^{67}As ε decay 1980Mu12,1981MuZZ

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Huo Junde, Huang Xiaolong, J. K. Tuli	NDS 106, 159 (2005)	1-Apr-2005

Parent: ^{67}As: E=0; J^π=(5/2$^-$); $T_{1/2}$=42.5 s *12*; Q(ε)=6.01×10^3 *10*; %ε+%β^+ decay=100.0
1980Mu12: ^{67}As produced from ^{58}Ni(^{14}N,αn) reaction; Eγ, Iγ, γγ coincidences, $\beta^+\gamma$ coincidences, $T_{1/2}$.
1981MuZZ: corrections to Iγ, Iβ^+ + Iε given in 1980Mu12.

^{67}Ge Levels

E(level)†	J^π‡	E(level)†	J^π‡	E(level)†	E(level)†
0	1/2$^-$	711.6 *4*	5/2$^{(-)}$	1293.9 *4*	2096.8 *11*
18.26 *22*	5/2$^-$	808.15 *21*		1652.9 *4*	2218.2 *10*
122.67 *19*	3/2$^{(-)}$	1020.0 *3*	5/2$^{(-)}$	1698.7 *11*	2251.1 *11*
243.62 *20*	3/2$^{(-)}$	1274.1 *5*		1900.9 *4*	2523.7 *11*

† From a least-squares fit to the Eγ data.
‡ From Adopted Levels.

ε,β^+ radiations

E(decay)	E(level)	Iβ^+ ‡	Iε‡	Log *ft*	I(ε+β^+)†‡	Comments
(3.49×10^3 *10*)	2523.7	0.27 *17*	0.016 *11*	6.2 *3*	0.29 *18*	av Eβ=1100 *47*; εK=0.049 *7*; εL=0.0055 *7*; εM+=0.00103 *13*
(3.76×10^3 *10*)	2251.1	0.36 *19*	0.016 *8*	6.29 *23*	0.38 *19*	av Eβ=1228 *48*; εK=0.036 *5*; εL=0.0041 *5*; εM+=0.00076 *9*
(3.79×10^3 *10*)	2218.2	3.6 *14*	0.15 *6*	5.31 *18*	3.8 *14*	av Eβ=1244 *48*; εK=0.035 *4*; εL=0.0039 *5*; εM+=0.00074 *9*
(3.91×10^3 *10*)	2096.8	0.32 *18*	0.012 *7*	6.45 *25*	0.33 *18*	av Eβ=1301 *48*; εK=0.031 *4*; εL=0.0035 *4*; εM+=0.00065 *7*
(4.11×10^3 *10*)	1900.9	1.8 *6*	0.055 *19*	5.82 *16*	1.9 *6*	av Eβ=1394 *48*; εK=0.026 *3*; εL=0.0029 *3*; εM+=0.00054 *6*
(4.31×10^3 *10*)	1698.7	0.7 *4*	0.017 *9*	6.37 *23*	0.71 *35*	av Eβ=1490 *48*; εK=0.0213 *21*; εL=0.00238 *23*; εM+=0.00045 *5*
(4.36×10^3 *10*)	1652.9	1.0 *6*	0.023 *14*	6.2 *3*	1.0 *6*	av Eβ=1512 *48*; εK=0.0204 *19*; εL=0.00229 *22*; εM+=0.00043 *4*
(4.72×10^3 *10*)	1293.9	3.1 *12*	0.055 *21*	5.94 *18*	3.2 *12*	av Eβ=1684 *48*; εK=0.0151 *13*; εL=0.00169 *15*; εM+=0.00032 *3*
(4.74×10^3 *10*)	1274.1	1.9 *6*	0.032 *11*	6.18 *15*	1.9 *6*	av Eβ=1693 *48*; εK=0.0149 *13*; εL=0.00167 *14*; εM+=0.00031 *3*
(4.99×10^3 *10*)	1020.0	1.6 *12*	0.022 *17*	6.4 *4*	1.6 *12*	av Eβ=1815 *49*; εK=0.0123 *10*; εL=0.00137 *11*; εM+=0.000257 *20*
(5.20×10^3 *10*)	808.15	12.8 *20*	0.16 *3*	5.57 *9*	13 *2*	av Eβ=1917 *49*; εK=0.0105 *8*; εL=0.00118 *9*; εM+=0.000221 *17*
(5.30×10^3 *10*)	711.6	6.4 *9*	0.073 *12*	5.92 *8*	6.5 *9*	av Eβ=1964 *49*; εK=0.0098 *7*; εL=0.00110 *8*; εM+=0.000206 *15*
(5.77×10^3 *10*)	243.62	19.8 *20*	0.164 *20*	5.64 *7*	20 *2*	av Eβ=2190 *49*; εK=0.0073 *5*; εL=0.00081 *6*; εM+=0.000152 *10*
(5.89×10^3 *10*)	122.67	6.5 *15*	0.050 *12*	6.18 *11*	6.5 *15*	av Eβ=2249 *49*; εK=0.0067 *5*; εL=0.00075 *5*; εM+=0.000141 *9*
(5.99×10^3 *10*)	18.26	39 *11*	0.28 *8*	5.44 *13*	39 *11*	av Eβ=2300 *49*; εK=0.0063 *4*; εL=0.00071 *5*; εM+=0.000133 *9*

