

$^{166}\text{Gd}$   $\beta^-$  decay 2005Ic02

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 109, 1103 (2008)	1-Mar-2008

Parent:  $^{166}\text{Gd}$ :  $E=0.0$ ;  $J^\pi=0^+$ ;  $T_{1/2}=4.8$  s 10;  $Q(\beta^-)=3360$  SY;  $\% \beta^-$  decay=100.0

Sources from  $^{238}\text{U}$ (p,F),  $E=15.5$  MeV; gas-jet transport; JAERI-ISOL on-line separator; Ge detectors; measured  $E\gamma$ ,  $I\gamma$ , K x ray,  $\gamma(t)$ ,  $\gamma\gamma$  coin,  $\gamma$ -K x ray coin.

 $^{166}\text{Tb}$  Levels

E(level) <sup>†</sup>	$J^\pi$ <sup>‡</sup>	$T_{1/2}$ <sup>‡</sup>
0.0	(2 <sup>-</sup> )	21.5 s 21
40.00 16	(-)	
158.80 16		
694.8 3		
1015.50 23		

<sup>†</sup> From least-squares fit to  $E\gamma$ .

<sup>‡</sup> From Adopted Levels.

 $\beta^-$  radiations

E(decay)	E(level)	$I\beta^-$ <sup>†</sup>	Log $ft$	Comments
(2344 SY)	1015.50			
(2665 SY)	694.8			
(3360 <sup>‡</sup> SY)	0.0	<0.3	>8.5	$I\beta^-$ : upper limit assuming transition is first-forbidden unique.

<sup>†</sup> Absolute intensity per 100 decays.

<sup>‡</sup> Existence of this branch is questionable.

 $\gamma(^{166}\text{Tb})$ 

$E_\gamma$ <sup>†</sup>	$I_\gamma$ <sup>†</sup>	$E_i$ (level)	$J_i^\pi$	$E_f$	$J_f^\pi$	Comments
40.0 2	23 6	40.00	(-)	0.0	(2 <sup>-</sup> )	Mult.: not E1 from intensity balance At the 40-keV level. <a href="#">Additional information 1.</a>
118.8 2	22 6	158.80		40.00	(-)	
158.8 2	22 6	158.80		0.0	(2 <sup>-</sup> )	
536.0 2	37 12	694.8		158.80		
975.5 3	84 21	1015.50		40.00	(-)	
1015.5 3	100	1015.50		0.0	(2 <sup>-</sup> )	

<sup>†</sup> From 2005Ic02.

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## Decay Scheme

Intensities: Relative  $I_\gamma$ 