^{114}Te ε decay 1996Zi01,1992ZiZW,1976Wi11

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 113, 515 (2012)	1-Jan-2012

Parent: ^{114}Te: E=0.0; J$^{\pi}$=0^{+}; T$_{1/2}$=15.2 min *7*; Q(ε)=2.61×10^{3} *4*; %ε+%β^{+} decay=100.0

1996Zi01,1992ZiZW,1995ZiZZ: activity: ^{92}Mo(^{32}S,xpxn). Isotope separation, UNISOR, febiad source.

Only the decay scheme (drawing) and comments are given in the 1996Zi01. The data are in 1995ZiZZ.

Measured: γ, $\gamma\gamma$, $\gamma\gamma$(t), ce, nuclear orientation.

Previous measurements: ^{114}Sb(p,n) E=20 MeV (1976Wi10), ^{114}Sn(^{3}He,3n) E=40 MeV (1975WiZX,1976Wi11). Others: 1960Ma20, 1972Mi27, 1972Si28.

The decay scheme is as given by 1996Zi01.

The branching and the normalization derived by the evaluator are estimated from known J^{π}, but they have to be considered as preliminary.

^{114}Sb Levels

E(level)	J$^{\pi}$†	T$_{1/2}$	Comments
0.0	3^{+}	3.49 min *3*	
27.41 *16*	1^{+}		
45.9 *4*	(2^{+}),4^{+}	26 ns *3*	T$_{1/2}$: from 1996Zi01.
54.58 *16*	3^{+}	20.4 ns *9*	T$_{1/2}$: from 1996Zi01, Other: 24 ns *5* (1975WiZX).
83.79 *16*	2^{+}		J$^{\pi}$: J^{π}=(1^{+}) in 1996Zi01.
144.96 *16*	2^{+}		
264.28 *15*	4^{+}		
271.94 *15*	1^{+}		
344.26 *18*	3^{+}		
491.88 *18*	2^{+}		
506.72 *17*	(0^{+})		J$^{\pi}$: J^{π}=(3^{+}) in 1996Zi01.
572.63 *17*	(2,3)		
691.08 *17*	2^{+}		
763.35 *18*	1^{+},2^{+}		
805.75 *17*	2^{+}		
871.66 *21*	1^{+}		
990.2 *3*	1,2		
1017.45 *14*	1,2		
1109.11 *22*			
1184.4 *5*			
1471.93 *17*	(1^{+})		
1670.54 *20*	(1^{+})		
1757.46 *17*	(1^{+})		
1924.20 *15*	(1^{+})		
1970.6 *3*	(1^{+})		
1986.01 *18*	(1^{+})		
2139.6 *3*	(1^{+})		

† From Adopted Levels.

ε,β^{+} radiations

E(decay)	E(level)	Iε†	Log *ft*	I(ε+β^{+})†	Comments
(4.7×10^{2} *4*)	2139.6	0.6 *3*	5.19 *22*	0.6 *3*	εK=0.8499; εL=0.1189; εM+=0.03124
(6.2×10^{2} *4*)	1986.01	3.6 *19*	4.62 *23*	3.6 *19*	εK=0.8523; εL=0.1171; εM+=0.03067
(6.4×10^{2} *4*)	1970.6	0.26 *14*	5.78 *24*	0.26 *14*	εK=0.8524; εL=0.1169; εM+=0.03063
(6.9×10^{2} *4*)	1924.20	25 *13*	3.85 *23*	25 *13*	εK=0.8530; εL=0.1165; εM+=0.03051

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^{114}Te ε decay 1996Zi01,1992ZiZW,1976Wi11 (continued)

ε,$β^+$ radiations (continued)

