Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Kumar, B. Singh, K. Rojeeta Devi, A. Rohilla	NDS 114, 2023 (2013)	23-Sep-2013

Q(β^-)=−3497 *15*; S(n)=5630 *9*; S(p)=3797 *11*; Q(α)=8864 *3* 2012Wa38
S(2n)=13967 *22*, S(2p)=6346 *9* (2012Wa38).

^{215}Ra evaluated by S. Kumar, B. Singh, K. Rojeeta Devi, A. Rohilla.

^{215}Ra identified (1961Gr43,1962Gr20) in excitation function measurements in ^{209}Bi(^{11}B,5n)^{215}Ra reaction. 1968Va18 identified ^{215}Ra as descendent of ^{219}Th.

2012Co22: ^{207}Pb(^{64}Ni,X), E=5.92 MeV/nucleon; measured lifetime of rotating nuclear molecules or dinuclear system (DNS). Detected reaction products and measured their velocity distribution correlated with α particles from fragments. The ^{64}Ni beam from UNILAC accelerator at GSI facility, reaction products separated by SHIP velocity filter. Target=300 μg/cm^2 thick ^{207}Pb deposited on a 40 μg/cm^2 thick carbon foil and covered by a layer of 10 μg/cm^2 carbon. Isotopes identified by their α decay characteristics. For ^{215}Ra, measured mean lifetime of DNS τ=2.0× 10^{-20} s *3*.

^{215}Ra Levels

The level structure of ^{215}Ra, described by a multiparticle octupole coupling mechanism, leads to configuration mixed isomers with characteristic enhanced E3 transitions. These have been explained by the coupling of octupole vibrations to the shell-model configurations presented here for the six protons and single neutron outside closed shells (1998St24).

The low-lying yrast levels in ^{215}Ra also have been interpreted in terms of the shell model by coupling the odd neutron to experimentally determined energies in ^{214}Ra (1983Lo16). The enhancement of the 773-keV E3 transition in ^{215}Ra is due mostly to the coupling of the particle orbital to the octupole phonon in the ^{208}Pb core. Its B(E3)(W.u.)=37 *2* agrees with the systematics for E3 transitions in the ^{208}Pb region (1983Lo16). See also 1998St24, 1989Dr02, 1985Be05, and 1988Fu10 for further discussions on B(E3) values for this nucleus.

Cross Reference (XREF) Flags

A	^{215}Ac ε decay (0.17 s)
B	^{219}Th α decay (1.05 μs)
C	^{206}Pb(^{13}C,4nγ)

E(level)[†]	J$^\pi$[‡]	T$_{1/2}$[#]	XREF	Comments
0.0[@]	(9/2$^+$)	1.66 ms *2*	ABC	%α=100 RMS charge radius <r^2>$^{1/2}$=5.619 fm *20*; deduced from interpolation of evaluated rms charge radii of ^{214}Ra to ^{232}Ra (2013An02), with slope k$_z$=0.37 in formula 9 of 2004An14. Value has been adjusted upward by 0.004 fm to account for slight difference in the systematics trend of deduced rms radii for A=215, and evaluated values in 2013An02 for A=210 isotopes. No ε, β^+ decay observed. Theoretical estimates: %ε+%β^+<2×10^{-4} (1973Ta30), <7×10^{-5} (1997Mo25). T$_{1/2}$: weighted average of 1.64 ms *4* (2005Li17), 1.62 ms *+16−13* (2000Ni02), 1.68 ms *2* (2000He17), 1.56 ms *10* (1970To08), 1.7 ms *2* (1968Va18), 1.5 ms *1* (1991An10; also 1.5 ms *3* in 1991An13). Other: 1.6 ms (1961Gr43,1962Gr20). J$^\pi$: analogy to N=127 isotones (for example ^{211}Po and ^{213}Rn) suggest J$^\pi$=(9/2$^+$). Shell model configuration for the odd neutron is expected to be g$_{9/2}$.
773.0[&] *2*	(15/2$^-$)	67.2 ns *14*	C	J$^\pi$: 773γ E3 to (9/2$^+$). Analogy with 896-keV state (J$^\pi$=(15/2$^-$)) in ^{213}Rn. T$_{1/2}$: from $\gamma\gamma$(t) (1998St24; also 68.6 ns *21* in 1989Dr02). Others: 77 ns *2* (1988Fu10), 67 ns *3* (1987AdZU). Value from 1988Fu10 is considered by the evaluators as discrepant. From pulsed-beam method, values are 110 ns *8*

