Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia	NDS 181, 475 (2022)	1-Jan-2022

Q(β^-)=−2142 *6*; S(n)=5108 *4*; S(p)=4357 *4*; Q(α)=8245 *3* 2021Wa16

2020De36: ^{238}U(^{48}Ca,X), E=233.3 MeV; measured multi-nucleon transfer reaction cross section σ_{direct}=33.0 nb/sr *9* and $\sigma_{cumulative}$=33.0 nb/sr *9* for ^{213}Rn.

2015Ba20: ^{136}Xe + ^{208}Pb, E(c.m.)=450 MeV, measured multi-nucleon transfer reaction cross section $\sigma_{cumulative\ yield}$=0.166 mb *33* and $\sigma_{independent\ yield}$=0.146 mb *29* for ^{213}Po.

^{213}Rn Levels

Cross Reference (XREF) Flags

- A ^{213}Fr ε decay (34.17 s)
- B ^{217}Ra α decay
- C (HI,xnγ)

E(level)†	J$^\pi$‡	T$_{1/2}$#	XREF	Comments
0.0	(9/2$^+$)	19.4 ms *2*	ABC	%α=100 Only α decay observed. Possible ε decay to ^{213}At g.s. is expected to be <5.8×10^{-4}% from log *ft*>5.1. J$^\pi$: Based on analogy with the spin-parity of ^{209}Pb and ^{211}Po isotones. Configuration: ν ($g^{+1}_{9/2}$). T$_{1/2}$: Weighted average of 19.5 ms *1* from 8088α(t), 18.0 ms *4* from 7550α(t) and 19.0 ms *5* from 7552α(t) − all from 2000He17; 20.5 ms *10* (1970TaZS); 21 ms *4* 8064α(t) (2005Li17) − χ^2=3.8 cf. χ^2_{crit}=2.4. Unweighted average: 19.6 ms *5*. Others: 25.0 ms *2* 8088α(t) outlier (1970Va13); 16 ms *1* (2019Mi08 − from time correlations between ^{217}Ra and ^{213}Rn α decays); 31 ms 8024α(t), 15 ms 7976α(t), 8.1 ms 8074α(t), 4.3 ms 8177α(t) − all four values from 2003Ni10, 19 ms (1962Gr20), and 16 ms *+5−3* (2021Hu19 − rounded value of 15.88 ms *+547−324*).
704.90 *19*	(11/2$^+$)		A C	J$^\pi$: 705.0γ M1 to (9/2$^+$). Configuration: Dominant ν ($i^{+1}_{11/2}$).
896.05 *15*	(15/2$^-$)	26.3 ns *7*	C	J$^\pi$: 191.1γ M2 to (11/2$^+$) and 896.1γ E3 to (9/2$^+$). Configuration: Dominant ν ($j^{+1}_{15/2}$).
1259.60 *17*	(13/2$^+$)		C	J$^\pi$: 1259.6γ to (9/2$^+$). Configuration: ν ($g^{+1}_{9/2}$)⊗2$^+$.
1347.1 *4*			A	
1352.7 *5*			A	
1529.00 *18*	(17/2$^+$)		C	J$^\pi$: 269.4γ E2 to (13/2$^+$), 632.9γ E1 to (15/2$^-$). Configuration: ν ($g^{+1}_{9/2}$)⊗4$^+$.
1574.1 *3*			C	
1612.4?			C	
1663.98 *20*	(21/2$^+$)	29.1 ns *14*	C	μ=4.73 *11* J$^\pi$: 135.0γ E2 to (17/2$^+$), 767.9γ (E3) to (15/2$^-$). Configuration: ν ($g^{+1}_{9/2}$)⊗6$^+$. μ: From 2020StZV, 1988St10.
1663.98+x *20*	(25/2$^+$)	1.01 μs *21*	C	μ=7.6 *3* Additional information 1. Configuration: Dominant ν ($g^{+1}_{9/2}$) π ([$h^{+1}_{9/2}$,$f^{+1}_{7/2}$]$_{8+}$). μ: From 2020StZV, 1988St10.
1703.5? *4*			C	
1745.89 *24*			C	
1785.2 *4*			A	
1788.70 *24*			C	
1834.1 *5*			A	

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Adopted Levels, Gammas (continued)

