^{132}Xe IT decay (8.39 ms) 1967Br12,1974Ha50

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Yu. Khazov, A. A. Rodionov and S. Sakharov, Balraj Singh	NDS 104, 497 (2005)	10-Feb-2005

Parent: ^{132}Xe: E=2752.16 *22*; $J^\pi=(10^+)$; $T_{1/2}$=8.39 ms *11*; %IT decay=100.0

1967Br12, 1968BrZY: ^{130}Te(α,2nγ); measured Eγ, Iγ, ce, $\gamma\gamma$, $T_{1/2}$.

1974Ha50: ^{130}Te(α,2nγ), E=37 MeV; measured γ(t) with mechanical chopper, deduced $T_{1/2}$.

Others: 1965De15, 1968HaZT, 1977Go15, 1982BoZN. In 1965De15, the isomer was incorrectly assigned to ^{125}Xe.

^{132}Xe Levels

E(level)	J^π[†]	$T_{1/2}$	Comments
0.0	0^+		
667.75 *7*	2^+		
1440.35 *13*	4^+		
2040.46 *16*	(5^-)		
2214.06 *19*	(7^-)		
2752.16 *22*	(10^+)	8.39 ms *11*	$T_{1/2}$: from 1974Ha50. Others: 8.4 ms *8* (1967Br12), 8.2 ms *6* (1965De15), 8.9 ms *5* (1977Go15).

[†] From Adopted Levels.

$\gamma(^{132}Xe)$

Iγ normalization: From level scheme.

E$_\gamma$[†]	I$_\gamma$[‡@]	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.[#]	α[&]	I$_{(\gamma+ce)}$[@]	Comments
173.6 *1*	96 *7*	2214.06	(7^-)	2040.46	(5^-)	E2	0.262	100	α(K)= 0.2029; α(L)= 0.0469; α(M)=0.00980; α(N+..)=0.00237 Mult.: α(K)exp=0.19 *2*, K/L+M=3.8 *3* (1968BrZY).
538.1 *1*	98 *3*	2752.16	(10^+)	2214.06	(7^-)	E3	0.0202	100	α(K)=0.01618; α(L)=0.00302 Mult.: α(K)exp=0.020 *3*, K/L+M=4 *1* (1968BrZY).
600.1 *1*	97 *3*	2040.46	(5^-)	1440.35	4^+	(E1)	0.00196	100	α(K)=0.00169; α(L)=0.00021
667.75 *7*	98 *3*	667.75	2^+	0.0	0^+	E2	0.00421	100	α(K)=0.00356; α(L)=0.00048
772.6 *1*	100	1440.35	4^+	667.75	2^+	E2	0.00294	100	α(K)=0.00250; α(L)=0.00033

[†] From (α,2nγ) dataset, which are from 1986Li23, 1983Ba64 and 1971Ke13.

[‡] From 1967Br12.

[#] From Adopted Gammas, unless otherwise stated.

[@] 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.

^{132}Xe IT decay (8.39 ms) 1967Br12,1974Ha50

Decay Scheme

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

%IT=100.0