^{88}Nb ε decay (7.78 min) 1984Ox01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. A. Mccutchan and A. A. Sonzogni	NDS 115, 135 (2014)	1-Nov-2013

Parent: ^{88}Nb: E=0.0+x; J^π=(4$^-$); $T_{1/2}$=7.78 min *1*; Q(ε)=7450 *60*; %ε+%β^+ decay=100.0

1984Ox01: ^{88}Nb activity produced in the Zr(p,3n) and Zr(d,4n) reactions with E(p)=38 MeV and E(d)=47 MeV. Measured Eγ, Iγ, $\gamma\gamma$ using two n-type HPGe detectors (FWHM=2.0 and 2.1 keV at 1.3 MeV) and $\beta\gamma$ coincidences using a E-ΔE telescope consisting of a Ge detector and a Si detector.

A total energy release of 7360 keV *230* is calculated for this decay using the RADLST code. This can be compared with the Q value of 7450 keV *60* + x.

Others: 1972Ia01, 1971Do04, 1966Fl03, 1966Hy03.

α: Additional information 1.

^{88}Zr Levels

E(level)†	J$^\pi$‡	E(level)†	J$^\pi$‡	E(level)†	J$^\pi$‡	E(level)†	J$^\pi$‡
0	0$^+$	2801.33 *12*	5$^-$	3568.27 *17*	(3,4$^+$)	4084.32 *17*	(3$^-$,4,5)
1057.09 *8*	2$^+$	2989.80 *11*	5$^-$	3637.84 *17*	(3,4$^+$)	4112.54 *16*	(3,4,5)
1817.94 *8*	2$^+$	2998.9 *5*		3875.20 *16*	(3$^-$,4,5$^-$)	4155.6 *5*	(3,4,5)
2139.74 *11*	4$^+$	3032.84 *11*	3$^-$	3938.58 *21*	(3,4,5)	4206.2 *4*	(3,4,5$^-$)
2455.99 *10*	3$^-$	3224.0 *5*		3947.73 *16*	(3,4,5)	4208.32 *13*	(3$^-$,4,5$^-$)
2539.16 *11*	5$^-$	3277.15 *11*	(3$^-$,4,5$^-$)	3968.4 *3*	(3$^-$,4,5)	4308.0 *3*	(3$^-$,4,5$^-$)
2605.30 *15*	4$^+$	3374.53 *12*	(3$^-$,4,5$^-$)	4025.1 *4*	(3$^-$,4,5)	4335.7 *4*	(3,4$^+$)
2673.8 *6*		3426.65 *19*		4059.45 *19*	(3$^-$,4,5$^-$)	4672.9 *4*	(3$^-$,4,5)

† From a least-squares fit to Eγ by the evaluators.

‡ From the Adopted Levels.

ε,β^+ radiations

E(decay)	E(level)	Iβ^+ #	Iε#	Log *ft*†	I($\varepsilon+\beta^+$)‡#	Comments
(2.78×10^3 *6*)	4672.9	0.20 *4*	0.084 *16*	6.69 *10*	0.28 *5*	av Eβ=778 *28*; εK=0.261 *21*; εL=0.0311 *25*; εM+=0.0070 *6*
(3.11×10^3 *6*)	4335.7	0.23 *3*	0.057 *9*	6.95 *8*	0.29 *4*	av Eβ=933 *28*; εK=0.173 *13*; εL=0.0206 *16*; εM+=0.0046 *4*
(3.24×10^3 *6*)	4208.32	3.25 *17*	0.67 *6*	5.92 *6*	3.92 *19*	av Eβ=992 *28*; εK=0.149 *11*; εL=0.0177 *13*; εM+=0.0040 *3*
(3.24×10^3 *6*)	4206.2	0.55 *6*	0.11 *1*	6.70 *7*	0.66 *7*	av Eβ=993 *28*; εK=0.149 *11*; εL=0.0177 *13*; εM+=0.0040 *3*
(3.29×10^3 *6*)	4155.6	0.31 *4*	0.059 *9*	6.99 *8*	0.37 *5*	av Eβ=1016 *28*; εK=0.140 *10*; εL=0.0167 *12*; εM+=0.0037 *3*
(3.34×10^3 *6*)	4112.54	1.15 *10*	0.208 *24*	6.45 *6*	1.36 *12*	av Eβ=1036 *28*; εK=0.134 *10*; εL=0.0159 *12*; εM+=0.0036 *3*
(3.37×10^3 *6*)	4084.32	3.01 *16*	0.52 *5*	6.06 *5*	3.53 *18*	av Eβ=1049 *28*; εK=0.129 *9*; εL=0.0154 *11*; εM+=0.00345 *25*
(3.39×10^3 *6*)	4059.45	2.4 *3*	0.40 *6*	6.18 *8*	2.8 *4*	av Eβ=1061 *28*; εK=0.126 *9*; εL=0.0150 *11*; εM+=0.00336 *24*
(3.42×10^3 *6*)	4025.1	0.62 *7*	0.100 *13*	6.79 *7*	0.72 *8*	av Eβ=1077 *28*; εK=0.121 *9*; εL=0.0144 *10*; εM+=0.00323 *23*
(3.48×10^3 *6*)	3968.4	0.76 *8*	0.11 *1*	6.75 *7*	0.87 *9*	av Eβ=1103 *28*; εK=0.114 *8*; εL=0.0136 *10*; εM+=0.00304 *21*
(3.50×10^3 *6*)	3947.73	3.16 *15*	0.46 *4*	6.15 *5*	3.62 *17*	av Eβ=1113 *28*; εK=0.111 *8*; εL=0.0133 *9*; εM+=0.00297 *20*
(3.51×10^3 *6*)	3938.58	2.3 *4*	0.33 *6*	6.30 *8*	2.6 *4*	av Eβ=1117 *28*; εK=0.110 *8*; εL=0.0131 *9*;

