^{195}Au ε decay (186.01 d) 1991UnZZ,1974HeYW,1972HsZX

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Huang Xiaolong and Kang Mengxiao	NDS 121, 395 (2014)	1-Mar-2014

Parent: ^{195}Au: E=0.0; J^π=3/2$^+$; $T_{1/2}$=186.01 d *6*; Q(ε)=226.8 *10*; %ε decay=100.0
Measured Q(ε)=227.3 *10* (1980Sa11), 230.0 *10* (1973Go05).
1991UnZZ: Compile $T_{1/2}$.
1974HeYW: Compile Eγ, Iγ.
Eγ, Iγ measured with Ge(Li) and Si(Li) by 1974HeYW, 1972HsZX; except as noted. (K x ray)γ-coin: 1956Po47, 1959Bi07, 1983Fu09; (ce 31γ)(ce 99γ)-coin: 1952De34; precise E(ce) measured with Si(Li) by 1983IsZX;
Sources produced by deuterons on Pt (1949Wi08), ^{193}Ir(α,2n) (1949Wi08), and ^{195}Pt(p,n) (1949St17).
Energy balance: total decay energy of 218 keV *3* deduced (using RADLIST code) from proposed decay scheme is in agreement with the expected value of 226.8 keV *10*, suggesting that the decay scheme is a little reasonably.

^{195}Pt Levels

E(level)†	J^π‡	$T_{1/2}$
0.0	1/2$^-$	stable
98.858 *8*	3/2$^-$	
129.734 *8*	5/2$^-$	
199.46 *4*	3/2$^-$	
211.4071 *20*	3/2$^-$	

† From decay scheme and Eγ using least-squares fit to data.
‡ From Adopted Levels.

ε radiations

E(decay)	E(level)	Iε†‡	Log *ft*	Comments
(15.4 *10*)	211.4071	0.0195 *20*	7.16 *11*	εL=0.05 *6*; εM+=0.95 *6*
(27.3 *10*)	199.46	0.0142 *13*	8.17 *7*	εL=0.500 *18*; εM+=0.500 *18*
(97.1 *10*)	129.734	32.2 *15*	6.32 *3*	εK=0.178 *13*; εL=0.587 *9*; εM+=0.235 *4* I($\varepsilon+\beta^+$): 29% (1983Fu09). εK(exp)=0.160 *17*, εL(exp)/εK(exp)=3.06 *19*, ϵM(exp)+/εL(exp)=0.7 *1* (1973Go05); εK(exp)=0.175 *8*, εL(exp)/εK(exp)=3.25 *26* (1990BeZG). Others: 1959Bi07, 1964Go19, 1965De20, 1965Ha13.
(127.9 *10*)	98.858	58.2 *19*	6.511 *19*	εK=0.453 *6*; εL=0.398 *4*; εM+=0.1498 *18* I($\varepsilon+\beta^+$): 62% (1983Fu09). εK(exp)=0.438 *11*, εL(exp)/εK(exp)=0.87 *4*, ϵM(exp)+/εL(exp)=0.48 *2* (1973Go05). Others: 1965Ha13, 1968Ja11, 1990BeZG(εL(exp)/εK(exp)=0.80 *4*).
(226.8 *10*)	0.0	9.5 *4*	8.071 *19*	εK=0.6851 *10*; εL=0.2336 *7*; εM+=0.0813 *3* I($\varepsilon+\beta^+$): from 1973Go05. Other: 9% (1983Fu09). εL(exp)/εK(exp)=0.337 *7* (1973Go05).

† From intensity imbalance, except as noted. For absolute intensity per 100 decays, multiply by 1.0.
‡ Absolute intensity per 100 decays.

^{195}Au ε decay (186.01 d) 1991UnZZ,1974HeYW,1972HsZX (continued)

$\gamma(^{195}Pt)$

Iγ normalization: Assuming %ε(to g.s.)=9.5 *4* (1973Go05).

