^{71}As ε decay (65.30 h) 1990Me01,1972Va17,1971Mu14

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 188,1 (2023)	17-Jan-2023

Parent: ^{71}As: E=0.0; $J^\pi=5/2^-$; $T_{1/2}$=65.30 h *7*; Q(ε)=2013 *4*; %ε+%$β^+$ decay=100

^{71}As-J^π,$T_{1/2}$: From ^{71}As Adopted Levels.

^{71}As-Q(ε): From 2021Wa16.

1990Me01: measured Eγ, Iγ, γγ, isotopic half-life with Ge(Li) detectors at Lawrence Berkeley Laboratory.

1972Va17: measured Eγ, Iγ, γγ with a Ge(Li) detector at the University of Notre Dame. A total of 14 levels reported. Results are in agreement with those from 1990Me01.

1971Mu14: measured Eγ, Iγ, γγ, isotopic $T_{1/2}$ with a Ge(Li) detector at the University of Manchester. A total of 18 levels reported. Results are in agreement with those from 1990Me01.

1993Ha08: measured γ(θ) for oriented nuclei at low temperature, deduced mixing ratios. Comparisons with interacting boson-fermion model calculations.

1987Br24: measured γ(θ) with low temperature nuclear orientation at Clarendon Laboratory in Oxford. Deduced multipolarity, mixing ratio. Sign convention for δ not specified.

1967Vi06: measured Eγ, Iγ. A total of 17 γ rays were reported and 15 were placed amongst 8 levels, three of them tentative. The 279, 1315 and 1495 levels were not confirmed in later studies.

Others:

2005Se14: measured β(θ) and γ(θ) using oriented nuclei at low temperature, deduced isospin mixing in the ground state of ^{71}As.

2004Br44: theoretical calculations of β decay rates and levels using interacting boson-fermion model.

Additional information 1.

Earlier references for production, decay and $T_{1/2}$ of ^{71}As: 1959Re24, 1957Be46, 1955Gr08, 1954Th36, 1953St31, 1952Br90, 1950Me55, 1950Ho26, 1948Mc31, 1941Sa01, 1939Sa02.

^{71}Ge Levels

E(level)†	J^π‡	$T_{1/2}$&	Comments
0.0	$1/2^-$	11.43 d *3*	$T_{1/2}$: from the Adopted Levels.
174.954 *4*	$5/2^-$	81 ns *3*	$T_{1/2}$: value from this dataset: ≈70 ns (1955Gr08).
198.371 *10*	$9/2^+$	20.22 ms *12*	%IT=100 $T_{1/2}$: from the Adopted Levels.
499.899 *5*	$3/2^-$		
525.116 *6*	$5/2^+$		
589.771 *11*	$7/2^+$		
708.199 *5*	$3/2^-$	>10.7 ps	
747.255 *5*	$5/2^-$		
808.230 *17*	$1/2^-$		
831.299 *8*	$3/2^-$		
886.94 *10*	$(3/2^-)$		
1026.543 *6*	$5/2^-$#	>1.2 ps	
1038.29 *10*	$9/2^+$		
1095.512 *6*	$3/2^-$@	0.62 ps *14*	
1096.06 *20*	$7/2^-$		
1139.446 *8*	$3/2^-$@	4.0 ps *14*	
1192.3?	$11/2^+$	<0.108 ps	Additional information 2.
1205.145 *8*	$5/2^+$	1.11 ps *28*	
1212.498 *6*	$5/2^-$	>1.2 ps	
1298.737 *14*	$3/2^-$@	0.42 ps *9*	
1378.70 *5*	$5/2^-$		E(level): doublet proposed by the evaluators based on branching ratios in different datasets.
1379.0? *5*	$(1/2^-)$		
1406.651 *10*	$7/2^-$		An 881.8γ placed by 1972Va17 from this level is assigned elsewhere in 1990Me01.
1421.97 *10*	$9/2^-$	<1.2 ps	

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^{71}As ε decay (65.30 h) 1990Me01,1972Va17,1971Mu14 (continued)

^{71}Ge Levels (continued)

E(level)†	Jπ‡	$T_{1/2}$&	Comments
1449.8? *3*			
1506.381 *14*	7/2−	0.51 ps *16*	A 480.4γ placed by 1972Va17 from this level is not seen by 1990Me01.
1558.744 *14*	5/2+		
1598.535 *17*	3/2−	0.55 ps *15*	
1629.178 *12*	(3/2+,5/2−)		
1743.409 *18*	3/2−	0.42 ps *15*	
1780.746 *19*	5/2−,7/2−		
1792.098 *9*	(3/2+,5/2−)		A 1593.1γ placed by 1972Va17 from this level is not seen by 1990Me01.
1801.13 *7*	(5/2+,7/2)		
1937.45 *3*	(3/2+,5/2−)	0.69 ps *28*	431.7, 798.3, 911.4 and 1191.3 γ rays placed by 1972Va17 from this level. The 911γ is not seen by 1990Me01 while others are placed from different levels.
1965.06 *7*	3/2−		

† From a least-squares fit to Eγ data. Fit to the original γ-ray data gave an unacceptable reduced χ^2=6 with 12 γ rays outside three standard deviations. The evaluators have increased the uncertainties of poor-fitted Eγ values and omitted several very poorly-fitted Eγ values, as indicated under comments, resulting in χ^2=1.9 with these adjustments.
‡ From the Adopted Levels. Supporting arguments from this dataset are indicated in comments.
# 5/2 from γ(θ) (1987Br24).
@ 3/2 from γ(θ) (1987Br24).
& From Adopted Levels. Values from this dataset are given under comments where available.

ε,β+ radiations

Small negative feedings of −0.16 *5* for 747 level and −0.038 *12* for 831 level are found from the in-out intensity balance. Either some of the feeding γ rays are misplaced or their intensities are underestimated.

E(decay)	E(level)	Iε‡	Log *ft*	I(ε+β+)‡	Comments
(48 *4*)	1965.06	0.00116 *25*	7.18 *14*	0.00116 *25*	εK=0.824 *8*; εL=0.147 *7*; εM+=0.0289 *14*
(76 *4*)	1937.45	0.0196 *6*	6.42 *6*	0.0196 *6*	εK=0.8503 *23*; εL=0.1254 *19*; εM+=0.0243 *4*
(212 *4*)	1801.13	0.035 *3*	7.14 *5*	0.035 *3*	εK=0.8728 *3*; εL=0.10690 *18*; εM+=0.02025 *4*
(221 *4*)	1792.098	0.105 *4*	6.71 *3*	0.105 *4*	εK=0.8733 *2*; εL=0.10654 *16*; εM+=0.02017 *4*
(232 *4*)	1780.746	0.0292 *23*	7.31 *4*	0.0292 *23*	εK=0.8738 *2*; εL=0.10612 *15*; εM+=0.02008 *3*
(270 *4*)	1743.409	0.076 *4*	7.03 *3*	0.076 *4*	εK=0.8752 *2*; εL=0.1050 *1*; εM+=0.019840 *23*
(384 *4*)	1629.178	0.102 *9*	7.21 *4*	0.102 *9*	εK=0.8776; εL=0.10297 *5*; εM+=0.01940 *1*
(415 *4*)	1598.535	0.232 *18*	6.93 *4*	0.232 *18*	εK=0.8780; εL=0.10263 *5*; εM+=0.019329 *9*
(454 *4*)	1558.744	0.251 *7*	6.97 *2*	0.251 *7*	εK=0.8785; εL=0.10225 *4*; εM+=0.019248 *8*
(507 *4*)	1506.381	0.176 *6*	7.22 *2*	0.176 *6*	εK=0.8790; εL=0.10184 *3*; εM+=0.019161 *6*
(563 *4*)	1449.8?	0.033 *17*	8.04 *23*	0.033 *17*	εK=0.8794; εL=0.10149 *3*; εM+=0.019086 *5*
(591# *4*)	1421.97	0.00074 *25*	9.74 *15*	0.00074 *25*	εK=0.8796; εL=0.10134 *2*; εM+=0.019054 *5* Expected log *ft*>11 for ΔJ=2, Δπ=no transition.
(606 *4*)	1406.651	0.215 *7*	7.30 *2*	0.215 *7*	εK=0.8797; εL=0.10127 *2*; εM+=0.019038 *5*
(634# *4*)	1379.0?	0.0009 *4*	9.71 *20*	0.0009 *4*	εK=0.8798; εL=0.10114 *2*; εM+=0.019011 *4*
(634 *4*)	1378.70	0.21 *3*	7.35 *7*	0.21 *3*	εK=0.8798; εL=0.10114 *2*; εM+=0.019010 *4*
(714 *4*)	1298.737	0.222 *11*	7.43 *2*	0.222 *11*	εK=0.8802; εL=0.10083 *2*; εM+=0.018944 *3*
(801 *4*)	1212.498	1.09 *6*	6.84 *3*	1.09 *6*	εK=0.8805; εL=0.10057 *1*; εM+=0.018888 *3*
(808 *4*)	1205.145	0.730 *19*	7.02 *2*	0.730 *19*	εK=0.8806; εL=0.10055 *1*; εM+=0.018883 *3*
(874 *4*)	1139.446	1.02 *3*	6.94 *2*	1.02 *3*	εK=0.8808; εL=0.1004; εM+=0.018849 *2*
(917 *4*)	1096.06	0.017 *8*	8.76 *21*	0.017 *8*	εK=0.8809; εL=0.1003; εM+=0.01883
(918 *4*)	1095.512	4.59 *13*	6.33 *2*	4.59 *13*	εK=0.8809; εL=0.1003; εM+=0.01883
(975 *4*)	1038.29	0.0033 *17*	10.08[1u] *23*	0.0033 *17*	εK=0.8781; εL=0.10265 *2*; εM+=0.019295 *5*
(987 *4*)	1026.543	1.55 *5*	6.87 *2*	1.55 *5*	εK=0.8810; εL=0.1002; εM+=0.01880

