

$^{252}\text{Cf}$  SF decay 2011Ye03

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 113, 515 (2012)	1-Jan-2012

Parent:  $^{252}\text{Cf}$ :  $E=0.0$ ;  $J^\pi=0^+$ ;  $T_{1/2}=2.645$  y 8; %SF decay=?

Measured  $E_\gamma$ ,  $I_\gamma$ ,  $\gamma\gamma$  using Gammasphere array with 102 Compton-suppressed HPGe detectors. Comparison with triaxial projected shell-model calculations.

 $^{114}\text{Ru}$  Levels

E(level)	$J^\pi$ †	E(level)	$J^\pi$ †	E(level)	$J^\pi$ †	E(level)	$J^\pi$ †
0.0‡	0+	1081.9# 6	(4+)	1813.8@ 6	(5+)	2832.4# 10	(9+)
265.2‡ 4	2+	1298.8‡ 8	6+	2008.2‡ 10	8+	3574.3‡ 12	12+
563.3# 4	(2+)	1372.6# 7	(5+)	2057.2# 9	(7+)	4320.4‡ 13	14+
708.2‡ 7	4+	1578.0@ 6	(4+)	2069.1 8			
828.8# 5	(3+)	1761.4# 8	(6+)	2793.3‡ 11	10+		

† Assignments based on systematics and similarity with lighter and bands.

‡ Band(A): g.s. band. Backbending observed in this band.

# Band(B):  $\gamma$  band.

@ Band(C): Band based on (4+). Assigned to 2-phonon  $\gamma$ -vibrational band.

 $\gamma(^{114}\text{Ru})$ 

$E_\gamma$	$I_\gamma$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	$E_\gamma$	$I_\gamma$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$
235.8†		1813.8	(5+)	1578.0	(4+)	684.6 5	22.4	2057.2	(7+)	1372.6	(5+)
265.2 5	>220	265.2	2+	0.0	0+	709.4 5	56.7	2008.2	8+	1298.8	6+
265.5 5	≈34.5	828.8	(3+)	563.3	(2+)	731.9 5	4.3	1813.8	(5+)	1081.9	(4+)
298.1 5	75.9	563.3	(2+)	265.2	2+	746.1 5	8.4	4320.4	14+	3574.3	12+
443.0 5	100	708.2	4+	265.2	2+	749.2 5	<1	1578.0	(4+)	828.8	(3+)
518.6 5	21.1	1081.9	(4+)	563.3	(2+)	775.2 5	13.4	2832.4	(9+)	2057.2	(7+)
543.8 5	41.7	1372.6	(5+)	828.8	(3+)	781.0 5	12.6	3574.3	12+	2793.3	10+
563.3 5	50.7	563.3	(2+)	0.0	0+	785.1 5	24.6	2793.3	10+	2008.2	8+
563.6 5	44.6	828.8	(3+)	265.2	2+	985.0 5	11.0	1813.8	(5+)	828.8	(3+)
590.6 5	67.6	1298.8	6+	708.2	4+	1014.7 5	6.2	1578.0	(4+)	563.3	(2+)
679.5 5	5.8	1761.4	(6+)	1081.9	(4+)	1360.9 5	9.6	2069.1		708.2	4+

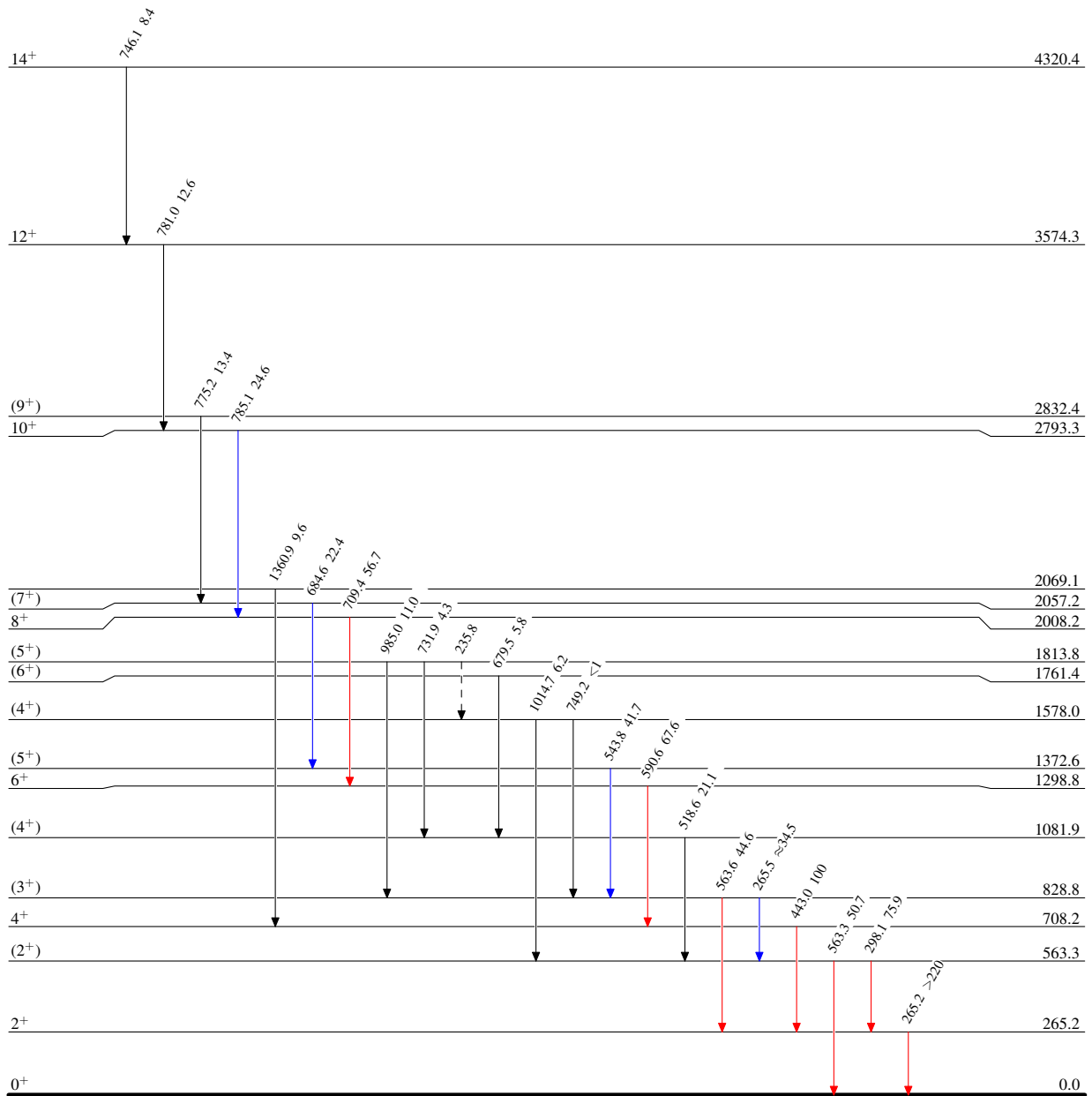
† Placement of transition in the level scheme is uncertain.

