^{65}Ge $\varepsilon+\beta^+$ decay (30.9 s) 1973Jo12,1987Vi01

		History	
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 202,59 (2025)	25-Feb-2025

Parent: ^{65}Ge: E=0; J$^\pi$=(3/2)$^-$; T$_{1/2}$=30.9 s *7*; Q($\varepsilon+\beta^+$)=6179.3 *23*; %$\varepsilon+\beta^+$ decay=100

^{65}Ge-J$^\pi$,T$_{1/2}$: From Adopted Levels of ^{65}Ge.

^{65}Ge-Q($\varepsilon+\beta^+$): From 2021Wa16.

1973Jo12: ^{65}Ge source was produced via ^{64}Zn(^{3}He,n) with 20 MeV ^{3}He beam from the AVF cyclotron of the Vrijie Universiteit. γ rays were detected with a Ge(Li) detector. Measured Eγ, Iγ, γ(t). Deduced levels, J, π, parent T$_{1/2}$, decay branching ratios, log *ft*.

1987Vi01: ^{65}Ge source was produced via ^{64}Zn(^{3}He,2n) with 25 MeV ^{3}He beam from the University of Jyvaskyla MC-20 cyclotron. γ rays were detected with a Ge(Li) detector and β-delayed protons were detected with a Si(Au) surface-barrier detector. Measured Eγ, β-delayed proton. Deduced levels, proton branchiing ratios, log *ft*, B(GT) for levels above S(p). 1987Vi01 also report data for ^{64}Zn(p,γ):resonance.

1974Ro16: ^{65}Ge source was produced via ^{64}Zn(He,2n) with 70 MeV ^{3}He beam from the Michigan State University cyclotron. γ rays were detected with a Ge(Li) detector. Measured Eγ, Iγ, γ(t). Deduced levels, J, π, parent T$_{1/2}$, decay branching ratios, log *ft*.

1976Ha29,1981Ha44: ^{65}Ge source was produced via ^{40}Ca(^{28}Si,2pn) with 90 MeV ^{28}Si beam from the Chalk River upgraded MP tandem. γ rays were detected with a Ge(Li) or a Na(Tl) detector; X rays were were detected with a intrinsic Ge detector; β-delayed protons were detected with a ΔE-E surface-barrier counter telescope. Measured Eγ, Iγ, β-delayed proton spectra, p-(X ray), p-γ, γ-(X ray) and $\beta^+\gamma$ coincidences, β-p(t). Deduced parent T$_{1/2}$, proton branching ratio.

1975Ro25: ^{65}Ge source was produced via ^{64}Zn(^{3}He,2n) at Vrijie Universiteit. γ rays were detected with Ge(Li) and NaI(Tl) detectors; positrons were detected with a plastic scintillator. Measured delayed $\gamma\gamma$-coin, positron-γ-coin. Deduced T$_{1/2}$.

Others:

A T$_{1/2}$=1.5 min ^{65}Ge activity reported in 1958Po79 and associated with γ-rays at 0.67 and 1.72 MeV has been searched for but not observed (1973Jo12,1974Ro16).

The decay scheme is considered complete.

