^{252}Cf SF decay   1996Ba34

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 110, 1 (2009)	20-Nov-2008

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

1996Ba34: measured Eγ, Iγ, $\gamma\gamma$, $\gamma\gamma\gamma$ and higher fold coin using different detector arrays including GAMMASPHERE with 36 Ge detectors.

^{151}Nd Levels

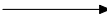| E(level)	$J^{\pi\dagger}$	Comments
0.0+x	(9/2$^+$)	E(level): this level may correspond to 95.9, (9/2$^+$) level reported in (d,p).
149.4+x‡	(13/2$^+$)	E(level): this level may correspond to 258.9, (9/2$^+$) level reported in (d,p), but energy difference between 13/2$^+$ and 9/2$^+$ does not match 149.4γ reported by 1996Ba34.
376.5+x‡	(17/2$^+$)	
684.4+x‡	(21/2$^+$)	
1068.2+x‡	(25/2$^+$)	
1520.6+x‡	(29/2$^+$)	
2033.2+x‡	(33/2$^+$)	
2600.8+x‡	(37/2$^+$)	
3220.8+x‡	(41/2$^+$)	

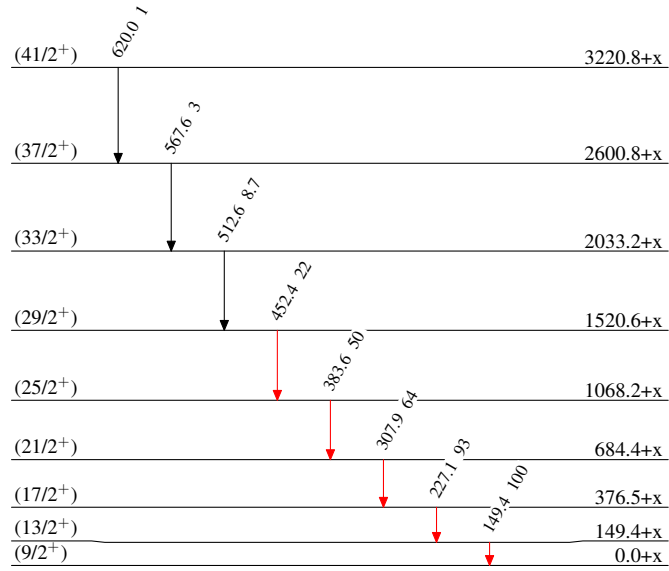† From 1996Ba34 based on probable i$_{13/2}$ band assignment.

‡ Band(A): Probable i$_{13/2}$ band. This band is built on 3/2[651] or 5/2[642] orbital (1996Ba34). Similar bands reported in other N=91 nuclides, ^{155}Gd, ^{157}Dy and ^{159}Er.

γ(^{151}Nd)

E$_\gamma$	I$_\gamma$	E$_i$(level)	J_i^π	E$_f$	J_f^π
149.4	100	149.4+x	(13/2$^+$)	0.0+x	(9/2$^+$)
227.1	93	376.5+x	(17/2$^+$)	149.4+x	(13/2$^+$)
307.9	64	684.4+x	(21/2$^+$)	376.5+x	(17/2$^+$)
383.6	50	1068.2+x	(25/2$^+$)	684.4+x	(21/2$^+$)
452.4	22	1520.6+x	(29/2$^+$)	1068.2+x	(25/2$^+$)
512.6	8.7	2033.2+x	(33/2$^+$)	1520.6+x	(29/2$^+$)
567.6	3	2600.8+x	(37/2$^+$)	2033.2+x	(33/2$^+$)
620.0	1	3220.8+x	(41/2$^+$)	2600.8+x	(37/2$^+$)

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Level Scheme

Intensities: Relative I_γ

Legend

$I_\gamma < \ \ 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$

$(41/2^+)$ 3220.8+x

$(37/2^+)$ 2600.8+x

$(33/2^+)$ 2033.2+x

$(29/2^+)$ 1520.6+x

$(25/2^+)$ 1068.2+x

$(21/2^+)$ 684.4+x

$(17/2^+)$ 376.5+x
$(13/2^+)$ 149.4+x
$(9/2^+)$ 0.0+x

620.0 1
567.6 3
512.6 8.7
452.4 22
383.6 50
307.9 64
227.1 93
149.4 100

$^{151}_{60}Nd_{91}$

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Band(A): Probable i$_{13/2}$ band

(41/2$^+$)   3220.8+x

620

(37/2$^+$)   2600.8+x

568

(33/2$^+$)   2033.2+x

513

(29/2$^+$)   1520.6+x

452

(25/2$^+$)   1068.2+x

384

(21/2$^+$)   684.4+x

308

(17/2$^+$)   376.5+x

227

(13/2$^+$)   149.4+x

$^{151}_{60}$Nd$_{91}$