E(decay)	E(level)	Iβ+ †	Iε†	Log *ft*	I(ε+β+)†	Comments
(8.5×10^2 *4*)	1757.46		2.8 *14*	4.97 *22*	2.8 *14*	εK=0.8544; εL=0.1154 *6*; εM+=0.03017 *19*
(9.4×10^2 *4*)	1670.54		1.8 *9*	5.23 *22*	1.8 *9*	εK=0.8550; εL=0.1150; εM+=0.03004
(1.14×10^3 *4*)	1471.93		4.8 *24*	4.96 *22*	4.8 *24*	εK=0.8555; εL=0.1142; εM+=0.02979
(1.43×10^3 *4*)	1184.4	0.0020 *12*	0.16 *9*	6.62 *25*	0.16 *9*	av Eβ=244.84 *22*; εK=0.8461; εL=0.1120; εM+=0.02921
(1.50×10^3 *4*)	1109.11	0.021 *11*	1.0 *5*	5.87 *22*	1.0 *5*	av Eβ=277.58 *8*; εK=0.8395; εL=0.1110; εM+=0.02893
(1.59×10^3 *4*)	1017.45	0.024 *14*	0.7 *4*	6.08 *25*	0.7 *4*	av Eβ=317.50 *3*; εK=0.8282; εL=0.1093; εM+=0.02848
(1.62×10^3 *4*)	990.2	0.16 *8*	3.8 *20*	5.34 *22*	4 *2*	av Eβ=329.69 *18*; εK=0.8240; εL=0.1087; εM+=0.02832
(1.74×10^3 *4*)	871.66	0.6 *4*	8 *5*	5.06 *25*	9 *5*	av Eβ=381.046 *22*; εK=0.8022; εL=0.1056; εM+=0.02751
(1.85×10^3 *4*)	763.35	0.11 *6*	1.1 *6*	6.00 *22*	1.2 *6*	av Eβ=428.47 *4*; εK=0.7763; εL=0.1021; εM+=0.02658
(2.10×10^3 *4*)	506.72	0.04 *4*	0.15 *14*	7.0 *4*	0.19 *17*	av Eβ=541.827 *23*; εK=0.6947; εL=0.09106; εM+=0.02370
(2.34×10^3 *4*)	271.94	1.1 *7*	2.7 *16*	5.8 *3*	3.8 *22*	av Eβ=646.504 *24*; εK=0.6041; εL=0.07901; εM+=0.02056
(2.58×10^3 *4*)	27.41	16 *9*	24 *12*	4.94 *22*	40 *20*	av Eβ=756.484 *23*; εK=0.5066; εL=0.06612; εM+=0.01720

† Absolute intensity per 100 decays.

γ(^{114}Sb)

Iγ normalization: Iγ normalization is tentative and is based upon estimated feeding to the 27-keV level.

E$_i$(level)	J^π_i	E$_γ$†	I$_γ$†@	E$_f$	J^π_f	Mult.‡	δ‡	α&	Comments
27.41	1+	27.4#		0.0	3+				
45.9	(2+),4+	46.0 *5*	26.8 *6*	0.0	3+	M1		5.91	α(K)=8 *3*; α(L)=7 *7*; α(M)=1.5 *14* α(L)exp=0.55 *8*
54.58	3+	8.7#		45.9	(2+),4+				
		27.2#		27.41	1+				
		54.6 *4*	41.6 *8*	0.0	3+	M1(+E2)	<0.15	3.69 *12*	α(K)=5.1 *21*; α(L)=3 *3*; α(M)=0.7 *6*; α(N+..)=0.14 *13* α(L)exp=0.45 *7* B(M1)(W.u.)>0.00092; B(E2)(W.u.)<8.5
83.79	2+	56.4 *3*	5.5 *2*	27.41	1+				
		83.8 *5*	67.4 *11*	0.0	3+	M1+E2	0.44 *2*	1.38 *2*	α(K)=1.5 *6*; α(L)=0.5 *4*; α(M)=0.10 *8*; α(N+..)=0.021 *16* α(K)exp=1.27 *20*; α(L)exp=0.22 *3*
144.96	2+	90.2 *2*	100.0 *15*	54.58	3+	M1+E2	0.63 *2*	1.28 *2*	α(K)=1.2 *5*; α(L)=0.3 *3*; α(M)=0.07 *6*; α(N+..)=0.015 *12* α(K)exp=0.87 *12*; α(L)exp=0.25 *4*
		144.8 *3*	4.0 *2*	0.0	3+				
264.28	4+	209.8 *3*	4.0 *2*	54.58	3+				
		264.3 *2*	4.9 *2*	0.0	3+				
271.94	1+	188.1 *3*	49.9 *9*	83.79	2+	M1,E2		0.14 *4*	α(K)=0.12 *3*; α(L)=0.020 *9*;