Continued on next page (footnotes at end of table)

^{67}As ε decay 1980Mu12,1981MuZZ (continued)

ε,β^+ radiations (continued)

† Absolute transition intensities (1981MuZZ).
‡ Absolute intensity per 100 decays.

γ(^{67}Ge)

E_γ [†]	I_γ [#&]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [@]	δ [@]	α [a]	$I_{(\gamma+ce)}$ [‡&]	Comments
18.2 *5*	0.156	18.26	5/2$^-$	0	1/2$^-$	E2		364	56.9	
104.4 *3*	4.52	122.67	3/2$^{(-)}$	18.26	5/2$^-$	(M1+E2)	≥4	0.614	7.3	δ: from 1981MuZZ.
120.8 *3*	9.3	243.62	3/2$^{(-)}$	122.67	3/2$^{(-)}$	(M1+E2)	≥5	0.361	12.7	δ: from 1981MuZZ.
122.7 *3*	19.2	122.67	3/2$^{(-)}$	0	1/2$^-$	(M1(+E2))	0.85 *85*	0.17 *13*	22.5	δ: from 1981MuZZ.
225.4 *3*	1.5	243.62	3/2$^{(-)}$	18.26	5/2$^-$				1.5	
243.6 *3*	7.8	243.62	3/2$^{(-)}$	0	1/2$^-$				7.8	δ: +0.04 *16* or −1.7 *+6−10* for (M1+E2).
248.0 *3*	1.5	1900.9		1652.9					1.5	
589.0 *3*	2.0	711.6	5/2$^{(-)}$	122.67	3/2$^{(-)}$	(M1+E2)	−1.1 *+6−23*		2.0	
633.0 *3*	2.5	1652.9		1020.0	5/2$^{(-)}$				2.5	
685.5 *3*	2.2	808.15		122.67	3/2$^{(-)}$				2.2	
693.1 *5*	4.8	711.6	5/2$^{(-)}$	18.26	5/2$^-$				4.8	
776.4 *3*	1.0	1020.0	5/2$^{(-)}$	243.62	3/2$^{(-)}$				1.0	
789.9 *3*	4.8	808.15		18.26	5/2$^-$				4.8	
808.1 *3*	6.2	808.15		0	1/2$^-$				6.2	
897.4 *3*	3.1	1020.0	5/2$^{(-)}$	122.67	3/2$^{(-)}$	(M1+E2)	−1.0 *+8−24*		3.1	
1049.6 *10*	0.29	1293.9		243.62	3/2$^{(-)}$				0.29	
1151.4 *5*	0.58	1274.1		122.67	3/2$^{(-)}$				0.58	
1171.3 *5*	1.5	1293.9		122.67	3/2$^{(-)}$				1.5	
1274.3 *10*	1.3	1274.1		0	1/2$^-$				1.3	
1294.0 *5*	1.4	1293.9		0	1/2$^-$				1.4	
1385.2 *10*	0.33	2096.8		711.6	5/2$^{(-)}$				0.33	
1576.0 *10*	0.71	1698.7		122.67	3/2$^{(-)}$				0.71	
1657.0 *5*	0.38	1900.9		243.62	3/2$^{(-)}$				0.38	
2128.4 *10*	0.38	2251.1		122.67	3/2$^{(-)}$				0.38	
2218.2 *10*	3.9	2218.2		0	1/2$^-$				3.9	
2280.0 *10*	0.29	2523.7		243.62	3/2$^{(-)}$				0.29	

[†] From 1980Mu12.
[‡] Absolute transition intensities (1981MuZZ) calculated assuming the g.s. feeding is zero.
[#] Calculated from I(γ+ce).
[@] From adopted gammas.
[&] Absolute intensity per 100 decays.
[a] 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.

