^{95}Sr β^- decay 1981PfZZ,1974He03

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. K. Basu, G. Mukherjee, A. A. Sonzogni	NDS 111, 2555 (2010)	30-Jun-2009

Parent: ^{95}Sr: E=0.0; J$^\pi$=1/2$^+$; T$_{1/2}$=23.90 s *14*; Q(β^-)=6090 *7*; %β^- decay=100.0

1974He03: measured γ's, $\gamma\gamma$-coincidences, and γ(t); Ge(Li).

1981PfZZ: measured γ's, ce's, $\gamma\gamma$-coin, and β-γ and β-ce delayed coin; Ge(Li), HPGe, and Si(Li).

1996Gr20, 1997Gr09: measured ground state β^- branching intensity as well as β^- decay intensity distribution for ^{95}Sr and several other fission product nuclides using total absorption gamma ray spectrometer (TAGS).

The decay scheme is from 1981PfZZ. ≈90% of the γ activity was placed.

α: Additional information 1.

^{95}Y Levels

E(level)	J$^\pi$†	T$_{1/2}$‡	E(level)	J$^\pi$†
0.0	1/2$^-$	10.3 min *1*	3352.9 *5*	(3/2)
685.8 *3*	3/2$^-$		3391.8 *5*	(3/2)
826.9 *4*	5/2$^-$		3507.4 *7*	(1/2$^-$,3/2$^-$)
1087.5 *7*	9/2$^+$	52.6 μs *12*	3576.6 *5*	(3/2$^+$)
1630.9 *6*	(5/2$^-$)		3616.1 *5*	(1/2$^+$,3/2$^+$)
1889.8 *8*	(3/2$^-$,5/2$^-$,7/2$^-$)		3651.3 *7*	(1/2$^-$,3/2$^-$)
1963.4 *5*	(3/2$^-$,5/2$^-$)		3743.3 *10*	(1/2,3/2)
2021.0 *5*	(3/2$^-$)		3943.5 *6*	(1/2$^-$,3/2$^-$)
2046.6 *7*	(1/2$^-$,3/2$^-$)		4075.1 *6*	(1/2$^+$,3/2$^+$)
2207.6 *6*	(5/2$^-$,7/2$^-$)		4160.7 *8*	(3/2)
2408.5 *6*	(3/2$^-$,5/2$^-$)		4190.4 *8*	(1/2,3/2)
2557.6 *7*	(1/2$^-$,3/2$^-$)		4214.3 *6*	(1/2,3/2)
2614.6 *5*	(3/2$^-$,5/2$^-$)		4268.1 *7*	(1/2$^+$,3/2$^+$)
2684.0 *6*	(1/2$^-$,3/2$^-$)		4348.3 *10*	(1/2$^-$,3/2$^-$)
2717.2 *6*	(1/2$^+$,3/2$^+$)		4360.3 *7*	(1/2$^-$,3/2$^-$)
2781.8 *6*	(3/2$^-$)		4420.6 *10*	(1/2$^-$,3/2$^-$)
2933.3 *5*	(3/2$^+$)		4563.4 *10*	(1/2$^-$,3/2$^-$)
3116.8 *7*	(1/2$^-$,3/2$^-$)			

† From 1981PfZZ; spins and parities based on log *ft* values and γ-deexcitation to the known first excited state.

‡ From Adopted Levels.

β^- radiations

See 1973Jo02 for β- strength function deduced from total γ-ray absorption.

E(decay)	E(level)	Iβ^-†	Log *ft*	Comments
(1527 *7*)	4563.4	0.068	6.5	av Eβ=583.6 *32* I(β^-)% = 0.146 on simulation of TAGS spectrum.
(1669 *7*)	4420.6	0.18	6.2	av Eβ=647.8 *32* I(β^-)% = 0.40 on simulation of TAGS spectrum.
(1730 *7*)	4360.3	0.061	6.8	av Eβ=675.1 *32* I(β^-)% = 00.139 on simulation of TAGS spectrum.
(1742 *7*)	4348.3	0.16	6.4	av Eβ=680.5 *32* I(β^-)% = 0.37 on simulation of TAGS spectrum.
(1822 *7*)	4268.1	0.52 *9*	5.93 *8*	av Eβ=717.0 *32* I(β^-)% = 1.31 on simulation of TAGS spectrum.
(1876 *7*)	4214.3	0.25	6.3	av Eβ=741.6 *33*