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^{88}Nb ε decay (7.78 min) 1984Ox01 (continued)

ε,β+ radiations (continued)

E(decay)	E(level)	Iβ+ #	Iε#	Log ft†	I(ε+β+)‡#	Comments
						εM+=0.00294 *20*
(3.57×10^3 *6*)	3875.20	2.09 *11*	0.280 *23*	6.38 *5*	2.37 *12*	av Eβ=1146 *28*; εK=0.103 *7*; εL=0.0123 *8*; εM+=0.00275 *19*
(3.81×10^3 *6*)	3637.84	1.60 *9*	0.163 *14*	6.67 *5*	1.76 *10*	av Eβ=1258 *29*; εK=0.081 *5*; εL=0.0096 *6*; εM+=0.00216 *14*
(3.88×10^3 *6*)	3568.27	1.42 *7*	0.135 *11*	6.77 *5*	1.56 *8*	av Eβ=1290 *29*; εK=0.076 *5*; εL=0.0090 *6*; εM+=0.00202 *13*
(4.02×10^3 *6*)	3426.65	1.09 *7*	0.090 *8*	6.98 *5*	1.18 *8*	av Eβ=1357 *29*; εK=0.066 *4*; εL=0.0079 *5*; εM+=0.00177 *11*
(4.08×10^3 *6*)	3374.53	5.5 *6*	0.43 *5*	6.32 *6*	5.9 *6*	av Eβ=1381 *29*; εK=0.063 *4*; εL=0.0075 *5*; εM+=0.00168 *10*
(4.17×10^3 *6*)	3277.15	2.8 *4*	0.20 *3*	6.67 *7*	3.0 *4*	av Eβ=1427 *29*; εK=0.058 *4*; εL=0.0069 *4*; εM+=0.00154 *9*
(4.23×10^3 *6*)	3224.0	0.18 *3*	0.012 *2*	7.90 *8*	0.19 *3*	av Eβ=1453 *29*; εK=0.055 *3*; εL=0.0066 *4*; εM+=0.00147 *8*
(4.42×10^3 *6*)	3032.84	5.1 *3*	0.29 *2*	6.55 *5*	5.4 *3*	av Eβ=1543 *29*; εK=0.0469 *25*; εL=0.0056 *3*; εM+=0.00125 *7*
(4.46×10^3 *6*)	2989.80	36.9 *16*	2.01 *14*	5.72 *4*	38.9 *17*	av Eβ=1564 *29*; εK=0.0452 *24*; εL=0.0054 *3*; εM+=0.00120 *7*
(4.65×10^3 *6*)	2801.33	3.7 *4*	0.17 *2*	6.82 *6*	3.9 *4*	av Eβ=1653 *29*; εK=0.0389 *19*; εL=0.00461 *23*; εM+=0.00103 *5*
(4.78×10^3 *6*)	2673.8	0.096 *19*	0.0040 *8*	8.48 *10*	0.10 *2*	av Eβ=1714 *29*; εK=0.0352 *17*; εL=0.00418 *20*; εM+=0.00094 *5*
(4.91×10^3 *6*)	2539.16	2.2 *18*	0.08 *7*	7.2 *4*	2.3 *19*	av Eβ=1778 *29*; εK=0.0318 *15*; εL=0.00378 *18*; εM+=0.00085 *4*
(4.99×10^3 *6*)	2455.99	4.1 *11*	0.14 *4*	6.96 *12*	4.2 *11*	av Eβ=1818 *29*; εK=0.0299 *14*; εL=0.00355 *16*; εM+=0.00080 *4*
(6.39×10^3@ *6*)	1057.09	6 *5*	0.2 *2*	9.3^{1u} *4*	6 *5*	av Eβ=2488 *29*; εK=0.0270 *10*; εL=0.00322 *12*; εM+=0.00072 *3*

† Approximate values from I(ε+β+) and assuming x=0.0.
‡ From gamma intensity balance.
# Absolute intensity per 100 decays.
@ Existence of this branch is questionable.

