Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja, E. A. Mccutchan	NDS 121, 695 (2014)	30-Sep-2013

Q(β^-)=580 *3*; S(n)=5034 *3*; S(p)=6.95×10^3 *20*; Q(α)=4757 *3* 2012Wa38
S(2n)=11344 *3*; S(2p)=13019 syst *298* (2012Wa38).

Theoretical and Systematic studies:

2012Ni16: $T_{1/2}$ for α decay for transitions from ground state to favored rotational bands using Multicluster Channel Model.
2012Ro34: $T_{1/2}$ and fission barriers with a generalized liquid drop model.
2012Sa31: $T_{1/2}$ from cluster decay using Coulomb and proximity potential model.
2011Ad15,2010Ad17: One-quasiparticle levels using the microscopic-macroscopic modified TCSM, QPM and the self-consistent SHFB approaches.
2011Ha06: Systematic analysis of experimental work in N=149 isotones.
2011He12: Compilation of $T_{1/2}$, J^π, and energy for long-lived isomers for Z≥82.
2011Zh36: Systematics and calculated partial half-life of α decay to members of favored band. Accurate expressions are proposed for the evaluation of partial half-lives of these transitions based on microscopic quantum tunneling theory.
2010Ni02: Systematics and calculations of $T_{1/2}$ and relative intensities of α decay within the generalized density-dependent cluster model.
2006Sh19: Possible alternative parity bands using the cluster model features of reflection asymmetric states.
2005Re16: Spontaneous fission half-lives.
2002Si26: Summary of fission isomers.
1971Ko31: Nonrotational-state energies using the Woods-Saxon potential.
1997Mo25: $T_{1/2}$ for ground-state alpha decay, pairing gaps and separation energies for neutrons and protons.
1995Mo29: Ground-state deformation.
1983Ga20,1995Mo29: Ground-state mass.
1972We09,1990Bh02: Spontaneously fissioning shape isomer.
1982Ku09: Statistical properties of levels were studied. Calculated level spacings in the first and second deformed potential well.

Other experimental studies:

2006Ma01: Thermal neutron cross section of ^{242}Pu(n,γ).
2005LeZS: Reaction cross section of ^{242}Pu(n,γ).
1987Gr13: ^{249}Cf(^{136}Xe,x): Production cross-sections.
1970Ot02: ^{242}Pu(n,F) E(n)=500,620,730,990,1230 keV: fission-fragment angular distribution was measured by ; data were analyzed with single-particle and with statistical model of the intermediate transition nucleus.
1970Br32: ^{242}Pu(d,pF), ^{242}Pu(t,dF): Measured fission-fragment angular correlations and deduced and fission probabilities.

^{243}Pu Levels

Cross Reference (XREF) Flags

A	^{247}Cm α decay	E	^{242}Pu(d,pγ) E=16 MeV
B	^{243}Np β^- decay	F	^{242}Pu(n,γ):primary γ's
C	^{244}Pu(^{208}Pb,^{209}Pbγ)	G	^{242}Pu(n,γ):secondary γ's
D	^{242}Pu(d,p), ^{244}Pu(d,t)		

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Adopted Levels, Gammas (continued)

^{243}Pu Levels (continued)

E(level)[†‡]	J$^{\pi}$[#]	$T_{1/2}$	XREF	Comments
0.0[&]	7/2$^+$	4.956 h *3*	ABCDEFG	%β^-=100 $T_{1/2}$: weighted average of 4.955 h *3* (1968Di09) and 4.958 h *5* (1969Ho10). Other measurements: 1951Su55, 1951Th20, 1953En08, 1977Dr07. J$^{\pi}$: log *ft*≈6.1 to 5/2$^-$. 402γ from 9/2$^-$ is E1. Intrinsic Q was estimated by 1985Ge08 as 11.6 *5* from relative isotope shift, deduced from their measured isotope shifts for neighboring even Pu isotopes.
58.13[&] *22*	9/2$^+$		A CD G	J$^{\pi}$: (d,t) reaction data; energy fit to the band.
124.8[&] *7*	11/2$^+$		A CD	J$^{\pi}$: (d,t) reaction data; energy fit to the band.
207.1[&] *11*	13/2$^+$		CD	J$^{\pi}$: (d,t) reaction data; 149.0γ to the 9/2$^+$ 7/2[624] band; energy fit to the band.
287.46[a] *19*	5/2$^+$		AB DE G	J$^{\pi}$: 287.4γ to 7/2$^+$ state is M1; 96.2γ from (1/2$^+$) state; energy fit to the band.
298.8[&] *12*	15/2$^+$[@]		C	
333.21[a] *24*	7/2$^+$		A D G	J$^{\pi}$: feeds 7/2$^+$, 9/2$^+$ levels, fed from 3/2$^+$ state; α hindrance factor in ^{247}Cm decay. (d,t) reaction data is in agreement with the assignment.
383.64[b] *25*	(1/2$^+$)	0.33 μs *3*	DEFG	J$^{\pi}$: fed by primary γ in (n,γ); (d,p) and (d,t) reaction data. $T_{1/2}$: from d,γ(t) in ^{242}Pu(d,pγ) reaction (1975Ya03).
≈388[a]	(9/2$^+$)		D	
392.1[b] *3*	(3/2$^+$)		FG	J$^{\pi}$: fed by primary γ in (n,γ); (d,p) and (d,t) reaction data.
402.6[c] *3*	9/2$^-$		A G	J$^{\pi}$: fed by favored α (HF=1.7) from 9/2$^-$ ^{247}Cm.
404.0[&] *15*	17/2$^+$		C	J$^{\pi}$: 196.9γ to 13/2$^+$.
446.8[b] *3*	(5/2$^+$)		FG	J$^{\pi}$: γs from 1/2$^+$, 3/2$^+$ states; band parameters deduced from excitation energy fit the local trend.
450.1[b] *15*	(7/2$^+$)		D	
455[c] *5*	11/2$^-$		A	E(level): From Eα and Qα in ^{247}Cm α decay. J$^{\pi}$: energy fit to the band.
466.7[a] *15*	(11/2$^+$)		D	
518.9[&] *16*	19/2$^+$[@]		C	
536.6[a] *15*	(13/2$^+$)		D	
564.5[b] *15*	(9/2$^+$)		D	
595.3[c] *15*	(15/2$^-$)		D	
625.7[d] *3*	(1/2$^+$)		D G	J$^{\pi}$: intensity ratio of gammas to 1/2$^+$[631] band. This level was obscured in (d,p) and (d,t) reactions by the 9/2$^+$, 7/2[613] state.
626[e] *2*	(9/2$^+$)		D	
646.8[&] *18*	21/2$^+$[@]		C	
653.8[d] *4*	(3/2$^+$)		D FG	J$^{\pi}$: fed by primary γ in (n,γ); γ to 3/2$^+$ level; (d,p) and (d,t) reaction data.
677.2[d] *5*	(5/2$^+$)		D FG	J$^{\pi}$: (d,p) and (d,t) reaction data; fed by primary γ in (n,γ); probably decays to 7/2$^+$ and (3/2$^+$) states.
704.0[f] *3*	(3/2$^-$)		D FG	J$^{\pi}$: strong primary (n,γ) feeding and γ decay to the 5/2$^+$,5/2[522] state suggest J$^{\pi}$=1/2$^+$,3/2±. Nonobservation of γ transition to any other state and weak population in (d,p) and (d,t) reactions imply that it might be a collective state built on the 5/2[622] state. 1976Ca25 propose that it is perhaps an octupole-vibrational state.
734.1 *20*			D	
741.8[d] *15*	(7/2$^+$)		D	
783.8[&] *19*	23/2$^+$		C	J$^{\pi}$: 264.9γ to 19/2$^+$.
790.7[g] *3*	(3/2$^-$)		D FG	J$^{\pi}$: (d,p) and (d,t) reaction data. (n,γ) data is consistent with the assignment.
809.5 *3*	1/2$^+$,3/2		FG	J$^{\pi}$: fed by strong primary γ in (n,γ).
813.76[h] *17*	3/2$^+$		D FG	J$^{\pi}$: fed by primary γ in (n,γ); feeds 7/2$^+$, 5/2$^+$ states. Level is tentatively assigned to 3/2$^+$,3/2[622] state from data in (d,p) and (d,t) reactions.
834.4[g] *15*	(7/2$^-$)		D	
845.5[h] *4*	(5/2$^+$)		D G	J$^{\pi}$: (d,p) and (d,t) reaction data. γ decays are consistent with the assignment.