^{213}Rn Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	XREF	Comments
1856.59+x *14*	(25/2$^+$)		C	Jπ: 192.6γ (M1) to (25/2$^+$). A_2/A_0 (192.6γ)=0.40 *6* is consistent with ΔJ=0 transition. Configuration: Dominant ν ($g^{+1}_{9/2}$) π ($[h^{+2}_{9/2}]_{8+}$).
1879.3 *3*			C	
1936.9 *3*			C	
2007.39 *23*			C	
2072.78 *21*			C	
2121.58+x *20*	(27/2)		C	
2184.3 *3*			C	
2186.69+x *13*	(31/2$^-$)	1.36 μs *7*	C	μ=9.86 *8* Jπ: 330.1γ (E3) to (25/2$^+$), 522.7γ E3 to (25/2$^+$). Configuration: ν ($g^{+1}_{9/2}$) π ($[h^{+1}_{9/2},i^{+1}_{13/2}]_{11-}$]. μ: From 2020StZV, 1988St10 (9.90 *8*).
2201.48+x *16*	(27/2$^-$)		C	Jπ: 344.9γ (E1) to (25/2$^+$), 537.5γ (E1) to (25/2$^+$).
2227.5 *3*			C	
2257.5 *3*			C	
2327.1 *4*			C	
2610.7 *4*			C	
2640.79+x *24*			C	
2662.0+x *3*			C	
2676.96+x *14*	(29/2$^+$)		C	Jπ: 490.2γ D+Q to (31/2$^-$), 1013.0γ Q to (25/2$^+$).
2684.5+x *3*			C	
2739.79+x *19*	(31/2$^-$)		C	Jπ: 553.1γ M1 to (31/2$^-$).
2786.69+x *19*	(29/2$^+$)		C	Jπ: 930.1γ to (25/2$^+$).
2915.78+x *16*	(33/2)$^+$		C	Jπ: 729.1γ E1 to (31/2$^-$).
2983.99+x *15*	(33/2$^+$)		C	Jπ: 68.2γ M1 to (33/2$^+$), 797.3γ E1 to (31/2$^-$).
3029.31+x *19*	(37/2$^+$)	26.3 ns *7*	C	μ=13.61 *13* Jπ: 45.3γ E2 to (33/2$^+$), 113.5γ E2 to (33/2$^+$). Configuration: Dominant ν ($g^{+1}_{9/2}$) π ($[h^{+3}_{9/2},f^{+1}_{7/2}]_{14+}$). μ: From 2020StZV, 1988St10 (13.67 *13*).
3181.77+x *19*	(35/2$^-$)		C	Jπ: 995.1γ (E2) to (31/2$^-$).
3301.32+x *24*			C	
3441.13+x *22*	(39/2$^-$)		C	Jπ: 411.8γ E1 to (37/2$^+$).
3495.4+x *3*	(43/2$^-$)	27.7 ns *7*	C	μ=15.52 *15* Jπ: 54.3γ E2 to (39/2$^-$). Configuration: ν ($g^{+1}_{9/2}$) π ($[h^{+3}_{9/2},i^{+1}_{13/2}]_{17-}$). μ: From 2020StZV, 1988St10 (15.59 *15*).
3604.8+x *3*			C	
3623.8+x *4*			C	
3922.9+x *4*	(43/2$^-$)		C	Jπ: 427.5γ M1 to (43/2$^-$). A_2/A_0 (427.5γ)=0.26 *7* is consistent with ΔJ=0 transition.
3927.3+x *4*			C	
4047.9+x *4*	(45/2$^-$)		C	Jπ: 552.5γ M1 to (43/2$^-$).
4050.3+x *4*			C	
4343.1+x *4*			C	
4505.5+x *4*	(49/2$^+$)	11.8 ns *7*	C	μ=19.8 *3* Jπ: 1010.1γ E3 to (43/2$^-$). Configuration: ν ($j^{+1}_{15/2}$) π ($[h^{+3}_{9/2},i^{+1}_{13/2}]_{17-}$). μ: From 2020StZV, 1988St10 (19.87 *29*).
4532.7+x *4*			C	
4581.3+x *11*			C	
4723.0+x *4*			C	
4875.6+x *4*	(49/2$^+$)		C	Jπ: 370.1γ M1 to (49/2$^+$). A_2/A_0 (370.1γ)=0.33 *5* is consistent with ΔJ=0 transition.
5225.6+x *4*	(51/2$^+$)		C	Jπ: 350.0γ M1+E2 to (49/2$^+$), 720.1γ (M1) to (49/2$^+$).
5763.7+x *4*	(53/2,55/2)		C	Jπ: 1258.1γ to (49/2$^+$) and (51/2$^+$).
5928.9+x *4*	(53/2,55/2)		C	Jπ: 165.2 M1 to (53/2,55/2).