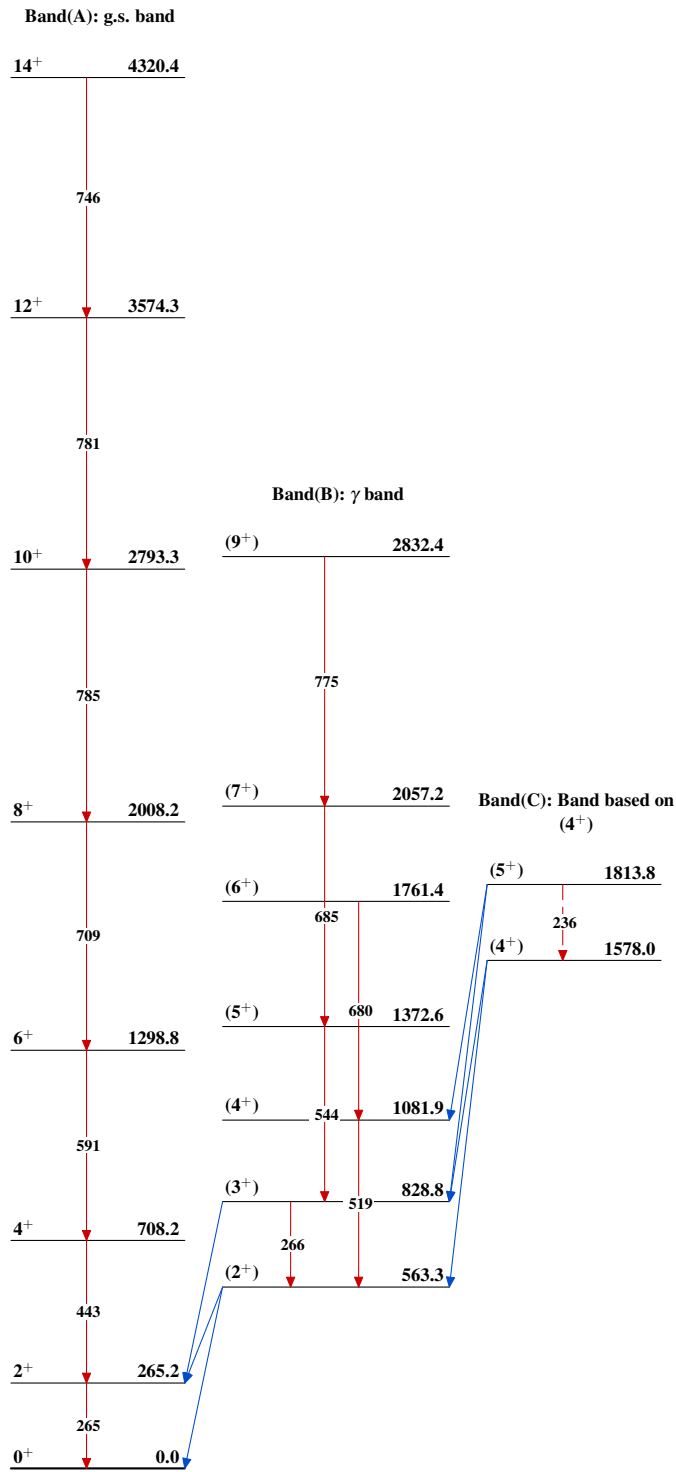
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Legend

Level Scheme  
 Intensities: Relative  $I_\gamma$

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

 $^{114}_{44}\text{Ru}_{70}$

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