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Adopted Levels, Gammas (continued)

^{215}Ra Levels (continued)

E(level)[†]	J^{π}[‡]	$T_{1/2}$[#]	XREF	Comments
				(1989Dr02), 120 ns *10* (1983Lo16). The higher values in pulsed-beam experiments are likely due to much longer half-life (7.3 μs) of the 1877 level, which will affect the observed decay rate of 773γ, thus making it more difficult to measure lifetime in the ns range with this method.
1625.3[@] *3*	(17/2⁺)		C	J^{π}: 852γ E1 to (15/2⁻). Analogy with 1529-keV state (J^{π}=(17/2⁺)) in ^{213}Rn.
1821.2[@] *3*	(21/2⁺)	25.0 ns *14*	C	J^{π}: 196γ E2 to (17/2⁺), 1048γ E3 to (15/2⁻). Analogy with 1664-keV state (J^{π}=(21/2⁺)) in ^{213}Rn (1988Fu10). $T_{1/2}$: other: 23 ns *5* (1983Lo16).
1877.8[a] *3*	(25/2⁺)	7.29 μs *20*	C	J^{π}: analogous state at >1664 keV with $T_{1/2}$≈1 μs has been observed in ^{213}Rn (1988Fu10). $T_{1/2}$: weighted average of 7.6 μs *2* (2004He25), 6.86 μs *28* (1998St24), 7.2 μs *2* (1988Fu10). Other: ≥2 μs (1983Lo16). Mixed with 2053.8 level by particle octupole coupling.
1994.5[a] *3*	(23/2⁺)		C	
2053.8[@] *4*	(25/2⁺)		C	Mixed with 1877.8 level by particle octupole coupling.
2214.4[b] *4*	(27/2⁻)		C	
2246.9[c] *4*	(29/2⁻)	1.39 μs *7*	C	
2246.9+x[c]	(31/2⁻)		C	Additional information 1. E(level): x ≤35 keV.
3088.8+x[d] *2*	(33/2⁺)		C	
3143.7+x[e] *3*	(35/2⁺)		C	
3331.1+x[e] *4*	(37/2⁺)		C	
3413.4+x[c] *4*	(37/2⁻)		C	
3415.6+x[e] *4*	(37/2⁺)		C	
3586.4+x[f] *4*	(37/2⁺)		C	
3738.6+x[c] *4*	(39/2⁻)		C	
3756.6+x[c] *4*	(43/2⁻)	555 ns *10*	C	μ=15.61 *6* (1998St24,2011StZZ) $T_{1/2}$: other: 0.59 μs *18* (1987AdZU). Octupole-mixed state. μ: from g factor=+0.726 *3* (TDPAD method, 1998St24). Other measurement: 15.78 *15* (1987AdZU, from g factor=+0.734 *7*, stroboscopic observation of perturbed angular distribution). Theoretical value=+0.73 (1998St24). Measured isomer yield ratio: R_{exp}=7.9 *8* (2013Ba29) in ^{9}Be(^{238}U,X) reaction at 1 GeV/nucleon, where R_{exp}=Y/(N_{imp}FG), N_{imp} is number of implanted ions, Y is the isomeric yield, F and G are correction factors for in-flight isomer decay losses and the finite detection time of the γ radiation, respectively. Comparison of measured yield ratios with theoretical values calculated by using ABRABLA Monte-Carlo code.
3765.7+x *4*			C	J^{π}: 434.6γ to (37/2⁺) suggests 37/2 to 41/2.
3855.0+x *4*			C	J^{π}: 439.4γ to (37/2⁺) suggests 37/2 to 41/2.
3935.4+x[b] *4*	(43/2⁻)		C	Octupole-mixed state.
4207.3+x *5*			C	
4366.8+x[d] *4*	(45/2⁺)		C	
4553.5+x[c] *4*	(47/2⁻)		C	
4567.0+x[d] *4*	(49/2⁺)	10.47 ns *14*	C	μ=18.87 *25* (1998St24,2011StZZ) $T_{1/2}$: other: ≈10 ns (1987AdZU). μ: from g factor=+0.77 *1* (TDPAD method, 1998St24). Theoretical value=+0.80 (1998St24).
4686.2+x[b] *5*	(47/2⁻)		C	
4882.7+x[b] *4*	(51/2⁻)		C	
5372.7+x[d] *5*	(53/2⁺)		C	
5608.6+x[g] *5*	(55/2⁻)		C	