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Adopted Levels, Gammas (continued)

^{213}Rn Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	T$_{1/2}$[#]	XREF	Comments
5928.9+y *4*	(55/2$^+$)	164 ns *10*	C	μ=16.54 *14* Additional information 2. E(level): y=x+z. Configuration: ν ([$p^{-1}_{1/2}$,$g^{+1}_{9/2}$$i^{+1}_{11/2}$]$_{21/2-}$) π ([$h^{+3}_{9/2}$,$i^{+1}_{13/2}$]$_{17-}$). μ: From 2020StZV, 1988St10 (16.61 *14*).
6743.90+y *20*		59 ns	C	T$_{1/2}$: From 815γ(t) in 1989Lo02 (HI,Xnγ).
7926.4+y *3*			C	
8831.8+y *4*		14 ns	C	T$_{1/2}$: From 905γ(t) in 1989Lo02 (HI,Xnγ).

[†] From least square fit to the γ-ray energies assuming equal weight if no uncertainty for Eγ. In the latter case, no uncertainty for the level is listed.

[‡] Proposed in (HI,xnγ) based on γ multipolarity assignments from conversion electron and $\gamma(\theta)$ measurements. Monotonically increasing spins are assumed. See 1988St10, 1989Lo02, and 1990St14 for configuration assignments.

[#] From 1988St10 (HI,xnγ), except where otherwise noted.

Adopted Levels, Gammas (continued)

γ(^{213}Rn)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[†]	α[@]	Comments
704.90	(11/2$^+$)	704.9 *3*	100	0.0	(9/2$^+$)	M1	0.0606 *9*	α(K)=0.0493 *7*; α(L)=0.00863 *12*; α(M)=0.002040 *29* α(N)=0.000531 *8*; α(O)=0.0001164 *16*; α(P)=1.702×10^{-5} *24* E_γ: weighted average of 704.3 *5* from ^{213}Fr ε decay and 705.0 *2* from (HI,xnγ). Mult.: from α(K)exp, α(L)exp and α(M)exp measurements (2016Pr08 – ^{213}Fr ε decay (34.17 s)).
896.05	(15/2$^-$)	191.1 *2*	0.44 *8*	704.90	(11/2$^+$)	M2	9.96 *14*	B(M2)(W.u.)=0.53 *10* α(K)=6.95 *10*; α(L)=2.242 *31*; α(M)=0.575 *8* α(N)=0.1518 *21*; α(O)=0.0329 *5*; α(P)=0.00464 *6*
		896.1 *2*	100	0.0	(9/2$^+$)	E3	0.02500 *35*	B(E3)(W.u.)=34.4 *10* α(K)=0.01723 *24*; α(L)=0.00582 *8*; α(M)=0.001476 *21* α(N)=0.000386 *5*; α(O)=8.19×10^{-5} *11*; α(P)=1.091×10^{-5} *15*
1259.60	(13/2$^+$)	1259.6 *2*	100	0.0	(9/2$^+$)			
1347.1		1347.0[‡] *5*	100	0.0	(9/2$^+$)			
1352.7		1352.7[‡] *5*	100	0.0	(9/2$^+$)			
1529.00	(17/2$^+$)	269.4 *2*	1.6 *1*	1259.60	(13/2$^+$)	E2	0.1922 *27*	α(K)=0.0870 *12*; α(L)=0.0780 *11*; α(M)=0.02060 *29* α(N)=0.00536 *8*; α(O)=0.001100 *15*; α(P)=0.0001304 *18*
		632.9 *2*	100 *10*	896.05	(15/2$^-$)	E1	0.00688 *10*	α(K)=0.00566 *8*; α(L)=0.000930 *13*; α(M)=0.0002182 *31* α(N)=5.65×10^{-5} *8*; α(O)=1.225×10^{-5} *17*; α(P)=1.745×10^{-6} *24*
1574.1		314.5 *2*	100	1259.60	(13/2$^+$)			
1612.4?		352.8[a] *2*	36 *14*	1259.60	(13/2$^+$)			
		907.4[a] *2*	100 *20*	704.90	(11/2$^+$)			
1663.98	(21/2$^+$)	135.0 *2*	100 *2*	1529.00	(17/2$^+$)	E2	2.351 *33*	B(E2)(W.u.)=1.69 *9* α(N)=0.1047 *15*; α(O)=0.02118 *30*; α(P)=0.002377 *33* α(K)=0.326 *5*; α(L)=1.495 *21*; α(M)=0.402 *6*
		767.9 *2*	3.6 *4*	896.05	(15/2$^-$)	(E3)	0.0365 *5*	B(E3)(W.u.)=1.05 *13* α(K)=0.02367 *33*; α(L)=0.00961 *13*; α(M)=0.002468 *35* α(N)=0.000645 *9*; α(O)=0.0001362 *19*; α(P)=1.781×10^{-5} *25*
1703.5?		(39.5[#])		1663.98	(21/2$^+$)			
1745.89		(81.9[#])		1663.98	(21/2$^+$)			
		216.9 *2*	100	1529.00	(17/2$^+$)			
1785.2		438.0[‡] *5*	16[‡] *2*	1347.1				
		1080.7[‡] *5*	19[‡] *3*	704.90	(11/2$^+$)			
		1785.0[‡] *5*	100[‡] *9*	0.0	(9/2$^+$)			
1788.70		259.7 *2*	100	1529.00	(17/2$^+$)			
1834.1		1834.1[‡] *5*	100	0.0	(9/2$^+$)			
1856.59+x	(25/2$^+$)	192.6 *2*	100	1663.98+x	(25/2$^+$)	M1	2.045 *29*	A_2/A_0=0.40 *6* (1988St10) α(K)=1.653 *23*; α(L)=0.298 *4*; α(M)=0.0708 *10* α(N)=0.01846 *26*; α(O)=0.00404 *6*; α(P)=0.000590 *8*
1879.3		1174.4 *2*	100	704.90	(11/2$^+$)			

