

$^{158}\text{Lu}$   $\varepsilon$  decay [1980A114](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 141, 1 (2017)	1-Feb-2017

Parent:  $^{158}\text{Lu}$ : E=0;  $T_{1/2}=10.6$  s 3;  $Q(\varepsilon)=8798$  17;  $\% \varepsilon + \% \beta^+$  decay  $\geq 98.9$

$^{158}\text{Lu}$ - $\% \varepsilon + \% \beta^+$  decay: from  $^{158}\text{Lu}$  Adopted Levels.

[1980A114](#): Produced in 1-GeV proton spallation of W with mass separation; measured  $E_\gamma$  and  $I_\gamma$ .

[1983Ge08](#): Produced by  $^{155}\text{Gd}(^{14}\text{N},x)$  and  $^{151}\text{Eu}(^{16}\text{O},x)$  reactions. The only decay data reported is the  $T_{1/2}$ .

The decay scheme is from evaluator's placement of the  $\gamma$ 's reported by [1980A114](#); these placements match those from the (HI,xn $\gamma$ ) studies.

 $^{158}\text{Yb}$  Levels

E(level) <sup>†‡</sup>	J $\pi$ <sup>#</sup>
0.0	0 <sup>+</sup>
358.2 1	(2 <sup>+</sup> )
835.2 3	(4 <sup>+</sup> )

<sup>†</sup> [1995GaZW](#) have performed total absorption spectrometer measurements. From a plot of the deduced strength function data, the evaluator deduces that most of the decays are to levels in the 4 to 6 MeV region.

<sup>‡</sup> From  $\gamma$ -ray energies.

<sup>#</sup> From  $^{158}\text{Yb}$  Adopted Levels.

 $\gamma(^{158}\text{Yb})$ 

$E_\gamma$	$I_\gamma$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult.
358.2 1	100	358.2	(2 <sup>+</sup> )	0.0	0 <sup>+</sup>	[E2]
477.0 3	21 5	835.2	(4 <sup>+</sup> )	358.2	(2 <sup>+</sup> )	[E2]

${}^{158}\text{Lu}$   $\epsilon$  decay 1980A114

## Decay Scheme

Intensities: Relative  $I_\gamma$ 

Legend

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

