^{128}La ε decay (5.18 min)

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Zoltan Elekes and Janos Timar	NDS 129, 191 (2015)	28-Feb-2015

Parent: ^{128}La: E=0.0; J$^{\pi}$=(5$^+$); $T_{1/2}$=5.18 min *14*; Q(ε)=6.75×10^3 *5*; %ε+%β^+ decay=100.0

1977Zo02: ^{118}Sn(^{14}N,4n) E=90 MeV, no chemical separation; measured Eγ, Iγ, $\gamma\gamma$ coincidence using Ge(Li), I(ce) using Si(Li), α; deduced levels, log *ft*, J, π.

1997Ha30: ^{115}In(^{16}O,3n), E(^{16}O)=61, 65, 69, 73 MeV, tape transport system, HPGe; measured E(γ), Iγ, $\gamma\gamma$ coincidence, $\gamma\gamma(\theta)$; excitation; deduced levels, log *ft*, J, π.

2002Wo10: ^{116}Sn(^{16}O,p3n), E(^{16}O)=100 MeV, tape transport system, 3 HPGe clover detectors; measured $\gamma\gamma(\theta)$, $\gamma\gamma(\theta)$(lin pol) using 3 HPGe clover detectors; deduced Mult., δ, J$^{\pi}$.

2001As02: ^{94}Mo(^{36}Ar,xpyn) and ^{nat}MO(^{36}Ar,xpyn), E(^{36}Ar)=195 MeV, separated TIARA-ISOL, tape transport system; measured $\gamma\gamma(\theta)$ using 5 n-type coaxial HPGe detectors; deduced Mult., δ, J$^{\pi}$.

α: Additional information 1.

^{128}Ba Levels

The decay scheme is that proposed by 1977Zo02 on the basis of $\gamma\gamma$ coincidence and Eγ sums. However, levels at 2009.0, 2669.6, 2721.5 and 3117.1, and their decay γ's are those from 1997Ha30. Levels at 943.0, 1320.9, 1709.9 and 2218.9, and their decay γ's are those from 2002Wo10. The level at 2627.3 in 1977Zo02 is split into two levels at 2625.7 and 2626.7 based on the decay scheme that was proposed by 1997Ha30.

E(level)†	J$^{\pi}$‡	$T_{1/2}$‡	Comments
0.0	0$^+$	2.43 d *5*	
284.09 *8*	2$^+$		
763.40 *11*	4$^+$		
884.57 *12*	2$^+$		
943.0 *8*	0$^+$		
1320.9 *4*	2$^+$		Iγ(378):Iγ(436):Iγ(558):Iγ(1037):Iγ(1321)=32 *5*:<12:7 *2*:100:31 *6* (2002Wo10).
1324.46 *15*	3$^+$		
1372.39 *13*	4$^+$		
1407.04 *19*	6$^+$		
1709.9 *6*	0$^+$		Iγ(389):Iγ(825):Iγ(1426)=<5:<9:100 (2002Wo10).
1799.62 *16*	4$^+$		
1833.81 *18*	4$^+$		
1907.6 *5*	4$^+$		
1931.42 *22*	5$^+$		
1939.33 *21*	6$^+$		
2009.0 *5*			
2039.46 *22*	(1$^+$ to 4$^+$)		
2039.55 *21*	5$^-$		
2175.7 *3*	(4 to 6)		
2192.6 *6*	(4$^+$)		
2203.38 *25*	(3$^-$,4$^+$)		
2218.9 *6*	0$^+$		
2246.8 *5*	(4 to 6$^+$)		
2395.5 *3*	(7)$^-$		
2412.7 *4*	7$^-$		
2425.52 *14*	(4$^-$,5$^+$)		
2451.4 *3*	(3$^-$ to 6$^+$)		
2474.1 *10*	(2$^+$ to 6$^+$)		
2531.6 *4*	(4$^+$ to 7$^-$)		
2571.5 *4*	(4$^+$ to 7$^-$)		
2627.0 *5*			

Continued on next page (footnotes at end of table)

^{128}La ε decay (5.18 min) (continued)

^{128}Ba Levels (continued)

E(level)[†]	J^{π}[‡]	E(level)[†]	J^{π}[‡]	E(level)[†]	J^{π}[‡]
2627.2 *5*		2746.3 *7*		2929.9 *6*	
2669.6 *6*		2848.7 *4*		2975.4 *7*	
2721.2 *3*	(5,6$^+$)	2878.38 *24*	(5$^-$,6$^+$)	2977.96 *24*	(4,5)
				3117.1 *6*	

† From a least-squares fit to the Eγ's.
‡ From Adopted Levels.

