$^{238}U(^{208}Pb,X\gamma)$ 2005La01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	A. Sonzogni, G. Mukherjee, H. Huang, A. Tarazaga,	NDS 114, 661 (2013)	28-Feb-2013

E=1360 MeV. Measured Eγ, Iγ, γγ, lifetimes with the Gammasphere array consisting of 101 Compton-suppressed Ge detectors.

^{211}Pb Levels

E(level)[#]	J^π	$T_{1/2}$	Comments
0.0	$9/2^+$		
733.70[†] *20*	$(13/2^+)$		
1055.7[†] *3*	$(17/2^+)$		
1193.1[†] *4*	$(21/2^+)$	42 ns *7*	
1679.1[‡] *4*	$(23/2^+)$		
1679.1+x[‡]	$(27/2^+)$	159 ns *28*	%IT=100 E(level): the measured lifetime agrees with that expected for a low-energy $27/2^+$ to $23/2^+$, E2 transition. This transition, however, was not observed by 2005La01. Additional information 1.
2851.0+x *5*	$(33/2^-)$	5.9 ns *6*	Possible configuration=$\nu(g_{9/2}i_{11/2}j_{15/2})$.
3414.4+x *7*	(33/2 to 37/2)		
4411.9+x *7*	$(39/2^+)$		Possible configuration=$\nu(i_{11/2}j^2_{15/2})$.
5557.4+x *9*	(39/2 to 43/2)		

[†] Member of configuration=$\nu g^3_{9/2}$.

[‡] Member of configuration=$\nu(g^2_{9/2}i_{11/2})$.

[#] From least-square fit to Eγ data.

γ(^{211}Pb)

E_γ	E_i(level)	J^π_i	E_f	J^π_f	Mult.	α[†]	Comments
x	1679.1+x	$(27/2^+)$	1679.1	$(23/2^+)$			
137.4 *2*	1193.1	$(21/2^+)$	1055.7	$(17/2^+)$	E2	1.72	α(exp)=1.4 *5* α(K)=0.371 *6*; α(L)=1.003 *16*; α(M)=0.264 *4*; α(N)=0.0667 *11*; α(O)=0.01194 *19* α(P)=0.000515 *8* B(E2)(W.u.)=1.36 *23*
322.0 *2*	1055.7	$(17/2^+)$	733.70	$(13/2^+)$	(E2)	0.0939	α(exp)<0.15 α(K)=0.0551 *8*; α(L)=0.0290 *5*; α(M)=0.00743 *11*; α(N)=0.00188 *3*; α(O)=0.000346 *5* α(P)=2.20×10^{-5} *4* Mult.: α(exp) allows E1 or E2, but ΔJ^π requires E2.
486.0 *2*	1679.1	$(23/2^+)$	1193.1	$(21/2^+)$			
563.4 *5*	3414.4+x	(33/2 to 37/2)	2851.0+x	$(33/2^-)$			
733.7 *2*	733.70	$(13/2^+)$	0.0	$9/2^+$			
1145.5 *5*	5557.4+x	(39/2 to 43/2)	4411.9+x	$(39/2^+)$			
1171.9 *5*	2851.0+x	$(33/2^-)$	1679.1+x	$(27/2^+)$	(E3)	0.01083	α(K)=0.00825 *12*; α(L)=0.00196 *3*; α(M)=0.000476 *7*; α(N)=0.0001211 *17*; α(O)=2.35×10^{-5} *4* α(P)=2.21×10^{-6} *4* B(E3)(W.u.)=25 *3* Mult.: from B(E3)(W.u.) = 25, a value closed to other B(E3)(W.u.) values in nearby nuclides.
1560.9 *5*	4411.9+x	$(39/2^+)$	2851.0+x	$(33/2^-)$	[E3]		

† Additional information 2.

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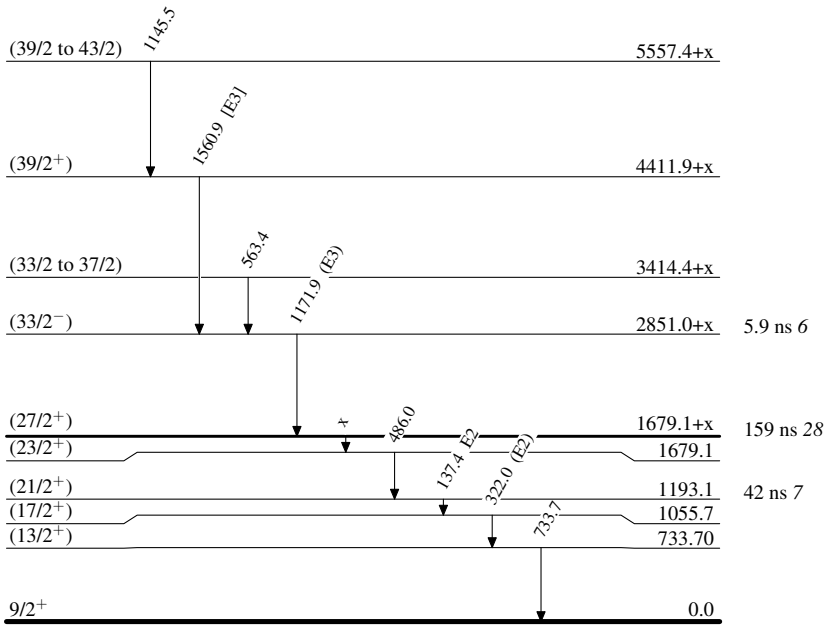
Level Scheme



$^{211}_{82}Pb_{129}$