^{65}Ga Levels

E(level)[†‡]	J$^\pi$[#]	T$_{1/2}$[#]	Comments
0	3/2$^-$	15.133 min *28*	I($\varepsilon+\beta^+$)=0 *14* from the normalization used here; it is estimated to be <10% (1973Jo12). Other: <30% from measured growth of ^{65}Ga daughter activity (1974Ro16).
62.0 *2*	(1/2)$^-$	<1.2 ns	T$_{1/2}$: from measurement of delayed 62γ-$\gamma^\pm$ coincidence (1975Ro25).
190.8 *2*	5/2$^-$	650 ps *24*	
649.7 *2*	1/2$^-$,3/2$^-$		
809.2 *2*	1/2$^-$,3/2$^-$		
1075.8 *2*	7/2$^{(-)}$		
1662.8 *5*	1/2$^-$,3/2$^-$		
1879.4 *2*	(1/2,3/2,5/2)$^-$		
1901.7? *5*			
2046.3? *3*			
2161.8? *4*	(1/2$^-$,3/2$^-$,5/2$^-$)		
2929.6? *5*			
3085.3? *4*			
3197.1? *7*			
3279.4? *6*			
5065 *5*			E(p)(lab)=1105 *5*.
5116 *5*			E(p)(lab)=1156 *5*.
5192 *10*			E(p)(lab)=1230 *10*.
5239 *5*			E(p)(lab)=1277 *5*.
5298 *5*			E(p)(lab)=1335 *5*.
5338 *5*			E(p)(lab)=1374 *5*.
5354 *10*	(1/2$^+$)		E(p)(lab)=1390 *10*.

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^{65}Ge ε+β^+ decay (30.9 s) 1973Jo12,1987Vi01 (continued)

^{65}Ga Levels (continued)

E(level)[†‡]	Comments
5384 *5*	E(p)(lab)=1419 *5*.
5393 *10*	E(p)(lab)=1428 *10*.
5436 *5*	E(p)(lab)=1471 *5*.
5467 *5*	E(p)(lab)=1501 *5*.
5480 *5*	E(p)(lab)=1514 *5*.
5507 *5*	E(p)(lab)=1541 *5*.
5552 *5*	E(p)(lab)=1585 *5*.
5562 *10*	E(p)(lab)=1595 *10*.
5596 *5*	E(p)(lab)=1628 *5*.
5642 *5*	E(p)(lab)=1674 *5*.
5656 *5*	E(p)(lab)=1687 *5*.
5677 *5*	E(p)(lab)=1708 *5*.
5708 *5*	E(p)(lab)=1739 *5*.
5757 *10*	E(p)(lab)=1787 *10*.
5799 *5*	E(p)(lab)=1828 *5*.
5844 *5*	E(p)(lab)=1872 *5*.
5868 *5*	E(p)(lab)=1896 *5*.
5899 *5*	E(p)(lab)=1927 *5*.
5920 *10*	E(p)(lab)=1947 *10*.
5927 *10*	E(p)(lab)=1954 *10*.
5993 *10*	E(p)(lab)=2019 *10*.

† Additional information 1.
‡ From a least-squares fit to γ-ray energies up to 3279 level and from measured E(p) of β^+-delayed proton in 1987Vi01 for E(level)≥5065, unless otherwise noted. For values from E(p), E(level)=[1+m(p)/m(^{64}Zn)]×E(p)+S(p)(^{65}Ga), where m(p) and m(^{64}Zn) are masses, E(p) the proton energy in lab frame as given under comments, and S(p)=3942.5 *7* (2021Wa16).
# From Adopted Levels.

ε,β^+ radiations

av Eβ: Additional information 2.
The fraction of β decays populating proton-emitting states in ^{65}Ga is measured to be: 1.3×10^{-4} *5* (1976Ha29), 1.1×10^{-4} *3* (1987Vi01).