ε,β^+ radiations

E(decay)	E(level)	Iβ^+ [‡]	Iε[‡]	Log *ft*	I($\varepsilon+\beta^+$)[†‡]	Comments
(3.63×10^3 *5*)	3117.1	0.17 *3*	0.100 *15*	7.21 *8*	0.27 *4*	av Eβ=1179 *23*; εK=0.315 *12*; εL=0.0428 *16*; εM+=0.0119 *5*
(3.77×10^3 *5*)	2977.96	2.84 *9*	1.43 *7*	6.08 *4*	4.27 *11*	av Eβ=1243 *24*; εK=0.285 *11*; εL=0.0386 *15*; εM+=0.0107 *4*
(3.77×10^3 *5*)	2975.4	0.57 *9*	0.28 *4*	6.79 *8*	0.85 *13*	av Eβ=1244 *24*; εK=0.284 *11*; εL=0.0386 *15*; εM+=0.0107 *4*
(3.82×10^3 *5*)	2929.9	0.38 *3*	0.18 *1*	6.99 *5*	0.56 *4*	av Eβ=1266 *24*; εK=0.275 *11*; εL=0.0373 *14*; εM+=0.0104 *4*
(3.87×10^3 *5*)	2878.38	4.96 *12*	2.23 *9*	5.91 *4*	7.19 *12*	av Eβ=1289 *24*; εK=0.265 *10*; εL=0.0359 *14*; εM+=0.0100 *4*
(3.90×10^3 *5*)	2848.7	0.33 *6*	0.15 *2*	7.10 *8*	0.48 *8*	av Eβ=1303 *24*; εK=0.259 *10*; εL=0.0351 *14*; εM+=0.0098 *4*
(4.00×10^3 *5*)	2746.3	0.22 *6*	0.08 *3*	7.36 *14*	0.30 *9*	av Eβ=1351 *24*; εK=0.241 *9*; εL=0.0326 *12*; εM+=0.0091 *4*
(4.03×10^3 *5*)	2721.2	1.46 *17*	0.56 *7*	6.55 *6*	2.02 *23*	av Eβ=1362 *24*; εK=0.236 *9*; εL=0.0320 *12*; εM+=0.0089 *4*
(4.08×10^3 *5*)	2669.6	0.37 *3*	0.13 *1*	7.18 *5*	0.50 *4*	av Eβ=1386 *24*; εK=0.228 *9*; εL=0.0308 *12*; εM+=0.0086 *4*
(4.12×10^3 *5*)	2627.2	2.07 *11*	0.73 *5*	6.46 *4*	2.80 *14*	av Eβ=1406 *24*; εK=0.221 *8*; εL=0.0299 *11*; εM+=0.0083 *3*
(4.12×10^3 *5*)	2627.0	0.76 *5*	0.264 *21*	6.90 *5*	1.02 *7*	av Eβ=1406 *24*; εK=0.221 *8*; εL=0.0299 *11*; εM+=0.0083 *3*
(4.18×10^3 *5*)	2571.5	0.76 *5*	0.252 *18*	6.93 *4*	1.01 *6*	av Eβ=1432 *24*; εK=0.212 *8*; εL=0.0287 *11*; εM+=0.0080 *3*
(4.22×10^3 *5*)	2531.6	0.40 *5*	0.13 *2*	7.23 *6*	0.53 *6*	av Eβ=1451 *24*; εK=0.206 *8*; εL=0.0279 *11*; εM+=0.0078 *3*
(4.28×10^3 *5*)	2474.1	0.28 *7*	0.086 *21*	7.41 *11*	0.37 *9*	av Eβ=1477 *24*; εK=0.198 *8*; εL=0.0268 *10*; εM+=0.0075 *3*
(4.30×10^3 *5*)	2451.4	2.28 *7*	0.67 *3*	6.52 *4*	2.95 *8*	av Eβ=1488 *24*; εK=0.195 *7*; εL=0.0264 *10*; εM+=0.0073 *3*
(4.32×10^3 *5*)	2425.52	16.4 *3*	4.76 *18*	5.68 *3*	21.20 *24*	av Eβ=1500 *24*; εK=0.192 *7*; εL=0.0259 *10*; εM+=0.0072 *3*
(4.34×10^3 *5*)	2412.7	0.79 *4*	0.227 *14*	7.01 *4*	1.02 *5*	av Eβ=1506 *24*; εK=0.190 *7*; εL=0.0257 *10*; εM+=0.0071 *3*
(4.35×10^3 *5*)	2395.5	0.6 *5*	0.2 *1*	7.1 *4*	0.8 *6*	av Eβ=1514 *24*; εK=0.188 *7*; εL=0.0254 *9*; εM+=0.0071 *3*
(4.50×10^3 *5*)	2246.8	0.85 *10*	0.210 *25*	7.07 *6*	1.06 *12*	av Eβ=1584 *24*; εK=0.169 *6*; εL=0.0229 *8*; εM+=0.00637 *23*
(4.55×10^3 *5*)	2203.38	1.50 *7*	0.359 *22*	6.85 *4*	1.86 *9*	av Eβ=1604 *24*; εK=0.164 *6*; εL=0.0222 *8*; εM+=0.00618 *22*
(4.56×10^3 *5*)	2192.6	0.46 *9*	0.11 *2*	7.37 *9*	0.57 *11*	av Eβ=1609 *24*; εK=0.163 *6*; εL=0.0221 *8*;