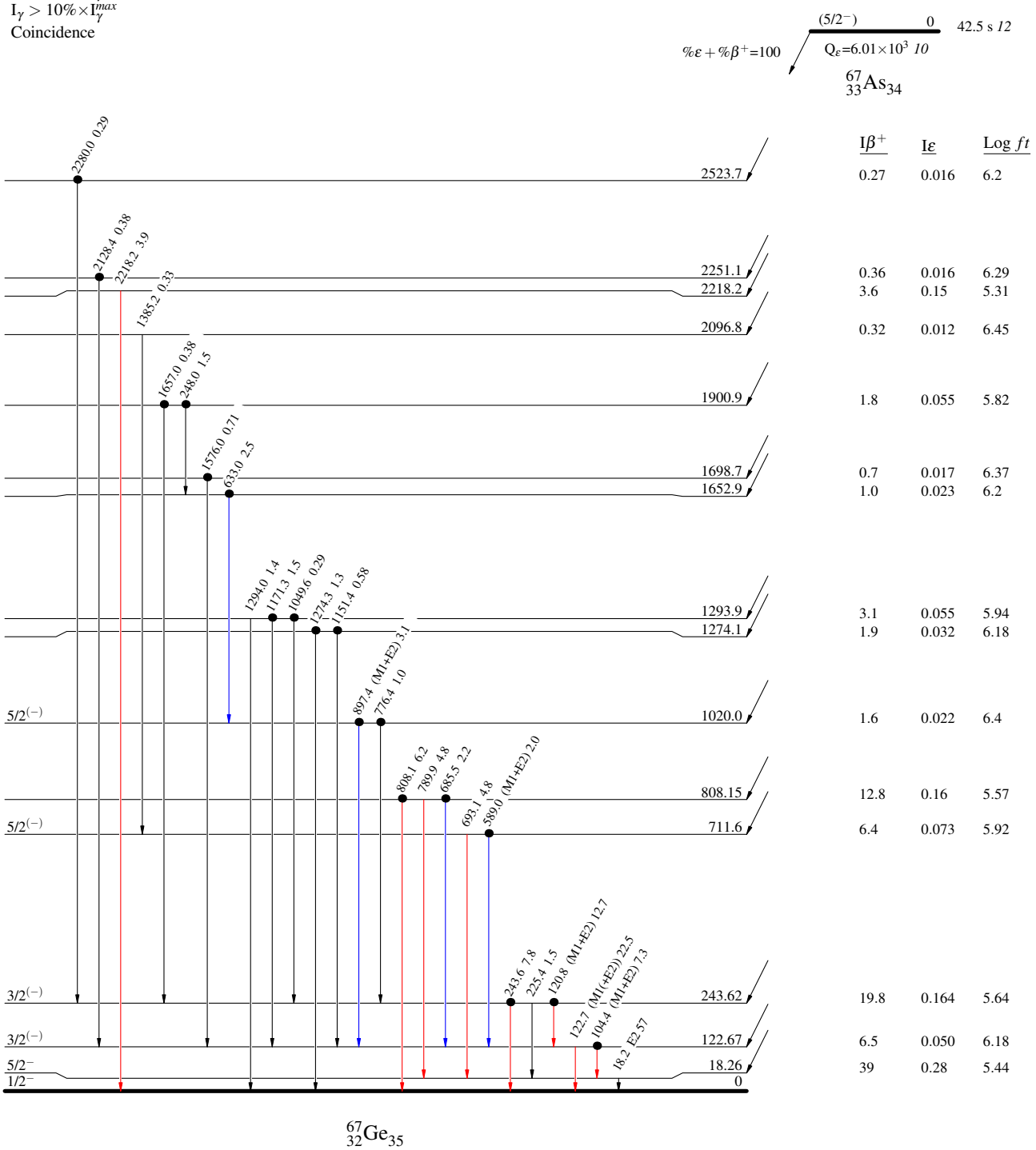
$^{67}_{32}Ge_{35}$-3

^{67}As ε decay 1980Mu12,1981MuZZ

Decay Scheme

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

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*
2523.7	0.27	0.016	6.2
2251.1	0.36	0.016	6.29
2218.2	3.6	0.15	5.31
2096.8	0.32	0.012	6.45
1900.9	1.8	0.055	5.82
1698.7	0.7	0.017	6.37
1652.9	1.0	0.023	6.2
1293.9	3.1	0.055	5.94
1274.1	1.9	0.032	6.18
1020.0	1.6	0.022	6.4
808.15	12.8	0.16	5.57
711.6	6.4	0.073	5.92
243.62	19.8	0.164	5.64
122.67	6.5	0.050	6.18
18.26	39	0.28	5.44

$^{67}_{32}Ge_{35}$