E_γ	I_γ [†‡]	E_i(level)	J^π_i	E_f	J^π_f	Mult.	δ	α [#]	Comments
30.876 *6*	6.9 *3*	129.734	5/2$^-$	98.858	3/2$^-$	M1+E2	−0.021 *4*	37.7	α(L)=29.0 *5*; α(M)=6.71 *11*; α(N+..)=1.98 *3* E_γ: from 1972HsZX. Others: 30.89 *9* (1972PoZU, ^{195}Pt IT (4.01 d) decay), 30.94 *5* (1970Ah05), 30.80 *6* (1970To19), 31.13 *5* (1967Sc18),30.84 *4* (1967Wa02). I_γ: av of 6.8 *4* (1970Ah05) and 7.1 *4* (1972Ha21). Others: 9.31 (1964Go19), 12.3 *18* (1965Ha13). δ: 0.021 *4* from L-subshell ratios (1970Ah05,1972HsZX), sign from ce$\gamma(\theta)$ (1968To04). Others: 0.014 *3* with penetration parameter=+2.4 10 (1972HsZX) revised to +1.9 *15*. α(L1)exp/α(L2)exp/α(L3)exp: 100 *4*/10.9 *4*/1.8 *2* (1970Ah05), 100/10.9 *3*/1.8 *7* (1972HsZX). Others: 1969Fi08, 1970To19, 1975GaZE. α(M1)exp/α(M2)exp/α(M3)exp=100/12.1 *6*/1.7 *3* (1972HsZX). Other: 1970To19. α(L1)exp: 23 *3* (1970Ah05), 28 *4* (1969Fi08). α(exp)=35 (1987Ch01).
98.857 *10*	100	98.858	3/2$^-$	0.0	1/2$^-$	M1+E2	−0.130 *4*	6.86	α(K)=5.58 *8*; α(L)=0.983 *14*; α(M)=0.229 *4*; α(N+..)=0.0672 *10* E_γ: from 1972HsZX. Others: 98.904 *10* (1974HeYW), 98.85 *5* (1973Ja10, ^{195}Pt β^- decay (3.67 h)), 98.90 *2* (1972PoZU,^{195}Pt IT decay (4.01 d)), 98.84 *5* (1970Ah05), 98.84 *20* (1970To19), 99.06 *3* (1969Fi08), 98.8 *3* (1967Sc18), 98.83 *1* (1967Wa02), 98.9 *5* (1965Ro19). δ: from L-subshell ratios: 1975GaZE, 1974Av01, 1970Ah05, 1972HsZX. Others: −0.12 *2* (1965Ca12) $\gamma(\theta$,H,T). α(L1)exp/α(L2)exp/α(L3)exp: 100 *3*/13.6 *7*/3.83 *23* (1970Ah05), 100/13.25 *40*/3.75 *20* (1972HsZX), 100/13.0 *5*/3.53 *17* (1974Av01), 100/13.5 *7*/3.69 *27* (1975GaZE). α(K)exp=5.98 *13*, α(exp)=7.24 *31* (1980Sa11); α(exp)=7.13 (1987Ch01).
129.735 *10*	7.5 *2*	129.734	5/2$^-$	0.0	1/2$^-$	E2		1.730	α(K)=0.467 *7*; α(L)=0.949 *14*; α(M)=0.245 *4*; α(N+..)=0.0691 *10* E_γ: from 1972HsZX. Others: 129.779 *10* (1974HeYW), 129.70 *5* (1973Ja10, ^{195}Pt β^- decay (3.67 h)), 129.79 *2* (1972PoZU,^{195}Pt IT decay (4.01 d)), 129.78 *3* (1970Ah05), 129.83 *26* (1970To19), 129.91 *3* (1969Fi08),

Continued on next page (footnotes at end of table)

^{195}Au ε decay (186.01 d) 1991UnZZ,1974HeYW,1972HsZX (continued)

γ(^{195}Pt) (continued)

E_γ	I_γ[†‡]	E_i(level)	J^π_i	E_f	J^π_f	Mult.	δ	α[#]	Comments
									129.7 *4* (1967Sc18). I_γ: weighted av: 7.3 *4* (1972HsZX), 7.6 *4* (1972Ha21), 7.4 *4* (1970Ah05) 7.2 *7* (1967Sc18), 7.7 *8* (1965Ha13), 8.0 *5* (1974HeYW). Other: 8.38 (1964Go19). α(L1)exp/α(L2)exp/α(L3)exp: 10 *2*/100/81 *9* (1975GaZE), 11.7 *5*/100/76.7 *14* (1972HsZX), 7.3 *22*/100 *9*/73 *7* (1970To19). α(K)exp=0.35 *12*, α(exp)=1.76 *19* (1969Fi08,1980Sa11); α(exp)=1.75 (1987Ch01).
199.46 *4*	0.079 *6*	199.46	3/2$^-$	0.0	1/2$^-$	M1+E2	+1.2 *2*	0.60 *6*	α(K)=0.42 *6*; α(L)=0.1374 *25*; α(M)=0.0338 *9*; α(N+..)=0.00973 *21* E_γ: from 1972HsZX. Others: 199.53 *3* (1974HeYW), 199.46 *10* (1973Ja10, ^{195}Pt β^- decay (3.67 h)), 199.4 *2* (1970Br26), 119.8 *3* (1967Sc18). I_γ: av: 0.078 *8* (1974HeYW), 0.080 *8* (1972HsZX). Other: 0.093 *10* (1967Sc18). δ: from α(K)exp=0.44 *6* (1972HsZX), sign from 1970Br26.
211.407 *2*	0.10 *1*	211.4071	3/2$^-$	0.0	1/2$^-$	M1+E2	+0.38 *3*	0.737 *14*	α(K)=0.595 *13*; α(L)=0.1090 *16*; α(M)=0.0255 *4*; α(N+..)=0.00749 *11* E_γ: from 1982Wa20 in ^{194}Pt(n,γ). Others: 211.39 *3* (1974HeYW), 211.32 *10* (1973Ja10, ^{195}Pt β^- decay (3.67 h)), 209.6 *4* (1970To19), 211.1 *3* (1967Sc18), 211.2 *3* (1965Ro09). I_γ: av: 0.102 *10* (1974HeYW), 0.10 *1* (1972HsZX). Others: 0.12 *1* (1967Sc18), 0.25 *3* (1965Ha13). δ: from Coul. ex. (1969Ku06).

† Relative photon intensity normalized to Iγ(Eγ=98.9)=100. I(ce(K)) is normalized to Iγ via α(K)(98.9γ)=5.80 (M1+E2 theory) I(K x ray)=88 *3* (weighted av): 88.6 *44* (1972Ha21), 87 *5* (1970Ah05), 88 *9* (1967Sc18). Other: 1964Go19. I(L x ray)=40.8 *16* (1954Bi95). Measured L_1 x ray yields ωL1=0.124 *12* (1985Ma50).

‡ For absolute intensity per 100 decays, multiply by 0.1121 *15*.

\# 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.

^{195}Au ε decay (186.01 d) 1991UnZZ,1974HeYW,1972HsZX