Continued on next page (footnotes at end of table)

^{128}La ε decay (5.18 min) (continued)

ϵ,β^+ radiations (continued)

E(decay)	E(level)	Iβ^+ ‡	Iε‡	Log *ft*	I($\varepsilon+\beta^+$)†‡	Comments
						εM+=0.00614 *22*
(4.57×10^3 *5*)	2175.7	1.71 *11*	0.40 *3*	6.81 *4*	2.11 *14*	av Eβ=1617 *24*; εK=0.161 *6*; εL=0.0218 *8*; εM+=0.00607 *21*
(4.71×10^3 *5*)	2039.55	4.67 *12*	0.98 *4*	6.44 *3*	5.65 *14*	av Eβ=1681 *24*; εK=0.147 *5*; εL=0.0199 *7*; εM+=0.00553 *19*
(4.81×10^3 *5*)	1939.33	1.82 *14*	0.35 *3*	6.91 *5*	2.17 *17*	av Eβ=1728 *24*; εK=0.138 *5*; εL=0.0186 *7*; εM+=0.00518 *18*
(4.82×10^3 *5*)	1931.42	1.28 *12*	0.246 *24*	7.06 *5*	1.53 *14*	av Eβ=1732 *24*; εK=0.137 *5*; εL=0.0185 *7*; εM+=0.00515 *18*
(4.84×10^3 *5*)	1907.6	1.32 *13*	0.249 *25*	7.06 *5*	1.57 *15*	av Eβ=1743 *24*; εK=0.135 *5*; εL=0.0182 *6*; εM+=0.00507 *17*
(4.92×10^3 *5*)	1833.81	1.06 *14*	0.19 *3*	7.20 *7*	1.25 *17*	av Eβ=1778 *24*; εK=0.129 *5*; εL=0.0174 *6*; εM+=0.00483 *16*
(4.95×10^3 *5*)	1799.62	2.51 *11*	0.434 *24*	6.84 *4*	2.94 *13*	av Eβ=1794 *24*; εK=0.126 *5*; εL=0.0170 *6*; εM+=0.00473 *16*
(5.34×10^3 *5*)	1407.04	2.7 *5*	0.36 *7*	6.99 *9*	3.1 *6*	av Eβ=1979 *24*; εK=0.099 *3*; εL=0.0133 *4*; εM+=0.00370 *12*
(5.38×10^3 *5*)	1372.39	4.6 *3*	0.59 *4*	6.78 *4*	5.2 *3*	av Eβ=1996 *24*; εK=0.097 *3*; εL=0.0130 *4*; εM+=0.00363 *11*
(5.99×10^3 *5*)	763.40	6.9 *4*	0.60 *4*	6.86 *4*	7.5 *4*	av Eβ=2286 *24*; εK=0.0684 *19*; εL=0.0092 *3*; εM+=0.00256 *7*

† Level feedings have been calculated by the evaluator assuming no $\varepsilon+\beta^+$ feeding to g.s..
‡ For absolute intensity per 100 decays, multiply by 1.18 *2*.

^{128}La ε decay (5.18 min) (continued)

$\gamma(^{128}Ba)$

Iγ normalization: no direct $\varepsilon+\beta^+$ decay to g.s. was assumed from spin difference.