γ(^{88}Zr)

Iγ normalization: From ΣI(γ+c.e)=100 to g.s. and assuming no direct feeding to g.s. (ΔJ=4).

Eγ	Iγ[a]	Ei(level)	Jiπ	Ef	Jfπ	Mult.†	δ	α	Comments
97.4@	0.17 *6*	3374.53	(3$^-$,4,5$^-$)	3277.15	(3$^-$,4,5$^-$)				
134.6 *5*	0.10 *2*	2673.8		2539.16	5$^-$				
189.1 *3*	0.32 *4*	2989.80	5$^-$	2801.33	5$^-$				
244.2 *2*	0.23 *2*	3277.15	(3$^-$,4,5$^-$)	3032.84	3$^-$				
262.2 *1*	9.7 *3*	2801.33	5$^-$	2539.16	5$^-$	M1(+E2)	+0.3 *6*	0.017 *7*	α(K)=0.015 *6*; α(L)=0.0017 *9*; α(M)=0.00030 *15*; α(N)=4.3×10^{-5} *20*; α(O)=2.9×10^{-6} *10*
287.3 *2*	0.48 *3*	3277.15	(3$^-$,4,5$^-$)	2989.80	5$^-$				

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^{88}Nb ε decay (7.78 min) 1984Ox01 (continued)

γ(^{88}Zr) (continued)

E_γ	I_γ[a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	δ	α	Comments
[x]292.3 5	0.06 3								
316.3 2	0.98 4	2455.99	3⁻	2139.74	4⁺	[E1]		0.00421	α(K)=0.00371 6; α(L)=0.000411 6; α(M)=7.10×10⁻⁵ 10; α(N)=1.003×10⁻⁵ 15; α(O)=6.87×10⁻⁷ 10
384.6[b] 3	0.34[b] 4	2989.80	5⁻	2605.30	4⁺				
384.6[b] 3	0.34[b] 4	3374.53	(3⁻,4,5⁻)	2989.80	5⁻				
399.4 1	45.7 16	2539.16	5⁻	2139.74	4⁺	E1		0.00227	α(K)=0.00201 3; α(L)=0.000221 4; α(M)=3.83×10⁻⁵ 6; α(N)=5.41×10⁻⁶ 8; α(O)=3.75×10⁻⁷ 6
450.6 1	26.6 8	2989.80	5⁻	2539.16	5⁻				
465.6 2	1.65 5	2605.30	4⁺	2139.74	4⁺				
476.0 3	0.29 4	3277.15	(3⁻,4,5⁻)	2801.33	5⁻				
[x]526.0 5	0.18 4								
533.8 1	12.3[#] 4	2989.80	5⁻	2455.99	3⁻	[E2]		0.00345	α(K)=0.00303 5; α(L)=0.000351 5; α(M)=6.10×10⁻⁵ 9; α(N)=8.57×10⁻⁶ 12; α(O)=5.69×10⁻⁷ 8
542.9 5	0.07[#] 3	2998.9		2455.99	3⁻				
564.1 4	0.17 3	3938.58	(3,4,5)	3374.53	(3⁻,4,5⁻)				
573.2[b] 1	3.6[b] 1	3374.53	(3⁻,4,5⁻)	2801.33	5⁻				
573.2[b] 1	3.6[b] 1	3947.73	(3,4,5)	3374.53	(3⁻,4,5⁻)				
576.7 2	0.93 4	3032.84	3⁻	2455.99	3⁻				
598.1 3	0.56 4	3875.20	(3⁻,4,5⁻)	3277.15	(3⁻,4,5⁻)				
604.8 2	0.40[#] 5	3637.84	(3,4⁺)	3032.84	3⁻				
625.3 2	1.13[#] 4	3426.65		2801.33	5⁻				
638.0 1	26.2 8	2455.99	3⁻	1817.94	2⁺	[E1]		7.33×10⁻⁴	α(K)=0.000648 9; α(L)=7.10×10⁻⁵ 10; α(M)=1.228×10⁻⁵ 18; α(N)=1.742×10⁻⁶ 25 α(O)=1.223×10⁻⁷ 18
657.6 5	0.45 4	4084.32	(3⁻,4,5)	3426.65					
661.6 1	1.9 1	2801.33	5⁻	2139.74	4⁺	[E1]		6.76×10⁻⁴	α(K)=0.000598 9; α(L)=6.54×10⁻⁵ 10; α(M)=1.132×10⁻⁵ 16; α(N)=1.606×10⁻⁶ 23 α(O)=1.128×10⁻⁷ 16
671.9[@]	1.9[&] 3	3277.15	(3⁻,4,5⁻)	2605.30	4⁺				
684.8 4	0.19 3	3224.0		2539.16	5⁻				
709.6 3	0.21[#] 3	4084.32	(3⁻,4,5)	3374.53	(3⁻,4,5⁻)				
738.0[b] 1	1.12[b] 4	3277.15	(3⁻,4,5⁻)	2539.16	5⁻				
738.0[b] 1	1.12[b] 4	4112.54	(3,4,5)	3374.53	(3⁻,4,5⁻)				
760.8 1	17.8 5	1817.94	2⁺	1057.09	2⁺	M1+E2	+0.26 4	1.23×10⁻³	α(K)=0.001083 16; α(L)=0.0001195 17; α(M)=2.07×10⁻⁵ 3; α(N)=2.95×10⁻⁶ 5; α(O)=2.10×10⁻⁷ 3

