

$^{252}\text{Cf}$  SF decay 1997Hw02

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen		NDS 185, 2 (2022)	23-Aug-2022

Parent:  $^{252}\text{Cf}$ :  $E=0.0$ ;  $J^\pi=0^+$ ;  $T_{1/2}=2.647$  y 3; %SF decay=3.102 3

$^{252}\text{Cf}$ - $T_{1/2}$ : From  $^{252}\text{Cf}$  Adopted Levels in the ENSDF database (Jan 2021 update).

$^{252}\text{Cf}$ -%SF decay: %SF=3.102 3 for  $^{252}\text{Cf}$  decay.

1997Hw02: measured  $E_\gamma$ ,  $I_\gamma$ ,  $\gamma\gamma$  using an array of 72 Compton-suppressed Ge detectors.

 $^{149}\text{Nd}$  Levels

E(level) <sup>†</sup>	$J^\pi$ <sup>#</sup>
0.0	5/2 <sup>-</sup>
108.3 3	7/2 <sup>-</sup>
220.9 3	9/2 <sup>-</sup>
270.6 4	(9/2 <sup>+</sup> )
352.0 <sup>‡</sup> 5	(13/2 <sup>+</sup> )
493.3 <sup>‡@</sup> 5	(11/2 <sup>-</sup> )
699.6 <sup>‡@</sup> 6	(13/2 <sup>-</sup> )
918.3 <sup>‡@</sup> 6	(15/2 <sup>-</sup> )
1166.6 <sup>‡@</sup> 6	(17/2 <sup>-</sup> )

<sup>†</sup> From  $E_\gamma$  data, assuming  $\Delta(E_\gamma)=0.3$  keV for each  $\gamma$  ray.

<sup>‡</sup> Level not included in the Adopted dataset, as it has not been confirmed by 2006Ve04 in their study of high-spin levels using  $^{238}\text{U}(^{12}\text{C},\text{F}\gamma)$  reaction.

<sup>#</sup> From the Adopted Levels.

<sup>@</sup> Band(A):  $\nu 11/2[505]$  band. Assignment from systematics of N=89 isotones. But the existence of this band is not confirmed by 2006Ve04 in their study of high-spin levels using  $^{238}\text{U}(^{12}\text{C},\text{F}\gamma)$  reaction, and  $\gamma\gamma$ -coin with transitions from complementary fission fragments. This band is not included in the Adopted dataset due to its uncertain existence.