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Adopted Levels, Gammas (continued)

^{215}Ra Levels (continued)

E(level)[†]	J^{π}[‡]	$T_{1/2}$[#]	XREF
5608.7+x[d] *5*	($57/2^+$)	1.66 ns *14*	C
6033.5+x[h] *5*	($57/2^+$)		C
6076.4+x[h] *5*	($59/2^+$)		C
6283.2+x[h] *6*	($61/2^+$)		C

† From a least-squares fit to Eγ values from 1998St24.

‡ As proposed by 1998St24, based on γ-ray multipolarities, angular distributions, transition strengths, and excitation functions. These assignments are placed in parentheses since J^{π} assignment for the ground state is still tentative. Shell model configurations from 1998St24 are based on level energies and γ-transition rates.

From pulsed beam method (1998St24), unless otherwise stated. Values from previous measurements are given under comments.

@ Member of configuration=$\pi h^6_{9/2}\otimes\nu g_{9/2}$.

& Member of configuration=$\pi h^6_{9/2}\otimes\nu j_{15/2}$.

a Member of configuration=$\pi h^5_{9/2}\otimes\pi f_{7/2}\otimes\nu g_{9/2}$.

b Member of configuration=$\pi h^4_{9/2}\otimes\pi f_{7/2}\otimes\pi i_{13/2}\otimes \nu_{9/2}$.

c Member of configuration=$\pi h^5_{9/2}\otimes\pi i_{13/2}\otimes\nu g_{9/2}$.

d Member of configuration=$\pi h^4_{9/2}\otimes\pi i^2_{13/2}\otimes\nu g_{9/2}$.

e Member of configuration=$\pi h^5_{9/2}\otimes\pi f_{7/2}\otimes\nu g_{9/2}$.

f Member of configuration=$\pi h^4_{9/2}\otimes\pi f^2_{7/2}\otimes\nu g_{9/2}$.

g Member of configuration=$\pi h^3_{9/2}\otimes\pi f^2_{7/2}\otimes \pi i_{13/2}\otimes\nu g_{9/2}$.

h Member of configuration=$\pi h^3_{9/2}\otimes\pi f_{7/2}\otimes \pi i^2_{13/2}\otimes\nu g_{9/2}$.

Adopted Levels, Gammas (continued)

$\gamma(^{215}Ra)$

All γ-ray data are from $^{206}Pb(^{13}C,4n\gamma)$.