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^{88}Nb ε decay (7.78 min) 1984Ox01 (continued)

γ(^{88}Zr) (continued)

E_γ	I_γ[a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	α	Comments
781.1 *4*	0.37 *5*	4155.6	(3,4,5)	3374.53	(3⁻,4,5⁻)			
781.4[c]	‡	4208.32	(3⁻,4,5⁻)	3426.65				
821.2 *1*	1.09 *5*	3277.15	(3⁻,4,5⁻)	2455.99	3⁻			
835.5[b] *5*	0.23[b] *10*	3374.53	(3⁻,4,5⁻)	2539.16	5⁻			
835.5[b] *5*	0.23[b] *10*	4112.54	(3,4,5)	3277.15	(3⁻,4,5⁻)			
850.0 *1*	2.00 *7*	2989.80	5⁻	2139.74	4⁺			
[x]871.1 *5*	0.21 *4*							
885.0[c] *5*	0.15 *5*	3875.20	(3⁻,4,5⁻)	2989.80	5⁻			
[x]888.4 *5*	0.27 *6*							
892.8 *5*	0.50[#] *5*	3032.84	3⁻	2139.74	4⁺			
918.5 *1*	6.9 *4*	3374.53	(3⁻,4,5⁻)	2455.99	3⁻			
931.2 *1*	1.06 *6*	4208.32	(3⁻,4,5⁻)	3277.15	(3⁻,4,5⁻)			
949.4[c] *5*	0.19 *5*	3947.73	(3,4,5)	2998.9				
[x]954.0 *5*	0.27 *5*							
[x]984.2 *3*	0.27 *3*							
1026.3 *2*	0.50 *4*	4059.45	(3⁻,4,5⁻)	3032.84	3⁻			
1057.1 *1*	89 *4*	1057.09	2⁺	0	0⁺	E2	5.91×10^{-4}	α(K)=0.000522 *8*; α(L)=5.79×10^{-5} *9*; α(M)=1.003×10^{-5} *14*; α(N)=1.422×10^{-6} *20*; α(O)=9.95×10^{-8} *14*
1069.7 *5*	0.7 *3*	4059.45	(3⁻,4,5⁻)	2989.80	5⁻			
1082.6 *1*	53.9 *25*	2139.74	4⁺	1057.09	2⁺	E2	5.60×10^{-4}	α(K)=0.000495 *7*; α(L)=5.48×10^{-5} *8*; α(M)=9.50×10^{-6} *14*; α(N)=1.346×10^{-6} *19*; α(O)=9.43×10^{-8} *14*
1094.6 *2*	1.05 *6*	4084.32	(3⁻,4,5)	2989.80	5⁻			
[x]1097.8 *5*	0.27 *5*							
1112.3 *2*	0.71 *5*	3568.27	(3,4⁺)	2455.99	3⁻			
1137.3[c] *10*	0.21 *9*	3938.58	(3,4,5)	2801.33	5⁻			
1167.0 *5*	0.24 *4*	3968.4	(3⁻,4,5)	2801.33	5⁻			
1173.5[c] *5*	0.21 *5*	4206.2	(3,4,5⁻)	3032.84	3⁻			
1180.4[c] *4*	0.26 *4*	2998.9		1817.94	2⁺			
1209.0[c]	0.07 *5*	4208.32	(3⁻,4,5⁻)	2998.9				
1218.2 *4*	0.33 *6*	4208.32	(3⁻,4,5⁻)	2989.80	5⁻			
1223.8 *3*	0.72 *7*	4025.1	(3⁻,4,5)	2801.33	5⁻			
1283.3 *3*	0.27 *4*	4084.32	(3⁻,4,5)	2801.33	5⁻			
1286.9 *3*	0.49 *4*	3426.65		2139.74	4⁺			
1318.6[c] *5*	0.21 *4*	4308.0	(3⁻,4,5⁻)	2989.80	5⁻			
1336.0 *2*	0.88 *7*	3875.20	(3⁻,4,5⁻)	2539.16	5⁻			
1342.4[c] *20*	0.04 *2*	3947.73	(3,4,5)	2605.30	4⁺			
1399.2 *2*	2.5[&] *3*	2455.99	3⁻	1057.09	2⁺	[E1]	3.28×10^{-4}	α(K)=0.0001391 *20*; α(L)=1.502×10^{-5} *21*; α(M)=2.60×10^{-6} *4*; α(N)=3.70×10^{-7} *6*; α(O)=2.64×10^{-8} *4*
1399.4 *2*	2.4[&] *3*	3938.58	(3,4,5)	2539.16	5⁻			
1406.8 *2*	1.05 *5*	4208.32	(3⁻,4,5⁻)	2801.33	5⁻			
1419.2 *2*	0.92 *5*	3875.20	(3⁻,4,5⁻)	2455.99	3⁻			
1429.2 *3*	0.62 *7*	3968.4	(3⁻,4,5)	2539.16	5⁻			
1479.0 *2*	1.00 *6*	4084.32	(3⁻,4,5)	2605.30	4⁺			
1482.2[c] *2*	0.41 *4*	3938.58	(3,4,5)	2455.99	3⁻			
1497.8 *10*	0.14 *5*	3637.84	(3,4⁺)	2139.74	4⁺			