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^{114}Te ε decay 1996Zi01,1992ZiZW,1976Wi11 (continued)

γ(^{114}Sb) (continued)

E$_i$(level)	J$^\pi_i$	E$_\gamma$ †	I$_\gamma$ †@	E$_f$	J$^\pi_f$	Mult. ‡	δ ‡	α &	Comments
									α(M)=0.0040 *17*; α(N+..)=0.0009 *4* α(K)exp=0.092 *17*; α(L)exp=0.023 *4* Mult.: α(K)exp gives δ<0.7; however, K/L requires pure E2.
271.94	1+	244.4 *4*	85.0 *13*	27.41	1+	E2		0.0732	α(K)=0.053 *7*; α(L)=0.0081 *23*; α(M)=0.0016 *5*; α(N+..)=0.00036 *10* α(K)exp=0.050 *8*; α(L)exp=0.0115 *22*
344.26	3+	80.1 *7*	2.5 *4*	264.28	4+				
		298.5 *5*	15.8 *4*	45.9	(2+),4+	M1,E2		0.035 *3*	α(K)=0.0295 *20*; α(L)=0.0042 *8*; α(M)=0.00084 *16*; α(N+..)=0.00019 *4* α(K)exp=0.041 *7*
		344.2 *3*	6.1 *4*	0.0	3+				
491.88	2+	147.4 *5*	15.5 *4*	344.26	3+	M1(+E2)	<0.50	0.232 *21*	α(K)exp=0.18 *3*; α(L)exp=0.029 *6*
		346.9 *6*	47.1 *9*	144.96	2+	M1,E2		0.0225 *9*	α(K)=0.0192 *5*; α(L)=0.0026 *4*; α(M)=0.00052 *7*; α(N+..)=0.00012 *1* α(K)exp=0.018 *4*
		408.1 *8*	11.2 *4*	83.79	2+				
		437.2 *4*	21.1 *5*	54.58	3+				
506.72	(0+)	234.7 *2*	11.6 *4*	271.94	1+	M1		0.076 *8*	α(K)=0.060 *9*; α(L)=0.009 *3*; α(M)=0.0018 *6*; α(N+..)=0.00042 *12* α(K)exp=0.066 *9*
		423.1 *7*	0.8 *2*	83.79	2+				
		479.3 *3*	68.4 *11*	27.41	1+	M1,E2		0.0092 *5*	α=0.0092 *5*; α(K)=0.0079 *5*; α(L)=0.00103; α(M)=0.00020 α(K)exp=0.0090 *22*
572.63	(2,3)	545.1 *4*	29.3 *6*	27.41	1+				
		572.9 *3*	3.4 *2*	0.0	3+				
691.08	2+	419.0 *2*	3.2 *2*	271.94	1+				
		426.9 *6*	0.9 *3*	264.28	4+				
		636.4 *6*	15.5 *4*	54.58	3+				
		663.8 *2*	6.0 *3*	27.41	1+				
		691.0 *7*	1.7 *2*	0.0	3+				
763.35	1+,2+	256.4 *3*	1.1 *2*	506.72	(0+)				
		271.5 *4*	4.3 *2*	491.88	2+				
		491.4 *7*	1.6 *2*	271.94	1+				
		679.6 *3*	9.2 *3*	83.79	2+				
		736.1 *3*	16.9 *5*	27.41	1+				
805.75	2+	461.4 *2*	6.1 *3*	344.26	3+				
		534.0 *5*	2.7 *2*	271.94	1+				
		722.0 *4*	9.4 *3*	83.79	2+				
		751.3 *4*	2.3 *2*	54.58	3+				
		778.5 *4*	10.2 *4*	27.41	1+				
871.66	1+	379.7 *6*	29.1 *6*	491.88	2+	(M1,E2)		0.0174 *2*	α(K)=0.0149; α(L)=0.00201 *17*; α(M)=0.00040 *4* α(K)exp=0.027 *4* Mult.: α(K)exp is larger than α(K)(M1,E2)=0.0149.
		726.8 *4*	91.9 *14*	144.96	2+				
		787.7 *3*	3.3 *2*	83.79	2+				
		817.1 *1*	3.2 *2*	54.58	3+				
		871.9 *12*	5.4 *2*	0.0	3+				
990.2	1,2	483.8 *3*	4.1 *2*	506.72	(0+)				