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^{71}As ε decay (65.30 h) 1990Me01,1972Va17,1971Mu14 (continued)

ε,β+ radiations (continued)

E(decay)	E(level)	Iβ+ ‡	Iε‡	Log *ft*	I(ε+β+)‡	Comments
(1126 *4*)	886.94		0.0107 *19*	9.14 *8*	0.0107 *19*	εK=0.8812; εL=0.09993; εM+=0.01875
(1205 *4*)	808.230	2.5×10^{-5} *17*	0.014 *9*	9.1 *3*	0.014 *9*	av Eβ=83.1 *18*; εK=0.8798 *2*; εL=0.09966 *3*; εM+=0.018698 *5*
(1305# *4*)	708.199	<0.0005	<0.05	>8.6	<0.05	av Eβ=125.3 *17*; εK=0.8724 *5*; εL=0.09870 *7*; εM+=0.01851 *2*
(1423# *4*)	589.771	<0.001	<0.03	>8.9	<0.03	av Eβ=175.0 *17*; εK=0.8478 *13*; εL=0.09580 *15*; εM+=0.01797 *3*
(1488 *4*)	525.116	0.198 *8*	2.85 *8*	6.96 *2*	3.05 *9*	av Eβ=202.2 *17*; εK=0.8246 *17*; εL=0.09312 *20*; εM+=0.01746 *4*
(1513 *4*)	499.899	0.145 *8*	1.73 *8*	7.19 *2*	1.87 *9*	av Eβ=212.9 *17*; εK=0.8134 *19*; εL=0.09184 *22*; εM+=0.01722 *4*
(1815# *4*)	198.371	<0.04	<0.5	>9.0[1u]	<0.5	av Eβ=367.9 *18*; εK=0.8036 *15*; εL=0.09171 *17*; εM+=0.01721 *4*
1834† *7*	174.954	28.0 *9*	56.4 *16*	5.85 *2*	84.4 *24*	av Eβ=352.0 *18*; εK=0.589 *4*; εL=0.0663 *4*; εM+=0.01244 *7*

† Calculated from Eβ+=815 *10* (1955Gr08), 813 *10* (1954Th36) and 800 20 (1953St31).
‡ Absolute intensity per 100 decays.
# Existence of this branch is questionable.

^{71}As ε decay (65.30 h) 1990Me01,1972Va17,1971Mu14 (continued)

γ(^{71}Ge)

Iγ normalization: From ΣI(γ+ce to g.s.)=100. 1990Me01 give Iγ normalization=0.82 *3*.

1972Va17 reported 73 γ rays with 43 placed amongst 14 levels. All the levels are in agreement with those from 1990Me01, however, placements of some of the γ rays differ. Following γ rays reported by 1972Va17 have not been confirmed in 1990Me01: 480.4 (Iγ=0.019), 814.0 (Iγ=0.046), 911.4 (Iγ=0.010), 1238.3 (Iγ=0.0063), 1460.8 (Iγ=0.093), 1593.1 (Iγ=0.0057), 1730.4 (Iγ=0.0021), 1848.0 (Iγ=0.0029). Five of these are unplaced in level scheme proposed by 1972Va17. It is possible that most of these lines are contributed by background or impurities.

1971Mu14 reported 45 γ rays placed amongst 18 levels. All levels and placements are in agreement with those from 1990Me01.

A_2, A_4 and U_2A_2 coefficients are from 1993Ha08.

E_γ[†]	I_γ[†][d]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[a]	δ[a]	α[e]	$I_{(\gamma+ce)}$[d]	Comments
23.438 *15*	0.0226 *14*	198.371	9/2$^+$	174.954	5/2$^-$	M2		207.5 *30*		α(K)=169.5 *24*; α(L)=32.7 *5*; α(M)=5.03 *7* α(N)=0.265 *4* %Iγ=0.0186 *12* Mult.: from α(exp)=264 *53* (1971Mu14), obtained from their γ-ray data and ce data of 1955Gr08. I_γ: 0.0226 *13* (1990Me01, from table I, note that in authors′ level-scheme figure 1, value is listed as 0.011). The value in table I of 1990Me01 is in agreement with 0.023 *5* in 1971Mu14. ce(K)(175γ)/ce(K)(23γ)≈10; K/(L+M)≈1 (1955Gr08).
64.69		589.771	7/2$^+$	525.116	5/2$^+$	[M1+E2]		2.0 *18*	≤0.005	ce(K)/(γ+ce)=0.57 *28*; ce(L)/(γ+ce)=0.09 *9*; ce(M)/(γ+ce)=0.013 *14* ce(N)/(γ+ce)=6.E−4 *6* α(K)=1.7 *15*; α(L)=0.26 *24*; α(M)=0.038 *35* α(N)=0.0017 *15* $I_{(\gamma+ce)}$: intensity deduced from 615γ gate.
174.954 *5*	100.0 *20*	174.954	5/2$^-$	0.0	1/2$^-$	E2		0.0915 *13*		α(K)=0.0808 *11*; α(L)=0.00924 *13*; α(M)=0.001369 *19* α(N)=7.91×10^{-5} *11* %Iγ=82.45 *22* A_2=−0.322 *9*, A_4=+0.008 *10*, U_2A_2=−0.303 *9*. α(K)exp=0.095 (1955Gr08), 0.07 (1954Th36).
195.22 *15*	0.010[#] *5*	1026.543	5/2$^-$	831.299	3/2$^-$	[M1,E2]		0.037 *24*		%Iγ=0.008 *4* α(K)=0.033 *21*; α(L)=0.0037 *24*; α(M)=5.E−4 *4* α(N)=3.3×10^{-5} *20*
247.351 *5*	0.237 *6*	747.255	5/2$^-$	499.899	3/2$^-$	M1+E2	−0.18 *7*	0.0080 *5*		α(K)=0.0072 *5*; α(L)=0.00075 *5*; α(M)=0.000113 *7* α(N)=7.3×10^{-6} *4* %Iγ=0.195 *6*

^{71}As ε decay (65.30 h) 1990Me01,1972Va17,1971Mu14 (continued)

γ(^{71}Ge) (continued)

E_γ [†]	I_γ [†d]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[a]	δ[a]	α[e]	Comments
264.21 *15*	0.010[#] *5*	1095.512	3/2⁻	831.299	3/2⁻	[M1,E2]		0.013 *7*	%Iγ=0.008 *4* α(K)=0.012 *6*; α(L)=0.0013 *7*; α(M)=1.9×10⁻⁴ *10* α(N)=1.2×10⁻⁵ *6*
279.379[&] *7*	0.227 *8*	1026.543	5/2⁻	747.255	5/2⁻	(M1+E2)		0.011 *6*	α(K)=0.010 *5*; α(L)=0.0011 *5*; α(M)=1.6×10⁻⁴ *8* α(N)=1.0×10⁻⁵ *5* %Iγ=0.187 *8* E_γ: very poor fit and omitted in the fitting; level-energy difference=279.287.
287.32 *4*	0.026 *3*	1095.512	3/2⁻	808.230	1/2⁻	[M1,E2]		0.010 *5*	%Iγ=0.021 *3* α(K)=0.009 *4*; α(L)=1.0×10⁻³ *5*; α(M)=1.4×10⁻⁴ *7* α(N)=9.E−6 *4*
306.217 *25*	0.030 *4*	831.299	3/2⁻	525.116	5/2⁺	(E1+M2)		0.00274 *17*	%Iγ=0.025 *3* α(K)=0.00244 *15*; α(L)=0.000251 *17*; α(M)=3.75×10⁻⁵ *25* α(N)=2.41×10⁻⁶ *16*
308.24[f] *4*	0.014[f#] *2*	808.230	1/2⁻	499.899	3/2⁻	(M1+E2)		0.008 *4*	%Iγ=0.0115 *17* α(K)=0.0071 *33*; α(L)=8.E−4 *4*; α(M)=1.1×10⁻⁴ *5* α(N)=7.1×10⁻⁶ *32*
308.24[f] *4*	0.010[f#] *2*	1139.446	3/2⁻	831.299	3/2⁻	(M1+E2)		0.008 *4*	%Iγ=0.0083 *17* α(K)=0.0071 *33*; α(L)=8.E−4 *4*; α(M)=1.1×10⁻⁴ *5* α(N)=7.1×10⁻⁶ *32*
311.15 *15*	0.005[#] *2*	1406.651	7/2⁻	1095.512	3/2⁻				%Iγ=0.0041 *17*
[x]315.45 *9*	0.003 *1*								%Iγ=0.0025 *8*
324.92 *6*	0.021 *5*	499.899	3/2⁻	174.954	5/2⁻				%Iγ=0.017 *4*
326.785 *15*	3.70 *8*	525.116	5/2⁺	198.371	9/2⁺	E2		0.00955 *13*	α(K)=0.00849 *12*; α(L)=0.000913 *13*; α(M)=0.0001358 *19* α(N)=8.41×10⁻⁶ *12* %Iγ=3.05 *9* δ(M3/E2)=+0.05 *6*. A_2=−0.178 *21*, A_4=−0.014 *25*, U_2A_2=−0.165 *20*. U_2A_2=−0.155 *9* (1987Br24).
331.4 *2*	0.02[#] *1*	831.299	3/2⁻	499.899	3/2⁻	E2(+M1)	>1.4	0.0082 *9*	α(K)=0.0073 *8*; α(L)=0.00078 *9*; α(M)=0.000116 *13* α(N)=7.2×10⁻⁶ *8* %Iγ=0.017 *8* I_γ: from level-scheme Fig. 1 in 1990Me01, 0.002 in Eγ, Iγ authors′ Table I seems a misprint in view of comparison of branching ratios with other reactions.
331.48[&] *4*	0.025 *4*	1139.446	3/2⁻	808.230	1/2⁻	[M1,E2]		0.0064 *27*	%Iγ=0.021 *3* α(K)=0.0057 *24*; α(L)=6.0×10⁻⁴ *27*; α(M)=9.E−5 *4*