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Adopted Levels, Gammas (continued)

^{243}Pu Levels (continued)

E(level)[†‡]	Jπ[#]	$T_{1/2}$	XREF	Comments
873.7[g] *10*	(1/2⁻)		D G	Jπ: (d,p) reaction data.
884 *3*			D	
895.6[h] *15*	(7/2⁺)		D	
905.7[i] *4*	(1/2⁻)		D FG	Jπ: fed by primary γ in (n,γ); decays to (1/2⁺), (3/2⁺) levels; (d,t) reaction data.
920.6[g] *15*	(11/2⁻)		D	
933.0[&] *21*	25/2⁺[@]		C	
948.1[i] *3*	(3/2⁻)		D FG	Jπ: fed by primary γ in (n,γ); decays to (1/2⁺), (3/2⁺), (5/2⁺) levels; (d,t) reaction data.
954[h] *2*	(9/2⁺)		D	Jπ: (d,p) reaction data.
981.0[j] *4*	(5/2⁺)		D G	Jπ: (d,p) and (d,t) reaction data; γ decays are consistent with the assignment.
1044 *2*	(11/2⁺)		D	Jπ: 11/2⁺, 9/2[615] assignment was tentatively suggested from (d,p), (d,t) data.
1080[j] *2*	(9/2⁺)		D	
1091.3[&] *21*	27/2⁺[@]		C	
1114 *3*			D	
1130.2 *3*	(1/2⁺,3/2)		D FG	Jπ: fed by primary γ in (n,γ); γ decays to (1/2⁺), (3/2±), (5/2⁺) levels.
1145 *3*			D	
1176.5 *3*	3/2⁺,5/2⁺		D FG	Jπ: fed by primary γ in (n,γ); gammas to 7/2⁺ and 5/2⁺ states.
1197 *3*			D	
1213 *2*	(5/2⁻)		D G	Jπ: 5/2⁻,5/2[503] assignment is tentatively proposed by 1976Ca25.
1233 *3*			D	
1243 *3*			D	
1261.1[&] *23*	29/2⁺[@]		C	
1265 *3*			D	
1286 *3*			D	
1299 *2*			D	
1301.7 *5*	1/2,3/2		FG	Jπ: fed by strong primary γ in (n,γ); γ decays to (1/2⁺) level.
1324 *2*			D	
1354 *2*			D	
1359 *3*			D	
1367.9 *6*	1/2,3/2		FG	Jπ: fed by primary γ in(n,γ); γ decays to (3/2⁺), (3/2⁻) levels.
1387.4 *4*	3/2⁺		D FG	Jπ: fed by strong primary γ in (n,γ); γ decays to 7/2⁺ level.
1403 *3*			D	
1420.5 *6*	(3/2⁺)		D FG	XREF: D(1419). Jπ: fed by strong primary γ in (n,γ); probable γ decay to 7/2⁺ level.
1434.7 *4*	1/2⁺,3/2		FG	Jπ: fed by strong primary γ in (n,γ); gammas to 5/2⁺, 3/2⁺ and 3/2⁻ levels. Jπ=3/2⁻ is suggested by 1976Ca25.
1438.8[&] *24*	31/2⁺[@]		C	
1444 *3*			D	
1465 *3*			D	
1491.2 *8*	1/2⁻,3/2⁻		D F	Jπ: fed by strong primary γ in (n,γ).
1516.6 *8*	(3/2⁻)		FG	Jπ: fed by strong primary γ in (n,γ); possibly feeds (5/2⁺) level.
1627.6[&] *25*	33/2⁺[@]		C	
1.7×10^3 *3*		46 ns *13*		%SF=100 Additional information 1. No other decay observed. Delayed gammas from this isomer were searched for by 1974Br05 following ^{242}Pu(n,Fγ) reaction. No gammas were found from the isomer. Assignment: ^{242}Pu(d,p) (1969La14,1970Vi05). E(level): recommended by 1980Bj02. 1972We09 deduced E(level)=1.8 MeV from ^{242}Pu(n,F) cross sections

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Adopted Levels, Gammas (continued)

^{243}Pu Levels (continued)

E(level)[†‡]	J^{π}[#]	XREF	Comments
			measured by 1971Au06; E(level)=3.2 +0.6-0.2 MeV and E(level)=3.6 MeV were deduced by 1969Ja01 and by 1971Be12, respectively, from average level spacings observed in their ^{242}Pu(n,F) data. Theoretical calculations: E(level)=2.08 MeV (1972We09), 2.45 MeV (1990Bh02). $T_{1/2}$: from unweighted average of measured values of: 33 ns (1970Po01: reevaluated measurement of 1969La14) and 58 ns *11* (1970Vi05).
1824[&] *3*	$35/2^+$[@]	C	
2030[&] *3*	$37/2^+$[@]	C	
2243[&] *3*	$39/2^+$[@]	C	
2465[&] *3*	$41/2^+$[@]	C	
2692[&] *3*	$43/2^+$[@]	C	
2929[&] *3*	$45/2^+$[@]	C	
3167[&] *3*	$47/2^+$[@]	C	
3413[&] *4*	$49/2^+$[@]	C	
3656[&] *4*	$51/2^+$[@]	C	
3901[&] *4*	$53/2^+$[@]	C	
4142[&] *4*	$55/2^+$[@]	C	
4384[&] *4*	$57/2^+$[@]	C	
4625?[&] *4*	$(59/2^+)$[@]	C	
(5034.2 *26*)	$1/2^+$	F	