E(decay)	E(level)	Iε[‡]	Log *ft*	I($\varepsilon+\beta^+$)[‡]	Comments
(186 *10*)	5993	1.2×10^{-4} *5*	5.6 *+3−2*	1.2×10^{-4} *5*	εK=0.87110 *91*; εL=0.10896 *69*; εM+=0.01994 *18*
(252 *10*)	5927	8×10^{-5} *4*	6.0 *+4−3*	8×10^{-5} *4*	εK=0.87410 *57*; εL=0.10648 *41*; εM+=0.01943 *13*
(259 *10*)	5920	2.4×10^{-4} *10*	5.6 *+3−2*	2.4×10^{-4} *10*	εK=0.87432 *55*; εL=0.10629 *40*; εM+=0.01939 *12*
(280 *6*)	5899	1.3×10^{-4} *5*	5.9 *+3−2*	1.3×10^{-4} *5*	εK=0.87492 *36*; εL=0.10580 *24*; εM+=0.019281 *97*
(311 *6*)	5868	4.5×10^{-4} *7*	5.5 *1*	4.5×10^{-4} *7*	εK=0.87566 *33*; εL=0.10519 *22*; εM+=0.019155 *92*
(335 *6*)	5844	4.5×10^{-4} *7*	5.5 *1*	4.5×10^{-4} *7*	εK=0.87613 *31*; εL=0.1048 *2*; εM+=0.019075 *89*
(380 *6*)	5799	6.7×10^{-4} *10*	5.5 *1*	6.7×10^{-4} *10*	εK=0.87684 *29*; εL=0.10420 *18*; εM+=0.018951 *85*
(422 *10*)	5757	1.5×10^{-4} *5*	6.2 *2*	1.5×10^{-4} *5*	εK=0.87737 *33*; εL=0.10377 *22*; εM+=0.018861 *91*
(471 *6*)	5708	3.0×10^{-4} *5*	6.0 *1*	3.0×10^{-4} *5*	εK=0.87787 *26*; εL=0.10336 *16*; εM+=0.018776 *80*
(502 *6*)	5677	5.2×10^{-4} *7*	5.8 *1*	5.2×10^{-4} *7*	εK=0.87813 *25*; εL=0.10314 *15*; εM+=0.018731 *79*
(523 *6*)	5656	5.7×10^{-4} *7*	5.8 *1*	5.7×10^{-4} *7*	εK=0.87828 *25*; εL=0.10301 *15*; εM+=0.018705 *78*
(537 *6*)	5642	4.5×10^{-4} *7*	5.9 *1*	4.5×10^{-4} *7*	εK=0.87838 *25*; εL=0.10293 *15*; εM+=0.018687 *78*
(583 *6*)	5596	2.7×10^{-4} *5*	6.2 *1*	2.7×10^{-4} *5*	εK=0.87867 *24*; εL=0.10269 *14*; εM+=0.018637 *77*
(617 *10*)	5562	1.0×10^{-4} *5*	6.7 *+4−2*	1.0×10^{-4} *5*	εK=0.87886 *26*; εL=0.10253 *16*; εM+=0.018605 *80*

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^{65}Ge $\varepsilon+\beta^+$ decay (30.9 s) 1973Jo12,1987Vi01 (continued)

ϵ,β^+ radiations (continued)