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^{88}Nb ε decay (7.78 min) 1984Ox01 (continued)

γ(^{88}Zr) (continued)

E_γ	I_γ[a]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	α	Comments
1506.9	[‡]	4308.0	(3⁻,4,5⁻)	2801.33	5⁻			
1520.2 *2*	1.13 *6*	4059.45	(3⁻,4,5⁻)	2539.16	5⁻			
1532.2[c] *10*	0.13 *5*	4206.2	(3,4,5⁻)	2673.8				
1545.1[@]	0.38 *5*	4084.32	(3⁻,4,5)	2539.16	5⁻			
1548.2 *2*	1.13 *9*	2605.30	4⁺	1057.09	2⁺	[E2]	3.67×10^{-4}	α(K)=0.000234 *4*; α(L)=2.55×10^{-5} *4*; α(M)=4.43×10^{-6} *7*; α(N)=6.29×10^{-7} *9*; α(O)=4.47×10^{-8} *7*
1603.6 *3*	0.46 *4*	4059.45	(3⁻,4,5⁻)	2455.99	3⁻			
1750.2 *3*	0.66 *6*	4206.2	(3,4,5⁻)	2455.99	3⁻			
1752.4 *2*	1.46 *7*	4208.32	(3⁻,4,5⁻)	2455.99	3⁻			
1817.9 *1*	10.1 *3*	1817.94	2⁺	0	0⁺	[E2]	4.14×10^{-4}	α(K)=0.0001716 *24*; α(L)=1.87×10^{-5} *3*; α(M)=3.23×10^{-6} *5*; α(N)=4.60×10^{-7} *7*; α(O)=3.28×10^{-8} *5*
1851.9[c] *3*	0.45 *4*	4308.0	(3⁻,4,5⁻)	2455.99	3⁻			
1871.5 *3*	0.28 *4*	4672.9	(3⁻,4,5)	2801.33	5⁻			
1944.5 *10*	0.15 *5*	4084.32	(3⁻,4,5)	2139.74	4⁺			
1975.7 *1*	5.04 *17*	3032.84	3⁻	1057.09	2⁺			
2511.1 *2*	0.84 *5*	3568.27	(3,4⁺)	1057.09	2⁺			
2580.9 *2*	1.21[#] *5*	3637.84	(3,4⁺)	1057.09	2⁺			
3278.5 *4*	0.29 *3*	4335.7	(3,4⁺)	1057.09	2⁺			

