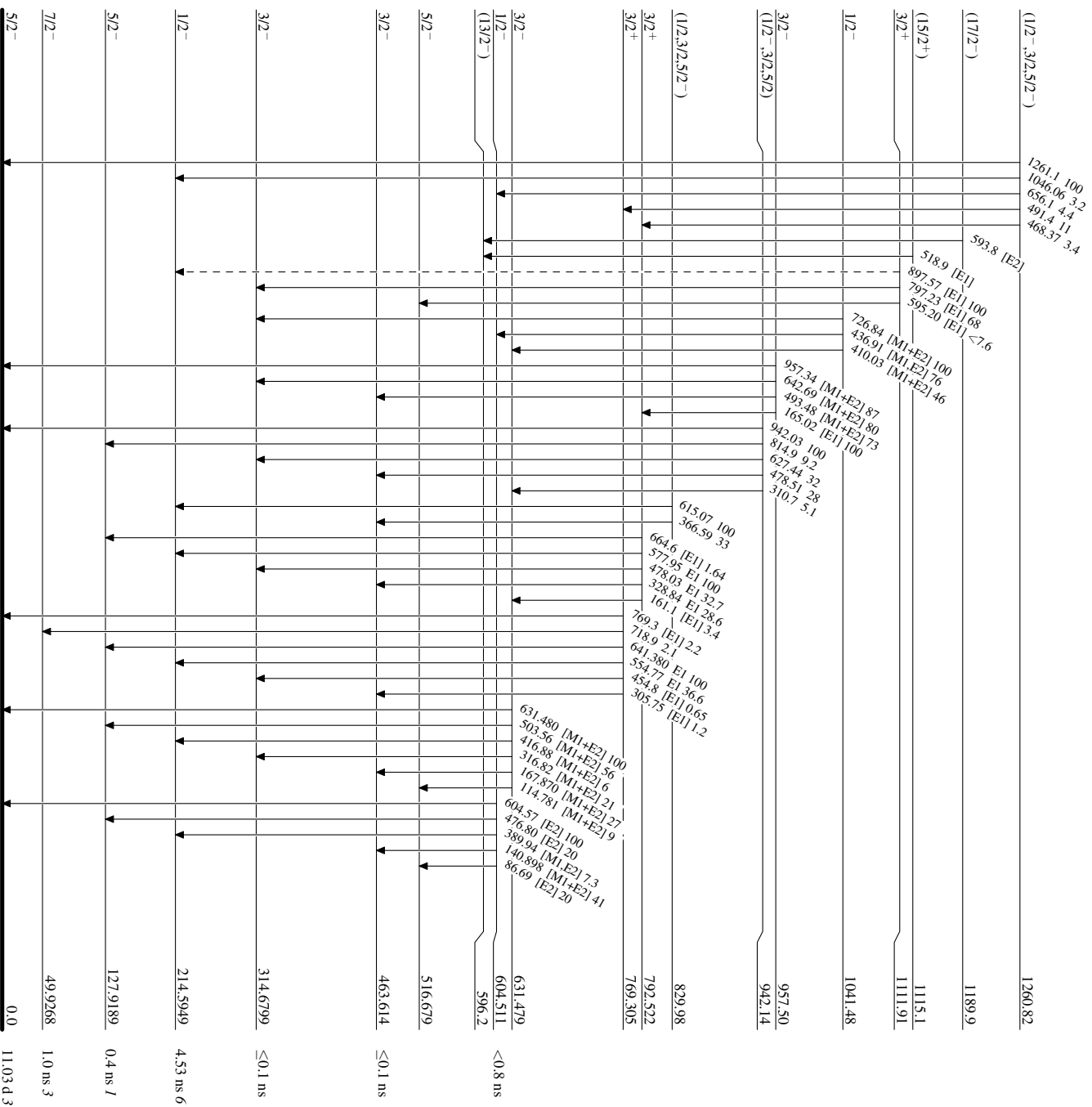
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

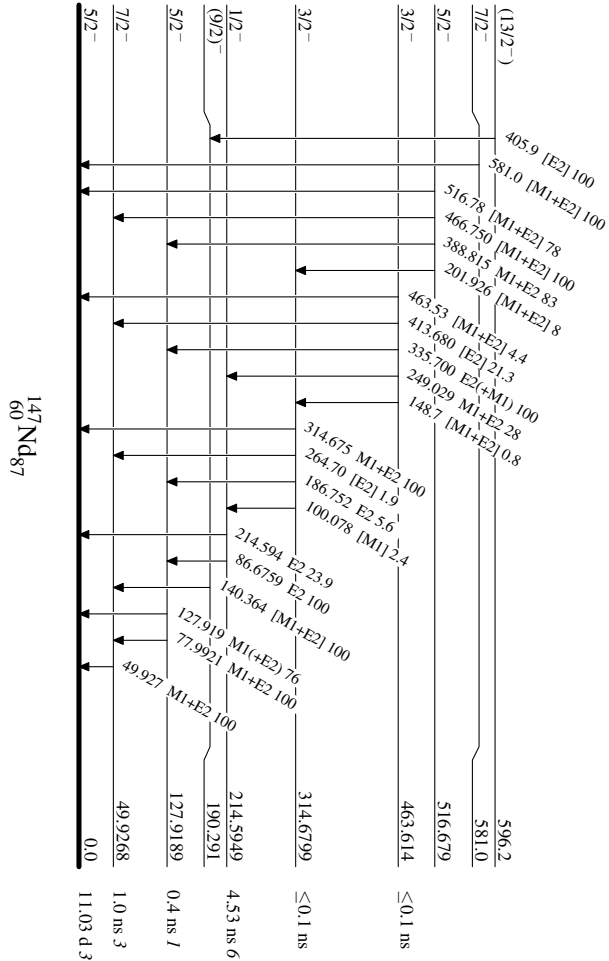
-----▶ γ Decay (Uncertain)



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



Adopted Levels, Gammas