$^{213}_{86}Rn_{127}$-4

Adopted Levels, Gammas (continued)

γ(^{213}Rn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[†]	δ	α[@]	Comments
1936.9		233.4 *2*	100 *12*	1703.5?					
		272.9 *2*	19 *6*	1663.98	(21/2$^+$)				
2007.39		218.7 *2*	≈12	1788.70					
		261.5 *2*	≈12	1745.89					
		343.4 *2*	100 *25*	1663.98	(21/2$^+$)				
2072.78		543.7 *2*	12 *6*	1529.00	(17/2$^+$)				
		1176.8 *2*	100 *19*	896.05	(15/2$^-$)				
2121.58+x	(27/2)	457.6[&] *2*	100	1663.98+x	(25/2$^+$)				
2184.3		520.3 *2*	100	1663.98	(21/2$^+$)				
2186.69+x	(31/2$^-$)	(65.1[#])		2121.58+x	(27/2)				I(γ+ce)(65.1γ)<7 from intensity balance at 2121.6+x level.
		330.1 *2*	1.9 *2*	1856.59+x	(25/2$^+$)	(E3)		0.552 *8*	B(E3)(W.u.)=13.0 *15* α(K)=0.1470 *21*; α(L)=0.298 *4*; α(M)=0.0815 *11* α(N)=0.02137 *30*; α(O)=0.00439 *6*; α(P)=0.000519 *7*
		522.7 *2*	100 *2*	1663.98+x	(25/2$^+$)	E3		0.1073	B(E3)(W.u.)=27.4 *14* α(K)=0.0536 *8*; α(L)=0.0398 *6*; α(M)=0.01055 *15* α(N)=0.00276 *4*; α(O)=0.000575 *8*; α(P)=7.16×10^{-5} *10*
2201.48+x	(27/2$^-$)	344.9 *2*	100 *4*	1856.59+x	(25/2$^+$)	(E1)		0.02429 *34*	α(K)=0.01976 *28*; α(L)=0.00346 *5*; α(M)=0.000817 *11* α(N)=0.0002112 *30*; α(O)=4.54×10^{-5} *6*; α(P)=6.30×10^{-6} *9*
		537.5 *2*	33 *4*	1663.98+x	(25/2$^+$)	(E1)		0.00951 *13*	α(K)=0.00780 *11*; α(L)=0.001301 *18*; α(M)=0.000306 *4* α(N)=7.92×10^{-5} *11*; α(O)=1.713×10^{-5} *24*; α(P)=2.424×10^{-6} *34*
2227.5		563.5 *2*	100	1663.98	(21/2$^+$)				
2257.5		184.7 *2*	100	2072.78					
2327.1		390.2 *2*	100	1936.9					
2610.7		383.2 *2*	100	2227.5					
2640.79+x		454.1 *2*	100	2186.69+x	(31/2$^-$)				
2662.0+x		460.5 *2*	100	2201.48+x	(27/2$^-$)				
2676.96+x	(29/2$^+$)	490.2 *2*	100 *8*	2186.69+x	(31/2$^-$)	D+Q		0.0115	
		1013.0 *2*	85 *31*	1663.98+x	(25/2$^+$)	Q		0.00802	
2684.5+x		483.0 *2*	100	2201.48+x	(27/2$^-$)				
2739.79+x	(31/2$^-$)	(99.0[#])		2640.79+x					
		553.1 *2*		2186.69+x	(31/2$^-$)	M1		0.1147 *16*	α(K)=0.0931 *13*; α(L)=0.01641 *23*; α(M)=0.00389 *5* α(N)=0.001012 *14*; α(O)=0.0002216 *31*; α(P)=3.24×10^{-5} *5*
2786.69+x	(29/2$^+$)	930.1 *2*	100	1856.59+x	(25/2$^+$)				
2915.78+x	(33/2)$^+$	238.8 *2*	1.3 *10*	2676.96+x	(29/2$^+$)				
		729.1 *2*	100 *5*	2186.69+x	(31/2$^-$)	E1		0.00525	α(K)=0.00433 *6*; α(L)=0.000703 *10*; α(M)=0.0001645 *23* α(N)=4.26×10^{-5} *6*; α(O)=9.26×10^{-6} *13*; α(P)=1.324×10^{-6} *19*
2983.99+x	(33/2$^+$)	68.2 *2*	3.0 *3*	2915.78+x	(33/2)$^+$	M1+E2	0.23 *+6−8*	9.9 *12*	α(L)=7.5 *9*; α(M)=1.83 *24* α(N)=0.48 *6*; α(O)=0.102 *12*; α(P)=0.0140 *13*