E(decay)	E(level)	Iβ^+ †‡	Iε‡	Log *ft*	I($\varepsilon+\beta^+$)‡	Comments
(627 *6*)	5552		2.7×10^{-4} *5*	6.3 *1*	2.7×10^{-4} *5*	εK=0.87891 *24*; εL=0.10249 *14*; εM+=0.018597 *76*
(672 *6*)	5507		6.6×10^{-4} *10*	6.0 *1*	6.6×10^{-4} *10*	εK=0.87912 *23*; εL=0.10232 *14*; εM+=0.018560 *75*
(699 *6*)	5480		2.0×10^{-4} *5*	6.5 *2*	2.0×10^{-4} *5*	εK=0.87923 *23*; εL=0.10223 *13*; εM+=0.018541 *75*
(712 *6*)	5467		1.2×10^{-4} *5*	6.8 *+3−2*	1.2×10^{-4} *5*	εK=0.87928 *23*; εL=0.10218 *13*; εM+=0.018533 *75*
(743 *6*)	5436		2.4×10^{-4} *5*	6.5 *1*	2.4×10^{-4} *5*	εK=0.87940 *23*; εL=0.10209 *13*; εM+=0.018513 *74*
(786 *10*)	5393		7×10^{-5} *3*	7.1 *+3−2*	7×10^{-5} *3*	εK=0.87954 *24*; εL=0.10197 *14*; εM+=0.018488 *76*
(795 *6*)	5384		6.0×10^{-4} *10*	6.2 *1*	6.0×10^{-4} *10*	εK=0.87957 *22*; εL=0.10195 *13*; εM+=0.018484 *74*
(825 *10*)	5354		2.0×10^{-4} *10*	6.7 *+3−2*	2.0×10^{-4} *10*	εK=0.87966 *24*; εL=0.10187 *14*; εM+=0.018469 *76*
(841 *6*)	5338		3.4×10^{-4} *10*	6.5 *2*	3.4×10^{-4} *10*	εK=0.87970 *22*; εL=0.10184 *13*; εM+=0.018461 *73*
(881 *6*)	5298		5.0×10^{-4} *10*	6.3 *1*	5.0×10^{-4} *10*	εK=0.87981 *22*; εL=0.10175 *13*; εM+=0.018442 *73*
(940 *6*)	5239		0.00114 *15*	6.0 *1*	1.14×10^{-3} *15*	εK=0.87995 *22*; εL=0.10164 *13*; εM+=0.018419 *73*
(987 *10*)	5192		1.7×10^{-4} *10*	6.9 *+4−2*	1.7×10^{-4} *10*	εK=0.88004 *23*; εL=0.10155 *13*; εM+=0.018402 *74*
(1063 *6*)	5116		8.4×10^{-4} *10*	6.3 *1*	8.4×10^{-4} *10*	εK=0.88018 *22*; εL=0.10144 *12*; εM+=0.018378 *72*
(1114 *6*)	5065		1.3×10^{-4} *5*	7.1 *2*	1.3×10^{-4} *5*	εK=0.88017 *22*; εL=0.10136 *12*; εM+=0.018362 *72*
(2899.9 *26*)	3279.4?	1.22 *16*	0.144 *17*	4.91 *+7−6*	1.36 *16*	av Eβ=824.3 *11*; εK=0.09335 *72*; εL=0.010646 *83*; εM+=0.001926 *15*
(2982.2 *26*)	3197.1?	0.64 *28*	0.067 *26*	5.3 *2*	0.71 *28*	av Eβ=862.1 *11*; εK=0.08289 *64*; εL=0.009452 *74*; εM+=0.001710 *14*
(3094.0 *26*)	3085.3?	1.79 *22*	0.157 *18*	4.93 *+7−6*	1.95 *22*	av Eβ=913.5 *11*; εK=0.07096 *54*; εL=0.008090 *62*; εM+=0.001464 *11*
(3249.7 *26*)	2929.6?	0.51 *24*	0.036 *16*	5.6 *+3−2*	0.55 *24*	av Eβ=985.4 *11*; εK=0.05781 *43*; εL=0.006589 *50*; εM+=0.0011920 *94*
(4017.5 *26*)	2161.8?	2.28 *20*	0.066 *6*	5.54 *5*	2.35 *20*	av Eβ=1344.3 *11*; εK=0.02463 *17*; εL=0.002805 *20*; εM+=5.074×10^{-4} *38*
(4133.0 *25*)	2046.3?	1.36 *22*	0.035 *6*	5.84 *9*	1.39 *22*	av Eβ=1398.8 *11*; εK=0.02207 *15*; εL=0.002513 *17*; εM+=4.546×10^{-4} *34*
(4277.6 *26*)	1901.7?	0.29 *19*	0.007 *4*	6.6 *+5−3*	0.30 *19*	av Eβ=1467.1 *11*; εK=0.01934 *13*; εL=0.002202 *15*; εM+=3.982×10^{-4} *29*
(4299.9 *25*)	1879.4	5.4 *6*	0.118 *13*	5.34 *6*	5.5 *6*	av Eβ=1477.7 *11*; εK=0.01896 *13*; εL=0.002158 *15*; εM+=3.904×10^{-4} *29*
(4516.5 *26*)	1662.8	0.68 *13*	0.0123 *23*	6.4 *1*	0.69 *13*	av Eβ=1580.4 *11*; εK=0.01574 *10*; εL=0.001791 *12*; εM+=3.240×10^{-4} *23*
(5103.5 *25*)	1075.8	0.34 *32*	0.009 *8*	8.6^{1u} *+11−3*	0.35 *32*	av Eβ=1870.4 *11*; εK=0.02273 *15*; εL=0.002596 *17*; εM+=4.698×10^{-4} *33*
(5370.1 *25*)	809.2	19.6 *16*	0.187 *15*	5.34 *5*	19.8 *16*	av Eβ=1988.0 *11*; εK=0.008335 *52*; εL=9.482×10^{-4} *60*; εM+=1.715×10^{-4} *12*
(5529.6 *25*)	649.7	34.4 *21*	0.295 *18*	5.17 *4*	34.7 *21*	av Eβ=2064.6 *11*; εK=0.007507 *47*; εL=8.539×10^{-4} *54*; εM+=1.544×10^{-4} *10*
(5988.5 *25*)	190.8	4.4 *8*	0.028 *5*	6.3 *1*	4.4 *8*	av Eβ=2285.4 *11*; εK=0.005667 *34*; εL=6.444×10^{-4} *40*; εM+=1.1656×10^{-4}