[†] From least square fit of adopted γ energies and levels observed in (d,p), (d,t) reactions except as noted.
[‡] In addition to the 46-ns isomer, 1974Br05 suggests the existence of a longer-lived isomer. From systematics they predict $T_{1/2}\approx10$ μs. A spontaneously fissioning isomer with half-life in the 10−μs range was searched for, but not observed, by 1976Br38 through ^{244}Pu(n,2n) E(n)=14 MeV reaction.
[#] Assignments derived from (d,p), (d,t) reactions are based on ratios of cross sections measured at 90° and 150°; on ratios of (d,p) to (d,t) cross sections; on comparison of relative cross sections with those expected "signatures" for various band members; and on systematics of Nilsson orbital. J^{π} assignments from other reactions are indicated in the comments and in the # footnote.
[@] From band member assignments in ^{244}Pu(^{208}Pb,^{209}Pbγ).
[&] Band(A): 7/2[624] band. α=6.2.
[a] Band(B): 5/2[622] band. α=6.6.
[b] Band(C): 1/2[631] band. α=7.2.
[c] Band(D): 9/2[734] band.
[d] Band(E): 1/2[620] band.
[e] Band(F): 7/2[613] band.
[f] Band(G): K=3/2 band.
[g] Band(H): 1/2[761] band.
[h] Band(I): 3/2[622] band.
[i] Band(J): 1/2[501] band.
[j] Band(K): 3/2[631] band.

Adopted Levels, Gammas (continued)

$\gamma(^{243}Pu)$

E_i(level)	J^π_i	E_γ[†]	I_γ[†]	E_f	J^π_f	Mult.[‡]	α[@]	Comments
58.13	9/2+	(58.1)		0.0	7/2+			E_γ: γ transition has not been observed. $E\gamma$ is from level energy difference.
124.8	11/2+	125	100	0.0	7/2+	[E2]	5.81	α(K)=0.1664 *24*; α(L)=4.09 *6*; α(M)=1.146 *16* α(N)=0.315 *5*; α(O)=0.0743 *11*; α(P)=0.01191 *17*; α(Q)=5.28×10^{-5} *8*
207.1	13/2+	149.0	100	58.13	9/2+	[E2]	2.75	α(K)=0.197 *3*; α(L)=1.85 *3*; α(M)=0.518 *8* α(N)=0.1423 *20*; α(O)=0.0336 *5*; α(P)=0.00542 *8*; α(Q)=2.98×10^{-5} *5*
287.46	5/2+	229.3 *2*	1.8 *4*	58.13	9/2+	[E2]	0.518	α(K)=0.1223 *18*; α(L)=0.288 *5*; α(M)=0.0797 *12* α(N)=0.0219 *4*; α(O)=0.00519 *8*; α(P)=0.000856 *13*; α(Q)=8.66×10^{-6} *13*
		287.4 *3*	100 *14*	0.0	7/2+	M1	1.344	α(K)=1.063 *16*; α(L)=0.211 *3*; α(M)=0.0513 *8* α(N)=0.01396 *20*; α(O)=0.00347 *5*; α(P)=0.000660 *10*; α(Q)=4.31×10^{-5} *7*
298.8	15/2+	174	100	124.8	11/2+			
333.21	7/2+	275.1 *2*	100 *19*	58.13	9/2+	[M1]	1.517	α(K)=1.200 *17*; α(L)=0.239 *4*; α(M)=0.0580 *9* α(N)=0.01577 *23*; α(O)=0.00392 *6*; α(P)=0.000746 *11*; α(Q)=4.87×10^{-5} *7*
		333.0 *10*	64 *28*	0.0	7/2+	[M1]	0.895 *15*	α(K)=0.708 *12*; α(L)=0.1403 *23*; α(M)=0.0341 *6* α(N)=0.00927 *16*; α(O)=0.00231 *4*; α(P)=0.000439 *8*; α(Q)=2.86×10^{-5} *5*
383.64	(1/2+)	96.2 *2*	100	287.46	5/2+	[E2]	18.9 *4*	α(L)=13.72 *24*; α(M)=3.84 *7* α(N)=1.056 *18*; α(O)=0.249 *5*; α(P)=0.0396 *7*; α(Q)=0.0001353 *22* B(E2)(W.u.)=0.116 *11*
402.6	9/2−	278.0 *8*	4.7 *10*	124.8	11/2+	[E1]	0.0488 *8*	α(K)=0.0385 *6*; α(L)=0.00777 *12*; α(M)=0.00188 *3* α(N)=0.000509 *8*; α(O)=0.0001242 *20*; α(P)=2.23×10^{-5} *4*; α(Q)=1.143×10^{-6} *18*
		344.5 *5*	≈1.8	58.13	9/2+	[E1]	0.0307	α(K)=0.0244 *4*; α(L)=0.00476 *7*; α(M)=0.001152 *17* α(N)=0.000311 *5*; α(O)=7.62×10^{-5} *11*; α(P)=1.383×10^{-5} *20*; α(Q)=7.41×10^{-7} *11*
		402.6 *3*	100 *9*	0.0	7/2+	E1	0.0222	α(K)=0.01774 *25*; α(L)=0.00338 *5*; α(M)=0.000816 *12* α(N)=0.000221 *4*; α(O)=5.41×10^{-5} *8*; α(P)=9.88×10^{-6} *14*; α(Q)=5.46×10^{-7} *8*
404.0	17/2+	196.9	100	207.1	13/2+			
518.9	19/2+	220.1	100	298.8	15/2+			
625.7	(1/2+)	233.9 *6*	5.0 *16*	392.1	(3/2+)			
		242.0 *2*	100 *19*	383.64	(1/2+)			
646.8	21/2+	242.8	100	404.0	17/2+			
653.8	(3/2+)	261.7 *3*	100	392.1	(3/2+)			
677.2	(5/2+)	284.4[&] *3*	100 *40*	392.1	(3/2+)			
		343.9[&] *2*	<130[#]	333.21	7/2+			
704.0	(3/2−)	416.5 *2*	100	287.46	5/2+			
783.8	23/2+	264.9	100	518.9	19/2+			
790.7	(3/2−)	343.9 *2*	<139[#]	446.8	(5/2+)			
		407.1 *3*	100 *12*	383.64	(1/2+)			