$^{71}_{32}Ge_{39}$-5

^{71}As ε decay (65.30 h) 1990Me01,1972Va17,1971Mu14 (continued)

γ(^{71}Ge) (continued)

E_γ [†]	I_γ [†d]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[a]	δ[a]	α[e]	Comments
									α(N)=5.7×10^{-6} *23* E_γ: very poor fit and omitted in the fitting; level-energy difference=331.215.
348.27 *5*	0.058 *9*	1095.512	3/2$^-$	747.255	5/2$^-$	[M1,E2]		0.0055 *22*	%Iγ=0.048 *8* α(K)=0.0049 *20*; α(L)=5.2×10^{-4} *22*; α(M)=7.7×10^{-5} *32* α(N)=4.9×10^{-6} *19*
350.163 *6*	0.459 *11*	525.116	5/2$^+$	174.954	5/2$^-$	E1+M2	−0.19 *3*	0.00216 *13*	I_γ: from table I of 1990Me01, listed as 0.048 in authors′ figure 1. α(K)=0.00193 *11*; α(L)=0.000200 *13*; α(M)=2.98×10^{-5} *19* α(N)=1.93×10^{-6} *12* %Iγ=0.378 *11* δ: deduced by 1993Ha08 using their γ(θ) data and those from 1987Br24. A_2=−0.20 *26*, A_4=−0.2 *3*, U_2A_2=−0.19 *25*.
373.837 *12*	0.104 *4*	1205.145	5/2$^+$	831.299	3/2$^-$	(E1)		1.49×10^{-3} *2*	α(K)=0.001331 *19*; α(L)=0.0001361 *19*; α(M)=2.028×10^{-5} *28* α(N)=1.311×10^{-6} *18* %Iγ=0.086 *4*
[x]375.70 *9*	0.009 *3*								%Iγ=0.0074 *25*
380.08 *6*	0.010 *2*	1406.651	7/2$^-$	1026.543	5/2$^-$				%Iγ=0.0083 *17*
387.31 *4*	0.015 *2*	1095.512	3/2$^-$	708.199	3/2$^-$	[M1,E2]		0.0039 *14*	%Iγ=0.0124 *17* α(K)=0.0035 *13*; α(L)=3.7×10^{-4} *14*; α(M)=5.5×10^{-5} *20* α(N)=3.5×10^{-6} *12*
391.383 *18*	0.736 *16*	589.771	7/2$^+$	198.371	9/2$^+$	M1+E2	−0.21 *+4−3*	0.00257 *5*	%Iγ=0.607 *17* α(K)=0.00230 *5*; α(L)=0.000238 *5*; α(M)=3.56×10^{-5} *7* α(N)=2.33×10^{-6} *5*
392.16 *5*	0.042 *3*	1139.446	3/2$^-$	747.255	5/2$^-$	(M1+E2)		0.0038 *13*	α(K)=0.0034 *12*; α(L)=3.6×10^{-4} *13*; α(M)=5.3×10^{-5} *19* α(N)=3.4×10^{-6} *12* %Iγ=0.035 *3* δ: +0.075 *15* or −4.3 *+11−17* (1993Ha08). A_2=+0.08 *8*, A_4=−0.11 *10*, U_2A_2=+0.08 *8*.
[x]410.42 *8*	0.010 *5*								%Iγ=0.008 *4*
414.39 *10*	0.004 *1*	589.771	7/2$^+$	174.954	5/2$^-$				%Iγ=0.0033 *8*
431.281 *23*	0.0250 *11*	1139.446	3/2$^-$	708.199	3/2$^-$	[M1,E2]		0.0029 *9*	%Iγ=0.0206 *10* α(K)=0.0025 *8*; α(L)=2.7×10^{-4} *9*; α(M)=4.0×10^{-5} *13* α(N)=2.6×10^{-6} *8*
445.07 *17*	0.002 *1*	1743.409	3/2$^-$	1298.737	3/2$^-$				%Iγ=0.0017 *8*

$^{71}_{32}Ge_{39}$-6

^{71}As ε decay (65.30 h) 1990Me01,1972Va17,1971Mu14 (continued)

γ(^{71}Ge) (continued)

E_γ [†]	I_γ [†d]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[a]	δ[a]	α[e]	Comments
448.52 *10*	0.004 *2*	1038.29	9/2$^+$	589.771	7/2$^+$	M1+E2	+0.47 *+5−6*	0.00206 *6*	%Iγ=0.0033 *17* α(K)=0.00184 *6*; α(L)=0.000191 *6*; α(M)=2.86×10^{-5} *9* α(N)=1.86×10^{-6} *6*
457.72 *12*	0.004 *1*	1205.145	5/2$^+$	747.255	5/2$^-$				%Iγ=0.0033 *8*
465.228 *10*	0.114 *3*	1212.498	5/2$^-$	747.255	5/2$^-$	(M1+E2)		0.0023 *7*	α(K)=0.0020 *6*; α(L)=2.1×10^{-4} *6*; α(M)=3.2×10^{-5} *9* α(N)=2.1×10^{-6} *6* %Iγ=0.094 *3* E_γ: quoted uncertainty of 0.001 is considered by the evaluators as unrealistic. It is increased to 0.010.
[x]470.60[‡] *16*	0.002 *1*								%Iγ=0.0017 *8*
499.876 *10*	4.42 *9*	499.899	3/2$^-$	0.0	1/2$^-$	M1+E2	−2.3 *1*	2.20×10^{-3} *3*	α(K)=0.001962 *29*; α(L)=0.0002058 *31*; α(M)=3.07×10^{-5} *5* α(N)=1.959×10^{-6} *29* %Iγ=3.64 *10* A_2=+0.221 *18*, A_4=−0.018 *21*, U_2A_2=+0.208 *17*. Mult.: D+Q; δ=+0.11 *2* or −2.3 *1* (1987Br24).
504.28 *5*	0.21 *6*	1212.498	5/2$^-$	708.199	3/2$^-$	(M1+E2)		0.0018 *5*	α(K)=0.0016 *4*; α(L)=1.7×10^{-4} *4*; α(M)=2.5×10^{-5} *7* α(N)=1.6×10^{-6} *4* %Iγ=0.17 *5*
526.642 *3*	1.050 *23*	1026.543	5/2$^-$	499.899	3/2$^-$	(M1+E2)	−0.16[c] *3*	1.26×10^{-3} *2*	α(K)=0.001123 *17*; α(L)=0.0001156 *18*; α(M)=1.727×10^{-5} *26* α(N)=1.135×10^{-6} *17* %Iγ=0.866 *25* A_2=+0.69 *5*, A_4=−0.04 *6*, U_2A_2=+0.65 *5*. U_2A_2=+0.65 *3* (1987Br24).
533.2 *2*	0.0230[#] *21*	708.199	3/2$^-$	174.954	5/2$^-$				%Iγ=0.0190 *18*
533.6 *2*	0.004[#] *2*	1629.178	(3/2$^+$,5/2$^-$)	1095.512	3/2$^-$				%Iγ=0.0033 *17*
551.5 *1*	0.005 *2*	1298.737	3/2$^-$	747.255	5/2$^-$				%Iγ=0.0041 *17*
570.42 *21*	0.0270 *21*	1095.512	3/2$^-$	525.116	5/2$^+$	[E1]		0.000511 *7*	%Iγ=0.0223 *18* α(K)=0.000457 *6*; α(L)=4.65×10^{-5} *7*; α(M)=6.94×10^{-6} *10* α(N)=4.52×10^{-7} *6*
572.255 *15*	0.321 *8*	747.255	5/2$^-$	174.954	5/2$^-$	M1+E2		0.00129 *27*	α(K)=0.00116 *24*; α(L)=0.000120 *26*;

