

^{236}U α decay [2002Ge02,1960Ko04](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	E. Browne	NDS 107, 2579 (2006)	1-Nov-2004

Parent: ^{236}U : E=0; $J^\pi=0^+$; $T_{1/2}=2.342\times 10^7$ y 4; $Q(\alpha)=4573.1$ 9; % α decay=100.0

 ^{232}Th Levels

E(level)	$J^\pi^\dagger$
0	0^+
49.46 10	2^+
162.25 15	4^+
333.40 25	6^+

† From Adopted Levels.

 α radiations

$E_\alpha^\dagger$	E(level)	$I_\alpha^{\ddagger\#}$	HF	Comments
4168 CA	333.40	0.00014 5	1160	E_α : From $Q(\alpha)=4573.1$ keV and E(level)=333 keV. I_α : From γ +ce intensity balance.
4332 8	162.25	0.15 2	27.3	I_α : From γ +ce intensity balance. $I_\alpha=0.26$ (1960Ko04).
4445 5	49.46	25.9 40	1.2	
4494 3	0	73.8 40	1.0	

† From [1961Ko11](#), [1979Ry03](#), unless otherwise specified.

‡ From [1960Ko04](#), unless otherwise specified.

$^\#$ Absolute intensity per 100 decays.

 $\gamma(^{232}\text{Th})$

I_γ normalization: From $I(\gamma+\text{ce})(49\gamma)=I_\alpha(4445)=26\%$ 4 ([1960Ko04](#)).

$E_\gamma^\dagger$	$I_\gamma^{\ddagger\#}$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡	$\alpha^\text{@}$	Comments
49.46 10	100	49.46	2^+	0	0^+	E2	329	$\alpha(\text{L})=242$; $\alpha(\text{M})=65.9$
112.79 10	24.1 1	162.25	4^+	49.46	2^+	E2	6.81	$\alpha(\text{K})=0.234$; $\alpha(\text{L})=4.78$; $\alpha(\text{M})=1.31$; $\alpha(\text{N}+..)=0.489$
171.15 20	0.080 24	333.40	6^+	162.25	4^+	E2	1.21	$\alpha(\text{K})=0.208$; $\alpha(\text{L})=0.730$; $\alpha(\text{M})=0.199$; $\alpha(\text{N}+..)=0.0739$

† From [2002Ge02](#). Other: [1972Sc01](#).

‡ From Adopted Gammas.

$^\#$ For absolute intensity per 100 decays, multiply by 0.00078 12.

$^\text{@}$ Total theoretical internal conversion coefficients, calculated using the BrIcc code ([2008Ki07](#)) with Frozen orbital approximation based on γ -ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

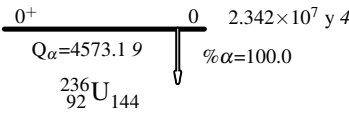
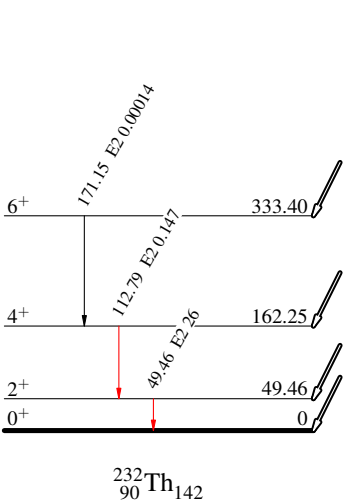
^{236}U α decay 2002Ge02,1960Ko04

Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays

Legend

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



<u>Eα</u>	<u>Iα</u>	<u>HF</u>
4168	0.00014	1160
4332	0.15	27.3
4445	25.9	1.2
4494	73.8	1.0