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Adopted Levels, Gammas (continued)

$\gamma(^{243}Pu)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Comments
809.5	1/2+,3/2	426.0 *6*	≤29[#]	383.64	(1/2+)	
		522.1 *3*	≤100[#]	287.46	5/2+	
813.76	3/2+	159.2 *13*	27 *11*	653.8	(3/2+)	
		480.6 *3*	31 *4*	333.21	7/2+	
		526.2 *3*	100 *11*	287.46	5/2+	
		813.8 *2*	96 *10*	0.0	7/2+	
845.5	(5/2+)	558.0 *3*	100 *11*	287.46	5/2+	
		787.5 *8*	34 *17*	58.13	9/2+	
		844.3[&] *8*	≤26[#]	0.0	7/2+	Large δ should be expected, since M1 transition is K forbidden.
873.7	(1/2−)	219.9[&] *3*	100	653.8	(3/2+)	
905.7	(1/2−)	513.6 *3*	100 *12*	392.1	(3/2+)	
		522.1 *3*	≤34[#]	383.64	(1/2+)	
933.0	25/2+	286.2	100	646.8	21/2+	
948.1	(3/2−)	501.2 *3*	59 *7*	446.8	(5/2+)	
		555.7 *5*	51 *17*	392.1	(3/2+)	
		564.7 *4*	100 *11*	383.64	(1/2+)	
981.0	(5/2+)	533.9 *4*	80 *16*	446.8	(5/2+)	
		589.1 *3*	100 *12*	392.1	(3/2+)	
		648.8[&] *8*	≤43[#]	333.21	7/2+	
		693.5 *7*	32 *12*	287.46	5/2+	
1091.3	27/2+	307.5	100	783.8	23/2+	
1130.2	(1/2+,3/2)	426.0 *6*	≤38[#]	704.0	(3/2−)	
		683.4 *4*	≤53[#]	446.8	(5/2+)	
		738.2 *3*	79 *9*	392.1	(3/2+)	
		746.4 *3*	100 *11*	383.64	(1/2+)	
1176.5	3/2+,5/2+	385.7 *3*	13.5 *23*	790.7	(3/2−)	
		551.7[&] *5*	6.7 *18*	625.7	(1/2+)	
		730.1 *7*	5.4 *18*	446.8	(5/2+)	
		844.3[&] *8*	≤9.9[#]	333.21	7/2+	
		889.1 *6*	100 *14*	287.46	5/2+	
		1176.5 *5*	52 *11*	0.0	7/2+	
1213	(5/2−)	879.8[&] *10*	75 *35*	333.21	7/2+	
		925.3[&] *10*	100 *50*	287.46	5/2+	
1261.1	29/2+	328.1	100	933.0	25/2+	
1301.7	1/2,3/2	648.8[&] *8*	≤37[#]	653.8	(3/2+)	
		676.0 *3*	100 *10*	625.7	(1/2+)	
		918.0 *10*	43 *16*	383.64	(1/2+)	
1367.9	1/2,3/2	663.9 *6*	100 *16*	704.0	(3/2−)	
		714.7[&] *11*	31 *16*	653.8	(3/2+)	
		976.0 *12*	84 *42*	392.1	(3/2+)	
1387.4	3/2+	439.4 *3*	93 *14*	948.1	(3/2−)	
		683.4 *4*	≤107[#]	704.0	(3/2−)	
		1053.8 *10*	100 *38*	333.21	7/2+	
1420.5	(3/2+)	716.9[&] *5*	61 *13*	704.0	(3/2−)	
		1028.4[&] *10*	≈39	392.1	(3/2+)	
		1087.1[&] *8*	100 *52*	333.21	7/2+	
1434.7	1/2+,3/2	625.2[&] *2*	100 *11*	809.5	1/2+,3/2	
		644.2 *4*	38 *9*	790.7	(3/2−)	
		757.5 *4*	44 *8*	677.2	(5/2+)	
		781.1[&] *12*	25 *17*	653.8	(3/2+)	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

$\gamma(^{243}Pu)$ (continued)