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^{95}Sr β^- decay 1981PfZZ,1974He03 (continued)

β^- radiations (continued)

E(decay)	E(level)	Iβ^-[†]	Log *ft*	Comments
				I(β^-)% = 0.46 on simulation of TAGS spectrum.
(1900 *7*)	4190.4	0.41	6.1	av Eβ=752.5 *33* I(β^-)% = 0.75 on simulation of TAGS spectrum.
(1929 *7*)	4160.7	0.37 *4*	6.18 *5*	av Eβ=766.1 *33* I(β^-)% = 0.67 on simulation of TAGS spectrum.
(2015 *7*)	4075.1	1.40 *19*	5.68 *6*	av Eβ=805.4 *33* I(β^-)% = 2.46 on simulation of TAGS spectrum.
(2147 *7*)	3943.5	0.23	6.6	av Eβ=866.2 *33* I(β^-)% = 0.49 on simulation of TAGS spectrum.
(2347 *7*)	3743.3	0.84 *14*	6.17 *8*	av Eβ=959.3 *33* I(β^-)% = 1.07 on simulation of TAGS spectrum.
(2439 *7*)	3651.3	0.29	6.7	av Eβ=1002.2 *33* I(β^-)% = 0.32 on simulation of TAGS spectrum.
(2474 *7*)	3616.1	2.46	5.8	av Eβ=1018.7 *33* I(β^-)% = 2.89 on simulation of TAGS spectrum.
(2513 *7*)	3576.6	2.3	5.9	av Eβ=1037.2 *33* I(β^-)% = 4.07 on simulation of TAGS spectrum.
(2583 *7*)	3507.4	0.41	6.7	av Eβ=1069.7 *33* I(β^-)% = 2.14 on simulation of TAGS spectrum.
(2698 *7*)	3391.8	1.7	6.1	av Eβ=1124.0 *33* I(β^-)% = 3.64 on simulation of TAGS spectrum.
(2737 *7*)	3352.9	1.5	6.2	av Eβ=1142.4 *33* I(β^-)% = 3.21 on simulation of TAGS spectrum.
(2973 *7*)	3116.8	0.81	6.6	av Eβ=1253.9 *34* I(β^-)% = 1.18 on simulation of TAGS spectrum.
(3157 *7*)	2933.3	7.8 *8*	5.75 *5*	av Eβ=1340.9 *34* I(β^-)% = 8.45 on simulation of TAGS spectrum.
(3308 *7*)	2781.8	1.27 *17*	6.63 *6*	av Eβ=1412.9 *34* I(β^-)% = 1.61 on simulation of TAGS spectrum.
(3373 *7*)	2717.2	4.9 *6*	6.08 *6*	av Eβ=1443.7 *34* I(β^-)% = 6.21 on simulation of TAGS spectrum.
(3406 *7*)	2684.0	0.88	6.8	av Eβ=1459.5 *34* I(β^-)% = 1.13 on simulation of TAGS spectrum.
(3475 *7*)	2614.6	0.63 *20*	7.03 *14*	av Eβ=1492.6 *34* I(β^-)% = 1.37 on simulation of TAGS spectrum.
(3532 *7*)	2557.6	0.32	7.4	av Eβ=1519.8 *34* I(β^-)% = 0.69 on simulation of TAGS spectrum.
(3682 *7*)	2408.5	0.49	7.2	av Eβ=1591.0 *34* I(β^-)% = 1.05 on simulation of TAGS spectrum.
(3882 *7*)	2207.6	0.42 *11*	9.01[1u] *12*	av Eβ=1684.1 *34* log *ft* >7.6 (1981PfZZ). I(β^-)% = 0.0 on simulation of TAGS spectrum.
(4043 *7*)	2046.6	0.89 *10*	7.16 *5*	av Eβ=1764.2 *34* I(β^-)% = 0.64 on simulation of TAGS spectrum.
(4069 *7*)	2021.0	0.59	7.4	av Eβ=1776.4 *34* I(β^-)% = 0.42 on simulation of TAGS spectrum.
(4127 *7*)	1963.4	1.4	7.0	av Eβ=1804.1 *34* I(β^-)% = 1.00 on simulation of TAGS spectrum.
(4200 *7*)	1889.8	0.25	9.4[1u]	av Eβ=1835.1 *34* I(β^-)% = 0.178 on simulation of TAGS spectrum.
(5003[‡] *7*)	1087.5	0.385	7.9	av Eβ=2224.9 *34* I(β^-)% = 0.64 on simulation of TAGS spectrum.
(5263 *7*)	826.9	0.8 *4*	9.56[1u] *22*	av Eβ=2343.5 *34* I(β^-)% = 0 on simulation of TAGS spectrum.
(5404 *7*)	685.8	8.9 *7*	6.72 *4*	av Eβ=2418.3 *34* I(β^-)% = 5.35 on simulation of TAGS spectrum.