E_γ[†]	I_γ[‡d]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[b]	δ[c]	α	Comments
249.8[&] 5	0.38 4	2425.52	$(4^-,5^+)$	2175.7	(4 to 6)				
284.10 8	100.0 4	284.09	2^+	0.0	0^+	E2		0.0538	K/L+=3.7 6 (1966Li04).
315.8 6	0.63 12	2246.8	(4 to 6^+)	1931.42	5^+				
357[&] 1		2395.5	$(7)^-$	2039.55	5^-				E_γ: from authors′ drawing. Not reported in (1977Zo02).
378[#]		1320.9	2^+	943.0	0^+				
386.0 3	1.81 4	2425.52	$(4^-,5^+)$	2039.46	(1^+ to 4^+)				
389[#]		1709.9	0^+	1320.9	2^+				
392[#]	<0.06[@]	1799.62	4^+	1407.04	6^+				
412.0 5	1.06 4	2451.4	(3^- to 6^+)	2039.55	5^-				
427.4 3	0.80 4	1799.62	4^+	1372.39	4^+				
436[#]		1320.9	2^+	884.57	2^+				
439.9 3	2.17 4	1324.46	3^+	884.57	2^+	M1+E2		0.0181	Mult.: from (1040γ)(284γ)(θ) and (561γ)(479γ)(θ) (1997Ha30).
451.6 7	0.29 6	2627.0		2175.7	(4 to 6)				
461[#]	<0.095[@]	1833.81	4^+	1372.39	4^+				
475.4 5	1.08 5	1799.62	4^+	1324.46	3^+	M1+E2	+2.0 +10−5	0.0121 5	δ: from 2002Wo10. (475γ)(1040γ)(θ): A_2=+0.16 3, A_4=+0.10 5 (2002Wo10).
479[#]	0.25[@] 8	1799.62	4^+	1320.9	2^+				
479.31 10	58.3 2	763.40	4^+	284.09	2^+	E2		0.01108	α(K)exp=0.0088 7 (479γ)(284γ)(θ): A_2=+0.107 5, A_4=+0.016 8; A_2=+0.100 4, A_4=+0.016 7 (2001As02).
483.1 4	0.77 3	2878.38	$(5^-,6^+)$	2395.5	$(7)^-$				
487.9 2	10.9 1	1372.39	4^+	884.57	2^+	E2		0.01055	α(K)exp=0.0102 25 (488γ)(884γ)(θ): A_2=+0.120 15, A_4=+0.003 22 (2002Wo10).
491.7[&] 5	0.57 3	2531.6	(4^+ to 7^-)	2039.55	5^-				
493.9 4	1.24 3	2425.52	$(4^-,5^+)$	1931.42	5^+				
509[#]	<0.4[@]	1833.81	4^+	1324.46	3^+				
513[#]	<0.8[@]	1833.81	4^+	1320.9	2^+				
531.3[&] 5	<0.45	1939.33	6^+	1407.04	6^+				E_γ: not reported in 1977Zo02.
531.7 4	0.40 5	2571.5	(4^+ to 7^-)	2039.55	5^-				
558[#]		1320.9	2^+	763.40	4^+				
561.0 3	0.99 3	1324.46	3^+	763.40	4^+	M1+E2	+3.7 +25−12	0.00740 22	δ: from 2002Wo10. (561γ)(479γ)(θ): A_2=−0.18 4, A_4=−0.12 5 (2002Wo10).

^{128}La ε decay (5.18 min) (continued)

$\gamma(^{128}Ba)$ (continued)