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^{65}Ge $\varepsilon+\beta^+$ decay (30.9 s) 1973Jo12,1987Vi01 (continued)

ϵ,β^+ radiations (continued)

E(decay)	E(level)	Iβ^+ †‡	Iε‡	Log *ft*	I($\varepsilon+\beta^+$)‡	Comments
						79
(6117.3 *25*)	62.0	27 *4*	0.16 *3*	5.5 *1*	27 *4*	av Eβ=2347.5 *11*; εK=0.005262 *32*; εL=5.984×10^{-4} *37*; εM+=1.0821×10^{-4} *73*

† From γ+ce intensity balance at each level for E(level)<2000, and from measured %I(p) of β^+-delayed protons for E(level)=5065 and above, unless otherwise noted.
‡ Absolute intensity per 100 decays.

$\gamma(^{65}$Ga)

Iγ normalization: Deduced by the evaluator from Iγ($\gamma^{\pm}$)/Iγ(650)=6.0 *5* (1973Jo12), relative $\varepsilon+\beta^+$ feeding from γ+ce intensity balance at each level, and theoretical ε/β^+ ratio at each level. Based on this normalization factor of 0.57 *9*, a total $\varepsilon+\beta^+$ feeding of 108 *20* is deduced based on γ+ce intensity balance at each level, indicating the completeness of the decay scheme. Other: 0.33 *2* from Σ%I(γ+ce to g.s.)=100−%Iβ(g.s.)=100.