$^{71}_{32}Ge_{39}$-7

^{71}As ε decay (65.30 h) 1990Me01,1972Va17,1971Mu14 (continued)

γ(^{71}Ge) (continued)

E_γ †	I_γ †d	E_i(level)	J_i^π	E_f	J_f^π	Mult.a	αe	Comments
								α(M)=1.8×10^{-5} *4* α(N)=1.16×10^{-6} *23* %Iγ=0.265 *8*
590.5 *1*	0.03 *1*	1298.737	3/2$^-$	708.199	3/2$^-$			%Iγ=0.025 *8*
595.6 *1*	0.10# *1*	1095.512	3/2$^-$	499.899	3/2$^-$	[M1,E2]	0.00116 *23*	%Iγ=0.083 *8* α(K)=0.00104 *20*; α(L)=0.000108 *22*; α(M)=1.61×10^{-5} *32* α(N)=1.04×10^{-6} *20*
614.26 *5*	0.017 *3*	1139.446	3/2$^-$	525.116	5/2$^+$	[E1]	0.000429 *6*	%Iγ=0.0140 *25* α(K)=0.000384 *5*; α(L)=3.91×10^{-5} *5*; α(M)=5.83×10^{-6} *8* α(N)=3.80×10^{-7} *5*
615.365 *10*	0.642 *14*	1205.145	5/2$^+$	589.771	7/2$^+$	(M1+E2)	0.00107 *20*	α(K)=0.00095 *17*; α(L)=9.9×10^{-5} *19*; α(M)=1.47×10^{-5} *28* α(N)=9.6×10^{-7} *17* %Iγ=0.529 *15* E_γ: quoted uncertainty of 0.002 is considered by the evaluators as unrealistic. It is increased to 0.010. δ: −0.23 +*8*−*9* or −2.6 +*5*−*7* (1993Ha08). A_2=−0.17 *9*, A_4=+0.07 *11*, U_2A_2=−0.16 *9*.
622.71 *4*	0.0160 *11*	1212.498	5/2$^-$	589.771	7/2$^+$			%Iγ=0.0132 *9*
631.52 *15*	0.24# *4*	1378.70	5/2$^-$	747.255	5/2$^-$			%Iγ=0.20 *3*
633.440@ *25*	0.058 *7*	808.230	1/2$^-$	174.954	5/2$^-$			%Iγ=0.048 *6* E_γ: uncertainty multiplied by a factor of 3 in the fitting; level-energy difference=633.273. I_γ: 0.018 *2* based on adopted branching ratios.
639.477@ *14*	0.059 *3*	1139.446	3/2$^-$	499.899	3/2$^-$	[M1,E2]	0.00097 *17*	%Iγ=0.049 *3* α(K)=0.00086 *15*; α(L)=8.9×10^{-5} *16*; α(M)=1.33×10^{-5} *23* α(N)=8.7×10^{-7} *14* E_γ: uncertainty multiplied by a factor of 2 in the fitting; level-energy difference=639.543.
659.428 *19*	0.083 *4*	1406.651	7/2$^-$	747.255	5/2$^-$			%Iγ=0.068 *4*
674.33& *8*	0.007 *1*	1506.381	7/2$^-$	831.299	3/2$^-$			%Iγ=0.0058 *8* E_γ: very poor fit and omitted in the fitting; level-energy difference=675.078.
680.035 *9*	0.118 *6*	1205.145	5/2$^+$	525.116	5/2$^+$	(M1+E2)	0.00083 *13*	α(K)=0.00074 *11*; α(L)=7.6×10^{-5} *12*; α(M)=1.14×10^{-5} *18* α(N)=7.4×10^{-7} *11* %Iγ=0.097 *5*
696.575 *12*	0.011 *2*	1792.098	(3/2$^+$,5/2$^-$)	1095.512	3/2$^-$			%Iγ=0.0091 *17*
698.44 *2*	0.0240 *11*	1406.651	7/2$^-$	708.199	3/2$^-$			%Iγ=0.0198 *10*
702.5 *3*	0.04# *2*	1449.8?		747.255	5/2$^-$			%Iγ=0.033 *17*
705.1 *3*	0.003# *2*	1205.145	5/2$^+$	499.899	3/2$^-$			%Iγ=0.0025 *17*

^{71}As ε decay (65.30 h) 1990Me01,1972Va17,1971Mu14 (continued)

γ(^{71}Ge) (continued)

E_γ [†]	I_γ [†d]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[a]	δ[a]	α[e]	Comments
708.195 *5*	0.327 *10*	708.199	3/2⁻	0.0	1/2⁻	M1+E2		0.00075 *11*	α(K)=0.00067 *9*; α(L)=6.9×10⁻⁵ *10*; α(M)=1.03×10⁻⁵ *15* α(N)=6.7×10⁻⁷ *9* %Iγ=0.270 *10* A_2=−0.16 *17*, A_4=+0.21 *19*, U_2A_2=−0.15 *16*.
711.6 *3*	0.008 *2*	886.94	(3/2⁻)	174.954	5/2⁻				%Iγ=0.0066 *17*
712.598 *5*	0.396 *11*	1212.498	5/2⁻	499.899	3/2⁻	(M1+E2)		0.00074 *10*	α(K)=0.00066 *9*; α(L)=6.8×10⁻⁵ *10*; α(M)=1.01×10⁻⁵ *15* α(N)=6.6×10⁻⁷ *9* %Iγ=0.327 *11* δ: −0.19 *+9−11* or −1.8 *+4−5* (1993Ha08). A_2=+0.75 *16*, A_4=+0.20 *19*, U_2A_2=+0.70 *15*.
727.531[@] *22*	0.0220 *11*	1558.744	5/2⁺	831.299	3/2⁻				%Iγ=0.0181 *10* E_γ: uncertainty multiplied by a factor of 2 in the fitting; level-energy difference=727.441.
[x]741.6 *3*	0.0015 *8*								%Iγ=0.0012 *7*
747.28 *1*	0.198 *6*	747.255	5/2⁻	0.0	1/2⁻	(E2)		0.000736 *10*	%Iγ=0.163 *6* α(K)=0.000658 *9*; α(L)=6.80×10⁻⁵ *10*; α(M)=1.015×10⁻⁵ *14* α(N)=6.57×10⁻⁷ *9*
754.4 *3*	0.0018 *9*	1780.746	5/2⁻,7/2⁻	1026.543	5/2⁻				%Iγ=0.0015 *8*
759.11 *3*	0.018 *2*	1506.381	7/2⁻	747.255	5/2⁻				%Iγ=0.0148 *17*
765.89[@] *7*	0.007 *1*	1792.098	(3/2⁺,5/2⁻)	1026.543	5/2⁻				%Iγ=0.0058 *8* E_γ: uncertainty multiplied by a factor of 3 in the fitting; level-energy difference=765.551.
788.92 *5*	0.011 *2*	1378.70	5/2⁻	589.771	7/2⁺				%Iγ=0.0091 *17*
798.0 *2*	0.02[#] *1*	1629.178	(3/2⁺,5/2⁻)	831.299	3/2⁻				%Iγ=0.017 *8*
798.4 *2*	0.0280[#] *21*	1506.381	7/2⁻	708.199	3/2⁻				%Iγ=0.0231 *18*
808.27 *3*	0.036 *3*	808.230	1/2⁻	0.0	1/2⁻				%Iγ=0.030 *3*
828.0 *1*	0.004 *2*	1026.543	5/2⁻	198.371	9/2⁺	[M2]		1.15×10⁻³ *2*	α(K)=0.001023 *14*; α(L)=0.0001064 *15*; α(M)=1.591×10⁻⁵ *22* α(N)=1.046×10⁻⁶ *15* %Iγ=0.0033 *17*
831.294 *10*	0.105 *3*	831.299	3/2⁻	0.0	1/2⁻	(M1+E2)	−0.6 *+4−7*	0.00048 *4*	α(K)=0.000431 *33*; α(L)=4.4×10⁻⁵ *4*; α(M)=6.6×10⁻⁶ *5* α(N)=4.33×10⁻⁷ *32* %Iγ=0.087 *3*

^{71}As ε decay (65.30 h) 1990Me01,1972Va17,1971Mu14 (continued)

γ(^{71}Ge) (continued)