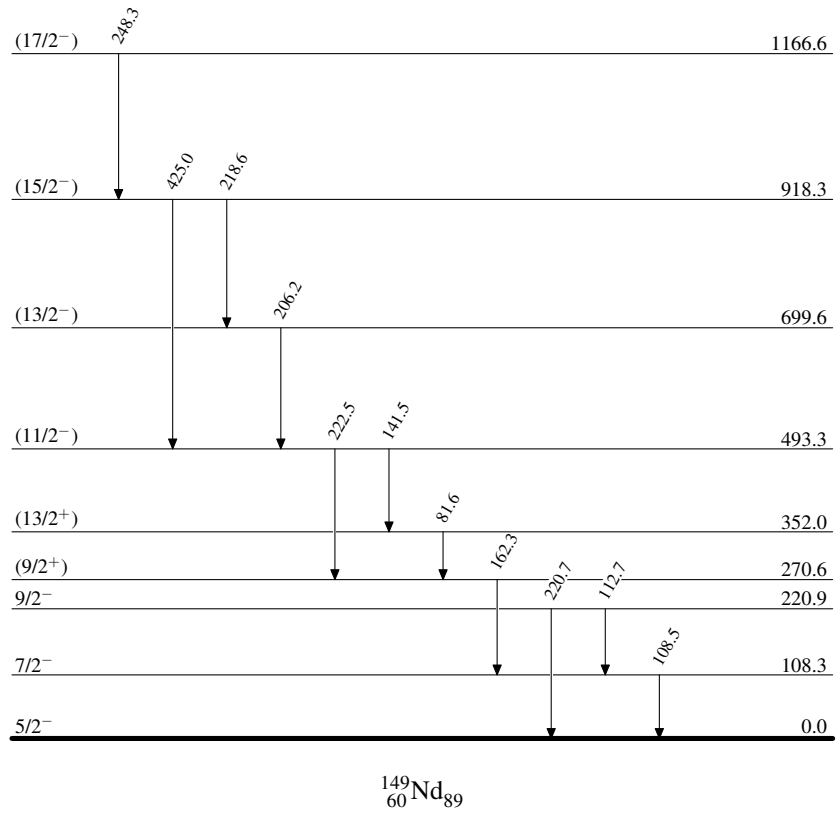
 $\gamma(^{149}\text{Nd})$ 

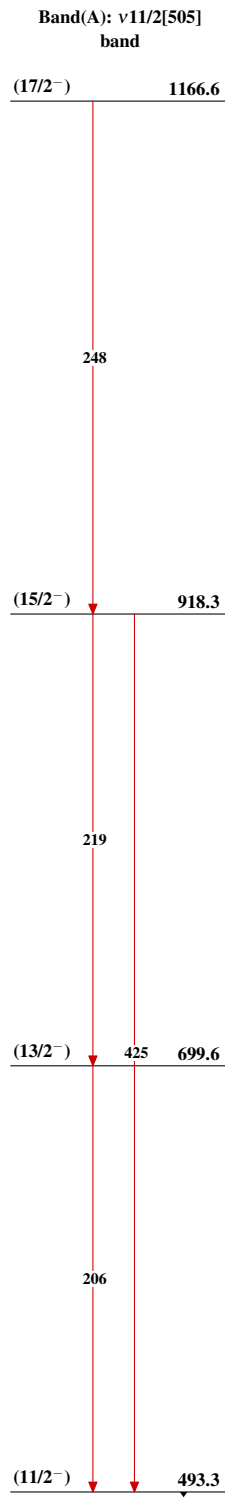
$E_\gamma$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	$E_\gamma$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$
81.6 <sup>†</sup>	352.0	(13/2 <sup>+</sup> )	270.6	(9/2 <sup>+</sup> )	218.6 <sup>†</sup>	918.3	(15/2 <sup>-</sup> )	699.6	(13/2 <sup>-</sup> )
108.5	108.3	7/2 <sup>-</sup>	0.0	5/2 <sup>-</sup>	220.7	220.9	9/2 <sup>-</sup>	0.0	5/2 <sup>-</sup>
112.7	220.9	9/2 <sup>-</sup>	108.3	7/2 <sup>-</sup>	222.5 <sup>†</sup>	493.3	(11/2 <sup>-</sup> )	270.6	(9/2 <sup>+</sup> )
141.5 <sup>†</sup>	493.3	(11/2 <sup>-</sup> )	352.0	(13/2 <sup>+</sup> )	248.3 <sup>†</sup>	1166.6	(17/2 <sup>-</sup> )	918.3	(15/2 <sup>-</sup> )
162.3	270.6	(9/2 <sup>+</sup> )	108.3	7/2 <sup>-</sup>	425.0 <sup>†</sup>	918.3	(15/2 <sup>-</sup> )	493.3	(11/2 <sup>-</sup> )
206.2 <sup>†</sup>	699.6	(13/2 <sup>-</sup> )	493.3	(11/2 <sup>-</sup> )					

<sup>†</sup> Gamma not included in the Adopted dataset, as it has not been confirmed by 2006Ve04 in their study of high-spin levels using  $^{238}\text{U}(^{12}\text{C},\text{F}\gamma)$  reaction, and  $\gamma\gamma$ -coin with transitions from complementary fission fragments. 2006Ve04 mention that the  $\gamma$  ray was seen weakly in a spectrum in coincidence with the 108 $\gamma$  and 162 $\gamma$ , but disappeared when a double gate was placed on gamma transitions in complementary Sr fission nuclides.

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## Level Scheme



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