E_γ[†]	I_γ[‡d]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[b]	δ[c]	α	Comments
567.0 *2*	4.08 *6*	1939.33	6^+	1372.39	4^+	E2		0.00702	Mult.: from (567γ)(488γ)(θ) and (567γ)(1088γ)(θ) (1997Ha30).
570.6 *6*	0.34 *10*	2746.3		2175.7	(4 to 6)				I_γ: from 1977Zo02.
587.3 *5*	0.87 *5*	2627.0		2039.55	5^-				
591.7 *4*	1.00 *4*	2425.52	$(4^-,5^+)$	1833.81	4^+				
600.5 *2*	10.9 *1*	884.57	2^+	284.09	2^+	M1+E2	+13 *+16−4*	0.00606	α(K)exp=0.0058 *23* δ: from 2002Wo10. Other: 1/δ=0.002 *17* (2001As02). (601γ)(284γ)(θ): A_2=−0.12 *2*, A_4=+0.29 *4* (2002Wo10); A_2=−0.093 *15*, A_4=+0.36 *3* (2001As02).
606.9 *4*	2.21 *4*	1931.42	5^+	1324.46	3^+				
609.0 *3*	8.61 *7*	1372.39	4^+	763.40	4^+	M1+E2	−14 *+8−16*	0.00584 *10*	α(K)exp=0.0037 *24* δ: from 2002Wo10. Others: −19 *+11−∞* (2001As02). (609γ)(284γ)(θ): A_2=−0.09 *3*, A_4=+0.13 *4* (2002Wo10). (609γ)(479γ)(θ): A_2=−0.12 *2*, A_4=+0.15(3) (2002Wo10); A_2=−0.104 *18*, A_4=+0.16 *3* (2001As02).
626.0 *2*	3.86 *4*	2425.52	$(4^-,5^+)$	1799.62	4^+				
632.5 *2*	6.23 *6*	2039.55	5^-	1407.04	6^+	E1		0.00192	α(K)exp=0.0079 *32* Mult.: from (HI,xnγ), contradicts with α(K)exp.
643.6 *2*	15.1 *1*	1407.04	6^+	763.40	4^+	E2		0.00506	α(K)exp=0.0054 *17*
659[#]		943.0	0^+	284.09	2^+	E2		0.00477	(659γ)(284γ)(θ): A_2=+0.36 *7*, A_4=+1.05 *13* (2002Wo10). (659γ)(284γ)(θ lin pol) also measured by 2002Wo10.
673.0 *4*	0.35 *4*	2848.7		2175.7	(4 to 6)				
[x]675.7[a] *4*	0.69 *14*								
681.9 *4*	0.62 *5*	2721.2	$(5,6^+)$	2039.55	5^-				E_γ: unplaced γ in 1977Zo02.
715.2 *5*	0.50 *5*	2039.46	$(1^+$ to $4^+)$	1324.46	3^+				
774.8 *4*	1.32 *4*	2977.96	(4,5)	2203.38	$(3^-,4^+)$				
781.8[a] *5*	0.39 *12*	2721.2	$(5,6^+)$	1939.33	6^+				
793.5 *7*	1.83 *15*	2627.2		1833.81	4^+				
825[#]		1709.9	0^+	884.57	2^+				
[x]827.9[a] *4*	1.02 *11*								
830[&e] *1*		2203.38	$(3^-,4^+)$	1372.39	4^+				E_γ: from authors′ drawing. Not reported in 1977Zo02.
838.9 *4*	1.06 *6*	2878.38	$(5^-,6^+)$	2039.55	5^-				
884.5 *2*	8.1 *8*	884.57	2^+	0.0	0^+	E2		0.00237	Mult.: from adopted gammas.
898[#]		2218.9	0^+	1320.9	2^+				Iγ(898):Iγ(1334):Iγ(1935)=<10:<21:100 (2002Wo10).
915.0 *3*	3.14 *5*	1799.62	4^+	884.57	2^+				
938.9 *3*	2.66 *5*	2878.38	$(5^-,6^+)$	1939.33	6^+				
949[#]	<0.05[@]	1833.81	4^+	884.57	2^+				
988.6 *4*	1.7 *6*	2395.5	$(7)^-$	1407.04	6^+				

$^{128}_{56}Ba_{72}$-5

^{128}La ε decay (5.18 min) (continued)

γ(^{128}Ba) (continued)

E_γ[†]	I_γ[‡d]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[b]	δ[c]	α	Comments
1005.7 *3*	1.16 *5*	2412.7	7⁻	1407.04	6⁺				
1036.3 *3*	1.69 *5*	1799.62	4⁺	763.40	4⁺	D			Mult.: from (1036γ)(479γ)(θ) (1997Ha30).
1037[#]		1320.9	2⁺	284.09	2⁺				
1040.4 *2*	10.3 *1*	1324.46	3⁺	284.09	2⁺	M1+E2	+4 *+2−1*	0.00170 *4*	δ: from 2002Wo10. Other: +6.7 *+80−25* (2001As02). (1040γ)(284γ)(θ): A_2=−0.032 *13*, A_4=−0.099 *21* (2002Wo10); A_2=−0.081 *17*, A_4=−0.10 *3* (2001As02).
[x]1045.7 *5*	1.07 *14*								
1046.4[&] *5*	0.22 *6*	2977.96	(4,5)	1931.42	5⁺				
1049.1 *7*	0.19 *8*	2848.7		1799.62	4⁺				
1053.15 *20*	10.0 *1*	2425.52	(4⁻,5⁺)	1372.39	4⁺	D+Q			Mult.: ΔJ=0,1 from (1053γ)(487.8γ)(θ) and (1053γ)(1088γ)(θ) (1997Ha30).
1070.4 *2*	4.77 *7*	1833.81	4⁺	763.40	4⁺	M1+E2	+0.65 *10*	0.00197 *5*	δ: from γγ(θ) and (γ)(γ)(θ lin pol) results of 2002Wo10. (1070γ)(284γ)(θ): A_2=−0.033 *22*, A_4=+0.09 *4* (2002Wo10).
1079.0 *3*	1.78 *5*	2451.4	(3⁻ to 6⁺)	1372.39	4⁺				
1088.2 *2*	8.75 *9*	1372.39	4⁺	284.09	2⁺	E2		1.51×10^{-3}	(1088γ)(284γ)(θ): A_2=+0.107 *12*, A_4=+0.009 *20* (2002Wo10).
1096.1[&] *5*	0.64 *4*	2929.9		1833.81	4⁺				
1100.9 *3*	4.76 *7*	2425.52	(4⁻,5⁺)	1324.46	3⁺				
1124.9 *5*	1.17 *6*	2531.6	(4⁺ to 7⁻)	1407.04	6⁺				
1143.8[&] *5*	1.45 *5*	2977.96	(4,5)	1833.81	4⁺				
1144.2 *4*	1.78 *17*	1907.6	4⁺	763.40	4⁺				I_γ: from 1977Zo02.
1154.3[&] *5*	0.40 *4*	2039.46	(1⁺ to 4⁺)	884.57	2⁺				
1164.9 *5*	0.75 *4*	2571.5	(4⁺ to 7⁻)	1407.04	6⁺				
1168.0 *3*	1.62 *5*	1931.42	5⁺	763.40	4⁺				
1176.5 *10*	1.21 *4*	1939.33	6⁺	763.40	4⁺				
1276.1 *5*	4.76 *7*	2039.55	5⁻	763.40	4⁺				
1302.6 *6*	1.35 *4*	2627.2		1324.46	3⁺				
1318.9 *6*	0.69 *5*	2203.38	(3⁻,4⁺)	884.57	2⁺				
1321[#]		1320.9	2⁺	0.0	0⁺				
1334[#]		2218.9	0⁺	884.57	2⁺				
1348.4[a] *6*	0.68 *21*	2721.2	(5,6⁺)	1372.39	4⁺				
1412.3 *3*	3.75 *7*	2175.7	(4 to 6)	763.40	4⁺				
1426[#]		1709.9	0⁺	284.09	2⁺				
1440.0 *5*	1.58 *5*	2203.38	(3⁻,4⁺)	763.40	4⁺				
1482.8 *7*	0.57 *5*	2246.8	(4 to 6⁺)	763.40	4⁺				
1505.9 *4*	3.67 *7*	2878.38	(5⁻,6⁺)	1372.39	4⁺	E2,D			Mult.: from (1505.9γ)(487.8γ)(θ) (1997Ha30).
1515.3 *7*	0.68 *4*	1799.62	4⁺	284.09	2⁺				
1549.7 *4*	1.57 *4*	1833.81	4⁺	284.09	2⁺				
1605.4 *4*	1.43 *6*	2977.96	(4,5)	1372.39	4⁺				