E_γ [†]	I_γ [†d]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[a]	δ[a]	α[e]	Comments
839.3[‡g] *3*	0.0014 *6*	1038.29	9/2+	198.371	9/2+	(M1(+E2))	+0.10 *18*	0.000447 *9*	%Iγ=0.0012 *5* α(K)=0.000400 *8*; α(L)=4.08×10^{-5} *8*; α(M)=6.10×10^{-6} *12* α(N)=4.02×10^{-7} *8*
851.3 *2*	0.05[#] *2*	1598.535	3/2−	747.255	5/2−				%Iγ=0.041 *17*
851.63 *7*	0.220[#] *21*	1026.543	5/2−	174.954	5/2−	(M1+E2)	+0.8[c] *7*	0.000469 *35*	α(K)=0.000419 *31*; α(L)=4.29×10^{-5} *34*; α(M)=6.4×10^{-6} *5* α(N)=4.20×10^{-7} *30* %Iγ=0.181 *18* A_2=−0.4 *3*, A_4=+0.2 *3*, U_2A_2=−0.4 *3*.
881.893 *25*	0.037 *3*	1629.178	(3/2+,5/2−)	747.255	5/2−				%Iγ=0.031 *3*
886.98 *10*	0.005 *1*	886.94	(3/2−)	0.0	1/2−				%Iγ=0.0041 *8*
890.0 *2*	0.003 *1*	1598.535	3/2−	708.199	3/2−				%Iγ=0.0025 *8*
906.696[@] *11*	0.0540 *23*	1406.651	7/2−	499.899	3/2−				%Iγ=0.0445 *21* E_γ: uncertainty multiplied by a factor of 2 in the fitting; level-energy difference=906.745.
920.553 *7*	0.370[#] *13*	1095.512	3/2−	174.954	5/2−	(M1+E2)[b]		0.000400 *32*	α(K)=0.000357 *29*; α(L)=3.66×10^{-5} *31*; α(M)=5.5×10^{-6} *5* α(N)=3.58×10^{-7} *28* %Iγ=0.305 *12* A_2=+0.40 *11*, A_4=−0.20 *12*, U_2A_2=+0.38 *10*. U_2A_2=+0.31 *12* (1987Br24). δ: +0.27 *5* or +22 *+390−11* (1987Br24); +0.36 *14* or >+3.7 (1993Ha08).
921.1 *2*	0.02[#] *1*	1096.06	7/2−	174.954	5/2−	M1		3.67×10^{-4} *6*	%Iγ=0.017 *8* E_γ: from Fig. 1b of 1990Me01; misprint in authors′ Table 1.
935.175 *14*	0.034 *4*	1743.409	3/2−	808.230	1/2−				%Iγ=0.028 *3*
964.479 *9*	0.083 *3*	1139.446	3/2−	174.954	5/2−	(M1+E2)	−0.8 *+9−49*	0.000354 *30*	%Iγ=0.068 *3* α(K)=0.000317 *27*; α(L)=3.23×10^{-5} *29*; α(M)=4.8×10^{-6} *4* α(N)=3.17×10^{-7} *26*
983.67[@] *5*	0.006 *2*	1792.098	(3/2+,5/2−)	808.230	1/2−				%Iγ=0.0050 *17* E_γ: uncertainty multiplied by a factor of 2 in the fitting; level-energy difference=983.860.
993.9[g]	0.00240 *11*	1192.3?	11/2+	198.371	9/2+	M1+E2	+1.25 *21*	0.000341 *6*	%Iγ=1.98×10^{-3} *10*

$^{71}_{32}Ge_{39}$-10

^{71}As ε decay (65.30 h) 1990Me01,1972Va17,1971Mu14 (continued)

γ(^{71}Ge) (continued)

E_γ[†]	I_γ[†d]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[a]	δ[a]	α[e]	Comments
									α(K)=0.000305 *6*; α(L)=3.12×10^{-5} *6*; α(M)=4.66×10^{-6} *9* α(N)=3.05×10^{-7} *6* E_γ,I_γ: from level-scheme figure 1 of 1990Me01, incorrectly shown to decay from 1205 level; γ not listed in authors′ table I.
996.06 *6*	0.012 *1*	1743.409	3/2$^-$	747.255	5/2$^-$				%Iγ=0.0099 *9*
1006.466 *17*	0.0530 *23*	1506.381	7/2$^-$	499.899	3/2$^-$				%Iγ=0.0437 *21*
x1009.9[‡] *3*	0.004 *3*								%Iγ=0.0033 *25*
1026.512 *17*	0.380 *13*	1026.543	5/2$^-$	0.0	1/2$^-$	(E2)		0.000333 *5*	α(K)=0.000297 *4*; α(L)=3.05×10^{-5} *4*; α(M)=4.54×10^{-6} *6* α(N)=2.97×10^{-7} *4* %Iγ=0.313 *12* A_2=−0.45 *16*, A_4=+0.02 *18*, U_2A_2=−0.43 *15*. U_2A_2=−0.43 *9* (1987Br24).
1030.20 *8*	0.013 *1*	1205.145	5/2$^+$	174.954	5/2$^-$				%Iγ=0.0107 *9*
1033.542[@] *17*	0.238 *6*	1558.744	5/2$^+$	525.116	5/2$^+$	(M1+E2)	+1.6[c] *+14−19*	0.000317 *24*	%Iγ=0.196 *6* α(K)=0.000283 *22*; α(L)=2.90×10^{-5} *23*; α(M)=4.32×10^{-6} *35* α(N)=2.83×10^{-7} *21* E_γ: uncertainty multiplied by a factor of 3 in the fitting; level-energy difference=1033.620. δ: −0.26 to +3.0 (1993Ha08). A_2=−0.33 *25*, A_4=+0.1 *3*, U_2A_2=−0.31 *24*.
1037.530 *15*	0.246 *6*	1212.498	5/2$^-$	174.954	5/2$^-$	(M1+E2)		0.000306 *19*	α(K)=0.000274 *17*; α(L)=2.79×10^{-5} *18*; α(M)=4.17×10^{-6} *27* α(N)=2.74×10^{-7} *16* %Iγ=0.203 *6* δ: −0.10 *6* or +2.1 *3* (1993Ha08). A_2=−0.33 *7*, A_4=−0.04 *9*, U_2A_2=−0.31 *7*.
1039.34 *6*	0.011 *1*	1629.178	(3/2$^+$,5/2$^-$)	589.771	7/2$^+$				%Iγ=0.0091 *9*
1044.845 *19*	0.0230 *21*	1792.098	(3/2$^+$,5/2$^-$)	747.255	5/2$^-$				%Iγ=0.0190 *18*
x1050.6 *2*	0.0015 *6*								%Iγ=0.0012 *5*
x1055.9 *2*	0.0008 *5*								%Iγ=0.0007 *4*
1058.817 *16*	0.0300 *12*	1558.744	5/2$^+$	499.899	3/2$^-$				%Iγ=0.0247 *11*
1073.4 *2*	0.0023 *5*	1598.535	3/2$^-$	525.116	5/2$^+$				%Iγ=0.0019 *4*
1083.86 *3*	0.014 *1*	1792.098	(3/2$^+$,5/2$^-$)	708.199	3/2$^-$				%Iγ=0.0115 *9*
x1090.490[‡] *10*	0.019 *2*								%Iγ=0.0157 *17*

^{71}As ε decay (65.30 h) 1990Me01,1972Va17,1971Mu14 (continued)

γ(^{71}Ge) (continued)

