^{252}Cf SF decay 1971Ho29,1972ClZN,2010Li03

History

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

Parent: ^{252}Cf: E=0; $J^{\pi}=0^+$; $T_{1/2}$=2.645 y *8*; %SF decay=?

1970Jo20: Measured Eγ, Iγ, fragment-γ(t), fragment-γ coincidences and fragment kinetic energy using two Si diodes and a Ge(Li) detector.

1970Wa05: Measured Ece, Ice, E(x-ray), I(x-ray), fragment-fragment-ce-x-ray concidences using a Si(Li) detector for electrons, two phosphorus-diffused Si fragment detectors and a Si(Li) x-ray detector.

1971Ho29,1972Ho08: Measured Eγ, Iγ, γ-x ray coincidences using a Ge(Li) detector and a Si(Li) x-ray spectrometer.

1974ClZX,1972ClZN: Measured Eγ, Iγ, E(x-ray), fragment-γ coincidences and fragment-γ(t) using Ge(Li) detectors and Si(Li) detectors for γ rays and x rays, respectively and Si-Au surface barrier detectors for fission fragments.

2010Li03: Measured Eγ, Iγ, γγ, γγ(θ) using Gammasphere array consisting of 101 Compton-suppressed HPGe detectors.

^{136}I Levels

E(level)†	J^{π}‡	$T_{1/2}$	Comments
0.0	(1⁻)		
87.4 *2*	(2⁻,1⁻,0⁻)	0.4 ns *1*	$T_{1/2}$: from ce(t) (1970Wa05).
y	(7⁻)#		E(level): this level is associated with the 243.6-keV level in the Adopted Levels.
1111.8+y	(9⁻)#		
1372.5+y	(11⁻)#		$T_{1/2}$: unplaced 261γ was observed in 1970Jo20 with $T_{1/2}$=4 ns and in 1972ClZN with $T_{1/2}$=3.4 ns *6*.
1615.8+y	(12⁻)		

† From Eγ.
‡ From the Adopted Levels. Support originating from this dataset is indicated in the comments.
# γ(θ) in 2010Li03 consistent with Q-Q cascade.

γ(^{136}I)

E_γ†	I_γ†	E_i(level)	J_i^{π}	E_f	J_f^{π}	Mult.‡	Comments
x58.8#&b *2*							
87.4# *2*		87.4	(2⁻,1⁻,0⁻)	0.0	(1⁻)		
243.3@		1615.8+y	(12⁻)	1372.5+y	(11⁻)		
260.6 *2*	0.209 *15*	1372.5+y	(11⁻)	1111.8+y	(9⁻)	Q	Mult.: A_2=0.101 *6*, A_4=0.009 *10* for 260.7γ-1111.8γ cascade (2010Li03). Eγ: Placement from 2010Li03. An unplaced γ ray was observed in 1972ClZN, 1970Jo20 (Eγ=261.1) and 1972Ho08 (Eγ=260.9). In 1970Jo20 this γ ray is reported to decay with $T_{1/2}$=4 ns and in 1972ClZN with $T_{1/2}$=3.4 ns *6*.
x288.3a *2*	0.548 *33*						
1111.8@		1111.8+y	(9⁻)	y	(7⁻)	Q	Mult.: A_2=0.101 *6*, A_4=0.009 *10* for 260.7γ-1111.8γ cascade (2010Li03).

† From 1972ClZN, except where noted.
‡ From γγ(θ) in 2010Li03.
# From 1971Ho29.

Continued on next page (footnotes at end of table)

^{252}Cf SF decay 1971Ho29,1972ClZN,2010Li03 (continued)

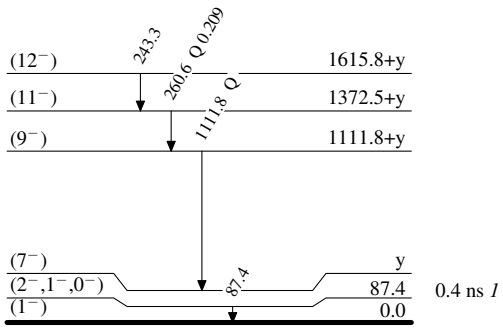
$\gamma(^{136}I)$ (continued)

@ From 2010Li03.
& Reported to decay with $T_{1/2}$<0.5 ns (1970Wa05).
a Reported to decay with $T_{1/2}$=2.8 ns *6* (1972ClZN) and $T_{1/2}$=3 ns (1970Jo20).
b Placement of transition in the level scheme is uncertain.
x γ ray not placed in level scheme.

^{252}Cf SF decay 1971Ho29,1972ClZN,2010Li03

Level Scheme

Intensities: Relative I_γ



$^{136}_{53}I_{83}$