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^{95}Sr β^- decay 1981PfZZ,1974He03 (continued)

β^- radiations (continued)

E(decay)	E(level)	$I\beta^{-}$[†]	Log ft	Comments
(6090 7)	0.0	55.7 25	6.161 20	av Eβ=2748.7 34 I(β^-)% = 40.3 2.9 on simulation of TAGS spectrum.

† Absolute intensity per 100 decays.
‡ Existence of this branch is questionable.

$\gamma(^{95}Y)$

Coincidences shown on the drawing are from 1974He03.

E_γ[†]	I_γ[†&]	E_i(level)	J^π_i	E_f	J^π_f	Mult.	α	Comments
260.6	2.2	1087.5	9/2$^+$	826.9	5/2$^-$	M2	0.0695	α(K)=0.0605 9; α(L)=0.00753 11; α(M)=0.001299 19; α(N)=0.0001733 25 α(O)=1.151×10^{-5} 17; α(N+..)=0.000185 3 Mult.: from α(K)exp (1981PfZZ).
406.9	0.5	2614.6	(3/2$^-$,5/2$^-$)	2207.6	(5/2$^-$,7/2$^-$)			
419.5	0.4	3352.9	(3/2)	2933.3	(3/2$^+$)			
458.4	0.8	3391.8	(3/2)	2933.3	(3/2$^+$)			
543.4[a]	0.15	1630.9	(5/2$^-$)	1087.5	9/2$^+$			
576.6[‡]	3.3[@] 4	2207.6	(5/2$^-$,7/2$^-$)	1630.9	(5/2$^-$)			
651.3	0.3	2614.6	(3/2$^-$,5/2$^-$)	1963.4	(3/2$^-$,5/2$^-$)			
668.6	0.6	3352.9	(3/2)	2684.0	(1/2$^-$,3/2$^-$)			
685.6	100	685.8	3/2$^-$	0.0	1/2$^-$			%Iγ: See comment on Iγ normalization.
708.4	0.5	3391.8	(3/2)	2684.0	(1/2$^-$,3/2$^-$)			
724.6	0.8	2614.6	(3/2$^-$,5/2$^-$)	1889.8	(3/2$^-$,5/2$^-$,7/2$^-$)			
777.3[‡]	2.6[@] 4	3391.8	(3/2)	2614.6	(3/2$^-$,5/2$^-$)			
826.8	12.7[@] 14	826.9	5/2$^-$	0.0	1/2$^-$			
899.2	0.8	3616.1	(1/2$^+$,3/2$^+$)	2717.2	(1/2$^+$,3/2$^+$)			
931.9	0.2	3616.1	(1/2$^+$,3/2$^+$)	2684.0	(1/2$^-$,3/2$^-$)			
945.0	9.9[@] 12	1630.9	(5/2$^-$)	685.8	3/2$^-$			
961.6	1.8	3576.6	(3/2$^+$)	2614.6	(3/2$^-$,5/2$^-$)			
970.0	0.3	2933.3	(3/2$^+$)	1963.4	(3/2$^-$,5/2$^-$)			
983.8[‡]	5.2[@] 7	2614.6	(3/2$^-$,5/2$^-$)	1630.9	(5/2$^-$)			
1062.8	1.9	1889.8	(3/2$^-$,5/2$^-$,7/2$^-$)	826.9	5/2$^-$			
1120.0[a]	0.5	2207.6	(5/2$^-$,7/2$^-$)	1087.5	9/2$^+$			
1136.6	0.5	1963.4	(3/2$^-$,5/2$^-$)	826.9	5/2$^-$			
1145.4	0.5	3352.9	(3/2)	2207.6	(5/2$^-$,7/2$^-$)			
1184.0	0.7	3391.8	(3/2)	2207.6	(5/2$^-$,7/2$^-$)			
1194.0	0.3	2021.0	(3/2$^-$)	826.9	5/2$^-$			
1207.3	0.6	3616.1	(1/2$^+$,3/2$^+$)	2408.5	(3/2$^-$,5/2$^-$)			
1277.4	9.1[@] 11	1963.4	(3/2$^-$,5/2$^-$)	685.8	3/2$^-$			
1302.5	0.4	2933.3	(3/2$^+$)	1630.9	(5/2$^-$)			
1335.4[‡]	3.0[@] 4	2021.0	(3/2$^-$)	685.8	3/2$^-$			
1360.9	2.4[@] 4	2046.6	(1/2$^-$,3/2$^-$)	685.8	3/2$^-$			
1370.5	0.4	3391.8	(3/2)	2021.0	(3/2$^-$)			

