

<sup>252</sup>Cf SF decay 2002Hw06

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 113, 2391 (2012)	1-Sep-2012

Parent: <sup>252</sup>Cf: E=0.0; J<sup>π</sup>=0<sup>+</sup>; T<sub>1/2</sub>=2.645 y 8; %SF decay=?

Measured E<sub>γ</sub>, I<sub>γ</sub>, γγ, using GAMMASPHERE array with 102 Compton-suppressed Ge detectors.

<sup>115</sup>Ag Levels

E(level) <sup>†</sup>	J <sup>π</sup> #	T <sub>1/2</sub> <sup>‡</sup>	E(level) <sup>†</sup>	J <sup>π</sup> #	E(level) <sup>†</sup>	J <sup>π</sup> #
0.0	1/2 <sup>-</sup>	20.0 min 5	1123.4 6	(15/2 <sup>+</sup> )	2418.6 <sup>@</sup> 6	(21/2 <sup>+</sup> )
41.10 <sup>@</sup> 20	7/2 <sup>+</sup>	18.0 s 7	1298.9 <sup>b</sup> 6	(17/2 <sup>+</sup> )	2602.1 <sup>a</sup> 6	(21/2 <sup>-</sup> )
167.2 <sup>@</sup> 4	9/2 <sup>+</sup>		1480.4 <sup>@</sup> 5	(15/2 <sup>+</sup> )	2624.4 <sup>&amp;</sup> 6	(19/2 <sup>-</sup> )
285.5 <sup>b</sup> 5	(11/2 <sup>+</sup> )		1560.1 <sup>@</sup> 5	(17/2 <sup>+</sup> )	2634.3 <sup>b</sup> 7	(23/2 <sup>+</sup> )
596.7 <sup>b</sup> 6	(13/2 <sup>+</sup> )		1723.3 <sup>b</sup> 6	(19/2 <sup>+</sup> )	2849.0 <sup>&amp;</sup> 6	(-)
664.9 <sup>@</sup> 5	(11/2 <sup>+</sup> )		1837.0 <sup>&amp;</sup> 6	(15/2 <sup>-</sup> )	2856.2 <sup>a</sup> 7	(23/2 <sup>-</sup> )
803.2 <sup>@</sup> 5	(13/2 <sup>+</sup> )		1887.3 <sup>&amp;</sup> 5	(17/2 <sup>-</sup> )	2972.0 <sup>&amp;</sup> 7	(-)
926.8 <sup>b</sup> 6	(15/2 <sup>+</sup> )		2146.6 <sup>a</sup> 5	(17/2 <sup>-</sup> )	3095.2 <sup>a</sup> 8	(25/2 <sup>-</sup> )
1110.1 <sup>&amp;</sup> 5	(13/2 <sup>-</sup> )		2385.6 <sup>a</sup> 6	(19/2 <sup>-</sup> )	3239.0 <sup>&amp;</sup> 7	(-)

<sup>†</sup> From least-squares fit to E<sub>γ</sub>'s, assuming Δ(E<sub>γ</sub>)=0.3 keV for each γ ray.

<sup>‡</sup> From Adopted Levels.

# From band assignments.

@ Band(A): π7/2[413] band.

& Band(B): Band based on (13/2<sup>-</sup>). This band may be the yrast portion of 1/2[301], Coriolis mixed with the 3/2[301] band.

Negative parity for the highest three members is from figure 4 of 2002Hw06, not given in authors' table II.

<sup>a</sup> Band(C): Band based on (17/2<sup>-</sup>). This band may be the yrast portion of K=2 γ band built on 13/2<sup>-</sup> band.

<sup>b</sup> Band(D): possibly π5/2[422] band.