E_i(level)	J^{π}_i	E_{γ}	I_{γ}	E_f	J^{π}_f	Mult.	δ	α†	Comments
773.0	(15/2−)	773.0 *2*	100	0.0	(9/2+)	E3		0.0404	α(K)=0.0255 *4*; α(L)=0.01105 *16*; α(M)=0.00287 *4* α(N)=0.000760 *11*; α(O)=0.0001679 *24*; α(P)=2.71×10^{-5} *4*; α(Q)=1.145×10^{-6} *16* B(E3)(W.u.)=38.4 *8*
1625.3	(17/2+)	852.3 *2*	100	773.0	(15/2−)	E1		0.00425	α(K)=0.00350 *5*; α(L)=0.000572 *8*; α(M)=0.0001346 *19* α(N)=3.53×10^{-5} *5*; α(O)=8.00×10^{-6} *12*; α(P)=1.378×10^{-6} *20*; α(Q)=1.037×10^{-7} *15*
1821.2	(21/2+)	196.0 *2*	100.0 *6*	1625.3	(17/2+)	E2		0.629	α(K)=0.1681 *24*; α(L)=0.340 *5*; α(M)=0.0917 *14* α(N)=0.0242 *4*; α(O)=0.00519 *8*; α(P)=0.000768 *12*; α(Q)=7.84×10^{-6} *12* B(E2)(W.u.)=0.48 *3*
		1048.2 *2*	48.6 *4*	773.0	(15/2−)	E3		0.0195	α(K)=0.01382 *20*; α(L)=0.00425 *6*; α(M)=0.001074 *15* α(N)=0.000284 *4*; α(O)=6.33×10^{-5} *9*; α(P)=1.047×10^{-5} *15*; α(Q)=5.59×10^{-7} *8* B(E3)(W.u.)=2.91 *17*
1877.8	(25/2+)	56.5 *2*	100	1821.2	(21/2+)	E2		145 *4*	α(L)=106.3 *24*; α(M)=28.8 *7* α(N)=7.61 *17*; α(O)=1.61 *4*; α(P)=0.231 *6*; α(Q)=0.000514 *11* B(E2)(W.u.)=0.0121 *6*
1994.5	(23/2+)	173.3 *2*	100	1821.2	(21/2+)	M1		3.27	α(K)=2.63 *4*; α(L)=0.488 *7*; α(M)=0.1165 *17* α(N)=0.0307 *5*; α(O)=0.00701 *10*; α(P)=0.001222 *18*; α(Q)=9.58×10^{-5} *14*
2053.8	(25/2+)	59.3 *2*	16 *2*	1994.5	(23/2+)	M1		14.25 *25*	α(L)=10.80 *19*; α(M)=2.58 *5* α(N)=0.681 *12*; α(O)=0.155 *3*; α(P)=0.0271 *5*; α(Q)=0.00213 *4*
		176.0 *2*	100 *2*	1877.8	(25/2+)	M1		3.13	α(K)=2.52 *4*; α(L)=0.467 *7*; α(M)=0.1115 *16* α(N)=0.0294 *5*; α(O)=0.00671 *10*; α(P)=0.001169 *17*; α(Q)=9.17×10^{-5} *14*
2214.4	(27/2−)	336.6 *2*	100	1877.8	(25/2+)	(E1)		0.0272	α(K)=0.0220 *3*; α(L)=0.00396 *6*; α(M)=0.000942 *14* α(N)=0.000247 *4*; α(O)=5.53×10^{-5} *8*; α(P)=9.26×10^{-6} *13*; α(Q)=6.12×10^{-7} *9*
2246.9	(29/2−)	(32.5)	0.997 *13*	2214.4	(27/2−)	[M1]		84 *5*	B(M1)(W.u.)=3.4×10^{-7} *5*
		193.1 *2*	100.0 *17*	2053.8	(25/2+)	M2(+E3)	<0.2	10.99	α(K)=7.38 *11*; α(L)=2.68 *4*; α(M)=0.699 *11* α(N)=0.187 *3*; α(O)=0.0422 *7*; α(P)=0.00709 *11*; α(Q)=0.000471 *7* B(M2)(W.u.)=0.17 *1*; B(E3)(W.u.)<100 δ: ce data gives δ(E3/M2)<0.45, but RUL(E3)=100 gives δ<0.2.
		369.1 *2*	32 *3*	1877.8	(25/2+)	M2+E3	1.07 *+25−20*	0.81 *9*	α(K)=0.50 *9*; α(L)=0.226 *5*; α(M)=0.0593 *10*

$\gamma(^{215}Ra)$ (continued)