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^{95}Sr β^- decay 1981PfZZ,1974He03 (continued)

$\gamma(^{95}Y)$ (continued)

E_γ[†]	I_γ[†&]	E_i(level)	J_i^π	E_f	J_f^π
1428.3	1.5	3391.8	(3/2)	1963.4	$(3/2^-,5/2^-)$
1581.4	0.5	2408.5	$(3/2^-,5/2^-)$	826.9	$5/2^-$
1612.7	1.0	3576.6	$(3/2^+)$	1963.4	$(3/2^-,5/2^-)$
1722.5[#]	2.3[@] *3*	2408.5	$(3/2^-,5/2^-)$	685.8	$3/2^-$
1872.0	1.0	2557.6	$(1/2^-,3/2^-)$	685.8	$3/2^-$
1928.5	0.4	2614.6	$(3/2^-,5/2^-)$	685.8	$3/2^-$
1954.8	0.4	2781.8	$(3/2^-)$	826.9	$5/2^-$
2020.0	1.2	2021.0	$(3/2^-)$	0.0	$1/2^-$
2031.5	2.1[@] *3*	2717.2	$(1/2^+,3/2^+)$	685.8	$3/2^-$
2046.4	1.54[@] *23*	2046.6	$(1/2^-,3/2^-)$	0.0	$1/2^-$
2096.1	0.54[@] *24*	2781.8	$(3/2^-)$	685.8	$3/2^-$
2106.3	0.4	2933.3	$(3/2^+)$	826.9	$5/2^-$
2112.0	0.2	4075.1	$(1/2^+,3/2^+)$	1963.4	$(3/2^-,5/2^-)$
2168.7	1.5	4190.4	(1/2,3/2)	2021.0	$(3/2^-)$
2247.6	16.8[@] *20*	2933.3	$(3/2^+)$	685.8	$3/2^-$
2251.0	0.3	4214.3	(1/2,3/2)	1963.4	$(3/2^-,5/2^-)$
2430.8	1.1	3116.8	$(1/2^-,3/2^-)$	685.8	$3/2^-$
2557.2	0.4	2557.6	$(1/2^-,3/2^-)$	0.0	$1/2^-$
2564.9	0.15	3391.8	(3/2)	826.9	$5/2^-$
2667.4	0.8	3352.9	(3/2)	685.8	$3/2^-$
2684.0	5.2[@] *7*	2684.0	$(1/2^-,3/2^-)$	0.0	$1/2^-$
2705.8[#]	1.01[@] *17*	3391.8	(3/2)	685.8	$3/2^-$
2717.3	20.4[@] *24*	2717.2	$(1/2^+,3/2^+)$	0.0	$1/2^-$
2749.7[#]	1.40[@] *23*	3576.6	$(3/2^+)$	826.9	$5/2^-$