From ENSDF

$^{128}_{56}Ba_{72}$-6

^{128}La ε decay (5.18 min) (continued)

γ(^{128}Ba) (continued)

E_γ [†]	I_γ [‡d]	E_i(level)	J_i^π	E_f	J_f^π	Comments
1654.1 *7*	0.43 *4*	2977.96	(4,5)	1324.46	3^+	
1662.3 *5*	0.98 *5*	2425.52	(4^-,5^+)	763.40	4^+	
1688.2 *10*	0.51 *4*	2451.4	(3^- to 6^+)	763.40	4^+	
1710.0[&] *5*	0.31 *4*	3117.1		1407.04	6^+	
1710.7 *10*	0.42 *10*	2474.1	(2^+ to 6^+)	763.40	4^+	
[x]1722.8[a] *9*	0.35 *13*					
1724.9[&] *5*	0.61 *5*	2009.0		284.09	2^+	
[x]1726.6 *7*	0.71 *20*					
1755.5 *4*	1.12 *5*	2039.46	(1^+ to 4^+)	284.09	2^+	
1906.2[&] *5*	0.57 *4*	2669.6		763.40	4^+	
1908.5 *6*	0.65 *12*	2192.6	(4^+)	284.09	2^+	I_γ: from 1977Zo02.
1919.6 *4*	1.16 *5*	2203.38	(3^-,4^+)	284.09	2^+	
1935[#]		2218.9	0^+	284.09	2^+	
1957.7 *8*	0.60 *10*	2721.2	(5,6^+)	763.40	4^+	
[x]2025.5[a] *8*	0.39 *12*					
[x]2177.6[a] *7*	0.50 *10*					
[x]2191.0[a] *8*	0.37 *14*					
2212.0 *6*	0.97 *14*	2975.4		763.40	4^+	I_γ: from 1977Zo02.

† From 1977Zo02, unless otherwise noted.
‡ From 1997Ha30, unless otherwise noted. Relative to I(284.10γ)=100.
\# From 2002Wo10.
@ Deduced from branching given by 2002Wo10.
& From 1997Ha30.
a Tentatively assigned to ^{128}La ε decay (1977Zo02). Iγ from 1977Zo02.
b From α(exp) in 1977Zo02 or from $(γ)(γ)(θ) (and (γ)(γ)(θ lin pol)) in 2002Wo10, unless otherwise noted.
c If No value given it was assumed δ=0.10 for E2/M1, δ=1.00 for E3/M2 and δ=0.10 for the other multipolarities.
d For absolute intensity per 100 decays, multiply by 0.881 *8*.
e Placement of transition in the level scheme is uncertain.
x γ ray not placed in level scheme.