E_γ[†]	I_γ[†d]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[a]	α[e]	Comments
1095.490 *10*	4.98 *12*	1095.512	3/2$^-$	0.0	1/2$^-$	(M1+E2)[b]	0.000272 *15*	α(K)=0.000243 *13*; α(L)=2.48×10^{-5} *14*; α(M)=3.70×10^{-6} *21* α(N)=2.43×10^{-7} *13* %Iγ=4.11 *12* δ: −3.31 *4* or +0.234 *4* (1987Br24); +0.23 *2* or −3.20 *2* (1993Ha08). A_2=+0.077 *21*, A_4=−0.020 *24*, U_2A_2=+0.072 *20*. U_2A_2=+0.048 *5* (1987Br24).
1098.64 *7*	0.149 *5*	1598.535	3/2$^-$	499.899	3/2$^-$			%Iγ=0.123 *5*
1104.16[@] *3*	0.014 *1*	1629.178	(3/2$^+$,5/2$^-$)	525.116	5/2$^+$			%Iγ=0.0115 *9* E_γ: uncertainty multiplied by a factor of 2 in the fitting; level-energy difference=1104.053.
[x]1106.93 *8*	0.006 *1*							%Iγ=0.0050 *8*
1123.74 *8*	0.0036 *6*	1298.737	3/2$^-$	174.954	5/2$^-$			%Iγ=0.0030 *5*
1129.37 *5*	0.007 *1*	1629.178	(3/2$^+$,5/2$^-$)	499.899	3/2$^-$			%Iγ=0.0058 *8*
1139.461 *19*	0.975 *20*	1139.446	3/2$^-$	0.0	1/2$^-$	M1+E2[b]	0.000252 *13*	α(K)=0.000223 *11*; α(L)=2.28×10^{-5} *12*; α(M)=3.40×10^{-6} *18* α(N)=2.24×10^{-7} *11*; α(IPF)=2.06×10^{-6} *34* %Iγ=0.804 *22* A_2=−0.23 *7*, A_4=−0.04 *7*, U_2A_2=−0.22 *6*. U_2A_2=−0.30 *3* (1987Br24). δ: +0.50 *3* or −17 *+5−10* (1987Br24); +0.45 *5* or −6.8 *14* (1993Ha08).
1191.18 *9*	0.006 *2*	1780.746	5/2$^-$,7/2$^-$	589.771	7/2$^+$			%Iγ=0.0050 *17*
1202.26[f g] *5*	0.0018[f] *9*	1379.0?	(1/2$^-$)	174.954	5/2$^-$			%Iγ=0.0015 *8* Placement suggested by the evaluators, intensity deduced from branching ratio in (α,nγ).
1202.26[f] *5*	0.0117[f] *8*	1792.098	(3/2$^+$,5/2$^-$)	589.771	7/2$^+$			%Iγ=0.0097 *7* I_γ: intensity divided by the evaluators.
1211.35 *8*	0.0300 *21*	1801.13	(5/2$^+$,7/2)	589.771	7/2$^+$			%Iγ=0.0247 *18*
1212.496 *23*	0.339 *9*	1212.498	5/2$^-$	0.0	1/2$^-$	(E2)	0.0002386 *33*	α(K)=0.0002040 *29*; α(L)=2.081×10^{-5} *29*; α(M)=3.11×10^{-6} *4* α(N)=2.036×10^{-7} *29*; α(IPF)=1.047×10^{-5} *15* %Iγ=0.280 *9* A_2=−0.21 *18*, A_4=−0.14 *21*, U_2A_2=−0.20 *17*.
1218.16 *7*	0.0030 *6*	1743.409	3/2$^-$	525.116	5/2$^+$			%Iγ=0.0025 *5*
1231.692 *15*	0.084 *3*	1406.651	7/2$^-$	174.954	5/2$^-$	(M1+E2)	0.000224 *11*	α(K)=0.000190 *8*; α(L)=1.93×10^{-5} *8*; α(M)=2.88×10^{-6} *13* α(N)=1.90×10^{-7} *8*; α(IPF)=1.19×10^{-5} *18* %Iγ=0.069 *3*
1243.56 *8*	0.0021 *4*	1743.409	3/2$^-$	499.899	3/2$^-$			%Iγ=0.0017 *3*
1247.0 *1*	0.0009 *3*	1421.97	9/2$^-$	174.954	5/2$^-$	E2	0.0002313 *32*	α(K)=0.0001919 *27*; α(L)=1.957×10^{-5} *27*; α(M)=2.92×10^{-6} *4* α(N)=1.915×10^{-7} *27*; α(IPF)=1.668×10^{-5} *23*

$^{71}_{32}Ge_{39}$-12

^{71}As ε decay (65.30 h) 1990Me01,1972Va17,1971Mu14 (continued)

γ(^{71}Ge) (continued)

E_γ [†]	I_γ [†d]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[a]	α[e]	Comments
								%Iγ=0.00074 *25* δ(M3/E2)=−0.06 *6*.
1255.76[@] *5*	0.0050 *5*	1780.746	5/2⁻,7/2⁻	525.116	5/2⁺			%Iγ=0.0041 *4* E_γ: uncertainty multiplied by a factor of 2 in the fitting; level-energy difference=1255.618.
1267.008 *20*	0.0280 *12*	1792.098	(3/2⁺,5/2⁻)	525.116	5/2⁺			%Iγ=0.0231 *11*
1276.0 *5*	0.009[#] *3*	1801.13	(5/2⁺,7/2)	525.116	5/2⁺			%Iγ=0.0074 *25*
1280.91 *7*	0.0020 *8*	1780.746	5/2⁻,7/2⁻	499.899	3/2⁻			%Iγ=0.0017 *7*
1292.13 *15*	0.0016 *5*	1792.098	(3/2⁺,5/2⁻)	499.899	3/2⁻			%Iγ=0.0013 *4*
[x]1297.51 *5*	0.024 *2*							%Iγ=0.0198 *17*
1298.729 *15*	0.232 *7*	1298.737	3/2⁻	0.0	1/2⁻	(M1+E2)[b]	0.000214 *10*	α(K)=0.000170 *6*; α(L)=1.73×10⁻⁵ *7*; α(M)=2.58×10⁻⁶ *10* α(N)=1.70×10⁻⁷ *6*; α(IPF)=2.43×10⁻⁵ *35* %Iγ=0.191 *7* δ: +0.034 *25* or −1.87 *11* (1987Br24); +0.04 *3* or −1.88 *11* (1993Ha08). A_2=+0.22 *24*, A_4=+0.4 *3*, U_2A_2=+0.21 *23*.
1307.98 *3*	0.0115 *7*	1506.381	7/2⁻	198.371	9/2⁺			%Iγ=0.0095 *6*
[x]1312.0[‡] *2*	0.0011 *3*							%Iγ=0.00091 *25*
[x]1321[‡] *1*	0.0006 *4*							%Iγ=0.0005 *3*
1331.526[@] *23*	0.096 *4*	1506.381	7/2⁻	174.954	5/2⁻			%Iγ=0.079 *4* E_γ: uncertainty multiplied by a factor of 2 in the fitting; level-energy difference=1331.413.
1347.7 *5*	0.0005 *3*	1937.45	(3/2⁺,5/2⁻)	589.771	7/2⁺			%Iγ=0.00041 *25* I_γ: from Table I of 1990Me01, listed as 0.005 in authors′ level-scheme Fig. 1.
1360.44 *13*	0.0104 *5*	1558.744	5/2⁺	198.371	9/2⁺			%Iγ=0.0086 *5*
1379.0 *5*	0.0011 *5*	1379.0?	(1/2⁻)	0.0	1/2⁻			%Iγ=0.0009 *4*
1383.86 *4*	0.0042 *4*	1558.744	5/2⁺	174.954	5/2⁻			%Iγ=0.0035 *3*
1406.5[g] *1*	0.0026 *6*	1406.651	7/2⁻	0.0	1/2⁻	[M3]		%Iγ=0.0021 *5* I_γ: from table I of 1990Me01, listed as 0.026 in authors′ level-scheme figure 1. The value of 0.026 is less likely, since in that case it would have been seen in other reactions where 1406 level is populated. E_γ: the placement is treated as questionable by the evaluators since part or all of it could also be contributed by coincidental summing,
1423.579 *25*	0.0340 *12*	1598.535	3/2⁻	174.954	5/2⁻			%Iγ=0.0280 *11*
1454.26 *15*	0.0009 *3*	1629.178	(3/2⁺,5/2⁻)	174.954	5/2⁻			%Iγ=0.00074 *25*
[x]1533.6[‡] *1*	0.0007 *3*							%Iγ=0.00058 *25*
1568.4 *2*	0.002 *1*	1743.409	3/2⁻	174.954	5/2⁻			%Iγ=0.0017 *8*

^{71}As ε decay (65.30 h) 1990Me01,1972Va17,1971Mu14 (continued)

γ(^{71}Ge) (continued)

E_γ †	I_γ †[d]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[a]	α[e]	Comments
1582.33 *7*	0.0036 *3*	1780.746	5/2$^-$,7/2$^-$	198.371	9/2$^+$			%Iγ=0.0030 *3*
[x]1587.9‡ *3*	0.0004 *2*							%Iγ=0.00033 *17*
1598.505 *25*	0.0430 *22*	1598.535	3/2$^-$	0.0	1/2$^-$			%Iγ=0.0355 *19*
1602.74 *14*	0.0031 *4*	1801.13	(5/2$^+$,7/2)	198.371	9/2$^+$			%Iγ=0.0026 *3*
1605.749 *21*	0.0170 *11*	1780.746	5/2$^-$,7/2$^-$	174.954	5/2$^-$			%Iγ=0.0140 *10*
1617.12 *3*	0.0247 *8*	1792.098	(3/2$^+$,5/2$^-$)	174.954	5/2$^-$			%Iγ=0.0204 *8*
1629.154 *15*	0.0300 *12*	1629.178	(3/2$^+$,5/2$^-$)	0.0	1/2$^-$			%Iγ=0.0247 *11*
[x]1722.1‡ *5*	0.0002 *1*							%Iγ=1.7×10^{-4} *8*
1743.40 *4*	0.0370 *13*	1743.409	3/2$^-$	0.0	1/2$^-$	(M1+E2)	0.000278 *20*	%Iγ=0.0305 *12* α(K)=9.55×10^{-5} *21*; α(L)=9.67×10^{-6} *22*; α(M)=1.443×10^{-6} *33* α(N)=9.53×10^{-8} *20*; α(IPF)=0.000172 *18*
1762.49 *6*	0.0095 *4*	1937.45	(3/2$^+$,5/2$^-$)	174.954	5/2$^-$			%Iγ=0.0078 *4*
[x]1785.3 *4*	0.0003 *2*							%Iγ=0.00025 *17*
1792.0 *4*	0.0005 *3*	1792.098	(3/2$^+$,5/2$^-$)	0.0	1/2$^-$			%Iγ=0.00041 *25*
[x]1800.4 *8*	0.0003 *1*							%Iγ=2.5×10^{-4} *8*
1937.41 *4*	0.0137 *4*	1937.45	(3/2$^+$,5/2$^-$)	0.0	1/2$^-$			%Iγ=0.0113 *4*
1965.03 *7*	0.0014 *3*	1965.06	3/2$^-$	0.0	1/2$^-$			%Iγ=0.00115 *25*

† From 1990Me01. Uncertainties in Iγ shown in 1990Me01 are statistical only and an additional 2% as specified by authors arising from uncertainty in overall shape of detector efficiency curve have been added in quadrature by evaluators.
‡ Assignment to ^{71}As decay is tentative.
# Intensity derived from coincidence gate.
@ Poor fit; uncertainty multiplied by a factor in the fitting as noted under comments.
& Very Poor fit; gamma omitted in the fitting.
[a] From the Adopted Gammas. Values and/or arguments from this dataset are given under comments or adopted in Adopted Gammas where noted.
[b] Adopted values from γ(θ) by 1987Br24 and 1993Ha08 with electric/magnetic nature from level scheme or RUL.
[c] Adopted values from γ(θ) data of oriented nuclei (1993Ha08).
[d] For absolute intensity per 100 decays, multiply by 0.825 *15*.
[e] 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.
[f] Multiply placed with intensity suitably divided.
[g] Placement of transition in the level scheme is uncertain.
[x] γ ray not placed in level scheme.