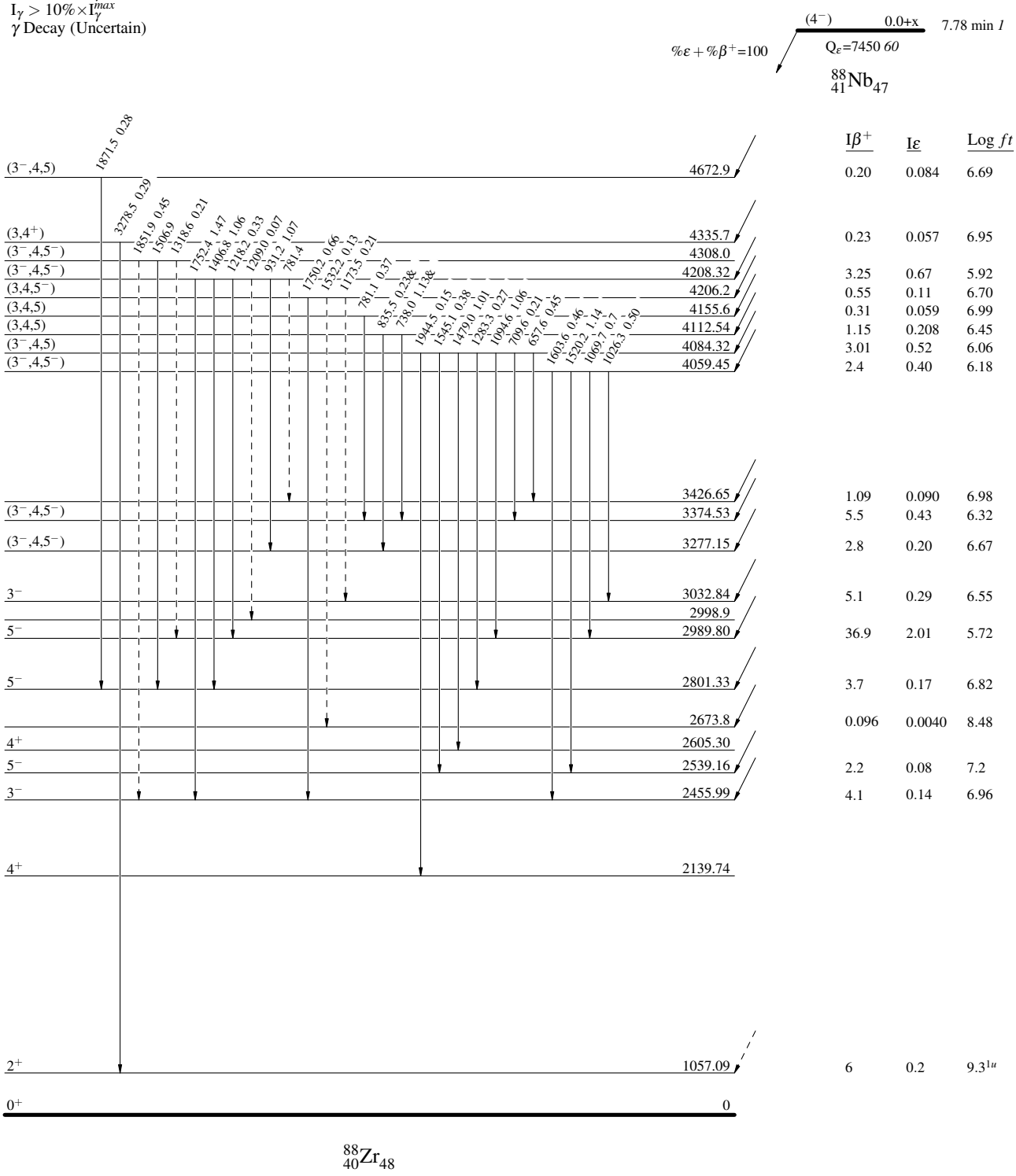
[†] From the Adopted Gammas.
[‡] Weak.
[#] Contamination intensity subtracted.
[@] From level energy difference.
[&] From coincidence spectra.
[a] For absolute intensity per 100 decays, multiply by 1.006 *36*.
[b] Multiply placed with undivided intensity.
[c] Placement of transition in the level scheme is uncertain.
[x] γ ray not placed in level scheme.

^{88}Nb ε decay (7.78 min) 1984Ox01

Decay Scheme

Intensities: I_γ per 100 parent decays
& Multiply placed: undivided intensity given

Legend
- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- γ Decay (Uncertain)



