Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	D. Abriola(a), A. A. Sonzogni	NDS 107,2423 (2006)	1-Jan-2006

Q(β^-)=4918 *7*; S(n)=6197 *13*; S(p)=9556 *10*; Q(α)=−5413 *10* 2012Wa38
Note: Current evaluation has used the following Q record 4918 7 *6197* 139553 10-5412 10 2003Au03.

^{94}Y Levels

Cross Reference (XREF) Flags

- A ^{94}Sr β^- decay
- B ^{96}Zr(d,α)
- C ^{96}Zr(^{3}He,αp)
- D ^{94}Y IT decay

E(level)[†]	J$^\pi$	T$_{1/2}$	XREF	Comments
0.0	2$^-$	18.7 min *1*	ABCD	%β^-=100 J$^\pi$: log $f^{1u}t$=8.9 to 0$^+$. Spectrum has unique-forbidden shape (1971Ca34). T$_{1/2}$: from 18.6 min *2* (1976Si11), and 18.7 min *1* (1971Ca34). These two values are measured by following the 919 γ in ^{94}Zr. Other T$_{1/2}$ deduced from integral γ or β measurements: 16.3 min *2* (1974Gr29), 19.7 min *5* (1973Si43), 19.4 min *5* (1972Eh02), 18.7 min *2* (1971Ca34), 19.9 min *5* (1966No08), 20.35 min *20* (1961Fr03).
432.3 *1*	(3$^-$)[‡]		ABCD	XREF: B(440)C(440). J$^\pi$: from analysis of IAS decay in (^{3}He,αp). Also 1974Gi09 deduce (3$^-$) by comparison of (d,α) angular distribution with the 3$^-$ state at 200 keV in ^{90}Y. In conflict with this assignment, 1974Su06 give L(d,α)=2.
621.70 *7*	(2,3$^+$)		A	J$^\pi$: No direct β^- decay from 0$^+$ parent, γ from 1$^+$ and γ to 2$^-$.
723.80 *7*	(1$^-$)		A C	XREF: C(730). J$^\pi$: from IAS decay analysis in ^{96}Zr(^{3}He,αp).
906.91 *8*	(2$^-$,3$^-$)		A C	XREF: C(910). J$^\pi$: from IAS decay analysis in ^{96}Zr(^{3}He,αp).
1.17×10^3 *1*	(2$^-$)[‡]		BC	
1202.3	(5$^+$)	1.35 μs *2*	D	J$^\pi$: from possible (E3) γ to 2$^-$ and (M2) γ to (3$^-$) compatible with shell model calculations and comparison with nearby nuclei. T$_{1/2}$: from ^{94}Y IT decay (1999Ge01).
1.39×10^3 *1*	(2$^-$,3$^-$,4$^-$)[‡]		BC	XREF: C(1380).
1427.71 *7*	1$^+$		A	J$^\pi$: log *ft*=4.4 in β^- decay of 0$^+$ parent.
1437.01 *13*	(0$^-$,1$^-$)		A	J$^\pi$: log *ft*=7.1 in β^- decay of 0$^+$ parent.
1.53×10^3 *1*			B	
1.82×10^3 *1*			B	
1.90×10^3 *2*			B	
2182.42 *13*	1$^+$		AB	XREF: B(2.17E+3). J$^\pi$: log *ft*=5.7 in β^- decay of 0$^+$ parent, γ to 2$^-$ g.s.
2.33×10^3 *2*			B	
2373.02 *16*	(0$^-$,1$^-$)		A	J$^\pi$: log *ft*=6.3 in β^- decay of 0$^+$ parent.
2.46×10^3 *2*			B	
2.77×10^3 *3*			B	
2969.93 *22*	1$^+$		A	J$^\pi$: log *ft*=5.3 from 0$^+$.
3.0×10^3?			B	
3.3×10^3?			B	
4.0×10^3?			B	
4.1×10^3?			B	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{94}Y Levels (continued)

E(level)†	XREF
4.5×10^3?	B
4.9×10^3?	B
5.9×10^3?	B

† From β^- decay. Those not seen in β^- decay are from (d,α).
‡ From analysis of IAS decay in (^{3}He,αp).