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^{114}Te ε decay 1996Zi01,1992ZiZW,1976Wi11 (continued)

γ(^{114}Sb) (continued)

E_i(level)	J^π_i	E_γ †	I_γ †@	E_f	J^π_f
990.2	1,2	844.9 *3*	51.6 *2*	144.96	2+
1017.45	1,2	745.5 *2*	7.7 *3*	271.94	1+
		753.2 *2*	4.6 *2*	264.28	4+
		933.7 *2*	9.7 *3*	83.79	2+
		963.0 *4*	4.2 *2*	54.58	3+
		990.0 *3*	4.9 *4*	27.41	1+
		1017.3 *3*	5.6 *2*	0.0	3+
1109.11		602.2 *4*	2.4 *2*	506.72	(0+)
		1024.7 *7*	2.3 *2*	83.79	2+
		1054.6 *2*	8.3 *3*	54.58	3+
1471.93	(1+)	600.1 *4*	22.8 *6*	871.66	1+
		666.1 *4*	10.3 *4*	805.75	2+
		899.4 *3*	3.8 *2*	572.63	(2,3)
		980.0 *2*	9.7 *3*	491.88	2+
		1199.9 *3*	13.3 *4*	271.94	1+
		1444.5 *4*	2.7 *2*	27.41	1+
1670.54	(1+)	653.1 *3*	5.8 *3*	1017.45	1,2
		864.5 *13*	0.7 *2*	805.75	2+
		1097.9 *4*	4.2 *2*	572.63	(2,3)
		1398.6 *2*	11.5 *4*	271.94	1+
1757.46	(1+)	994.2 *4*	3.7 *2*	763.35	1+,2+
		1184.8 *3*	10.0 *4*	572.63	(2,3)
		1485.4 *2*	4.9 *2*	271.94	1+
		1612.6 *2*	6.1 *3*	144.96	2+
1757.46	(1+)	1673.6 *3*	9.7 *3*	83.79	2+
1924.20	(1+)	452.3 *3*	2.8 *2*	1471.93	(1+)
		906.9 *3*	19.9 *5*	1017.45	1,2
		1118.5 *2*	5.7 *3*	805.75	2+
		1160.8 *2*	14.1 *4*	763.35	1+,2+
		1233.1 *2*	3.8 *2*	691.08	2+
		1351.7 *3*	9.2 *3*	572.63	(2,3)
		1417.4 *2*	75.7 *12*	506.72	(0+)
		1432.3 *3*	10.3 *4*	491.88	2+
		1652.2 *2*	31.4 *7*	271.94	1+
		1779.0 *2*	4.3 *2*	144.96	2+
		1840.8 *3*	32.2 *7*	83.79	2+
		1896.8 *3*	98.5 *15*	27.41	1+
1970.6	(1+)	498.4 *3*	5.5 *3*	1471.93	(1+)
		1626.8 *4*	3.3 *2*	344.26	3+
1986.01	(1+)	876.8 *5*	2.1 *2*	1109.11	
		968.4 *4*	3.6 *2*	1017.45	1,2
		995.6 *10*	1.5 *3*	990.2	1,2
		1494.1 *4*	10.4 *4*	491.88	2+
		1714.4 *2*	5.7 *3*	271.94	1+
		1902.0 *3*	17.6 *5*	83.79	2+
		1958.4 *2*	4.7 *3*	27.41	1+
2139.6	(1+)	1376.2 *3*	3.8 *2*	763.35	1+,2+
		1867.6 *3*	3.8 *2*	271.94	1+

† From 1995ZiZZ.
‡ From ce data of 1995ZiZZ.
# Transition not seen, but required by γγ. Eγ is rounded-off value from adopted E(level) data.
@ For absolute intensity per 100 decays, multiply by ≈0.08.
& Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.
x γ ray not placed in level scheme.