E_i(level)	J^π_i	E_γ	I_γ	E_f	J^π_f	Mult.	α†	Comments
								α(N)=0.01577 *25*; α(O)=0.00349 *7*; α(P)=0.000566 *16*; α(Q)=2.6×10^{-5} *4* B(M2)(W.u.)=0.0011 *4*; B(E3)(W.u.)=4.8 *13*
2246.9+x	(31/2$^-$)	x		2246.9	(29/2$^-$)			E_γ: no transition seen, but required for current level scheme. Estimated value of x ≤ 35 keV.
3088.8+x	(33/2$^+$)	841.9 *2*	100	2246.9+x	(31/2$^-$)	E1	0.00435	α(K)=0.00358 *5*; α(L)=0.000586 *9*; α(M)=0.0001377 *20* α(N)=3.61×10^{-5} *5*; α(O)=8.19×10^{-6} *12*; α(P)=1.410×10^{-6} *20*; α(Q)=1.060×10^{-7} *15*
3143.7+x	(35/2$^+$)	54.9 *2*	100	3088.8+x	(33/2$^+$)	M1	17.9 *4*	α(L)=13.54 *24*; α(M)=3.24 *6* α(N)=0.854 *15*; α(O)=0.195 *4*; α(P)=0.0340 *6*; α(Q)=0.00267 *5*
3331.1+x	(37/2$^+$)	187.4 *2*	100	3143.7+x	(35/2$^+$)	M1	2.63	α(K)=2.11 *3*; α(L)=0.391 *6*; α(M)=0.0933 *14* α(N)=0.0246 *4*; α(O)=0.00562 *8*; α(P)=0.000979 *14*; α(Q)=7.67×10^{-5} *11*
3413.4+x	(37/2$^-$)	269.7 *2*	100	3143.7+x	(35/2$^+$)	D		
3415.6+x	(37/2$^+$)	271.9 *2*	100	3143.7+x	(35/2$^+$)	M1	0.930	α(K)=0.748 *11*; α(L)=0.1376 *20*; α(M)=0.0328 *5* α(N)=0.00866 *13*; α(O)=0.00198 *3*; α(P)=0.000345 *5*; α(Q)=2.70×10^{-5} *4*
3586.4+x	(37/2$^+$)	170.8 *2*	19 *4*	3415.6+x	(37/2$^+$)	M1	3.41	α(K)=2.74 *4*; α(L)=0.508 *8*; α(M)=0.1214 *18* α(N)=0.0320 *5*; α(O)=0.00730 *11*; α(P)=0.001273 *19*; α(Q)=9.98×10^{-5} *15*
		255.4 *2*	100 *12*	3331.1+x	(37/2$^+$)	M1	1.106	α(K)=0.890 *13*; α(L)=0.1638 *24*; α(M)=0.0391 *6* α(N)=0.01031 *15*; α(O)=0.00235 *4*; α(P)=0.000410 *6*; α(Q)=3.21×10^{-5} *5*
		442.6 *2*	10 *4*	3143.7+x	(35/2$^+$)			
3738.6+x	(39/2$^-$)	152.2 *2*	46.5 *5*	3586.4+x	(37/2$^+$)	E1	0.1740	α(K)=0.1372 *20*; α(L)=0.0279 *4*; α(M)=0.00669 *10* α(N)=0.00174 *3*; α(O)=0.000385 *6*; α(P)=6.20×10^{-5} *9*; α(Q)=3.46×10^{-6} *5*
		323.1 *2*	30.7 *10*	3415.6+x	(37/2$^+$)	E1	0.0298	α(K)=0.0241 *4*; α(L)=0.00435 *7*; α(M)=0.001036 *15* α(N)=0.000271 *4*; α(O)=6.07×10^{-5} *9*; α(P)=1.016×10^{-5} *15*; α(Q)=6.67×10^{-7} *10*
		325.3 *2*	4.0 *10*	3413.4+x	(37/2$^-$)			
		407.4 *2*	100.0 *10*	3331.1+x	(37/2$^+$)	E1	0.0180	α(K)=0.01463 *21*; α(L)=0.00257 *4*; α(M)=0.000611 *9* α(N)=0.0001600 *23*; α(O)=3.60×10^{-5} *5*; α(P)=6.07×10^{-6} *9*; α(Q)=4.14×10^{-7} *6*
3756.6+x	(43/2$^-$)	(18.0)	0.029 *2*	3738.6+x	(39/2$^-$)	[E2]	2.54×10^4	α(L)=1.498×10^4 *21*; α(M)=7.85×10^3 *11* α(N)=2.06×10^3 *3*; α(O)=436 *7*; α(P)=62.1 *9*; α(Q)=0.0875 *13* B(E2)(W.u.)=0.24 *7*
		425.5 *2*	100 *3*	3331.1+x	(37/2$^+$)	E3	0.240	α(K)=0.0887 *13*; α(L)=0.1113 *16*; α(M)=0.0303 *5* α(N)=0.00806 *12*; α(O)=0.001748 *25*; α(P)=0.000269 *4*; α(Q)=5.66×10^{-6} *8* B(E3)(W.u.)=37 *3*
3765.7+x		434.6 *2*	100	3331.1+x	(37/2$^+$)			