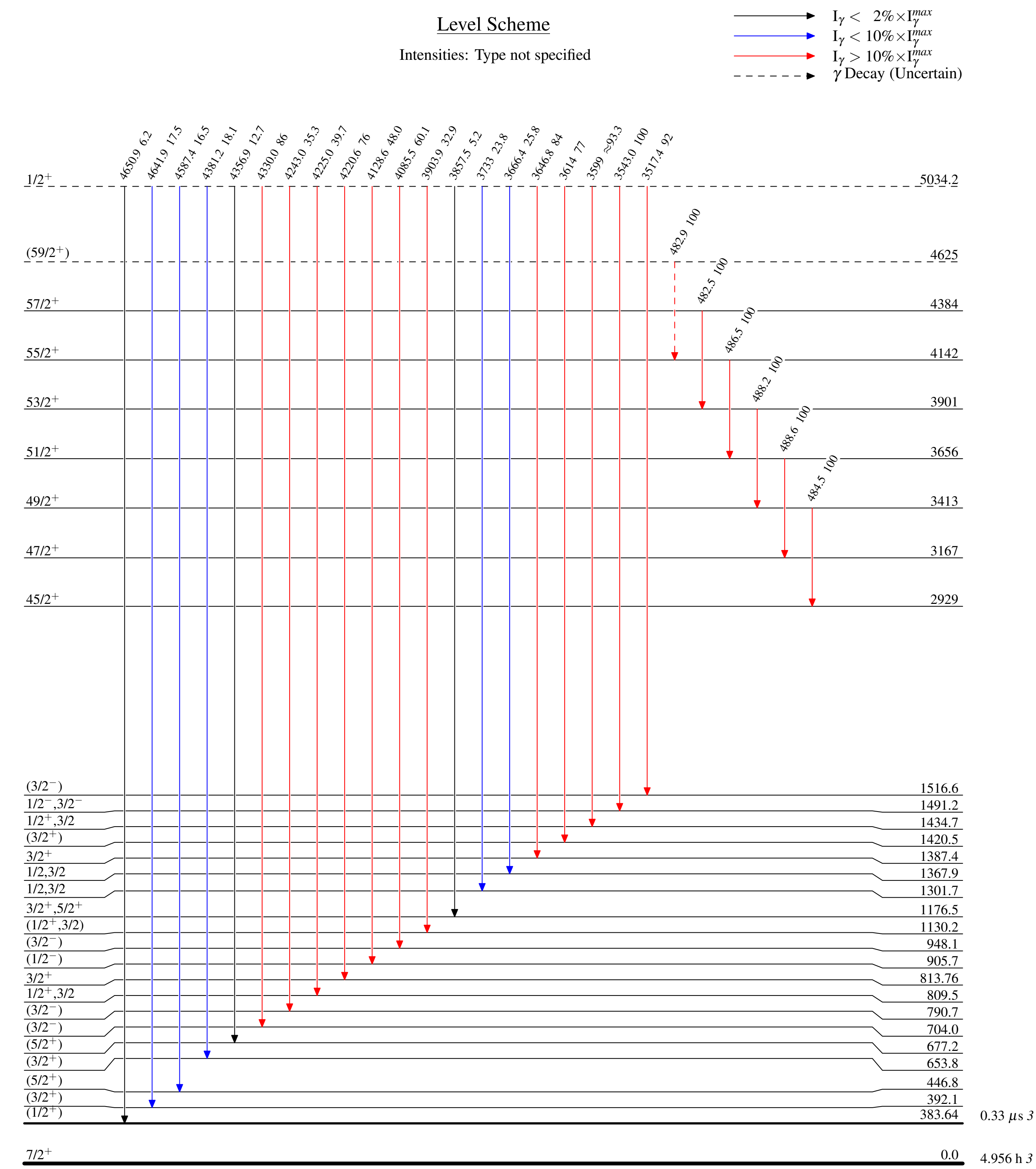
E_i(level)	J^π_i	E_γ†	I_γ†	E_f	J^π_f	Comments
1434.7	1/2+,3/2	1042.1 *5*	73 *11*	392.1	(3/2+)	
1438.8	31/2+	347.5	100	1091.3	27/2+	
1516.6	(3/2−)	838.7& *5*	100	677.2	(5/2+)	
1627.6	33/2+	366.5	100	1261.1	29/2+	
1824	35/2+	384.9	100	1438.8	31/2+	
2030	37/2+	402.4	100	1627.6	33/2+	
2243	39/2+	419.1	100	1824	35/2+	
2465	41/2+	434.9	100	2030	37/2+	
2692	43/2+	449.2	100	2243	39/2+	
2929	45/2+	463.6	100	2465	41/2+	
3167	47/2+	475.0	100	2692	43/2+	
3413	49/2+	484.5	100	2929	45/2+	
3656	51/2+	488.6	100	3167	47/2+	
3901	53/2+	488.2	100	3413	49/2+	
4142	55/2+	486.5	100	3656	51/2+	
4384	57/2+	482.5	100	3901	53/2+	
4625?	(59/2+)	482.9&	100	4142	55/2+	
(5034.2)	1/2+	3517.4	92 *14*	1516.6	(3/2−)	
		3543.0	100	1491.2	1/2−,3/2−	
		3599	≈93.3	1434.7	1/2+,3/2	Peak was broad (1976Ca25).
		3614	77 *16*	1420.5	(3/2+)	
		3646.8	84 *13*	1387.4	3/2+	
		3666.4	25.8 *40*	1367.9	1/2,3/2	
		3733	23.8 *60*	1301.7	1/2,3/2	
		3857.5	5.2 *18*	1176.5	3/2+,5/2+	
		3903.9	32.9 *50*	1130.2	(1/2+,3/2)	
		4085.5	60.1 *91*	948.1	(3/2−)	
		4128.6	48.0 *73*	905.7	(1/2−)	
		4220.6	76 *12*	813.76	3/2+	
		4225.0	39.7 *79*	809.5	1/2+,3/2	
		4243.0	35.3 *54*	790.7	(3/2−)	
		4330.0	86 *13*	704.0	(3/2−)	
		4356.9	12.7 *20*	677.2	(5/2+)	
		4381.2	18.1 *28*	653.8	(3/2+)	
		4587.4	16.5 *26*	446.8	(5/2+)	
		4641.9	17.5 *28*	392.1	(3/2+)	
		4650.9	6.2 *12*	383.64	(1/2+)	

† From $^{242}Pu(n,\gamma)$, ^{247}Cm α decay, $^{242}Pu(d,p\gamma)$ and $^{244}Pu(^{208}Pb,^{209}Pb\ \gamma)$ data.
‡ From ^{247}Cm α decay. Multipolarities in square brackets are from level scheme.
# Branching of this doubly-placed gamma has not been determined experimentally.
@ Additional information 2.
& Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