2781.8	4.7[@] *7*	2781.8	$(3/2^-)$	0.0	$1/2^-$
2821.4	0.8	3507.4	$(1/2^-,3/2^-)$	685.8	$3/2^-$
2891.0[#]	4.0[@] *6*	3576.6	$(3/2^+)$	685.8	$3/2^-$
2930.5	1.7	3616.1	$(1/2^+,3/2^+)$	685.8	$3/2^-$
2933.1	18.0[@] *22*	2933.3	$(3/2^+)$	0.0	$1/2^-$
2965.0	0.8	3651.3	$(1/2^-,3/2^-)$	685.8	$3/2^-$
3116.6	0.5	3943.5	$(1/2^-,3/2^-)$	826.9	$5/2^-$
3116.8	2.5[@] *4*	3116.8	$(1/2^-,3/2^-)$	0.0	$1/2^-$
3257.6	0.2	3943.5	$(1/2^-,3/2^-)$	685.8	$3/2^-$
3334.2	0.6	4160.7	(3/2)	826.9	$5/2^-$
3352.8	4.2[@] *6*	3352.9	(3/2)	0.0	$1/2^-$
3388.9	0.6	4075.1	$(1/2^+,3/2^+)$	685.8	$3/2^-$
3474.3[#]	1.02[@] *19*	4160.7	(3/2)	685.8	$3/2^-$
[x]3500.3	3.4 *5*				
3507.5	1.0	3507.4	$(1/2^-,3/2^-)$	0.0	$1/2^-$
3528.0	0.4	4214.3	(1/2,3/2)	685.8	$3/2^-$
3577.0	1.8	3576.6	$(3/2^+)$	0.0	$1/2^-$
3582.2	0.3	4268.1	$(1/2^+,3/2^+)$	685.8	$3/2^-$
3616.1	7.6[@] *10*	3616.1	$(1/2^+,3/2^+)$	0.0	$1/2^-$
3651.6	0.5	3651.3	$(1/2^-,3/2^-)$	0.0	$1/2^-$
3674.5	0.15	4360.3	$(1/2^-,3/2^-)$	685.8	$3/2^-$
3743.2	3.7[@] *6*	3743.3	(1/2,3/2)	0.0	$1/2^-$
3877.5	0.3	4563.4	$(1/2^-,3/2^-)$	685.8	$3/2^-$
3943.4	0.3	3943.5	$(1/2^-,3/2^-)$	0.0	$1/2^-$
4075.1	5.4[@] *8*	4075.1	$(1/2^+,3/2^+)$	0.0	$1/2^-$
4191.0	0.3	4190.4	(1/2,3/2)	0.0	$1/2^-$
4214.4	0.4	4214.3	(1/2,3/2)	0.0	$1/2^-$

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^{95}Sr β^- decay 1981PfZZ,1974He03 (continued)

$\gamma(^{95}Y)$ (continued)