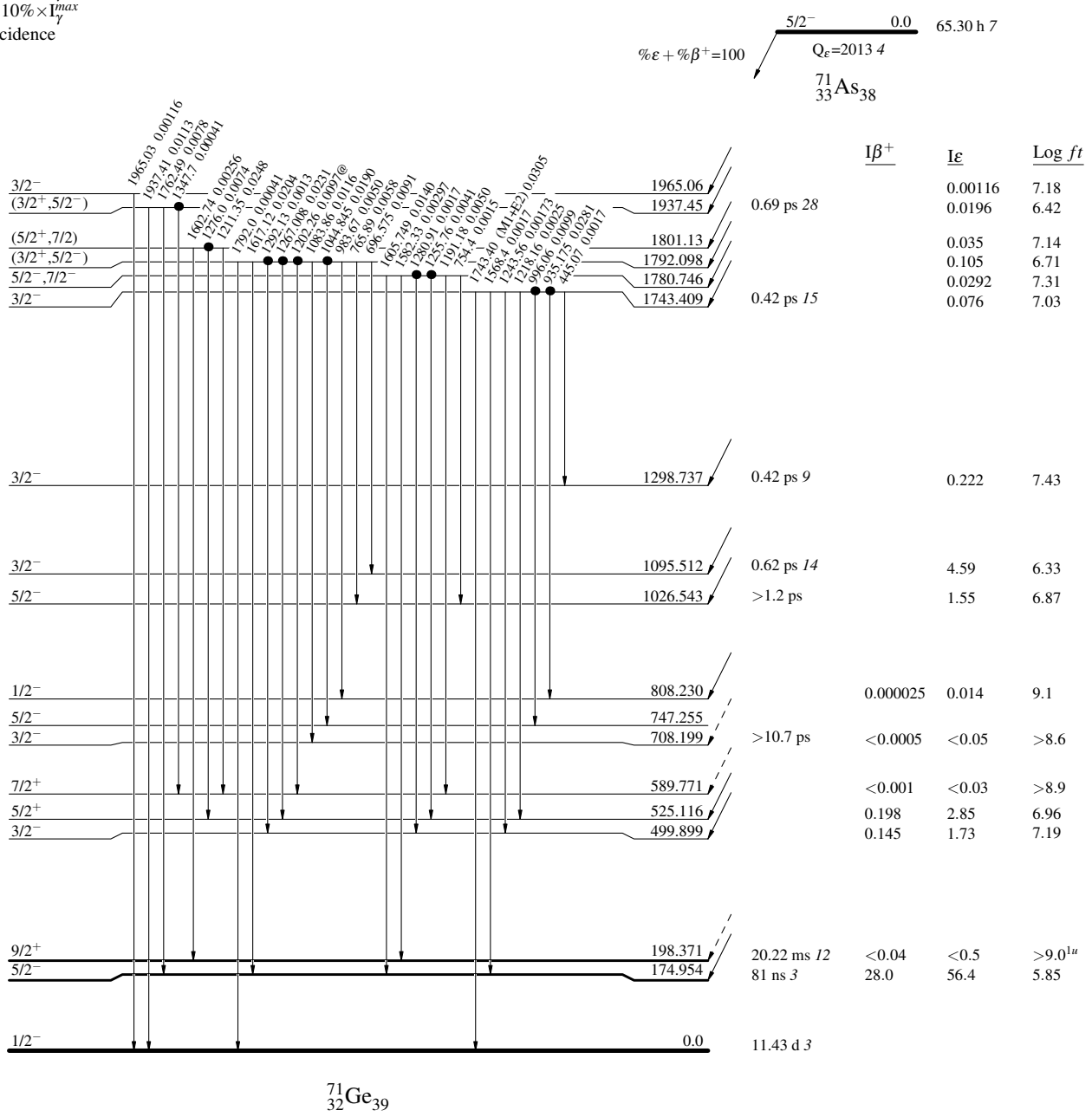
$^{71}_{32}Ge_{39}$-14

^{71}As ε decay (65.30 h) 1990Me01,1972Va17,1971Mu14

Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
@ Multiply placed: intensity suitably divided

Legend
$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
Coincidence

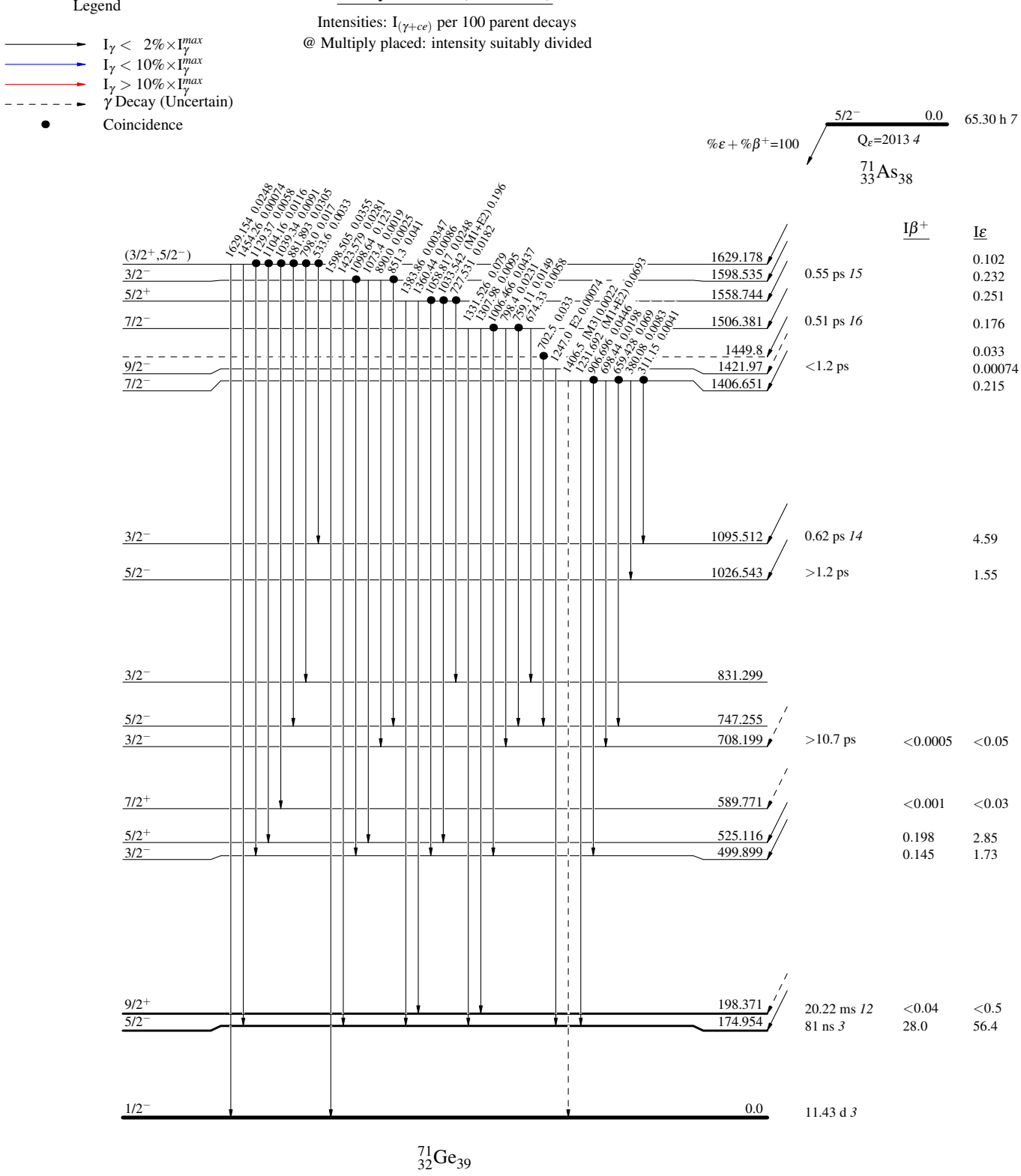


	Iβ+	Iε	Log *ft*
1965.06		0.00116	7.18
1937.45		0.0196	6.42
1801.13		0.035	7.14
1792.098		0.105	6.71
1780.746		0.0292	7.31
1743.409		0.076	7.03
1298.737		0.222	7.43
1095.512		4.59	6.33
1026.543		1.55	6.87
808.230	0.000025	0.014	9.1
747.255			
708.199	<0.0005	<0.05	>8.6
589.771	<0.001	<0.03	>8.9
525.116	0.198	2.85	6.96
499.899	0.145	1.73	7.19
198.371	<0.04	<0.5	>9.0[1u]
174.954	28.0	56.4	5.85
0.0			

