^{195}Ir β^- decay (2.29 h) 1973Ja10

History

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

Parent: ^{195}Ir: E=0.0; $J^\pi=3/2^+$; $T_{1/2}$=2.29 h *17*; Q(β^-)=1102.0 *21*; %β^- decay=100.0

Others: 1968Ho01, 1968Ja06.

1973Ja10: measured Eγ, Iγ, E(ce), and $\beta\gamma$-coin with Ge(Li) and Si(Li).

Sources produced by ^{195}Pt(n,p) (1954Bu02,1968Ja06), ^{198}Pt(p,α) (1973Ja10), ^{198}Pt(d,αn) (1968Ja06), and ^{192}Os(α,p) (1968Ho01).

Energy balance: total decay energy of 1089 keV *222* deduced (using RADLIST code) from proposed decay scheme is in agreement with the expected value of 1102.0 keV *21* (2012Wa38), suggesting that the decay scheme is reasonably complete.

^{195}Pt Levels

All data are shown in the drawing.

E(level)†	J^π‡	$T_{1/2}$‡
0.0	$1/2^-$	stable
98.830 *10*	$3/2^-$	
129.71 *3*	$5/2^-$	
211.30 *10*	$3/2^-$	

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

‡ From Adopted Levels.

β^- radiations

E(decay)	E(level)	Iβ^-†‡	Log *ft*	Comments
(890.7 *21*)	211.30	4.3 *11*	7.12 *12*	av Eβ=289.19 *80*
(972.3 *21*)	129.71	57 *22*	6.13 *17*	av Eβ=320.23 *81* E(decay): 980 *40* (1973Ja10) β(99γ)-coin; doublet to 99+130 states.
(1003.2 *21*)	98.830	25 *18*	6.5 *4*	av Eβ=332.07 *81*
(1102.0 *21*)	0.0	13 *9*	7.0 *3*	av Eβ=370.50 *83* E(decay): 1150 *100* (1973Ja10); 1160 *100* (1968Ja06) mixed ^{195}Ir+^{196}Ir β's. Iβ^-: Iβ(1150β)/Iβ(980β)=0.15 *10* (1973Ja10).

† From photon intensity imbalance, except for Iβ(g.s.)=13 *9*.

‡ Absolute intensity per 100 decays.

$\gamma(^{195}Pt)$

Iγ normalization: Assuming %Iβ(to g.s.)=13 *9* (1973Ja10).

For γ-ray properties, see ^{195}Au ε decay. Other possible photons: see unplaced γ's in 3.67-h ^{195}Ir decay.

Eγ†	Iγ‡#&	E_i(level)	J_i^π	E_f	J_f^π	Mult.@	δ@	α^a	Comments
30.88 *4*	14 *4*	129.71	$5/2^-$	98.830	$3/2^-$	M1+E2	−0.021 *4*	37.7	α(L)=29.0 *5*; α(M)=6.73 *11*; α(N+..)=1.98 *3* Iγ: from Iγ(2.29 h and 3.67 h components)=33 *4* and Iγ(3.67 h component)=19.3 *3*.

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^{195}Ir β^- decay (2.29 h) 1973Ja10 (continued)

$\gamma(^{195}Pt)$ (continued)

E_γ[†]	I_γ[‡#&]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	δ[@]	α[a]	Comments
98.83 *1*	101 *11*	98.830	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+..)=0.0673 *10* I_γ: from Iγ(2.29 h and 3.67 h components)=210 *10* and Iγ(3.67 h component)=109.3 *18*.
129.71 *4*	14 *3*	129.71	5/2$^-$	0.0	1/2$^-$	E2		1.732	α(K)=0.468 *7*; α(L)=0.950 *14*; α(M)=0.245 *4*; α(N+..)=0.0692 *10* I_γ: from Iγ(2.29 h and 3.67 h components)=31 *2* and Iγ(3.67 h component)=17.4 *15*.
211.30 *10*	25 *3*	211.30	3/2$^-$	0.0	1/2$^-$	M1+E2	+0.38 *3*	0.738 *14*	α(K)=0.596 *13*; α(L)=0.1091 *16*; α(M)=0.0255 *4*; α(N+..)=0.00750 *11* E_γ: from 1973Ja10. I_γ: from Iγ(2.29 h and 3.67 h components)=45 *2* and Iγ(3.67 h component)=20.1 *23*.

[†] Adopted value in 1973Ja10.
[‡] Iγ(3.67 h component), deduced from 3.67-h ^{195}Ir β^- decay scheme by evaluator.
[#] From Iγ(2.29 h + 3.67 h) minus Iγ(3.67 h). Relative photon intensity normalized to Iγ(Eγ=98.85)=101.
[@] From α(K)exp.
[&] For absolute intensity per 100 decays, multiply by 0.099 *25*.
[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.

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Decay Scheme

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