$^{215}_{88}Ra_{127}$-5

γ(^{215}Ra) (continued)

E_i(level)	J^{π}_i	E_{γ}	I_{γ}	E_f	J^{π}_f	Mult.	α†	Comments
3855.0+x		439.4 *2*	100	3415.6+x	(37/2$^+$)			
3935.4+x	(43/2$^-$)	178.6 *2*	100	3756.6+x	(43/2$^-$)	M1	3.01	α(K)=2.42 *4*; α(L)=0.448 *7*; α(M)=0.1070 *16* α(N)=0.0282 *4*; α(O)=0.00644 *10*; α(P)=0.001122 *17*; α(Q)=8.79×10^{-5} *13*
4207.3+x		352.3 *2*	100	3855.0+x				
4366.8+x	(45/2$^+$)	431.5 *2*	98.8 *25*	3935.4+x	(43/2$^-$)	E1	0.01597	α(K)=0.01298 *19*; α(L)=0.00227 *4*; α(M)=0.000538 *8* α(N)=0.0001409 *20*; α(O)=3.17×10^{-5} *5*; α(P)=5.36×10^{-6} *8*; α(Q)=3.69×10^{-7} *6*
		610.2 *2*	100 *5*	3756.6+x	(43/2$^-$)			
4553.5+x	(47/2$^-$)	797.3 *2*	100	3756.6+x	(43/2$^-$)	(Q)		
4567.0+x	(49/2$^+$)	(13.5)	10.5 *5*	4553.5+x	(47/2$^-$)	[E1]	5.74	α(N)=1.107 *16*; α(O)=0.207 *3*; α(P)=0.0218 *3*; α(Q)=0.000516 *8* B(E1)(W.u.)=0.00026 *6*
		200.1 *2*	100.0 *19*	4366.8+x	(45/2$^+$)	(E2)	0.584	α(K)=0.1616 *23*; α(L)=0.311 *5*; α(M)=0.0839 *13* α(N)=0.0222 *4*; α(O)=0.00475 *7*; α(P)=0.000704 *11*; α(Q)=7.44×10^{-6} *11* B(E2)(W.u.)=0.758 *23*
		810.2 *2*	59.3 *19*	3756.6+x	(43/2$^-$)	(E3)	0.0359	α(K)=0.0232 *4*; α(L)=0.00945 *14*; α(M)=0.00244 *4* α(N)=0.000647 *9*; α(O)=0.0001431 *20*; α(P)=2.32×10^{-5} *4*; α(Q)=1.021×10^{-6} *15* B(E3)(W.u.)=37.6 *15*
4686.2+x	(47/2$^-$)	750.7 *2*	100	3935.4+x	(43/2$^-$)	(Q)		
4882.7+x	(51/2$^-$)	196.3 *2*	23 *3*	4686.2+x	(47/2$^-$)	[E2]	0.626	α(K)=0.1676 *24*; α(L)=0.337 *5*; α(M)=0.0911 *14* α(N)=0.0241 *4*; α(O)=0.00515 *8*; α(P)=0.000763 *12*; α(Q)=7.81×10^{-6} *12*
		315.6 *2*	100 *4*	4567.0+x	(49/2$^+$)			
		329.5 *2*	12 *3*	4553.5+x	(47/2$^-$)			
5372.7+x	(53/2$^+$)	490.1 *2*	100 *3*	4882.7+x	(51/2$^-$)	D		
		805.7 *2*	47.6 *16*	4567.0+x	(49/2$^+$)	(Q)		
5608.6+x	(55/2$^-$)	725.9 *2*	100	4882.7+x	(51/2$^-$)			
5608.7+x	(57/2$^+$)	236.0 *2*	100	5372.7+x	(53/2$^+$)	E2	0.328	α(K)=0.1164 *17*; α(L)=0.1559 *23*; α(M)=0.0418 *6* α(N)=0.01105 *16*; α(O)=0.00238 *4*; α(P)=0.000356 *6*; α(Q)=4.96×10^{-6} *7* B(E2)(W.u.)=4.6 *4*
6033.5+x	(57/2$^+$)	424.8 *2*	100	5608.7+x	(57/2$^+$)			
6076.4+x	(59/2$^+$)	467.7 *2*	100	5608.7+x	(57/2$^+$)			
6283.2+x	(61/2$^+$)	249.7 *2*	100	6033.5+x	(57/2$^+$)			

† Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

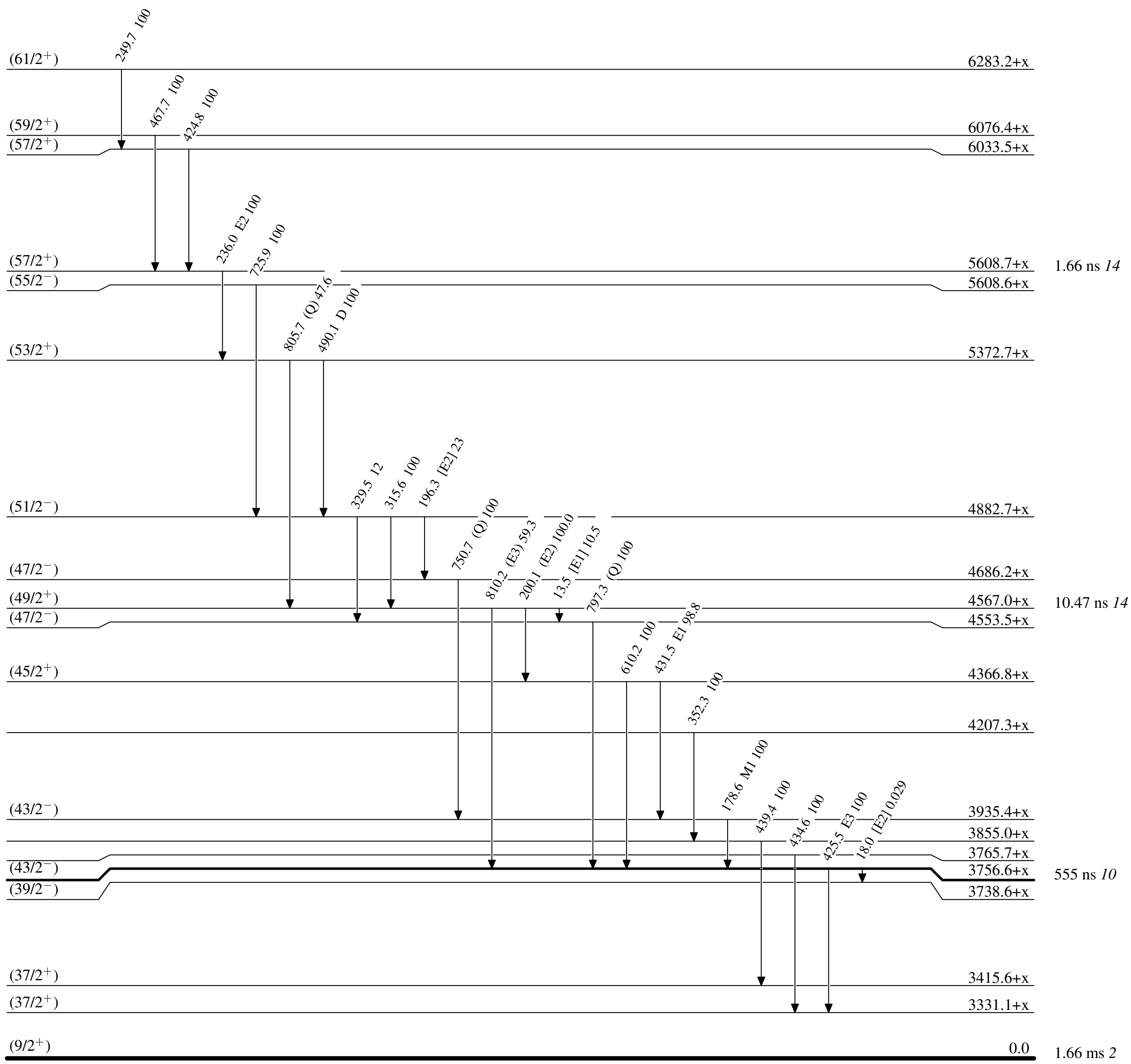
Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

