Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. A. Mccutchan, J. Lee, N. Jovancevic	NDS 147, 382 (2018)	1-Dec-2017

Q(β^-)=−656 *8*; S(n)=4666 *7*; S(p)=5887 *5*; Q(α)=7887.2 *29* 2017Wa10
S(2n)=11316 *9*, S(2p)=10378 *5* (2017Wa10).

^{217}Rn evaluated by E.A. McCutchan, J. Lee, and N. Jovancevic.
α: Additional information 1.

^{217}Rn Levels

Cross Reference (XREF) Flags

A ^{221}Ra α decay
B ^{208}Pb(^{18}O,2αnγ)

E(level)†	J$^\pi$	T$_{1/2}$	XREF	Comments
0.0	9/2$^+$	0.54 ms *5*	AB	%α=100 J$^\pi$: favored α decay to ^{213}Po ground state with J^π=9/2$^+$. T$_{1/2}$: from 1961Ru06. Other: 1.0 ms *1* (1951Me10).
88.89 *4*	(11/2$^+$)	≤1.5‡ ns	A	J$^\pi$: (M1) transition to 9/2$^+$ gs; probable gamma from 7/2$^+$ state at 93.0 keV; i$_{11/2}$ configuration was proposed by 1997Li12.
93.00 *4*	(7/2$^+$)	4.0 ns *4*	A	J$^\pi$: E2(+M1) 93γ to 9/2$^+$, (M1) 56γ from 5/2$^+$. T$_{1/2}$: from (α)(93 L x ray)(t) in ^{221}Ra α decay.
149.14 *3*	5/2$^+$	≤1.5‡ ns	A	J$^\pi$: favored α decay from 5/2$^+$ ^{221}Ra g.s.
174.29 *6*	(7/2,9/2,11/2)$^+$	≤1.5‡ ns	A	J$^\pi$: M1 174.3γ to 9/2$^+$. In ^{221}Ra α decay 1997Li12 tentatively proposed that this level is the 7/2$^+$ member of a disturbed i$_{11/2}$ band. E(level): a tentative 81.3γ is proposed to depopulate this level in ^{221}Ra α decay, although it was not observed due to it being obscured by K x rays.
234.7 *3*	(3/2$^+$)		A	J$^\pi$: 86.0γ to 5/2$^+$, proposed as member of a disturbed i$_{11/2}$ band in ^{221}Ra α decay.
374.90 *19*			A	
382.15 *13*	(5/2$^+$,7/2,9/2$^+$)		A	J$^\pi$: 232.9γ to 5/2$^+$, 289.1γ to 7/2$^+$, 382.2γ to 9/2$^+$.
474.5 *4*			A	
569.64 *16*			A	
618.8 *3*			A	

† From ^{221}Ra α decay.
‡ From prompt (α)(ce)(t) data in ^{221}Ra a decay, except where noted.

$\gamma(^{217}Rn)$

E$_i$(level)	J$_i^\pi$	E$_\gamma$†	I$_\gamma$†	E$_f$	J$_f^\pi$	Mult.‡	α	Comments
88.89	(11/2$^+$)	88.90 *5*	100	0.0	9/2$^+$	(M1)	3.59	α(L)=2.73 *4*; α(M)=0.649 *10*; α(N)=0.1693 *24*; α(O)=0.0370 *6*; α(P)=0.00541 *8*
93.00	(7/2$^+$)	(4.11 *8*)		88.89	(11/2$^+$)			Transition was not observed. Its existence was deduced by 1997Li12 from observation of the 88.9γ in coincidence with the 6662α feeding the 93.02 level. E$_\gamma$: deduced by evaluators from level energy difference.
		93.02 *5*		0.0	9/2$^+$	E2(+M1)	11.33	α: from BrIcc assuming pure E2 as the contribution from M1 is expected to be small.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

$\gamma(^{217}Rn)$ (continued)

