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^{130}**Cs ε decay (3.46 min)**   **1983We07**

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Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 93, 33 (2001)	11-May-2001

Parent: ^{130}Cs: E=163.2; J$^\pi$=5$^-$; T$_{1/2}$=3.46 min *6*; Q(ε)=2979 *8*; %ε+%β^+ decay=0.16 *2*
^{130}Cs-%ε+%β^+ decay: from Iγ(206.2γ,^{130}Xe):Iγ(470.8γ,^{130}Xe):Iγ(148.4γ,^{130}Cs)=0.38 *16*:3.0 *3*:100.
1983We07: measured Eγ, Iγ.

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^{130}Xe Levels

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E(level)[†]	J$^{\pi}$[‡]
0.0	0$^+$
536.2	2$^+$
1122.4	2$^+$
1632.9	3$^+$
2103.7	(4)$^-$
2310	(5)$^-$

[†] From least-squares fit to Eγ's.
[‡] From Adopted Levels.

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ε,β^+ radiations

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E(decay)	E(level)	Iε[†]	Log *ft*	I($\varepsilon+\beta^+$)[†]	Comments
(832 *8*)	2310	0.04 *1*	6.1 *1*	0.04 *1*	εK=0.8480; εL=0.1193; εM+=0.03267
(1039 *8*)	2103.7	0.12 *2*	5.9 *1*	0.12 *2*	εK=0.8499; εL=0.1179; εM+=0.03220

[†] Absolute intensity per 100 decays.

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$\gamma(^{130}$Xe)

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Iγ normalization: Ti(206γ+471γ)=0.16.

E$_\gamma$	I$_\gamma$[†#]	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.[‡]	δ[‡]	α[@]	Comments
206.2 *3*	0.58 *16*	2310	(5)$^-$	2103.7	(4)$^-$	M1+E2	−0.25 *5*	0.113	α(K)= 0.0966 *5*; α(L)= 0.0131 *3*; α(M)=0.00265 *6*; α(N+..)=0.00067
470.8 *3*	3.0 *3*	2103.7	(4)$^-$	1632.9	3$^+$				
(510.5)		1632.9	3$^+$	1122.4	2$^+$				
536.2 *3*		536.2	2$^+$	0.0	0$^+$				I$_\gamma$: 34.7 quoted by 1983We07 is too high.
(586.2)		1122.4	2$^+$	536.2	2$^+$				

[†] Relative to Iγ(148.35)=100 in IT decay.
[‡] From adopted γ's.
[#] For absolute intensity per 100 decays, multiply by 7.0×10^{-5} *9*.
[@] 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.

^{130}Cs ε decay (3.46 min)   1983We07

Decay Scheme

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

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
γ Decay (Uncertain)

5^- 163.2   3.46 min 6

$\%\varepsilon + \%\beta^+ = 0.17$

$Q_\varepsilon = 2979$ 8

$^{130}_{55}$Cs$_{75}$

Iε	Log ft

206.2 M1+E2 0.000045
470.8 0.00021

$(5)^-$ 2310   0.04   6.1
$(4)^-$ 2103.7   0.12   5.9

510.5

3^+ 1632.9

586.2

2^+ 1122.4

536.2

2^+ 536.2

0^+ 0.0

$^{130}_{54}$Xe$_{76}$