E_γ[†]	I_γ[†#]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[‡]	δ[‡]	α[@]	Comments
62.0 *2*	76 *13*	62.0	(1/2)$^-$	0	3/2$^-$	[M1]		0.266	α(K)=0.233; α(L)=0.0248 %Iγ=25.1 *30* E_γ: from 1974Ro16. Other: 62.1 *5* (1973Jo12). I_γ: weighted average of 81 *15* (1973Jo12) and 73 *13* (1974Ro16).
190.8 *2*	30.6 *17*	190.8	5/2$^-$	0	3/2$^-$	M1+E2	−0.7 *3*	0.029 *10*	α(K)=0.026 *9*; α(L)=0.028 *10* %Iγ=10.1 *8* E_γ: other: 190.7 *3* (1974Ro16). I_γ: weighted average of 31.3 *19* (1973Jo12) and 30.0 *17* (1974Ro16).
459.1 *5*	6.0 *8*	649.7	1/2$^-$,3/2$^-$	190.8	5/2$^-$				%Iγ=1.98 *29*
587.7 *2*	7.8 *10*	649.7	1/2$^-$,3/2$^-$	62.0	(1/2)$^-$				%Iγ=2.6 *4* E_γ: other: 587.8 *3* (1974Ro16). I_γ: weighted average of 8.0 *12* (1973Jo12) and 7.6 *10* (1974Ro16).
618.7 *4*	4.6 *7*	809.2	1/2$^-$,3/2$^-$	190.8	5/2$^-$				%Iγ=1.52 *25*
649.7 *2*	100	649.7	1/2$^-$,3/2$^-$	0	3/2$^-$				%Iγ=33.1 *19* E_γ: other: 649.8 *3* with Iγ=100 (%Iγ=33.0 *13*) (1974Ro16).
[x]753.0[a] *3*	3.9 *6*								%Iγ=1.29 *21* E_γ: reported in 1974Ro16 as a possible γ ray associated with ^{65}Ge ε decay. Not reported in 1973Jo12. I_γ: from 1974Ro16.
809.1 *2*	65 *4*	809.2	1/2$^-$,3/2$^-$	0	3/2$^-$				%Iγ=21.5 *16* E_γ: other: 809.3 *3* (1974Ro16). I_γ: weighted average of 65 *4* (1973Jo12) and 64 *4* (1974Ro16).
826.8[a] *15*	1.1 *4*	1901.7?		1075.8	7/2$^{(-)}$				%Iγ=0.36 *14*
884.9 *3*	1.0 *4*	1075.8	7/2$^{(-)}$	190.8	5/2$^-$	(M1+E2)	−0.23 *4*		%Iγ=0.33 *14*
970.7[a] *15*	0.7 *3*	2046.3?		1075.8	7/2$^{(-)}$				%Iγ=0.23 *10*
1070.2 *3*	3.0 *5*	1879.4	(1/2,3/2,5/2)$^-$	809.2	1/2$^-$,3/2$^-$				%Iγ=0.99 *18* E_γ: other: 1070.4 *3* (1974Ro16). I_γ: weighted average of 2.8 *3* (1973Jo12) and 3.9 *6* (1974Ro16).

$^{65}_{31}$Ga$_{34}$-5

γ(^{65}Ga) (continued)