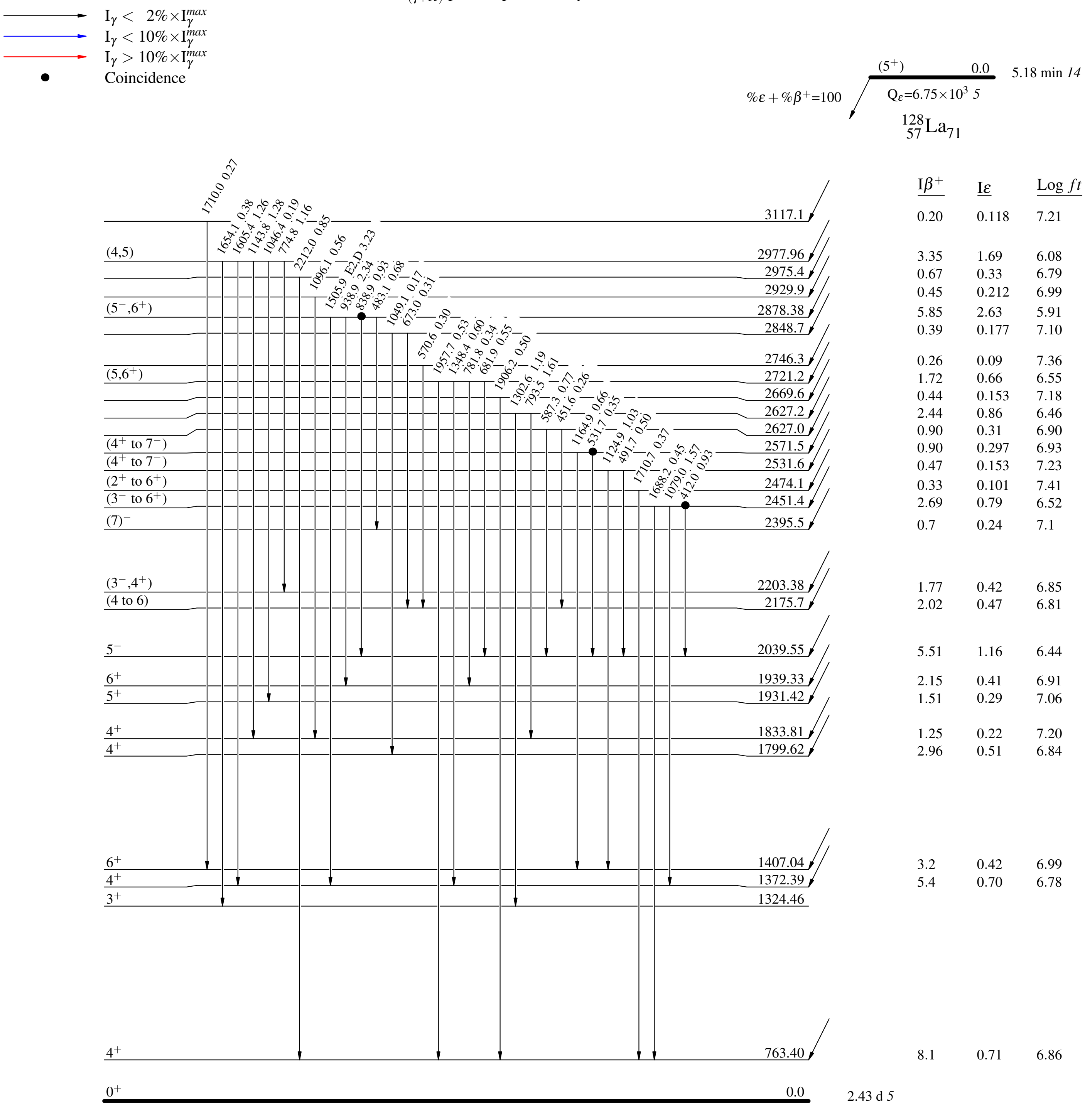
From ENSDF

$^{128}_{56}Ba_{72}$-7

^{128}La ε decay (5.18 min)