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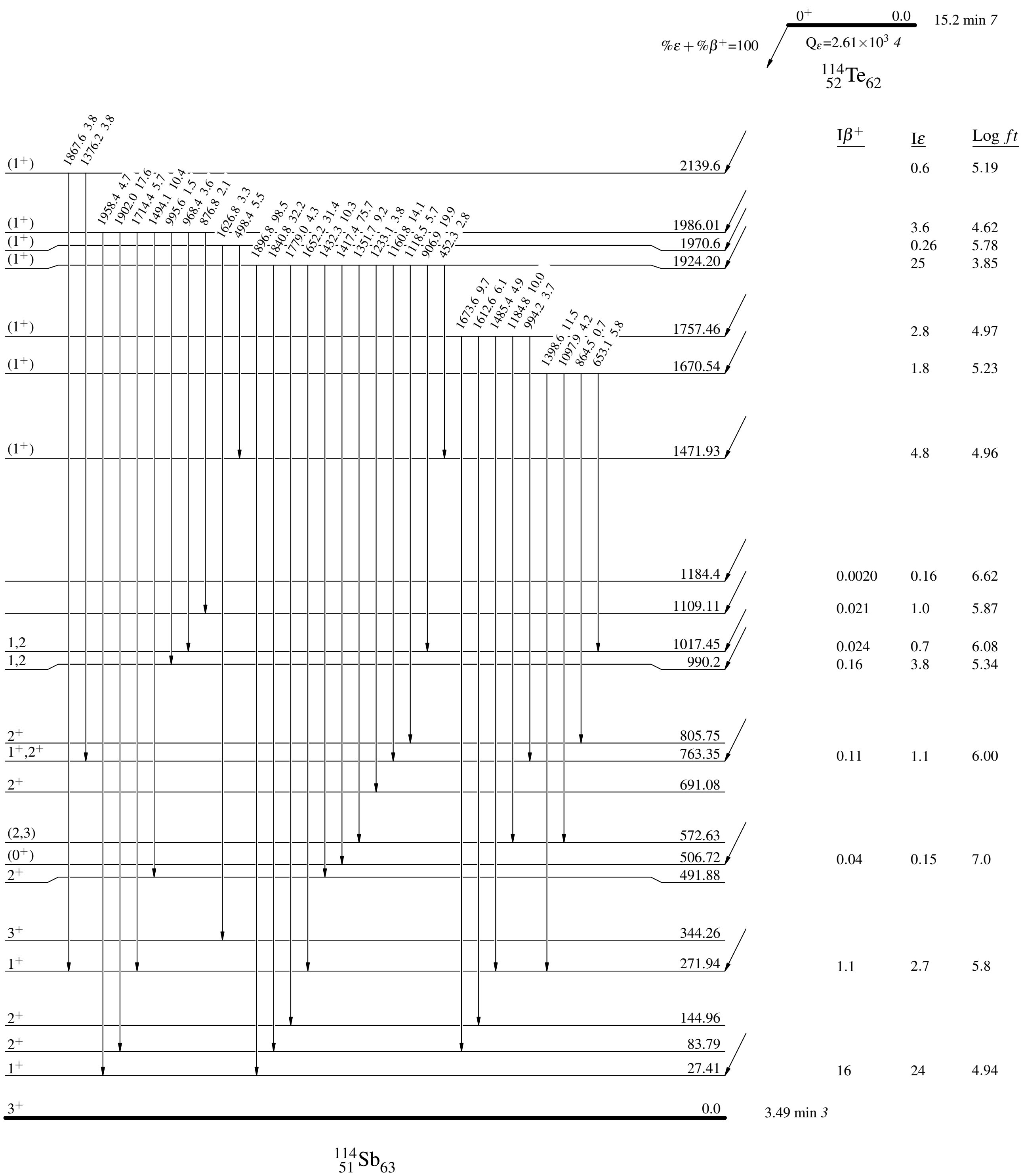
Decay Scheme