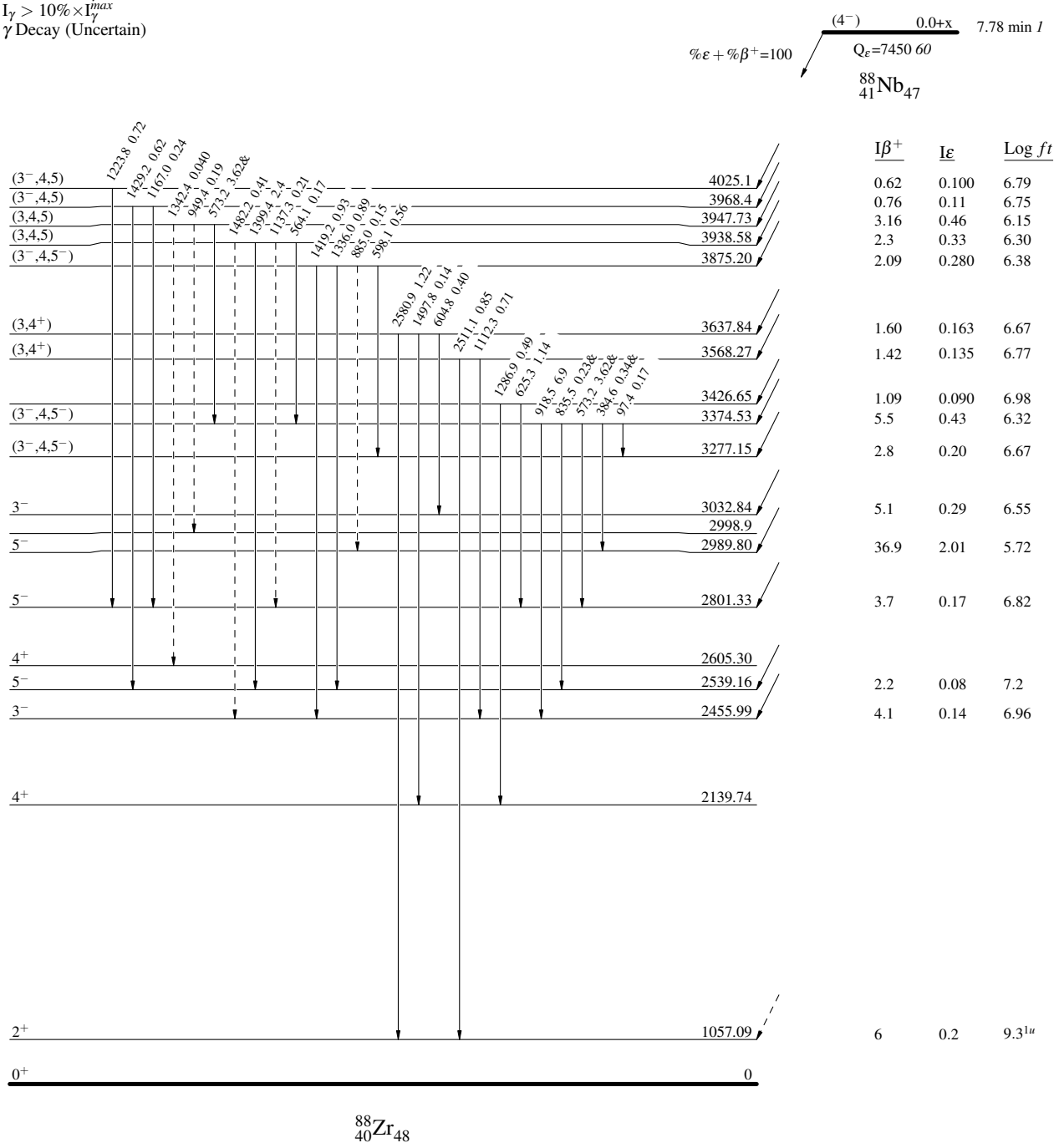
	Iβ⁺	Iε	Log *ft*
4672.9	0.20	0.084	6.69
4335.7	0.23	0.057	6.95
4308.0			
4208.32	3.25	0.67	5.92
4206.2	0.55	0.11	6.70
4155.6	0.31	0.059	6.99
4112.54	1.15	0.208	6.45
4084.32	3.01	0.52	6.06
4059.45	2.4	0.40	6.18
3426.65	1.09	0.090	6.98
3374.53	5.5	0.43	6.32
3277.15	2.8	0.20	6.67
3032.84	5.1	0.29	6.55
2998.9			
2989.80	36.9	2.01	5.72
2801.33	3.7	0.17	6.82
2673.8	0.096	0.0040	8.48
2605.30			
2539.16	2.2	0.08	7.2
2455.99	4.1	0.14	6.96
2139.74			
1057.09	6	0.2	9.3[1u]
0			

^{88}Nb ε decay (7.78 min) 1984Ox01

Decay Scheme (continued)

Intensities: I_γ per 100 parent decays
& Multiply placed: undivided intensity given

Legend
- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- γ Decay (Uncertain)



