^{129}Xe IT decay (8.88 d) 1962Ge09,1965Ge04

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Janos Timar and Zoltan Elekes, Balraj Singh	NDS 121, 143 (2014)	31-May-2014

Parent: ^{129}Xe: E=236.14 *3*; $J^\pi=11/2^-$; $T_{1/2}$=8.88 d *2*; %IT decay=100.0

1962Ge09: mag β spectrometer, ce(K), ce(L).

1965Ge04: ^{235}U(n,F) mass sep, mag β spectrometer, ce, scin, K x ray, (K x ray)(ce)(t).

1976Le23: ^{127}I(n,γ)^{128}I(β^-)^{128}Xe(n,γ) $\gamma\gamma(\theta)$.

Others: 1954Th18, 1958Al98, 1970Gy01.

See also ^{129}I β^- decay.

^{129}Xe Levels

E(level)	J^π †	$T_{1/2}$ †
0.0	$1/2^+$	stable
39.578 *2*	$3/2^+$	0.97 ns *2*
236.14 *3*	$11/2^-$	8.88 d *2*

† From Adopted Levels.

$\gamma(^{129}Xe)$

E_γ	I_γ †‡	E_i(level)	J_i^π	E_f	J_f^π	Mult.	δ	α #	$I_{(\gamma+ce)}$ ‡	Comments
39.578 *4*	7.5 *2*	39.578	$3/2^+$	0.0	$1/2^+$	M1+E2	−0.027 *5*	12.03	100	ce(K)/(γ+ce)=0.786 *18*; ce(L)/(γ+ce)=0.109 *3*; ce(M)/(γ+ce)=0.022 *1* ce(K)/(γ+ce)=0.788 *6*; ce(L)/(γ+ce)=0.1081 *21*; ce(M)/(γ+ce)=0.0220 *5*; ce(N+)/(γ+ce)=0.00510 *11* ce(N)/(γ+ce)=0.00454 *10*; ce(O)/(γ+ce)=0.000562 *12* E_γ: from 1985Ba73. δ: from ^{129}Cs ε decay (1965Ge04,1974Ma24). Mult.: from ^{129}I β^- decay.
196.56 *3*	4.59 *14*	236.14	$11/2^-$	39.578	$3/2^+$	M4		20.3	100	ce(K)/(γ+ce)=0.640 *12*; ce(L)/(γ+ce)=0.245 *7*; ce(M)/(γ+ce)=0.055 *2* ce(K)/(γ+ce)=0.640 *8*; ce(L)/(γ+ce)=0.245 *4*; ce(M)/(γ+ce)=0.0554 *11*; ce(N+)/(γ+ce)=0.01258 *25* ce(N)/(γ+ce)=0.01132 *22*; ce(O)/(γ+ce)=0.001257 *25* Mult.: from K:L1:L2:L3 ratios (1962Ge09), $\gamma\gamma(\theta)$ (1976Le23).

† From I(γ+ce) and α(exp).

‡ 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.

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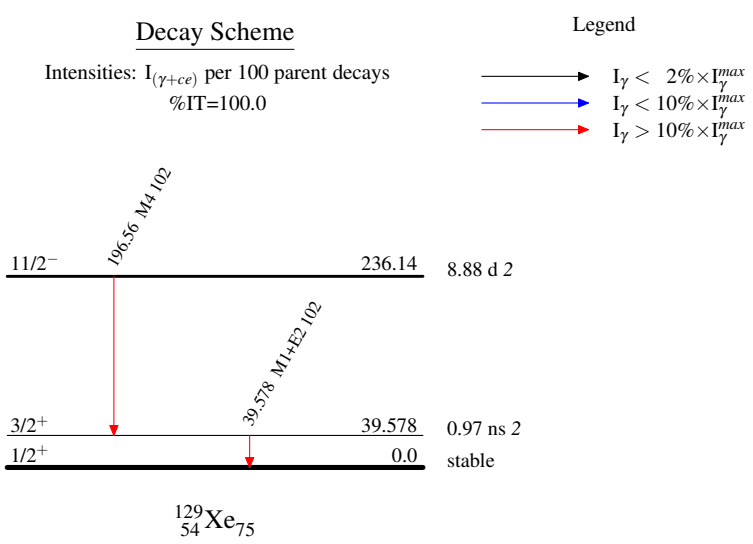
Decay Scheme

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

%IT=100.0



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