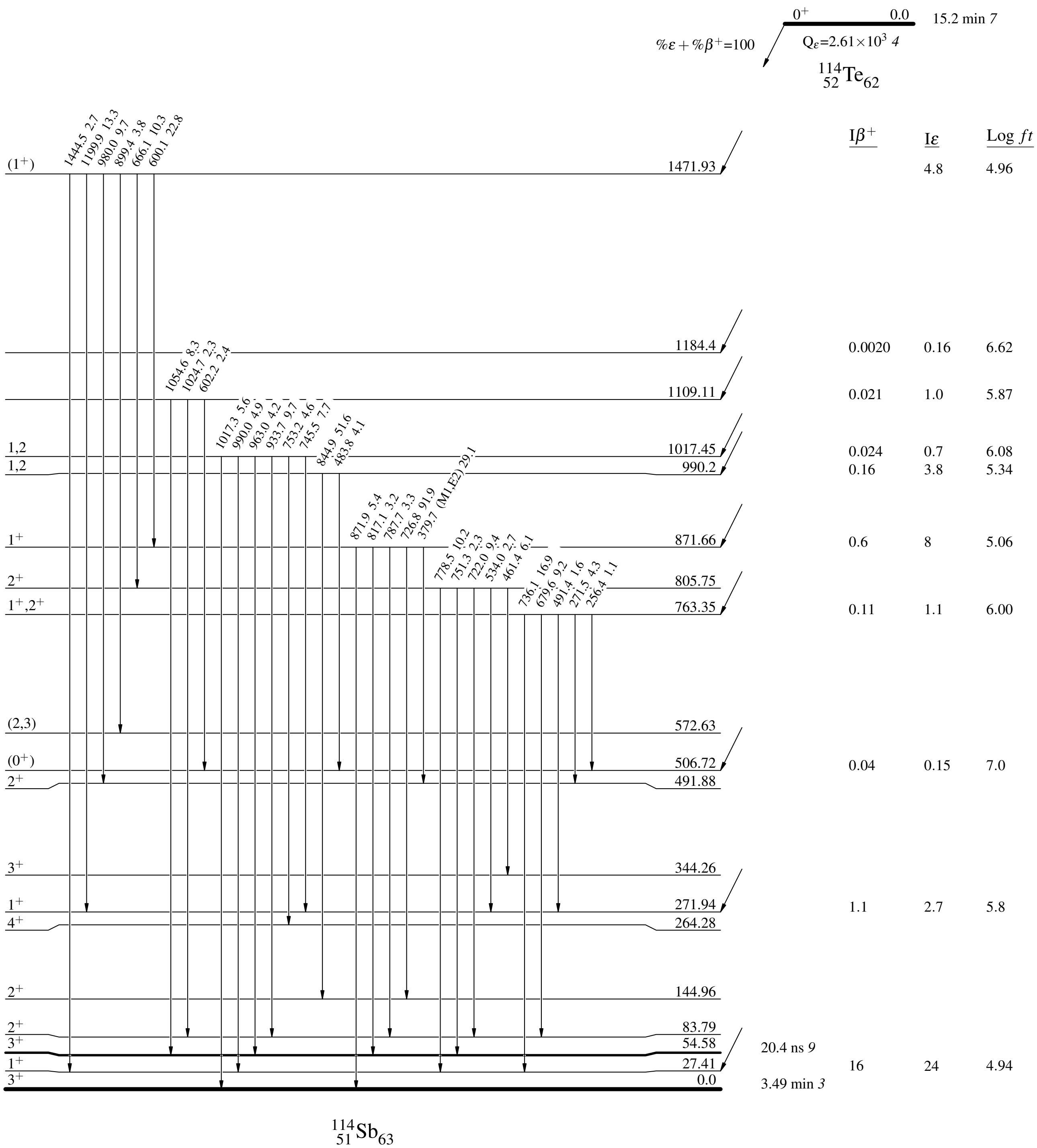
Intensities: Relative photon branching from each level



^{114}Te ε decay 1996Zi01,1992ZiZW,1976Wi11

Decay Scheme (continued)

Intensities: Relative photon branching from each level



^{114}Te ε decay 1996Zi01,1992ZiZW,1976Wi11

Decay Scheme (continued)

Intensities: Relative photon branching from each level