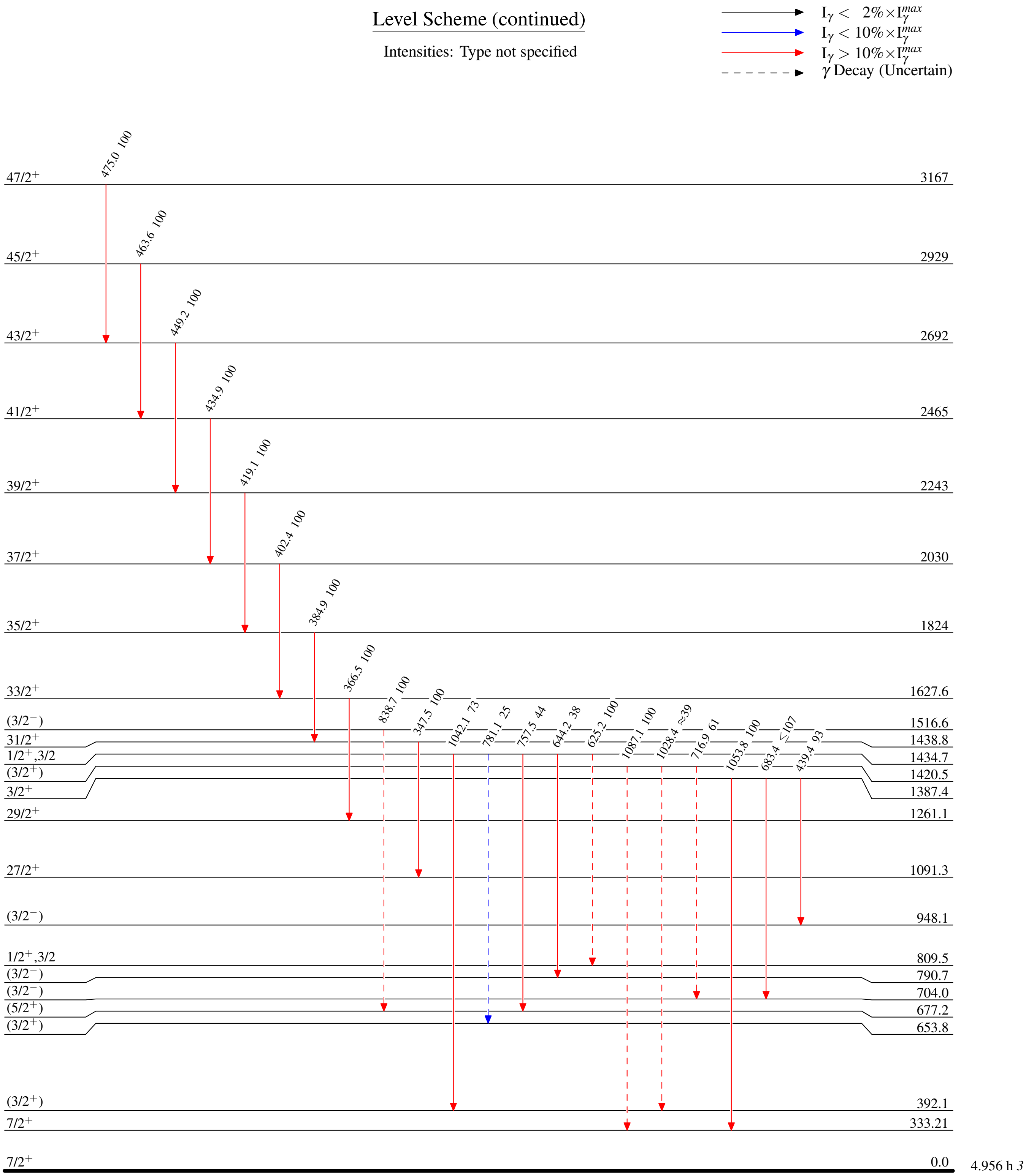
Level Scheme

Intensities: Type not specified



$^{243}_{94}Pu_{149}$

Adopted Levels, Gammas

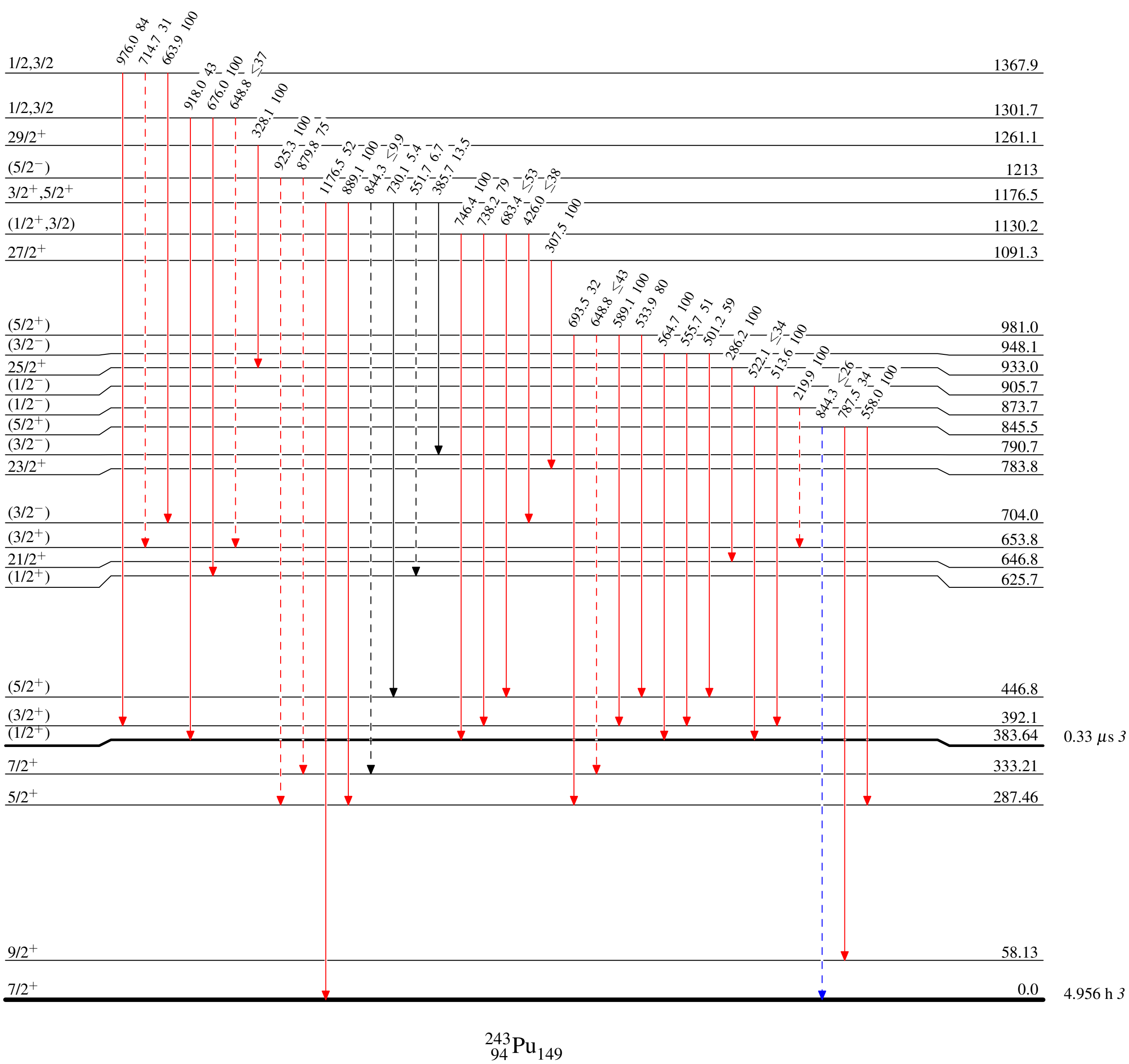


$^{243}_{94}Pu_{149}$

Adopted Levels, Gammas

Level Scheme (continued)