Legend

γ Decay (Uncertain)

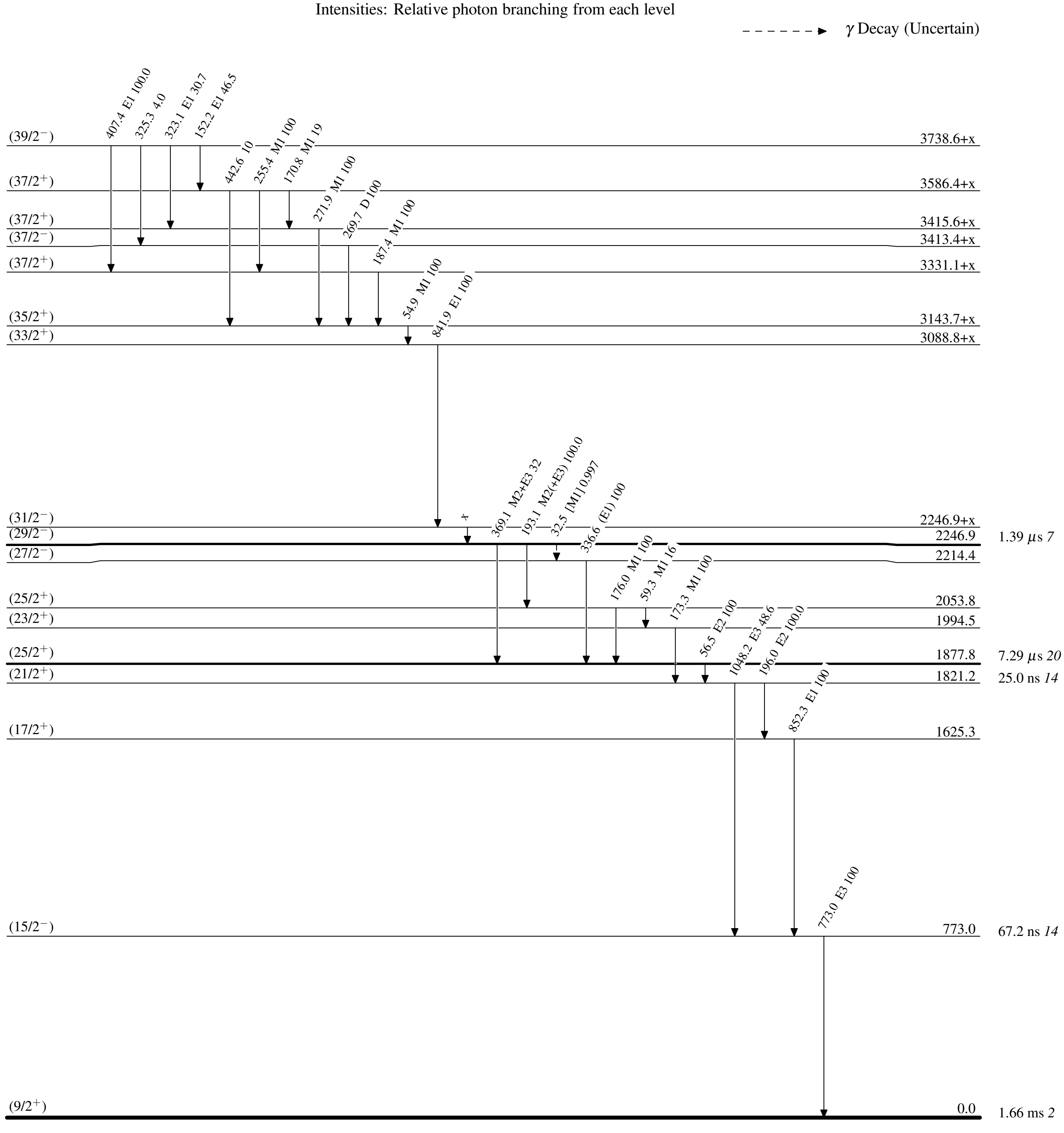


$^{215}_{88}Ra_{127}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{215}_{88}Ra_{127}$