^{71}As ε decay (65.30 h) 1990Me01,1972Va17,1971Mu14

Decay Scheme (continued)

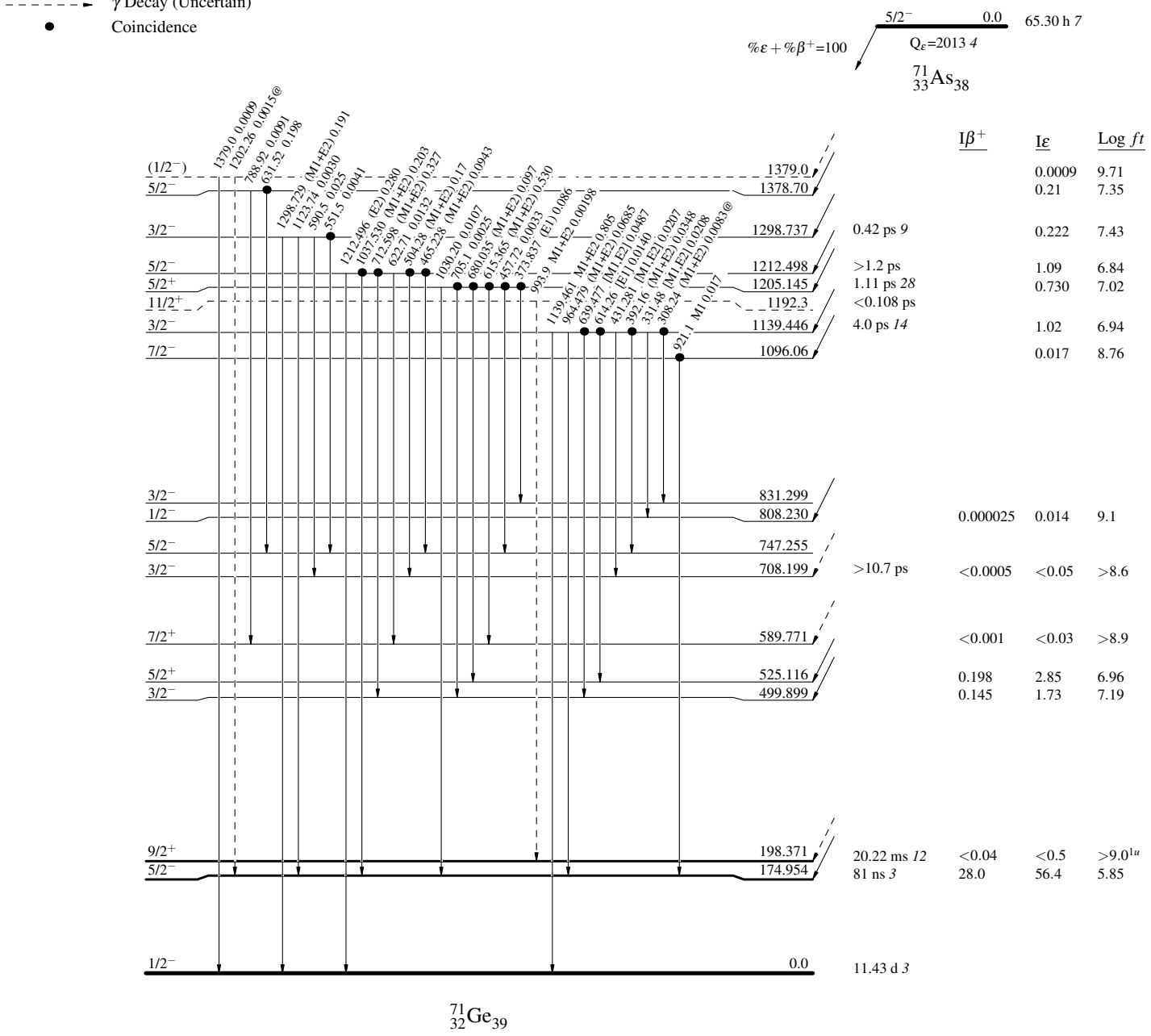
Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
@ Multiply placed: intensity suitably divided



^{71}As ε decay (65.30 h) 1990Me01,1972Va17,1971Mu14

Decay Scheme (continued)

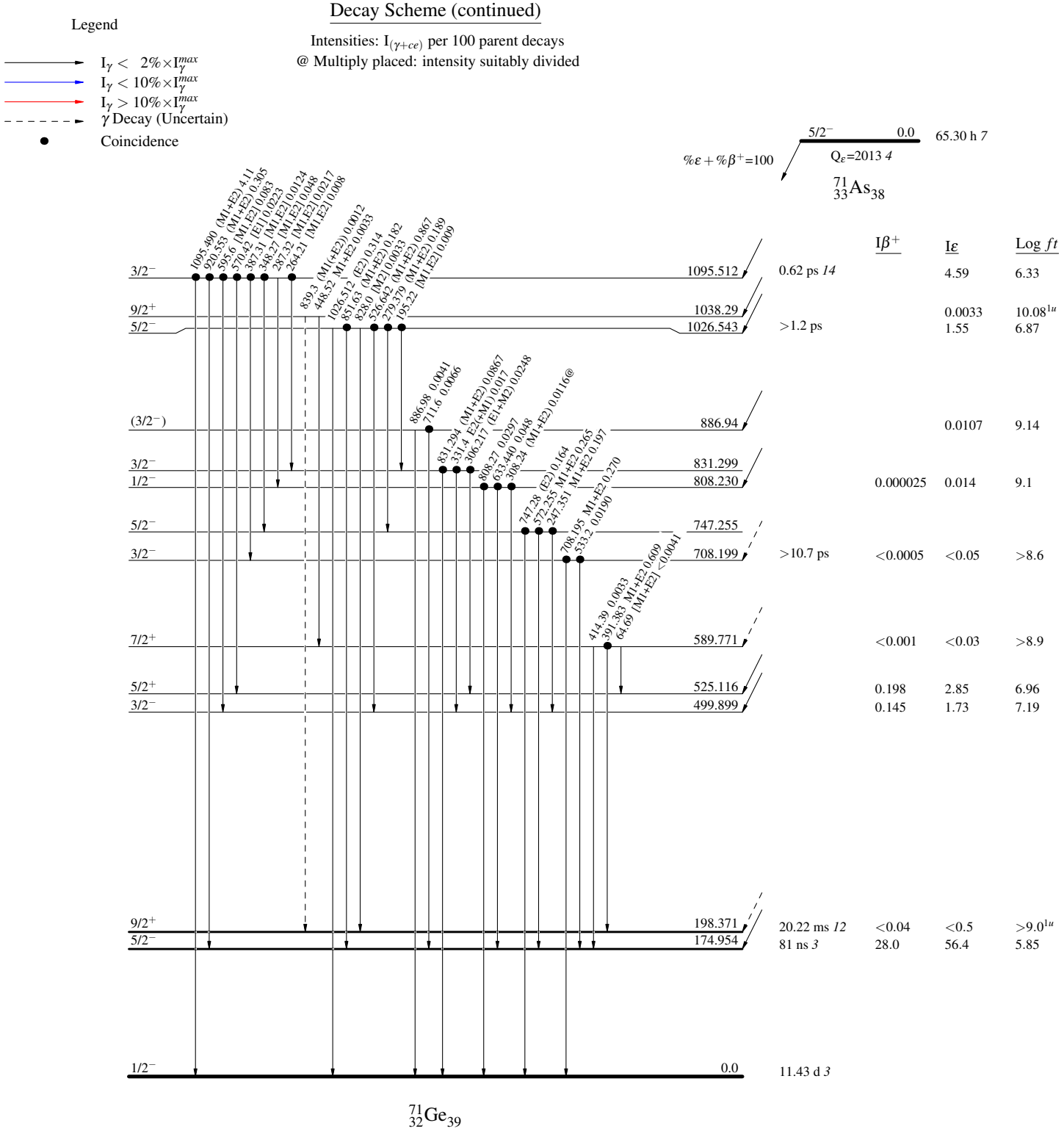
Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
@ Multiply placed: intensity suitably divided



^{71}As ε decay (65.30 h) 1990Me01,1972Va17,1971Mu14

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
@ Multiply placed: intensity suitably divided



^{71}As ε decay (65.30 h) 1990Me01,1972Va17,1971Mu14

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
@ Multiply placed: intensity suitably divided