E_γ[†]	I_γ[†#]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[‡]	Comments
							I_γ: weighted average of 2.8 *3* (1973Jo12) and 3.9 *6* (1974Ro16).
1075.9 *3*	2.5 *3*	1075.8	$7/2^{(-)}$	0	$3/2^-$	(E2)	%Iγ=0.83 *11*
1150.7[a] *15*	0.4 *2*	3197.1?		2046.3?			%Iγ=0.13 *7*
1183.6[a] *3*	1.4 *3*	3085.3?		1901.7?			%Iγ=0.46 *10*
1205.7[a] *4*	3.8 *4*	3085.3?		1879.4	$(1/2,3/2,5/2)^-$		%Iγ=1.26 *15*
							E_γ: other: 1205.6 *5* (1974Ro16).
							I_γ: weighted average of 3.7 *4* (1973Jo12) and 4.2 *12* (1974Ro16).
1229.8 *3*	6.7 *10*	1879.4	$(1/2,3/2,5/2)^-$	649.7	$1/2^-,3/2^-$		%Iγ=2.2 *4*
							E_γ,I_γ: from 1974Ro16. Not reported in 1973Jo12.
1237.1[a] *3*	3.9 *5*	2046.3?		809.2	$1/2^-,3/2^-$		%Iγ=1.29 *18*
							This γ has been assigned to the decays of 1299 and 1880 levels in the ^{64}Zn(p,γ) data of 1987Vi01.
							E_γ: other: 1237.0 *5* (1974Ro16).
							I_γ: weighted average of 3.8 *3* (1973Jo12) and 5.8 *13* (1974Ro16).
1511.9[a] *10*	1.0 *2*	2161.8?	$(1/2^-,3/2^-,5/2^-)$	649.7	$1/2^-,3/2^-$		%Iγ=0.33 *7*
1600.8 *5*	2.1 *3*	1662.8	$1/2^-,3/2^-$	62.0	$(1/2)^-$		%Iγ=0.69 *11*
1616.6[a] *5*	2.2 *3*	3279.4?		1662.8	$1/2^-,3/2^-$		%Iγ=0.73 *11*
1688.5 *5*	6.7 *6*	1879.4	$(1/2,3/2,5/2)^-$	190.8	$5/2^-$		%Iγ=2.22 *24*
							E_γ: other: 1688.4 *5* with Iγ=10.9 *16* (1974Ro16).
1816.3 *15*	1.2 *3*	1879.4	$(1/2,3/2,5/2)^-$	62.0	$(1/2)^-$		%Iγ=0.40 *10*
1879.2 *5*	2.9 *7*	1879.4	$(1/2,3/2,5/2)^-$	0	$3/2^-$		%Iγ=0.96 *24*
							E_γ: other: 1879.6 *6* (1974Ro16).
							I_γ: other: 10.9 *16* from 1974Ro16 is discrepant.
1902[a] *2*	1.2 *3*	1901.7?		0	$3/2^-$		%Iγ=0.40 *10*
2099.6[a] *4*	4.5 *3*	2161.8?	$(1/2^-,3/2^-,5/2^-)$	62.0	$(1/2)^-$		%Iγ=1.49 *13*
2121.6[&a] *10*	1.0[&] *3*	2929.6?		809.2	$1/2^-,3/2^-$		%Iγ=0.33 *10*
2121.6[&a] *10*	1.0[&] *3*	3197.1?		1075.8	$7/2^{(-)}$		%Iγ=0.33 *10*
2162.6[a] *12*	1.6 *3*	2161.8?	$(1/2^-,3/2^-,5/2^-)$	0	$3/2^-$		%Iγ=0.53 *10*
[x]2219 *2*	0.7 *4*						%Iγ=0.23 *13*
2279.5[a] *5*	1.0 *3*	2929.6?		649.7	$1/2^-,3/2^-$		%Iγ=0.33 *10*
2387.6[a] *10*	1.1 *5*	3197.1?		809.2	$1/2^-,3/2^-$		%Iγ=0.36 *17*
[x]2448.0 *4*	4.2 *5*						%Iγ=1.39 *18*
2469.3[a] *15*	1.0 *2*	3279.4?		809.2	$1/2^-,3/2^-$		%Iγ=0.33 *7*
[x]2703.5 *15*	0.6 *3*						%Iγ=0.20 *10*
[x]2717.2 *15*	1.0 *3*						%Iγ=0.33 *10*
[x]2968.5 *12*	1.5 *2*						%Iγ=0.50 *7*
3085.9[a] *15*	0.7 *3*	3085.3?		0	$3/2^-$		%Iγ=0.23 *10*
3280[a] *2*	0.9 *2*	3279.4?		0	$3/2^-$		%Iγ=0.30 *7*

$^{65}_{31}$Ga$_{34}$-6

γ(^{65}Ga) (continued)

† From 1973Jo12, unless otherwise noted. Original values in 1974Ro16 is reported as absolute intensities and values quoted here as from 1974Ro16 are from renormalization by the evaluator of those %Iγ to relative intensity Iγ=100 for 650γ.

‡ From Adopted Gammas.

For absolute intensity per 100 decays, multiply by 0.331 *19*.

@ Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with "Frozen Orbitals" approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

& Multiply placed with undivided intensity.