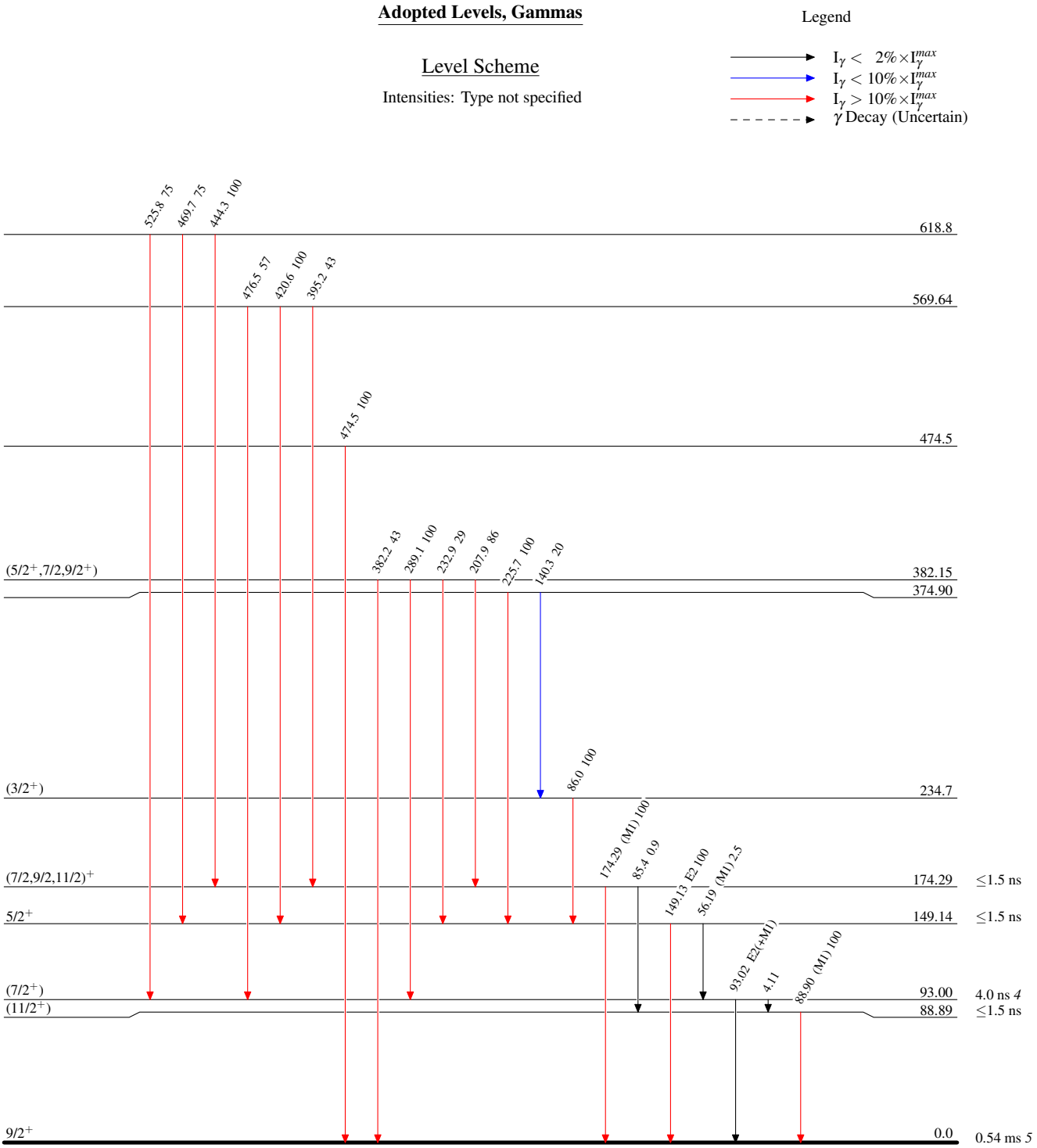
E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α	Comments
149.14	$5/2^+$	56.19 *6*	2.5 *5*	93.00	$(7/2^+)$	(M1)	13.71	α(L)=10.43 *15*; α(M)=2.48 *4*; α(N)=0.646 *10*; α(O)=0.1414 *21*; α(P)=0.0206 *3*
		149.13 *3*	100	0.0	$9/2^+$	E2	1.577	α(K)=0.284 *4*; α(L)=0.955 *14*; α(M)=0.257 *4*; α(N)=0.0668 *10*; α(O)=0.01354 *19* α(P)=0.001527 *22* Mult.: from ce measurements in ^{221}Ra α decay.
174.29	$(7/2,9/2,11/2)^+$	85.4 *3*	0.9 *3*	88.89	$(11/2^+)$			
		174.29 *6*	100 *10*	0.0	$9/2^+$	(M1)	2.71	α(K)=2.19 *3*; α(L)=0.396 *6*; α(M)=0.0940 *14*; α(N)=0.0245 *4*; α(O)=0.00536 *8* α(P)=0.000782 *11*
234.7	$(3/2^+)$	86.0 *5*	100	149.14	$5/2^+$			
374.90		140.3 *3*	20 *10*	234.7	$(3/2^+)$			
		225.7 *2*	100 *50*	149.14	$5/2^+$			
382.15	$(5/2^+,7/2,9/2^+)$	207.9 *2*	86 *30*	174.29	$(7/2,9/2,11/2)^+$			
		232.9 *3*	29 *15*	149.14	$5/2^+$			
		289.1 *3*	100 *30*	93.00	$(7/2^+)$			
		382.2 *3*	43 *15*	0.0	$9/2^+$			
474.5		474.5 *4*	100	0.0	$9/2^+$			
569.64		395.2 *3*	43 *15*	174.29	$(7/2,9/2,11/2)^+$			
		420.6 *2*	100 *30*	149.14	$5/2^+$			
		476.5 *4*	57 *22*	93.00	$(7/2^+)$			
618.8		444.3 *5*	100 *50*	174.29	$(7/2,9/2,11/2)^+$			
		469.7 *5*	75 *30*	149.14	$5/2^+$			
		525.8 *4*	75 *30*	93.00	$(7/2^+)$			

[†] From ^{221}Ra α decay.
[‡] From intensity balance in ^{221}Ra α decay, except where noted.

Adopted Levels, Gammas

Level Scheme

Intensities: Type not specified



$^{217}_{86}Rn_{131}$