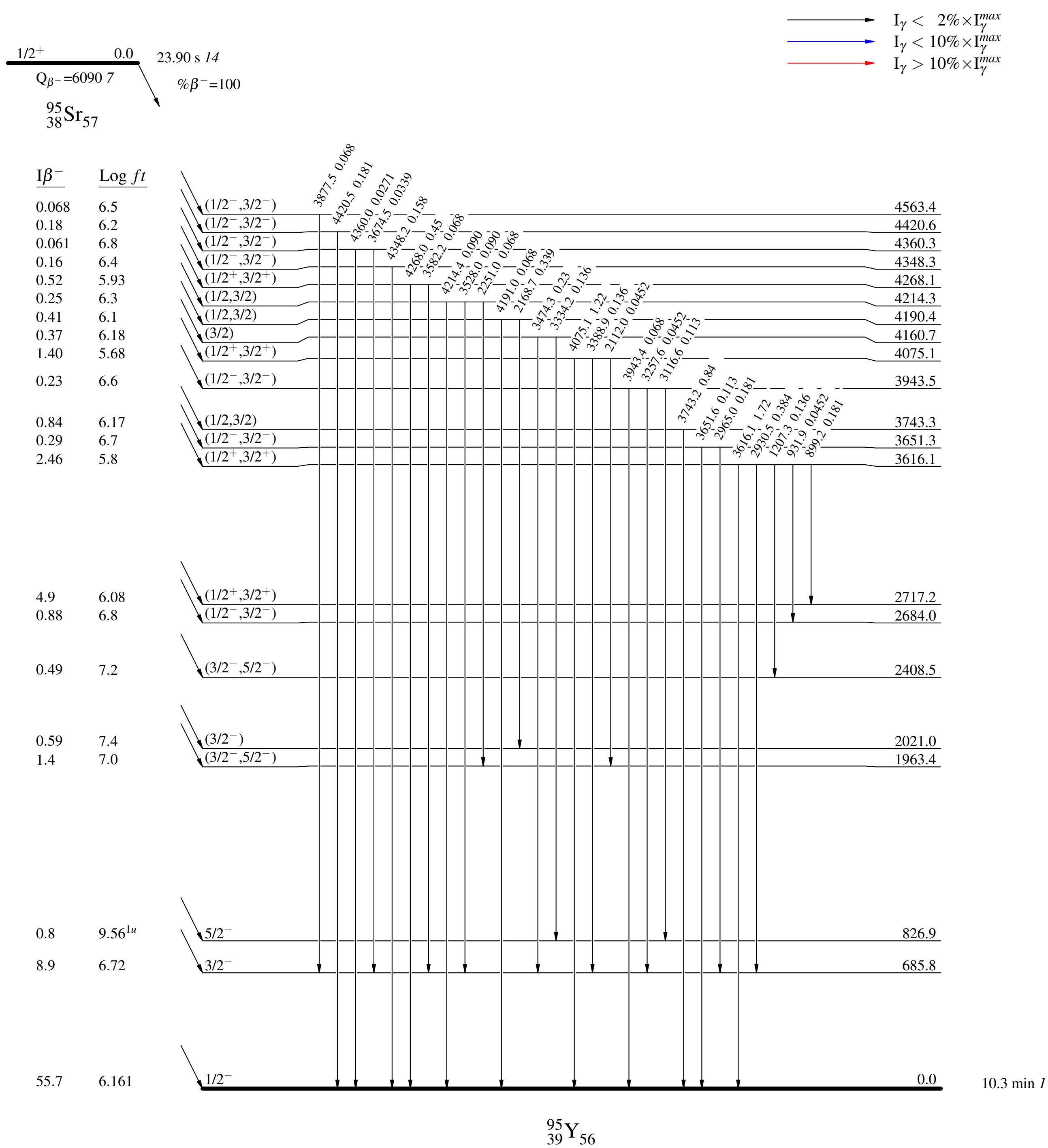
E_γ[†]	I_γ[†&]	E_i(level)	J_i^π	E_f	J_f^π
4268.0	2.0[@] *4*	4268.1	$(1/2^+,3/2^+)$	0.0	$1/2^-$
4348.2	0.7	4348.3	$(1/2^-,3/2^-)$	0.0	$1/2^-$
4360.0	0.12	4360.3	$(1/2^-,3/2^-)$	0.0	$1/2^-$
4420.5	0.8	4420.6	$(1/2^-,3/2^-)$	0.0	$1/2^-$

[†] From 1981PfZZ, except as noted. Iγ renormalized by evaluator to Iγ(686γ)=100.
[‡] Unplaced by 1974He03; placement from 1981PfZZ.
[#] 1722γ and 3474γ placed as deexciting 3353 and 3474 states, respectively, and 2706γ, 2750γ, and 2891γ tentatively placed as deexciting 2706, 2749, and 2891 states, respectively, by 1974He03; alternate placement from 1981PfZZ. Tentative placement of 3500γ from 3500 state by 1974He03 not confirmed by 1981PfZZ.
[@] From 1974He03.
[&] For absolute intensity per 100 decays, multiply by 0.226 *12*.
[a] Placement of transition in the level scheme is uncertain.
[x] γ ray not placed in level scheme.

