^{129}I β^- decay (1.57×10^7 y)   1985Ba73,1977Ra23

Parent: ^{129}I: E=0.0; J$^\pi$=7/2$^+$; T$_{1/2}$=1.57×10^7 y 4; Q(β^-)=189 3; %β^- decay=100.0

^{129}I-Q(β^-): From 2012Wa38.

^{129}I-J$^\pi$,T$_{1/2}$: From ^{129}I Adopted Levels.

1985Ba73: ^{235}U(n,F), E=th; HPGE detector, x-ray, G.

1977Ra23: ^{235}U(n,F), E=th; Ge, 4π β, x-ray, γ, B.

Others: 1954De17, 1965Wa13, 1968ReZY, 1970SaZI, 1951Ka16, 1949Li09, 1949Pa19.

See also ^{129}Xe IT decay.

^{129}Xe Levels

E(level)	J$^{\pi\dagger}$	T$_{1/2}$†
0.0	1/2$^+$	stable
39.578 2	3/2$^+$	0.97 ns 2

† From Adopted Levels.

β^- radiations

No β^- feeding to g.s. (<1%) (1954De17).

E(decay)	E(level)	I$\beta^{-\dagger}$	Log ft	Comments
(149 3)	39.578	100 1	13.46 4	av Eβ=40.03 92

† Absolute intensity per 100 decays.

γ(^{129}Xe)

E$_\gamma$	I$_\gamma$†	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.	δ	$\alpha^\ddagger$	Comments
39.578 4	7.51 23	39.578	3/2$^+$	0.0	1/2$^+$	M1+E2	−0.027 5	12.03	α(K)=10.27 15; α(L)=1.408 23; α(M)=0.286 5 α(N)=0.0591 10; α(O)=0.00732 11 E$_\gamma$: from 1985Ba73. I$_\gamma$: from α(t) and I(γ+ce)=100 (1985Ba73). Mult.: from α(K)exp=10.2 5, K/L≈8.2 (1977Ra23). Others: α(K)exp=10.60 44 (1985Ba73), 10.2 4 (1970SaZI), 10.6 (1968ReZY), 21.0 10 (1965Wa13), 22 4 (1954De17); K/L≈10 (1954De17). δ: from ^{129}Cs ε decay (1965Ge04,1974Ma24).

† Absolute intensity per 100 decays.

‡ 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.

^{129}I β^- decay (1.57×10^7 y)   1985Ba73,1977Ra23

Decay Scheme

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

$7/2^+$ 0.0   1.57×10^7 y *4*

Q$_{\beta^-}$=189 *3*   %β^-=100.0

$^{129}_{53}$I$_{76}$

Iβ^-	Log *ft*
100	13.46

39.578 M1+E2 *98*

$3/2^+$ 39.578   0.97 ns *2*

$1/2^+$ 0.0   stable

$^{129}_{54}$Xe$_{75}$