γ(<sup>115</sup>Ag)

E <sub>γ</sub>	I <sub>γ</sub> <sup>†</sup>	E <sub>i</sub> (level)	J <sub>i</sub> <sup>π</sup>	E <sub>f</sub>	J <sub>f</sub> <sup>π</sup>	Comments
41.1 2		41.10	7/2 <sup>+</sup>	0.0	1/2 <sup>-</sup>	
118.3	52 3	285.5	(11/2 <sup>+</sup> )	167.2	9/2 <sup>+</sup>	
123.0	8.0 4	2972.0	(-)	2849.0	(-)	
126.1		167.2	9/2 <sup>+</sup>	41.10	7/2 <sup>+</sup>	
138.3	7.0 4	803.2	(13/2 <sup>+</sup> )	664.9	(11/2 <sup>+</sup> )	
216.5	9.0 5	2602.1	(21/2 <sup>-</sup> )	2385.6	(19/2 <sup>-</sup> )	
224.6	9.0 5	2849.0	(-)	2624.4	(19/2 <sup>-</sup> )	
239.0	6.0 3	2385.6	(19/2 <sup>-</sup> )	2146.6	(17/2 <sup>-</sup> )	
239.0	2.0 7	3095.2	(25/2 <sup>-</sup> )	2856.2	(23/2 <sup>-</sup> )	
254.1	6.0 3	2856.2	(23/2 <sup>-</sup> )	2602.1	(21/2 <sup>-</sup> )	
267.0	3 1	3239.0	(-)	2972.0	(-)	
276.9	5 1	1837.0	(15/2 <sup>-</sup> )	1560.1	(17/2 <sup>+</sup> )	
311.2	23 1	596.7	(13/2 <sup>+</sup> )	285.5	(11/2 <sup>+</sup> )	
330.1	13.0 6	926.8	(15/2 <sup>+</sup> )	596.7	(13/2 <sup>+</sup> )	
372.1	4 1	1298.9	(17/2 <sup>+</sup> )	926.8	(15/2 <sup>+</sup> )	(15/2 <sup>+</sup> ) to (11/2 <sup>+</sup> ) quoted in table II of 2002Hw06 is a misprint.
407.0	6.0 3	1887.3	(17/2 <sup>-</sup> )	1480.4	(15/2 <sup>+</sup> )	
430.4	2.0 7	2849.0	(-)	2418.6	(21/2 <sup>+</sup> )	
445.1	4 1	1110.1	(13/2 <sup>-</sup> )	664.9	(11/2 <sup>+</sup> )	
497.7	18 1	664.9	(11/2 <sup>+</sup> )	167.2	9/2 <sup>+</sup>	

Continued on next page (footnotes at end of table)

$^{252}\text{Cf}$  SF decay 2002Hw06 (continued) $\gamma(^{115}\text{Ag})$  (continued)

$E_\gamma$	$I_\gamma^\dagger$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Comments
526.7	4 1	1123.4	(15/2 <sup>+</sup> )	596.7	(13/2 <sup>+</sup> )	
586.5	7.0 4	2146.6	(17/2 <sup>-</sup> )	1560.1	(17/2 <sup>+</sup> )	
636.0	50 3	803.2	(13/2 <sup>+</sup> )	167.2	9/2 <sup>+</sup>	
641.3	3 1	926.8	(15/2 <sup>+</sup> )	285.5	(11/2 <sup>+</sup> )	$I_\gamma$ : 14 in figure 4 of 2002Hw06.
666.2	4 1	2146.6	(17/2 <sup>-</sup> )	1480.4	(15/2 <sup>+</sup> )	
677.2	12.0 6	1480.4	(15/2 <sup>+</sup> )	803.2	(13/2 <sup>+</sup> )	
702.2	1.0 3	1298.9	(17/2 <sup>+</sup> )	596.7	(13/2 <sup>+</sup> )	
737.0	4 1	2624.4	(19/2 <sup>-</sup> )	1887.3	(17/2 <sup>-</sup> )	
756.9	28 1	1560.1	(17/2 <sup>+</sup> )	803.2	(13/2 <sup>+</sup> )	
777.2	8.0 4	1887.3	(17/2 <sup>-</sup> )	1110.1	(13/2 <sup>-</sup> )	
787.4	5 1	2624.4	(19/2 <sup>-</sup> )	1837.0	(15/2 <sup>-</sup> )	
796.5	5 1	1723.3	(19/2 <sup>+</sup> )	926.8	(15/2 <sup>+</sup> )	
815.5	3 1	1480.4	(15/2 <sup>+</sup> )	664.9	(11/2 <sup>+</sup> )	
825.5	3 1	2385.6	(19/2 <sup>-</sup> )	1560.1	(17/2 <sup>+</sup> )	
837.9	2.0 7	1123.4	(15/2 <sup>+</sup> )	285.5	(11/2 <sup>+</sup> )	
858.6	7.0 4	2418.6	(21/2 <sup>+</sup> )	1560.1	(17/2 <sup>+</sup> )	
911.0	4 1	2634.3	(23/2 <sup>+</sup> )	1723.3	(19/2 <sup>+</sup> )	

<sup>†</sup> Uncertainty assigned as 5% for strong transitions ( $I_\gamma > 5$ ) and 30% for weak transitions ( $I_\gamma < 5$ ) from a general comment in 2002Hw06.

