^{136}Cs IT decay (17.5 s) 2011Wi09

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. A. Mccutchan	NDS 152, 331 (2018)	1-Apr-2018

Parent: ^{136}Cs: E=517.9 *1*; $J^{\pi}=8^-$; $T_{1/2}$=17.5 s *2*; %IT decay=?

^{136m}Cs activity from proton-induced fission of uranium carbide, with E(p)=1.4 GeV. Surface ionziation of Cs followed by separation in the ISOLDE high-resolution separator. Measured Eγ, Iγ, γ(t) with HPGe detector and Ece, Ice with a liquid N_2 cooled Si(Li) detector.

α: Additional information 1.

^{136}Cs Levels

E(level)	J^{π}†	$T_{1/2}$	Comments
0.0	5^+	13.01 d *5*	$T_{1/2}$: from the Adopted Levels. configuration=$(\pi g7/2)(\nu d3/2)^{-1}$.
104.8 *3*	4^+		E(level): from the energy difference of the 518γ and 413γ depopulating the 518-keV level.
517.9 *1*	8^-	17.5 s *2*	$T_{1/2}$: from 518γ(t) (2011Wi09). configuration=$(\pi g7/2)(\nu h11/2)^{-1}$. E(level): From the energy of the 517.9γ depopulating transition.

† From the Adopted Levels.

$\gamma(^{136}Cs)$

The isomer decays by IT decay mode, but branching ratio is not known.

E_i(level)	J_i^{π}	E_γ	I_γ†	E_f	J_f^{π}	Mult.	α	$I_{(\gamma+ce)}$‡	Comments
104.8	4^+	104.8	0.0465	0.0	5^+	(E2)	1.581	0.12	α(K)=1.046 *15*; α(L)=0.422 *6*; α(M)=0.0912 *3*; α(O)=0.00219 *3* $I_{(\gamma+ce)}$: from intensity balance. Mult.: assuming a cascade of 413-105-keV transitions, intensity balance is consistent only with an E2 transition for the 105γ.
517.9	8^-	413.1 *3*	0.0704	104.8	4^+	M4	0.704	0.12	α(exp)=0.64 *12*; α(K)exp=0.49 *5*; α(L)exp=0.122 *15* (2011Wi09) α(K)=0.549 *8*; α(L)=0.1221 *18*; α(M)=0.0265 *8*; α(O)=0.000738 *11* α(M+N)=0.0031 *11*, K/L=4.0 *6*, L/(M+N)=4.0 *15* (2011Wi09). Mult.: from experimental conversion coefficients and subshell ratios.
		517.9 *1*	97.57	0.0	5^+	E3	0.0237	99.88	α(K)exp=0.0184 *4*; α(L)exp=0.00373 *10* (2011Wi09) α(K)=0.0189 *3*; α(L)=0.00374 *6*; α(M)=0.000790 *23*; α(O)=2.12×10^{-5} *3* α(M+N)exp=0.00094 *4* (2011Wi09). Mult.: from α(K)exp, α(L)exp, and α(M+N)exp.

† Deduced by evaluator from I(γ+ce) and α.

‡ From 2011Wi09, except where noted.

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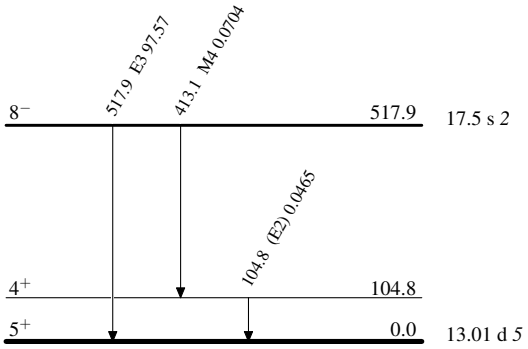
Decay Scheme

Intensities: Relative photon branching from each level
%IT=?



$^{136}_{55}Cs_{81}$