^{96}Sr β^- decay 1981Ju02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	D. Abriola(a), A. A. Sonzogni	NDS 109, 2501 (2008)	1-Apr-2008

Parent: ^{96}Sr: E=0; $J^\pi=0^+$; $T_{1/2}$=1.07 s *1*; Q(β^-)=5415 *12*; %β^- decay=100.0

Measured: γ, $\gamma\gamma$, $\gamma\gamma(\theta)$, ce (1981Ju02); γ, $\beta\gamma$ ((1975Ba36,1975Gu03); γ(1979Bo26); $\beta\gamma$ (1980De02,1979Pe17,1978St02).

α: Additional information 1.

α: Additional information 2.

α: Additional information 3.

^{96}Y Levels

β-decays of ^{96}Y were reported with two half-lives. However, it is not known which is due to the ground state, or how large the excitation energy is.

E(level)	J^π	$T_{1/2}$[†]
0.0	0^-	5.34 s *5*
122.297 *3*	1^-	203 ps *6*
652.29 *6*	2^-	≤21 ps
718.70 *8*	$1^{(+)},2^{(+)}$	
931.70 *3*	1^+	≤21 ps
1287.89 *17*	0,1	
1983.58 *18*	1^+	

[†] $T_{1/2}$<0.5 ns has been found for all γ's.

β^- radiations

E(decay)	E(level)	Iβ^-[†‡]	Log *ft*	Comments
(3431 *12*)	1983.58	3.4 *4*	4.92 *6*	av Eβ=1471.6 *58*
(4127 *12*)	1287.89	0.27 *9*	6.37 *15*	av Eβ=1804.3 *58*
(4483 *12*)	931.70	92 *3*	3.997 *16*	av Eβ=1975.2 *58*
(4696[#] *12*)	718.70	0.13 *22*	6.9 *8*	av Eβ=2077.6 *58*
(4763[#] *12*)	652.29	0.5 *6*	8.1[1u] *6*	av Eβ=2103.7 *58*
(5293[#] *12*)	122.297	2.4 *29*	5.9 *6*	av Eβ=2364.5 *58*
(5415[#] *12*)	0.0	<2.6	>5.9	av Eβ=2423.4 *58* Iβ^-: if log *ft*>5.9.

[†] From intensity imbalance.

[‡] Absolute intensity per 100 decays.

[#] Existence of this branch is questionable.

^{96}Sr β^- decay 1981Ju02 (continued)

$\gamma(^{96}Y)$

Iγ normalization: If %Iβ(g.s.)=1.3 *13* as deduced from log *ft*>5.9.

E_γ[‡]	I_γ[a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†@]	δ[&]	α	Comments
122.297[#] *3*	100.00 *5*	122.297	1^-	0.0	0^-	M1		0.1043	α(K)=0.0917 *13*; α(L)=0.01053 *15*; α(M)=0.00180 *3*; α(N)=0.000242 *4*; α(O)=1.650×10^{-5} *23* α(N+..)=0.000258 *4* Mult.: α(K)exp=0.088 *10*.
213.0 *1*	1.0 *2*	931.70	1^+	718.70	$1^{(+)},2^{(+)}$	M1(+E2)	0.0 *4*	0.024 *6*	α(K)=0.021 *6*; α(L)=0.0024 *8*; α(M)=0.00041 *13*; α(N)=5.5×10^{-5} *16*; α(O)=3.8×10^{-6} *8* α(N+..)=5.8×10^{-5} *17* Mult.: α(K)exp=0.021 *6*. δ: from α(K)exp only.
279.4 *1*	10.8 *5*	931.70	1^+	652.29	2^-	E1+M2	−0.05 *2*	0.00566 *15*	α(K)=0.00500 *13*; α(L)=0.000550 *15*; α(M)=9.4×10^{-5} *3*; α(N)=1.25×10^{-5} *4*; α(O)=8.45×10^{-7} *24* α(N+..)=1.34×10^{-5} *4* Mult.: α(K)exp=0.0045 *4*.
356.0 *2*	0.7 *1*	1287.89	0,1	931.70	1^+				
530.0 *1*	11.7 *5*	652.29	2^-	122.297	1^-	M1+E2	−0.11 *+3−4*	0.00254 *4*	α(K)=0.00224 *4*; α(L)=0.000247 *4*; α(M)=4.22×10^{-5} *6*; α(N)=5.68×10^{-6} *9*; α(O)=3.98×10^{-7} *6* α(N+..)=6.08×10^{-6} *9* Mult.: α(K)exp=0.0023 *4*.
596.4 *1*	1.2 *2*	718.70	$1^{(+)},2^{(+)}$	122.297	1^-				
652.3 *1*	0.6 *2*	652.29	2^-	0.0	0^-	[E2]		0.00183 *3*	α(K)=0.001612 *23*; α(L)=0.000182 *3*; α(M)=3.10×10^{-5} *5*; α(N)=4.14×10^{-6} *6*; α(O)=2.78×10^{-7} *4* α(N+..)=4.42×10^{-6} *7*
695.4 *3*	0.45 *5*	1983.58	1^+	1287.89	0,1				
809.40[#] *3*	94.0 *30*	931.70	1^+	122.297	1^-	E1(+M2)	0.00 *1*	4.1e-4 *6*	α(K)=0.000362 *5*; α(L)=3.91×10^{-5} *6*; α(M)=6.67×10^{-6} *10*; α(N)=8.97×10^{-7} *13*; α(O)=6.26×10^{-8} *9* α(N+..)=9.60×10^{-7} *14* Mult.: α(K)exp=0.00036 *4*. Iγ=62% (1989WaZV).
931.7 *1*	15.4 *10*	931.70	1^+	0.0	0^-				
1052.6 *7*	0.5 *2*	1983.58	1^+	931.70	1^+				
1166.0 *5*	0.10 *5*	1287.89	0,1	122.297	1^-				
1331.6 *4*	0.8 *2*	1983.58	1^+	652.29	2^-				

$^{96}_{39}Y_{57}$-2

$\gamma(^{96}Y)$ (continued)

E_γ ‡	I_γ [a]	E_i(level)	J_i^π	E_f	J_f^π
1861.3 *5*	0.2 *1*	1983.58	1^+	122.297	1^-
1983.5 *3*	2.5 *3*	1983.58	1^+	0.0	0^-

† α(K)exp were normalized to α(K)(E2) for 815γ in ^{96}Sr (1981Ju02).
‡ From 1981Ju02 if not noted otherwise.
# Measured with a high-resolution curved-crystal spectrometer (1979Bo26).
@ From $\gamma\gamma(\theta)$ and α(K)exp (1981Ju02).
& From $\gamma\gamma(\theta)$ (1981Ju02) if not noted otherwise.
[a] For absolute intensity per 100 decays, multiply by 0.765 *12*.

$^{96}_{39}Y_{57}$-3

^{96}Sr β^- decay 1981Ju02

Decay Scheme

Intensities: I_γ per 100 parent decays