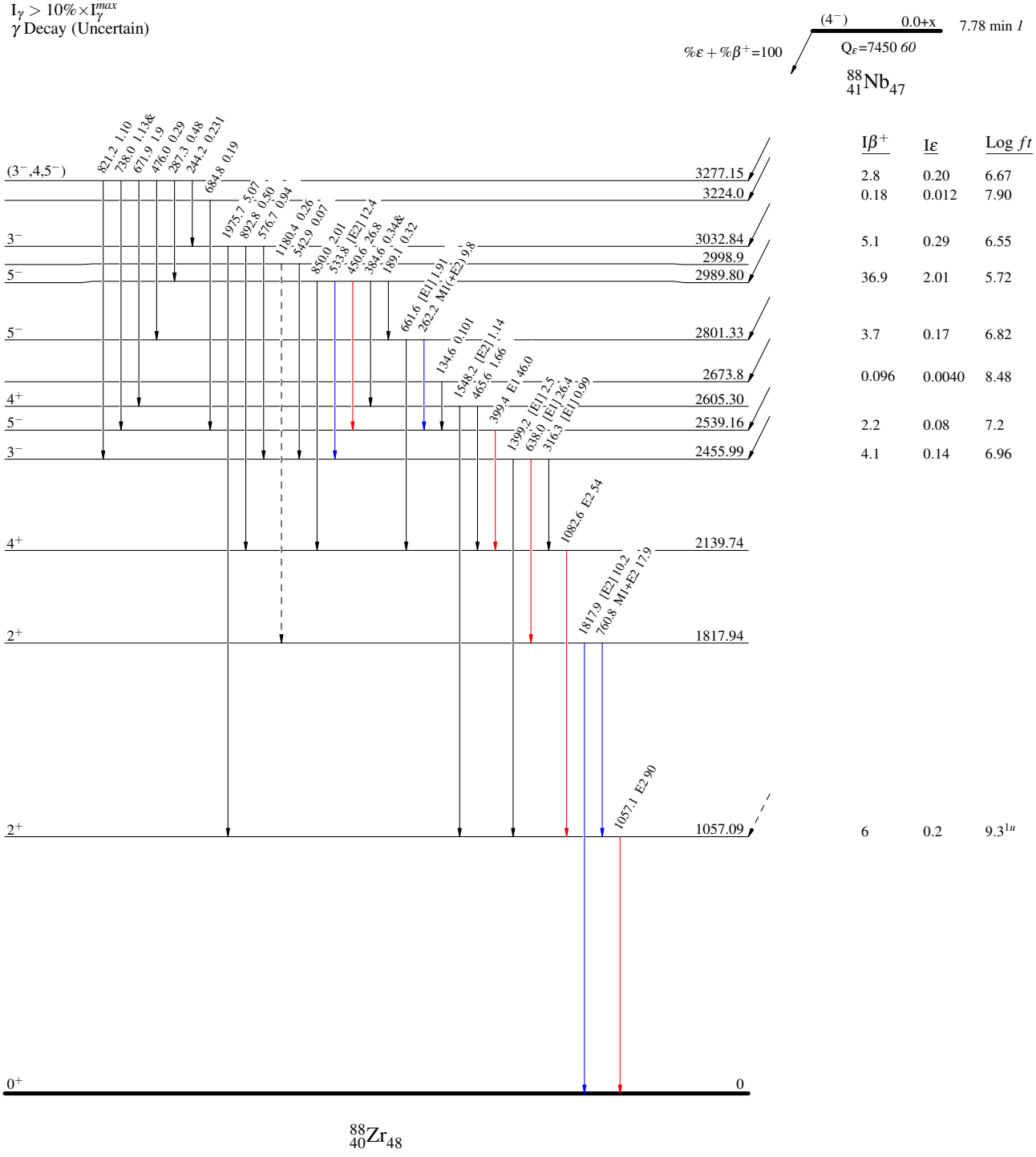
	Iβ+	Iε	Log ft
	0.62	0.100	6.79
	0.76	0.11	6.75
	3.16	0.46	6.15
	2.3	0.33	6.30
	2.09	0.280	6.38
	1.60	0.163	6.67
	1.42	0.135	6.77
	1.09	0.090	6.98
	5.5	0.43	6.32
	2.8	0.20	6.67
	5.1	0.29	6.55
	36.9	2.01	5.72
	3.7	0.17	6.82
	2.2	0.08	7.2
	4.1	0.14	6.96
	6	0.2	9.3[1u]

^{88}Nb ε decay (7.78 min) 1984Ox01

Decay Scheme (continued)

Intensities: I_γ per 100 parent decays
& Multiply placed: undivided intensity given

Legend
- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- γ Decay (Uncertain)



	Iβ+	Iε	Log ft
3277.15	2.8	0.20	6.67
3224.0	0.18	0.012	7.90
3032.84	5.1	0.29	6.55
2989.80	36.9	2.01	5.72
2801.33	3.7	0.17	6.82
2673.8	0.096	0.0040	8.48
2539.16	2.2	0.08	7.2
2455.99	4.1	0.14	6.96
1057.09	6	0.2	9.3[1u]