

^{244}Pu α decay [1969Be06](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. Morse	NDS 206,359 (2025)	27-Sep-2024

Parent: ^{244}Pu : $E=0.0$; $J^\pi=0^+$; $T_{1/2}=8.13\times 10^7$ y 3; $Q(\alpha)=4665.6$ 10; $\% \alpha$ decay=99.879 4

^{244}Pu - $T_{1/2}$: Adopted in 2017 ENSDF evaluation for ^{244}Pu ([2017Ne10](#)), based on revised value from [2006Ag15](#). Others: 7.99×10^7 y 10 ([1969Be06](#)), 8.12×10^7 y 26, 7.3×10^7 y 2 ([1956Di09](#)), 7.5×10^7 y 20 ([1956Bu92](#)).

^{244}Pu - $Q(\alpha)$: From [2021Wa16](#).

^{244}Pu - $\% \alpha$ decay: $\% \alpha=99.879$ 4 based on $\% \text{SF}=0.121$ 4 ([2000Ho27](#)).

[1969Be06](#): Measured $E\alpha$, $I\alpha$.

 ^{240}U Levels

E(level)	J^π [†]	Comments
0.0 [†]	0 ⁺	
43.7 [†] 14	(2 ⁺)	E(level): From difference of Q_α .

[†] Band(A): K=0⁺ g.s. band.

[‡] From Adopted Levels.

 α radiations

$E\alpha$ [†]	E(level)	$I\alpha$ ^{†#}	HF [‡]
4546 1	43.7	19.4 8	1.95 9
4589 1	0.0	80.6 8	1.000

[†] As recommended by [1991Ry01](#) from measurements by [1969Be06](#).

[‡] The nuclear radius parameter $r_0(^{240}\text{U})=1.50549$ 82 is deduced by assuming HF=1.0 for the ground-state to ground-state alpha decay branch.

For absolute intensity per 100 decays, multiply by 0.99879 4.

 $\gamma(^{240}\text{U})$

E_γ [†]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. [†]	α [‡]	Comments
(44 2)	43.7	(2 ⁺)	0.0	0 ⁺	[E2]	6.7×10^2 17	$\alpha(\text{L})=4.9\times 10^2$ 13; $\alpha(\text{M})=1.36\times 10^2$ 34; $\alpha(\text{N})=37$ 9; $\alpha(\text{O})=8.4$ 21; $\alpha(\text{P})=1.36$ 35; $\alpha(\text{Q})=0.0032$ 7

[†] From the decay scheme.

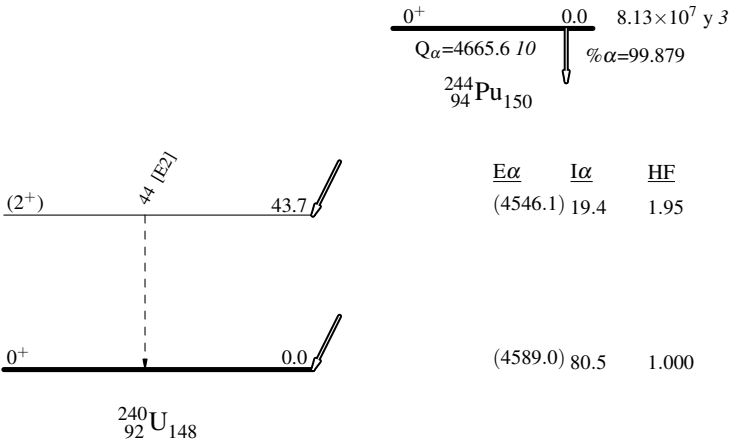
[‡] [Additional information 1](#).

²⁴⁴Pu α decay 1969Be06

Legend

Decay Scheme

-----> γ Decay (Uncertain)



²⁴⁴Pu α decay 1969Be06

Band(A): K=0⁺ g.s. band

(2⁺) 43.7

44

0⁺ 0.0

²⁴⁰U₉₂¹⁴⁸