$^{213}_{86}Rn_{127}$-5

Adopted Levels, Gammas (continued)

γ(^{213}Rn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[†]	α[@]	Comments
2983.99+x	(33/2$^+$)	197.3 *2*	2.3 *3*	2786.69+x	(29/2$^+$)			
		244.2 *2*	7.8 *20*	2739.79+x	(31/2$^-$)	(E1)	0.0535 *7*	α(K)=0.0432 *6*; α(L)=0.00788 *11*; α(M)=0.001869 *26* α(N)=0.000483 *7*; α(O)=0.0001029 *14*; α(P)=1.403×10^{-5} *20*
		307.0 *2*	2.0 *12*	2676.96+x	(29/2$^+$)			
		797.3 *2*	100 *2*	2186.69+x	(31/2$^-$)	E1	0.00444 *6*	α(K)=0.00367 *5*; α(L)=0.000591 *8*; α(M)=0.0001383 *19* α(N)=3.58×10^{-5} *5*; α(O)=7.79×10^{-6} *11*; α(P)=1.117×10^{-6} *16*
3029.31+x	(37/2$^+$)	45.3 *2*	≈33	2983.99+x	(33/2$^+$)	E2	359 *5*	B(E2)(W.u.)=3.9 *+5−7* α(N)=18.47 *26*; α(O)=3.71 *5*; α(P)=0.405 *6* α(L)=265 *4*; α(M)=71.1 *10*
		113.5 *2*	100 *33*	2915.78+x	(33/2)$^+$	E2	4.85 *7*	B(E2)(W.u.)=0.12 *+10−5* α(K)=0.365 *5*; α(L)=3.31 *5*; α(M)=0.891 *12* α(N)=0.2318 *32*; α(O)=0.0468 *7*; α(P)=0.00521 *7*
		842.6[a] *2*	167 *33*	2186.69+x	(31/2$^-$)	[E3]	0.0290 *4*	B(E3)(W.u.)=0.8 *+6−3* α(K)=0.01954 *27*; α(L)=0.00707 *10*; α(M)=0.001803 *25* α(N)=0.000471 *7*; α(O)=9.98×10^{-5} *14*; α(P)=1.321×10^{-5} *18*
3181.77+x	(35/2$^-$)	266.0 *2*	≈8	2915.78+x	(33/2)$^+$			
		995.1 *2*	100 *12*	2186.69+x	(31/2$^-$)	(E2)	0.00821 *11*	α(N)=8.58×10^{-5} *12*; α(O)=1.846×10^{-5} *26*; α(P)=2.57×10^{-6} *4* α(K)=0.00641 *9*; α(L)=0.001361 *19*; α(M)=0.000330 *5*
3301.32+x		272.0 *2*	100	3029.31+x	(37/2$^+$)			
3441.13+x	(39/2$^-$)	139.8 *2*	0.88 *16*	3301.32+x				
		259.4 *2*	≈0.77	3181.77+x	(35/2$^-$)			
		411.8 *2*	100.0 *19*	3029.31+x	(37/2$^+$)	E1	0.01652 *23*	α(K)=0.01348 *19*; α(L)=0.002312 *32*; α(M)=0.000545 *8* α(N)=0.0001411 *20*; α(O)=3.04×10^{-5} *4*; α(P)=4.26×10^{-6} *6*
3495.4+x	(43/2$^-$)	54.3 *2*	100	3441.13+x	(39/2$^-$)	E2	148.8 *21*	B(E2)(W.u.)=3.83 *21* α(L)=109.9 *15*; α(M)=29.5 *4* α(N)=7.66 *11*; α(O)=1.541 *22*; α(P)=0.1685 *24*
3604.8+x		575.5 *2*	100	3029.31+x	(37/2$^+$)			
3623.8+x		128.4 *2*	100	3495.4+x	(43/2$^-$)			
3922.9+x	(43/2$^-$)	427.5 *2*	100	3495.4+x	(43/2$^-$)	M1	0.2282 *32*	A_2/A_0=0.26 *7* (1988St10) α(K)=0.1850 *26*; α(L)=0.0328 *5*; α(M)=0.00778 *11* α(N)=0.002028 *28*; α(O)=0.000444 *6*; α(P)=6.49×10^{-5} *9*
3927.3+x		431.9 *2*	100	3495.4+x	(43/2$^-$)			
4047.9+x	(45/2$^-$)	(125.0[#])	<2	3922.9+x	(43/2$^-$)			
		552.5 *2*	100 *9*	3495.4+x	(43/2$^-$)	M1	0.1150 *16*	α(K)=0.0934 *13*; α(L)=0.01646 *23*; α(M)=0.00390 *5* α(N)=0.001015 *14*; α(O)=0.0002223 *31*; α(P)=3.25×10^{-5} *5*
4050.3+x		445.5 *2*	100	3604.8+x				
4343.1+x		420.2 *2*	100	3922.9+x	(43/2$^-$)			
4505.5+x	(49/2$^+$)	457.6[&] *2*	<6	4047.9+x	(45/2$^-$)		0.579	
		1010.1 *2*	100 *8*	3495.4+x	(43/2$^-$)	E3	0.01891 *26*	B(E3)(W.u.)=33.4 *+21−27* α(K)=0.01352 *19*; α(L)=0.00405 *6*; α(M)=0.001016 *14* α(N)=0.000265 *4*; α(O)=5.66×10^{-5} *8*; α(P)=7.64×10^{-6} *11*
4532.7+x		609.8 *2*	100	3922.9+x	(43/2$^-$)			

