

^{252}Cf SF decay [1996Ba34,1995Zh34](#)

Type	Author	History	Literature Cutoff Date
Full Evaluation	N. Nica and B. Singh	Citation NDS 181, 1 (2022)	9-Mar-2022

Parent: ^{252}Cf : $E=0$; $J^\pi=0^+$; $T_{1/2}=2.645\text{ y}$ 8; %SF decay=3.092 8

^{252}Cf -data from [2005Ni22](#).

[1996Ba34](#), [1995Zh34](#): ORNL 20 Compton-suppressed Ge array and GAMMASPHERE with 36 Ge and 1 LEPS. ^{242}Pu , ^{252}Cf sources. Measured $\gamma\gamma$, $\gamma\gamma\gamma$.

Both [1996Ba34](#) and [1995Zh34](#) are done by same group (probably same experiment). The results are discrepant – see comments below.

 ^{147}Ba Levels

E(level) [†]	J^π [‡]	Comments
0.0 [#]	(3/2 ⁺)	J^π : 7/2 ⁻ in 1996Ba34 .
109.6 [#]	(7/2 ⁺)	J^π : 9/2 ⁻ in 1996Ba34 .
360.0 [#]	(11/2 ⁺)	J^π : 13/2 ⁻ in 1996Ba34 .
712.0? [#]	(15/2 ⁺)	J^π : 17/2 ⁻ in 1996Ba34 .
1140? [#]	(19/2 ⁺)	J^π : 21/2 ⁻ in 1996Ba34 .

[†] From [1995Zh34](#), which differ from those of [1996Ba34](#). Level energies listed here differ from those in Adopted Levels.

[‡] From [1995Zh34](#). J^π 's of [1996Ba34](#) (given in comments) are different. Neither of them give explicit arguments. J^π 's listed here differ from those in Adopted Levels.

[#] Band(A): g.s. band.

 $\gamma(^{147}\text{Ba})$

E_γ	I_γ	$E_i(\text{level})$	J^π_i	E_f	J^π_f
109.6		109.6	(7/2 ⁺)	0.0	(3/2 ⁺)
250.4	100	360.0	(11/2 ⁺)	109.6	(7/2 ⁺)
352.0 ^{†‡}	60	712.0?	(15/2 ⁺)	360.0	(11/2 ⁺)
428 ^{†‡}	32	1140?	(19/2 ⁺)	712.0?	(15/2 ⁺)

[†] Not observed in ^{248}Cm SF decay ([1996Jo14](#), [2013Rz01](#)).

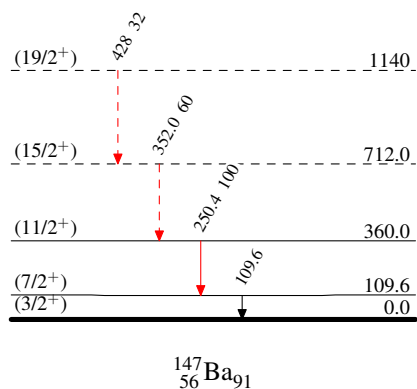
[‡] Placement of transition in the level scheme is uncertain.

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Legend

Level Scheme
Intensities: Relative I_γ

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



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