Decay Scheme

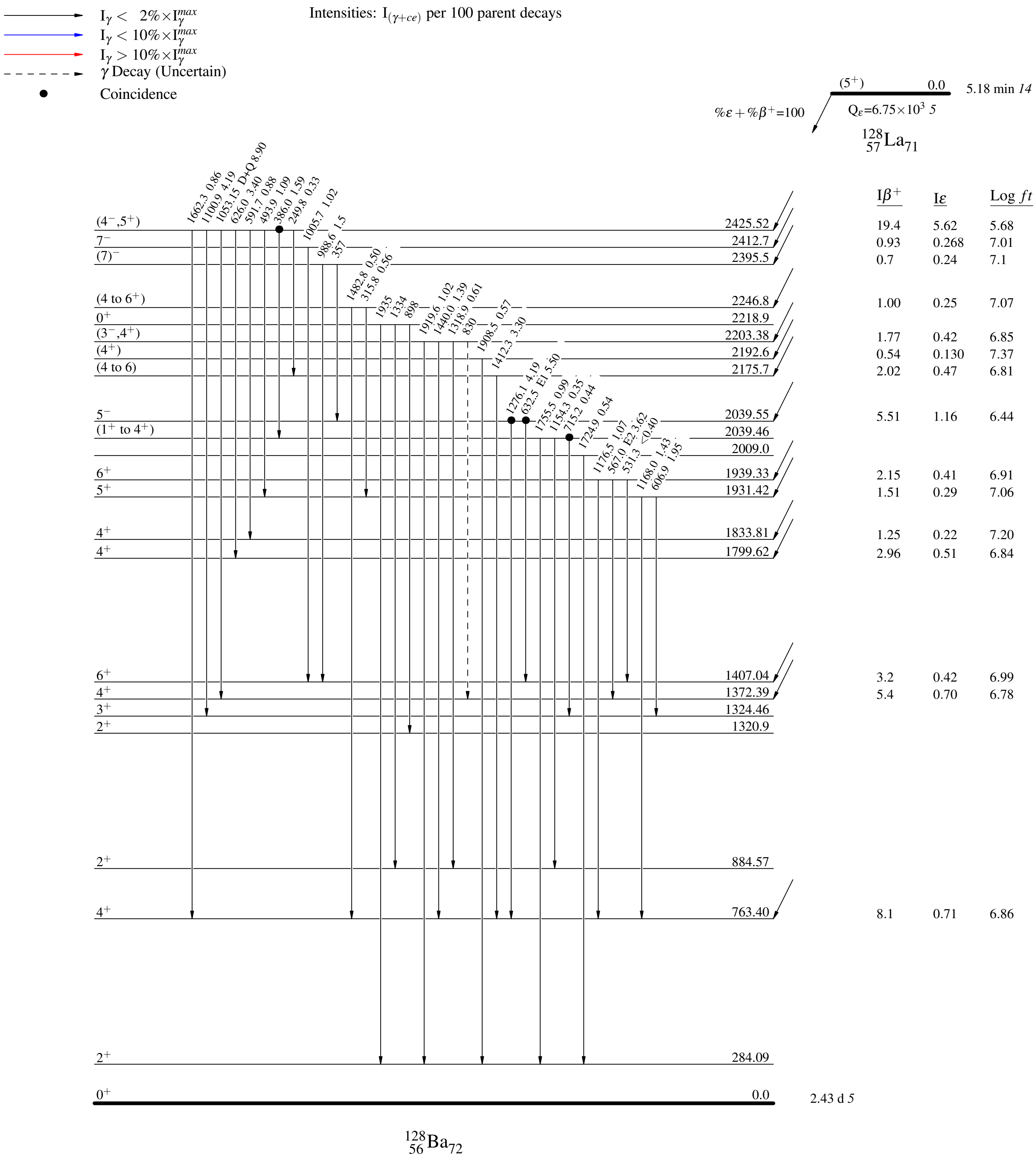
Intensities: $I_{(\gamma+ce)}$ per 100 parent decays



^{128}La ε decay (5.18 min)

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays



Level (keV)	J^π	Iβ+	Iε	Log ft
2425.52	(4−,5+)	19.4	5.62	5.68
2412.7	7−	0.93	0.268	7.01
2395.5	(7)−	0.7	0.24	7.1
2246.8	(4 to 6+)	1.00	0.25	7.07
2218.9	0+			
2203.38	(3−,4+)	1.77	0.42	6.85
2192.6	(4+)	0.54	0.130	7.37
2175.7	(4 to 6)	2.02	0.47	6.81
2039.55	5−	5.51	1.16	6.44
2039.46	(1+ to 4+)			
2009.0				
1939.33	6+	2.15	0.41	6.91
1931.42	5+	1.51	0.29	7.06
1833.81	4+	1.25	0.22	7.20
1799.62	4+	2.96	0.51	6.84
1407.04	6+	3.2	0.42	6.99
1372.39	4+	5.4	0.70	6.78
1324.46	3+			
1320.9	2+			
884.57	2+			
763.40	4+	8.1	0.71	6.86
284.09	2+			
0.0	0+			

^{128}La ε decay (5.18 min)