^{95}Sr β^- decay 1981PfZZ,1974He03

Decay Scheme

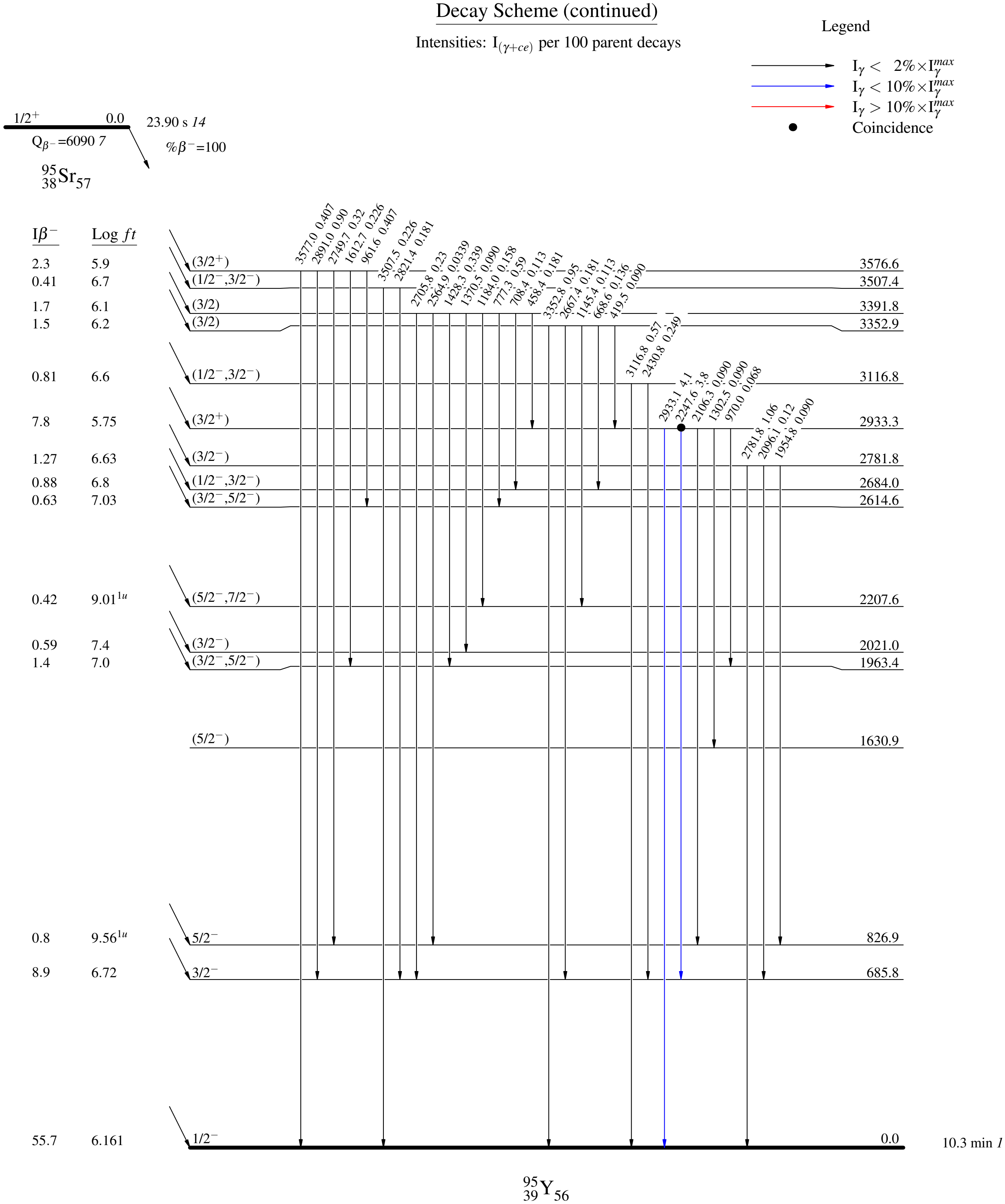
Intensities: $I_{(\gamma+ce)}$ per 100 parent decays



^{95}Sr β^- decay 1981PfZZ,1974He03

Decay Scheme (continued)

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



^{95}Sr β^- decay 1981PfZZ,1974He03