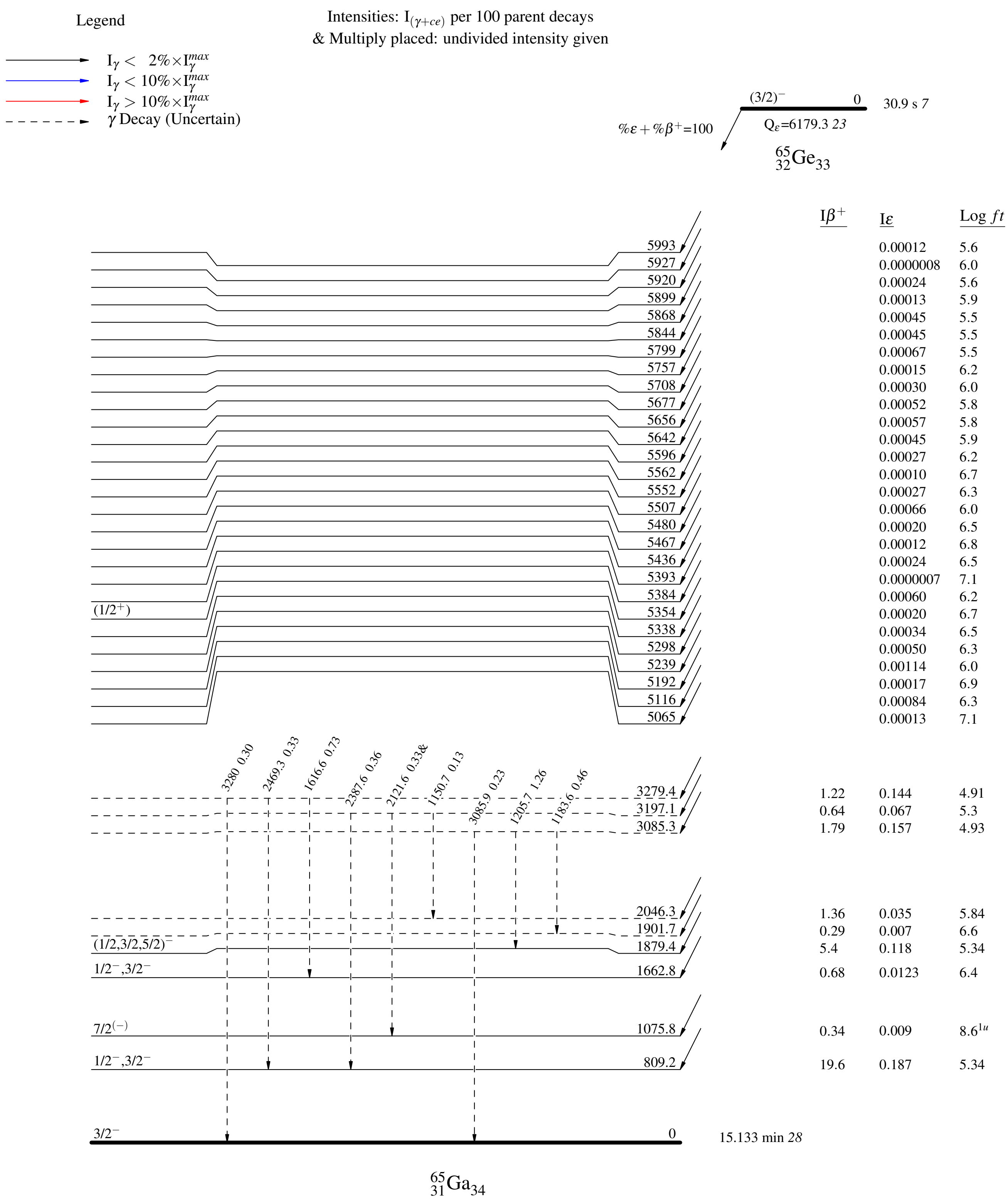
[a] Placement of transition in the level scheme is uncertain.

[x] γ ray not placed in level scheme.

$^{65}_{31}$Ga$_{34}$-7

^{65}Ge $\varepsilon+\beta^+$ decay (30.9 s) 1973Jo12,1987Vi01

Decay Scheme



^{65}Ge $\varepsilon+\beta^+$ decay (30.9 s) 1973Jo12,1987Vi01

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
& Multiply placed: undivided intensity given