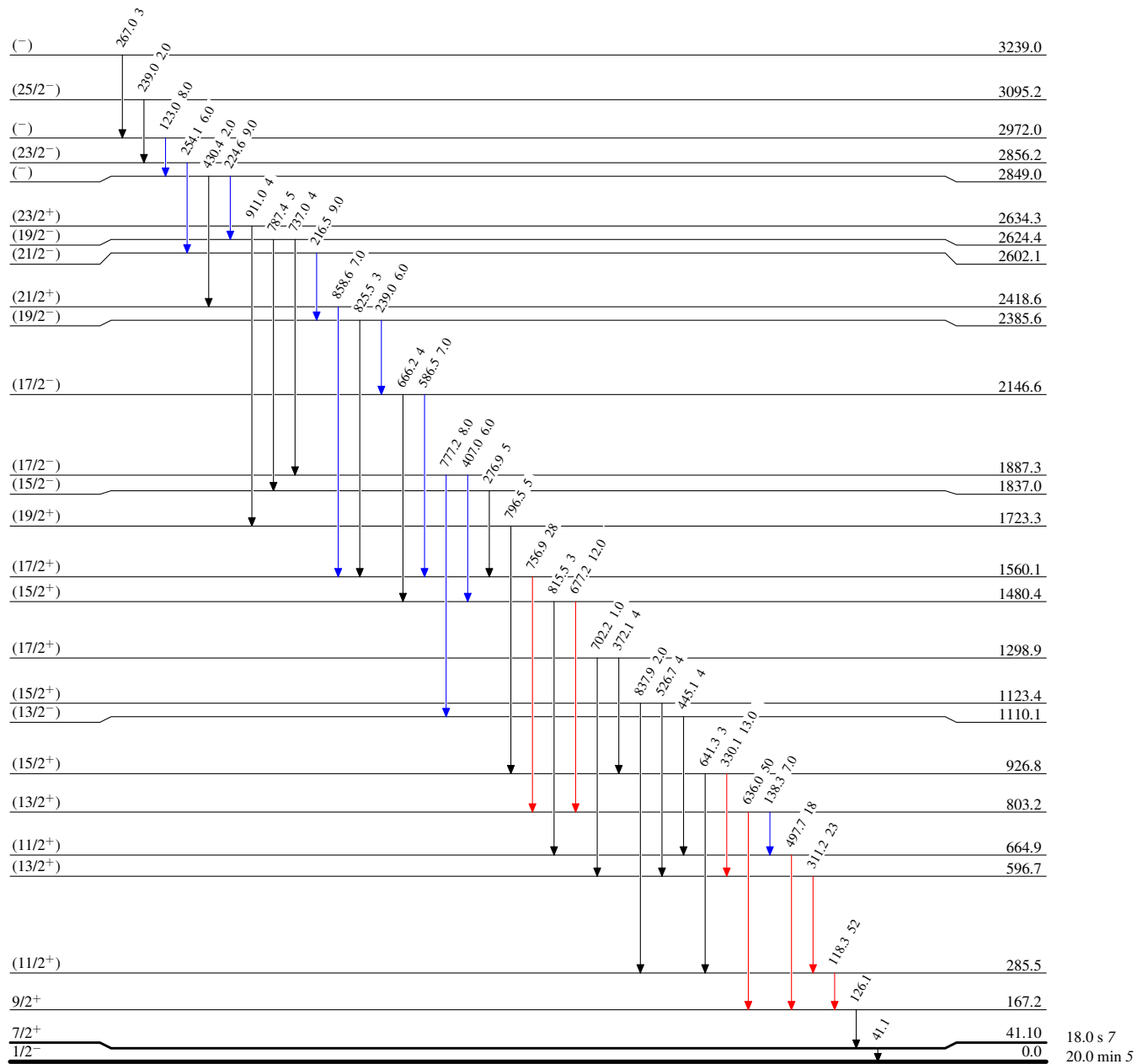
$^{252}\text{Cf}$  SF decay 2002Hw06

Level Scheme

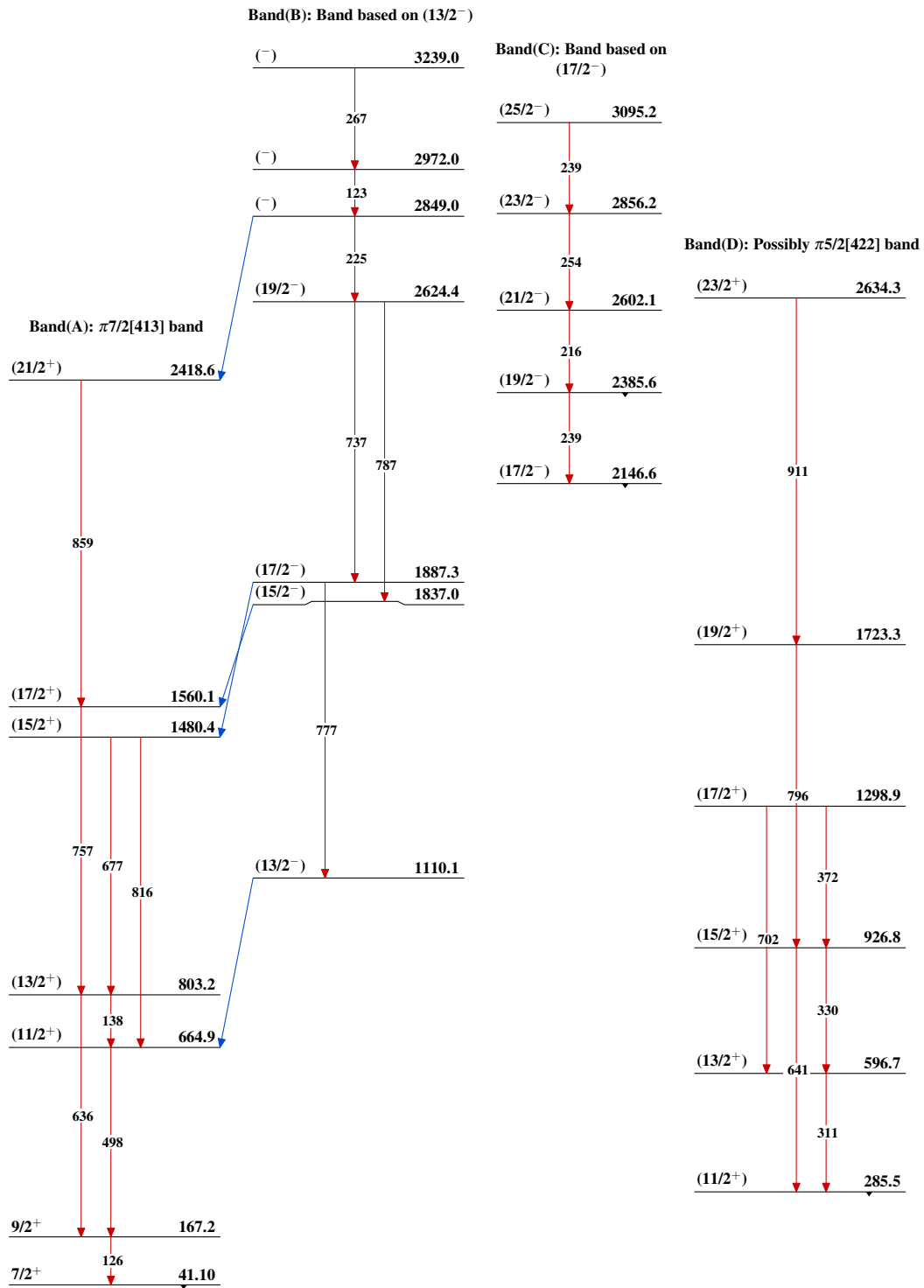
Intensities: Relative  $I_\gamma$

Legend

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



$^{115}_{47}\text{Ag}_{68}$

$^{252}\text{Cf}$  SF decay 2002Hw06 $^{115}_{47}\text{Ag}_{68}$