$^{213}_{86}Rn_{127}$-6

Adopted Levels, Gammas (continued)

$\gamma(^{213}Rn)$ (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ	E_f	J_f^π	Mult.[†]	δ	α [@]	Comments
4581.3+x		(48.6[#])		4532.7+x					
		533.4[a] *2*		4047.9+x	$(45/2^-)$				
4723.0+x		217.5 *2*	100	4505.5+x	$(49/2^+)$				
4875.6+x	$(49/2^+)$	370.1 *2*	100	4505.5+x	$(49/2^+)$	M1		0.337 *5*	A_2/A_0=0.33 *5* (1988St10) α(K)=0.273 *4*; α(L)=0.0486 *7*; α(M)=0.01153 *16* α(N)=0.00300 *4*; α(O)=0.000657 *9*; α(P)=9.60×10^{-5} *13*
5225.6+x	$(51/2^+)$	350.0 *2*	90 *20*	4875.6+x	$(49/2^+)$	M1+E2	0.70 *+26−23*	0.29 *5*	α(K)=0.23 *4*; α(L)=0.048 *4*; α(M)=0.0115 *9* α(N)=0.00299 *24*; α(O)=0.00065 *6*; α(P)=9.1×10^{-5} *9*
		720.1 *2*	100 *30*	4505.5+x	$(49/2^+)$	(M1)		0.0572 *8*	α(K)=0.0465 *7*; α(L)=0.00813 *11*; α(M)=0.001924 *27* α(N)=0.000501 *7*; α(O)=0.0001097 *15*; α(P)=1.605×10^{-5} *22*
5763.7+x	(53/2,55/2)	538.1 *2*	62 *6*	5225.6+x	$(51/2^+)$				
		1258.1 *2*	100 *19*	4505.5+x	$(49/2^+)$				
5928.9+x	(53/2,55/2)	165.2 *2*	100 *25*	5763.7+x	(53/2,55/2)	M1		3.15 *4*	α(K)=2.55 *4*; α(L)=0.461 *6*; α(M)=0.1094 *15* α(N)=0.0285 *4*; α(O)=0.00624 *9*; α(P)=0.000911 *13*
		1053.3 *2*	75 *25*	4875.6+x	$(49/2^+)$				
		1423.3 *2*	75 *25*	4505.5+x	$(49/2^+)$				
6743.90+y		815.0 *2*	100	5928.9+y	$(55/2^+)$				
7926.4+y		1182.5 *2*	100	6743.90+y					
8831.8+y		905.4 *2*	100	7926.4+y					