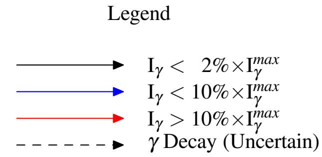
Intensities: Type not specified

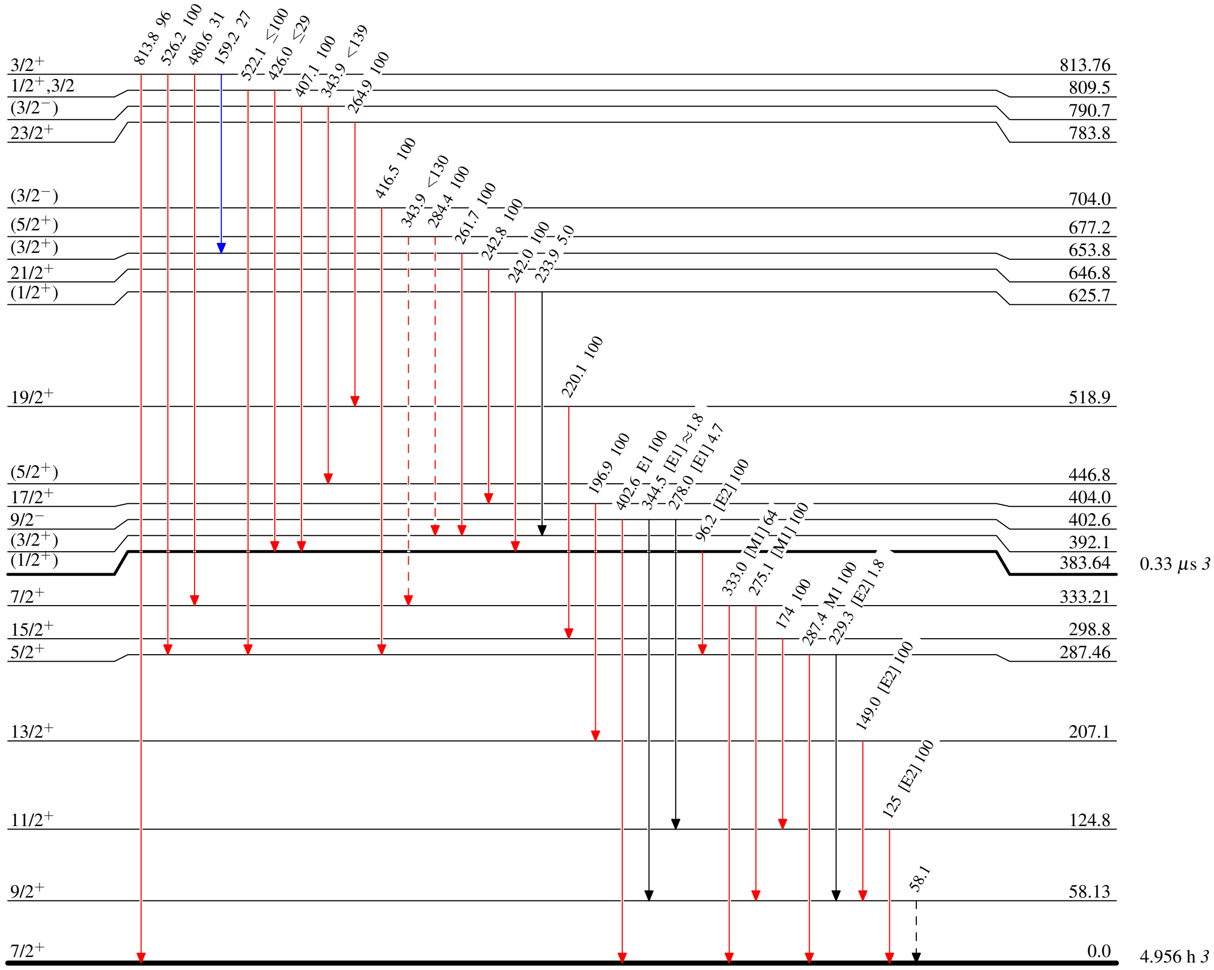


Adopted Levels, Gammas

Level Scheme (continued)