$\gamma(^{94}Y)$

E_i(level)	J_i^π	E_γ†	I_γ	E_f	J_f^π	Mult.‡	Comments
432.3	(3$^-$)	432.2	100	0.0	2$^-$		
621.70	(2,3$^+$)	621.7 *1*	100.0	0.0	2$^-$		
723.80	(1$^-$)	102.1 *1*	0.27 *8*	621.70	(2,3$^+$)		
		723.8 *1*	100 *6*	0.0	2$^-$		
906.91	(2$^-$,3$^-$)	906.9 *1*	100.0	0.0	2$^-$		
1202.3	(5$^+$)	769.9	100	432.3	(3$^-$)	(M2)	B(M2)(W.u.)=0.00349 *6*
		1202.4	17.6	0.0	2$^-$	(E3)	B(E3)(W.u.)=0.0706 *12*
1427.71	1$^+$	520.8 *1*	0.16 *4*	906.91	(2$^-$,3$^-$)		
		703.9 *1*	2.26 *13*	723.80	(1$^-$)		
		806.0 *1*	1.86 *13*	621.70	(2,3$^+$)		
		1427.7 *1*	100.0	0.0	2$^-$		
1437.01	(0$^-$,1$^-$)	530.1 *1*	100.0	906.91	(2$^-$,3$^-$)		
2182.42	1$^+$	754.7 *2*	21 *9*	1427.71	1$^+$		
		1560.7 *2*	11 *3*	621.70	(2,3$^+$)		
		2182.4 *2*	100 *17*	0.0	2$^-$		
2373.02	(0$^-$,1$^-$)	1649.2 *2*	1.0×10^2 *3*	723.80	(1$^-$)		
		1751.3 *2*	79 *23*	621.70	(2,3$^+$)		
2969.93	1$^+$	2063.0 *3*	89 *33*	906.91	(2$^-$,3$^-$)		
		2246.1 *3*	100 *33*	723.80	(1$^-$)		

† From β^- decay.
‡ From ^{94}Y IT decay.

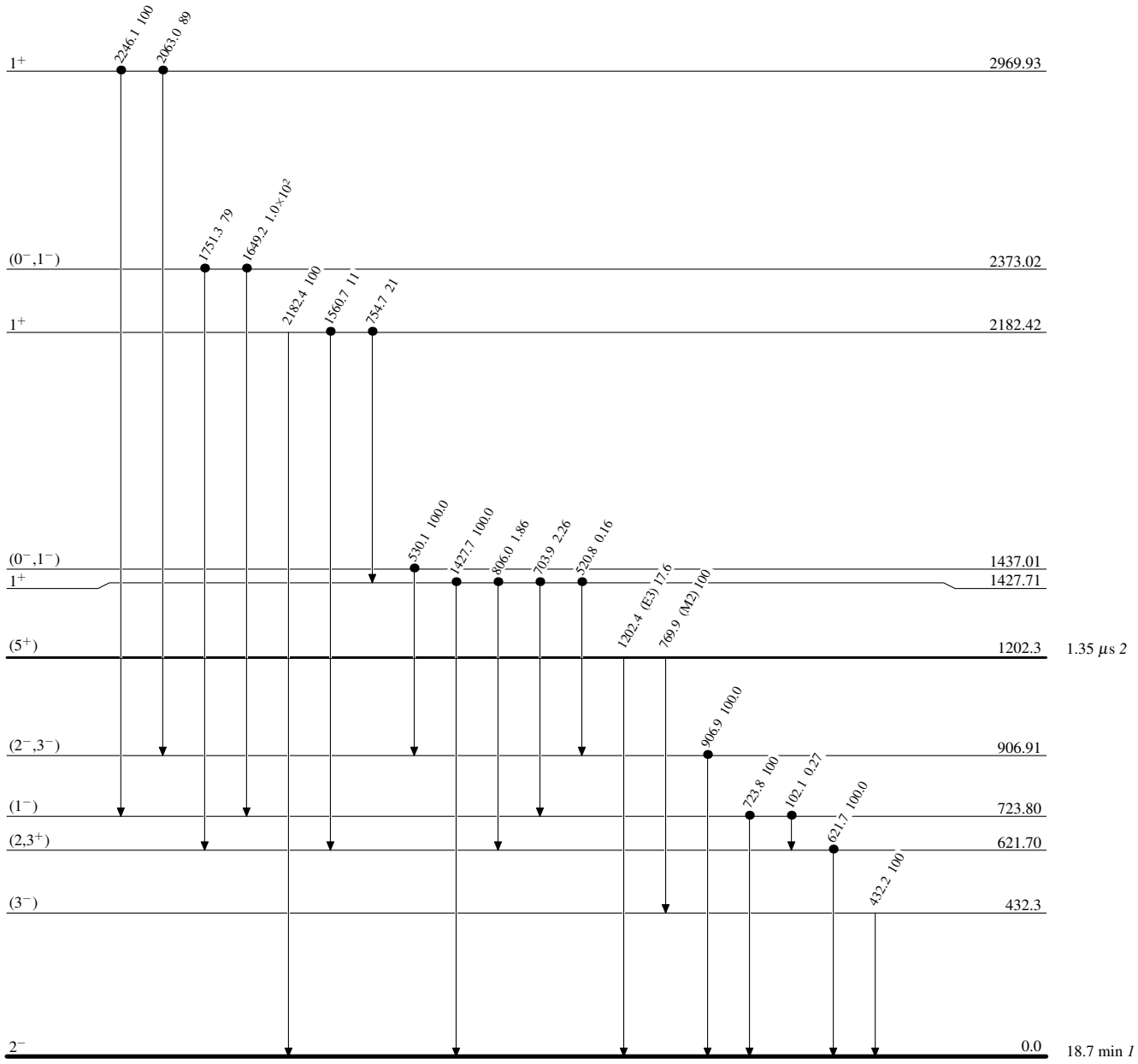
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

● Coincidence



$^{94}_{39}Y_{55}$