† From (HI,xnγ), except where otherwise noted.
‡ From ^{213}Fr ε decay (34.17 s).
# From level energy difference. Transition was not observed; existence proposed from coincidence data.
@ Additional information 3.
& Multiply placed.
a Placement of transition in the level scheme is uncertain.

$^{213}_{86}Rn_{127}$-7

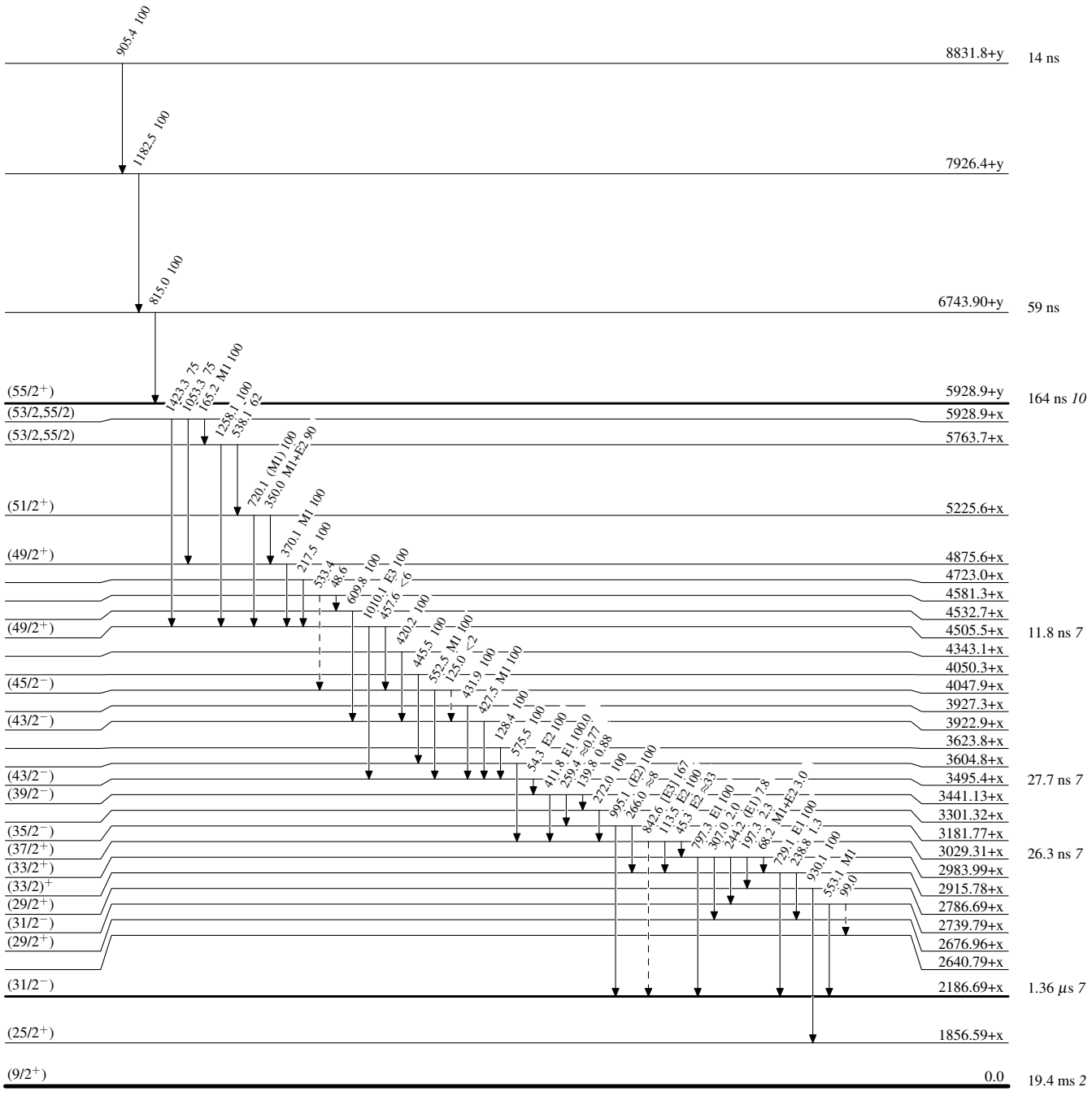
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{213}_{86}Rn_{127}$