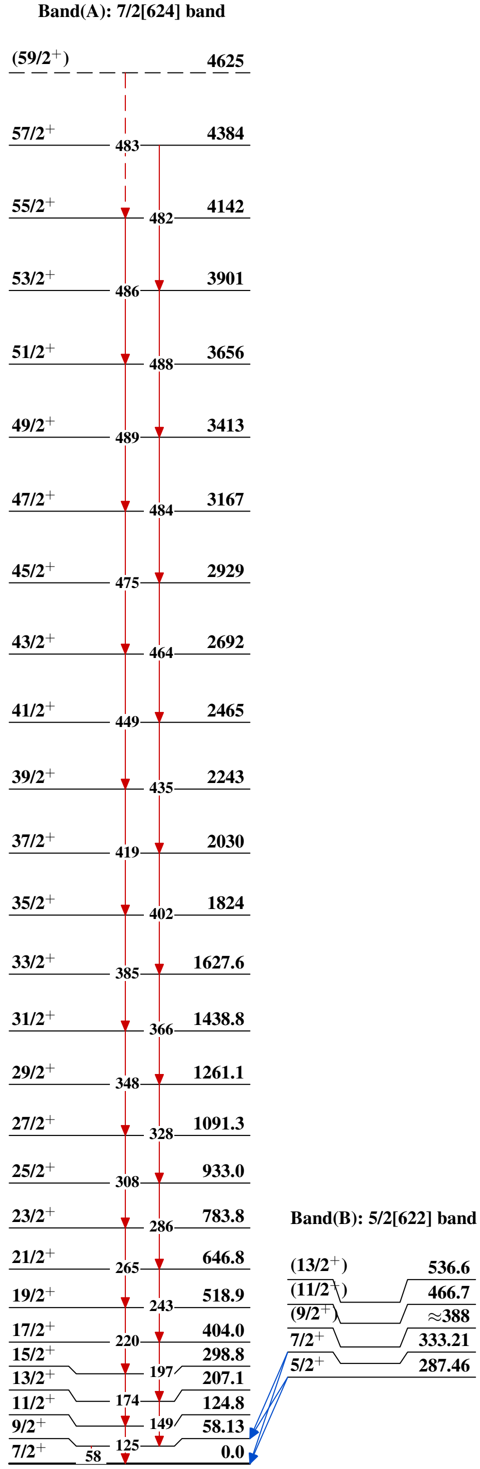
Intensities: Type not specified





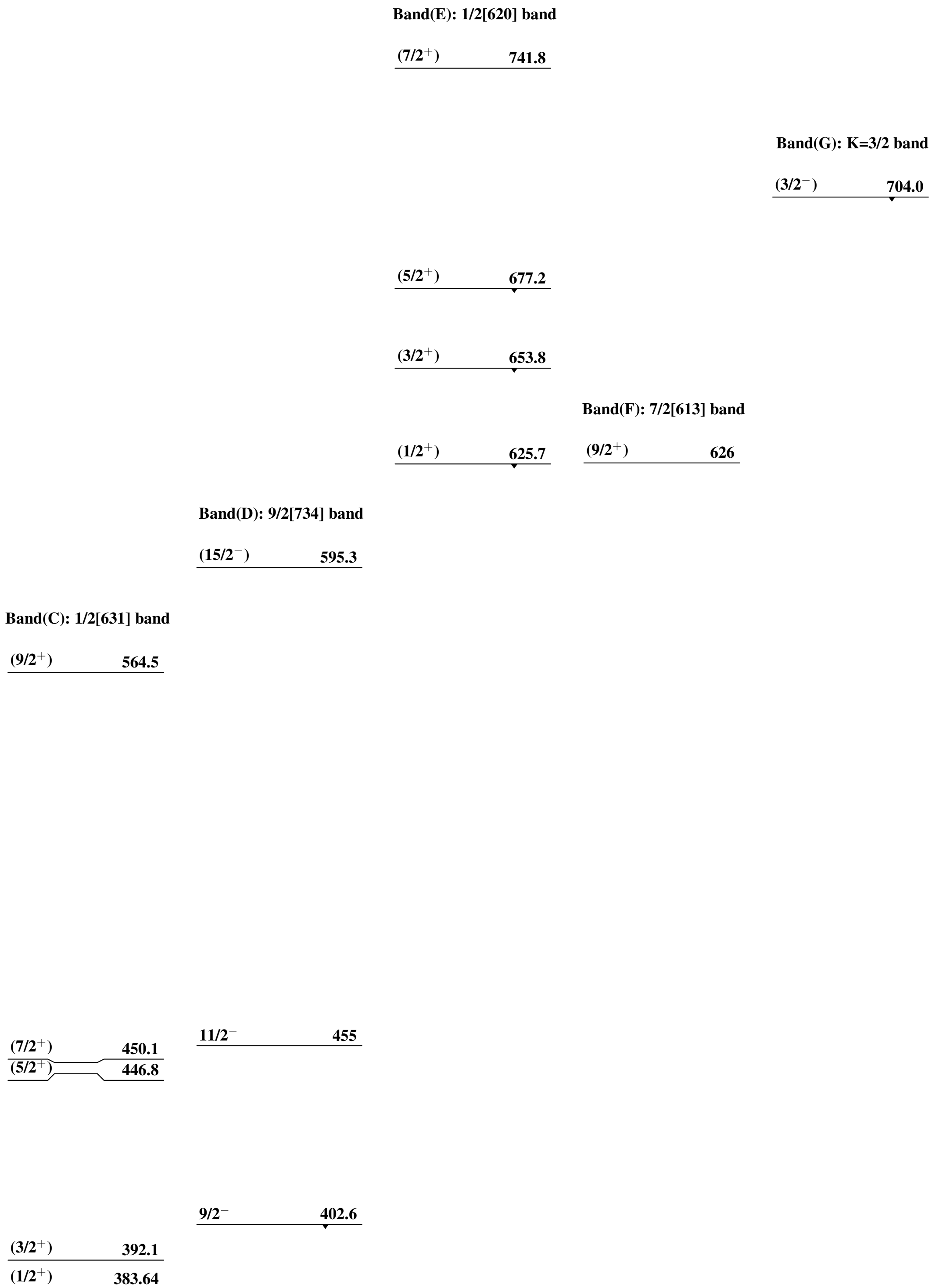
$^{243}_{94}Pu_{149}$

Adopted Levels, Gammas



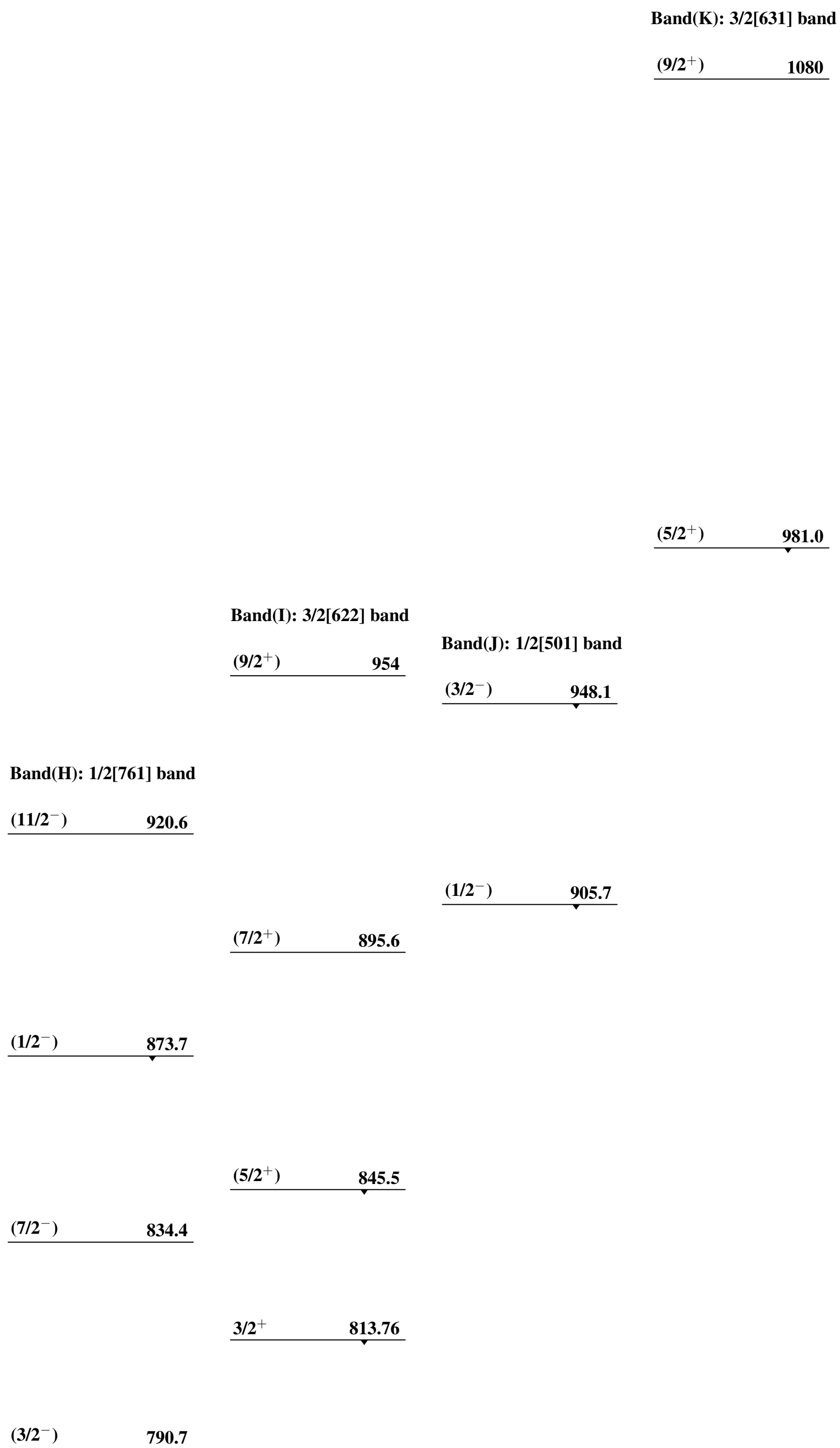
$^{243}_{94}Pu_{149}$

Adopted Levels, Gammas (continued)



$^{243}_{94}Pu_{149}$

Adopted Levels, Gammas (continued)



$^{243}_{94}Pu_{149}$