

**Adopted Levels, Gammas**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja	NDS 198,449 (2024)	31-Jul-2022

Q( $\beta^-$ )=401 *syst*; S(n)=5855 20; S(p)=7740 *syst*; Q( $\alpha$ )=4350 *syst* [2021Wa16](#)  
 $\Delta Q(\beta^-)$ =14,  $\Delta S(p)$ =200,  $\Delta Q(\alpha)$ =200 (*syst*,[2021Wa16](#)).  
 S(2n)=10554 15 ([2021Wa16](#)).

Theoretical structure calculations:

B(E2):

[2021Ja10](#),[1993Sa05](#),[1988Ri07](#).

Fission barrier heights:

[2021Po06](#),[2020Ja01](#),[2018Po05](#),[2014Lu01](#),[2012Ja08](#).

Q( $\alpha$ ), T<sub>1/2</sub>( $\alpha$ ), T<sub>1/2</sub>(SF):

[2018Po05](#),[1997Po18](#).

Deformation parameter  $\beta_2, \beta_4$ :

[2018Ch21](#),[1983Bo15](#),[1982Du16](#),[1983Bo15](#).

Excited levels:

[2016Li37](#),[2002Pr01](#).

Two-quasiparticle high K-isomer state:

[2013Li30](#).

Alpha-decay branchings:

[2010Wa23](#):

Fission:

[2010Ab23](#), [2010Sa09](#), [2009So12](#), [2008Xu06](#), [2007Ba18](#), [2006Do05](#), [2005De44](#), [2004Mo06](#), [2001Mo13](#), [1976Iw02](#).

Shape isomerism:

[2010Ko36](#), [2006De23](#).

Level density:

[2005La04](#), [2002Gi11](#).

Pairing and binding energies:

[2007Ne02](#), [2002Re31](#).

First level isomeric T<sub>1/2</sub>:

[1992Ro02](#).

Compilation of  $\beta$ -decay:

[1992So06](#).

<sup>246</sup>Pu Levels

Cross Reference (XREF) Flags

- A <sup>244</sup>Pu(t,p)
- B <sup>244</sup>Pu(<sup>18</sup>O,<sup>16</sup>O $\gamma$ )

E(level) <sup>†</sup>	J $\pi^{\ddagger}$	T <sub>1/2</sub>	XREF	Comments
0.0	0 <sup>+</sup> #	10.84 d 2	AB	% $\beta^-$ =100 T <sub>1/2</sub> : Weighted average of 10.85 d 2 ( <a href="#">1956Ho23</a> ) and 10.78 d 5 ( <a href="#">1983Po14</a> , <a href="#">1983Po16</a> ). Other: 11.2 d 2 ( <a href="#">1955En16</a> ).
46.5	2 <sup>+</sup> #		A	<a href="#">Additional information 1</a> . E(level): Other: 46.7 2 from a fit of kinetic moment of inertia to rotational frequencies in ( <sup>18</sup> O, <sup>16</sup> O $\gamma$ ) ( <a href="#">2007Ma82</a> ). T <sub>1/2</sub> : Predicted from systematics: T <sub>1/2</sub> =170 ps ( <a href="#">1992Ro02</a> ).

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued) $^{246}\text{Pu}$  Levels (continued)

<u>E(level)<sup>†</sup></u>	<u>J<sup>π</sup><sup>‡</sup></u>	<u>XREF</u>	<u>Comments</u>
153.80 10	4+#	AB	
320.40 14	6+#	B	
542.80 17	8+#	B	
769 5		A	
817.40 20	10+#	B	
901? 5		A	
938 5		A	
991 5	0+	A	J <sup>π</sup> : From L=0 in $^{244}\text{Pu}(t,p)$ .
1040 8		A	
1140.1 4	12+#	B	
1212 8		A	
1246 8		A	
1424 8		A	
1464 8		A	
1548 8		A	

<sup>†</sup> From  $\gamma$  data in ( $^{18}\text{O},^{16}\text{O}\gamma$ ) and from excited level energies in (t,p).

<sup>‡</sup> From rotational band structure, except as noted.

# g.s. rotational band.

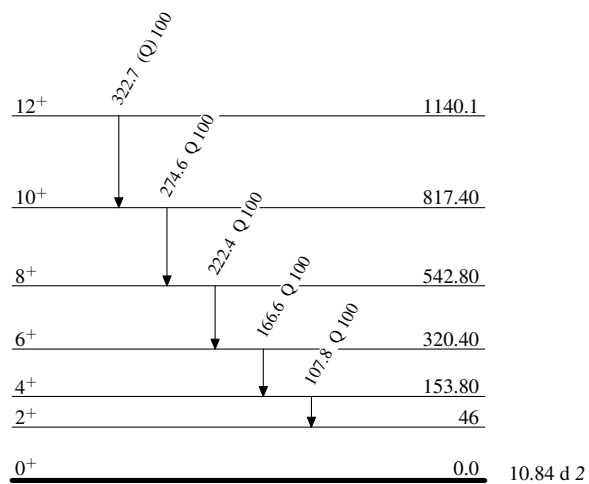
 $\gamma(^{246}\text{Pu})$ 

<u>E<sub>i</sub>(level)</u>	<u>J<sub>i</sub><sup>π</sup></u>	<u>E<sub>γ</sub><sup>†</sup></u>	<u>I<sub>γ</sub><sup>†</sup></u>	<u>E<sub>f</sub></u>	<u>J<sub>f</sub><sup>π</sup></u>	<u>Mult.<sup>†</sup></u>
153.80	4+	107.8 1	100	46	2+	Q
320.40	6+	166.6 1	100	153.80	4+	Q
542.80	8+	222.4 1	100	320.40	6+	Q
817.40	10+	274.6 1	100	542.80	8+	Q
1140.1	12+	322.7 3	100	817.40	10+	(Q)

<sup>†</sup> From  $^{244}\text{Pu}(^{18}\text{O},^{16}\text{O}\gamma)$ .

**Adopted Levels, Gammas**Level Scheme

Intensities: Relative photon branching from each level

 $^{246}_{94}\text{Pu}_{152}$