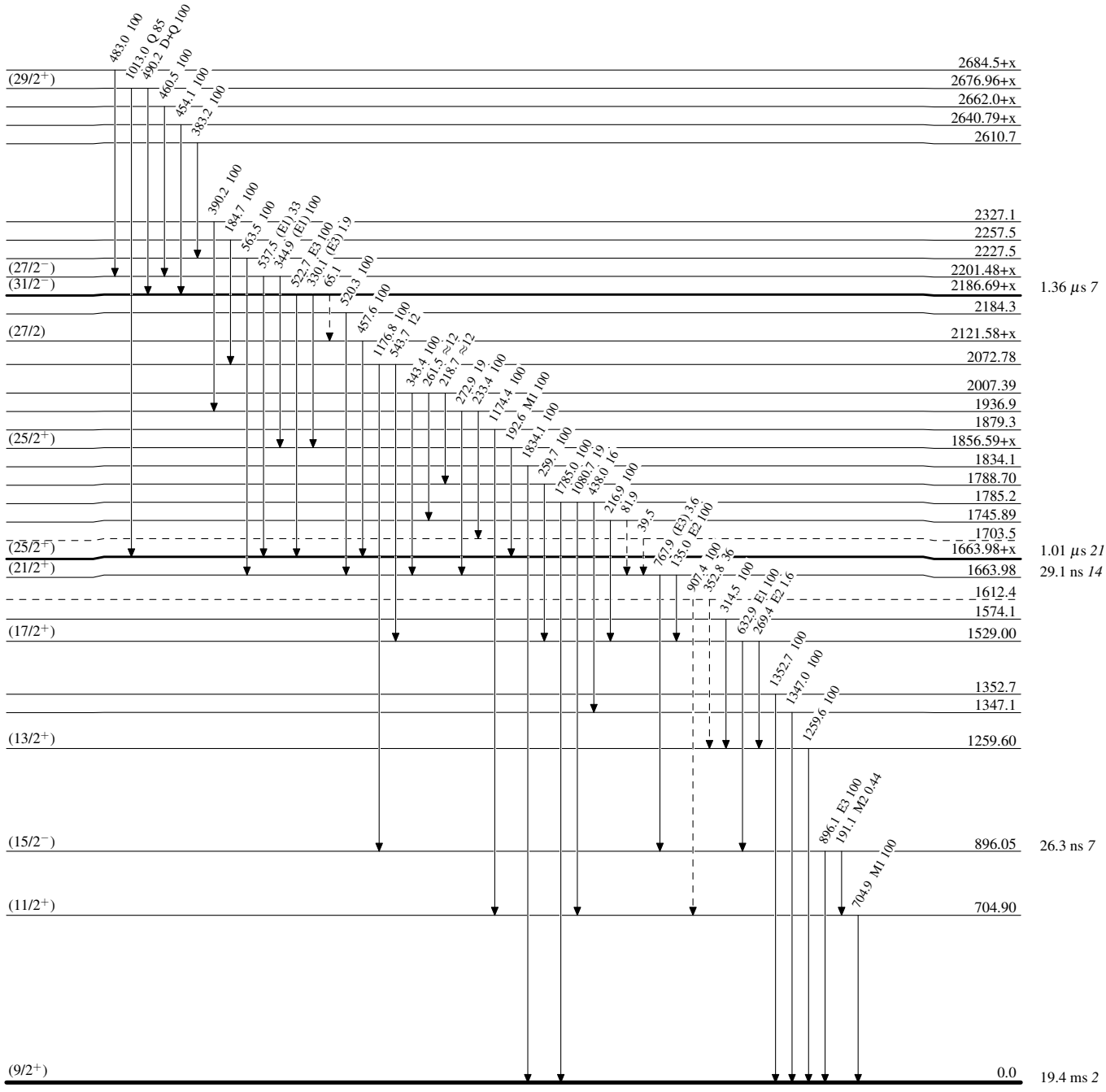
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{213}_{86}Rn_{127}$