

^{110}Sn ε decay **1956Me94**

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	G. Gürdal and F. G. Kondev		NDS 113, 1315 (2012)	1-Aug-2011

Parent: ^{110}Sn : $E=0.0$; $J^\pi=0^+$; $T_{1/2}=4.154$ h 4; $Q(\varepsilon)=631$ 18; $\% \varepsilon$ decay=100.0

1956Me94: ^{110}Sn source was produced by bombarding a cadmium target, enriched in ^{108}Cd , with alpha particles at $E\alpha=30$ MeV.

A magnetic-lens-beta-ray spectrometer with a scintillation counter and continuous recording pulse-height analyzer was used.

Measured: $E\gamma$, ce.

Other: [2009Ra17](#), [2005Gy02](#), [1973Ka45](#).

 ^{110}In Levels

E(level) [†]	J^π [†]	$T_{1/2}$ [†]	Comments
62.08 4	2 ⁺	69.1 min 5	
342.539 15	1 ⁺		E(level): From a least-squares fit to $E\gamma$.

[†] From Adopted Levels, unless otherwise stated.

 ε radiations

E(decay)	E(level)	I_ε [‡]	Log ft [†]	Comments
(288 18)	342.539	100	3.44 7	$\varepsilon\text{K}=0.8410$ 17; $\varepsilon\text{L}=0.1262$ 13; $\varepsilon\text{M}+=0.0328$ 4

[†] Several β -decay transitions between $\nu(1g7/2)$ and $\pi(1g9/2)$ in this mass region have small log ft (for example, 4.1 in ^{112}In β^+ decay). However, log $ft=3.44$ 7 (if $I_\varepsilon=100\%$) for ^{110}Sn ε decay is unusually small.

[‡] Absolute intensity per 100 decays.

 $\gamma(^{110}\text{In})$

$I(\gamma+ce)$ normalization: It is assumed that all ε decay proceeds via the 342.539 keV level ($J^\pi=1^+$).

E_γ [‡]	I_γ [#]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. [‡]	δ [‡]	α [†]	$I_{(\gamma+ce)}$ [#]	Comments
280.459 15	97.059	342.539	1 ⁺	62.08	2 ⁺	M1(+E2)	+0.04 22	0.0303 8	100	$\alpha(\text{K})=0.0264$ 7; $\alpha(\text{L})=0.00324$ 17 E_γ : Others: 283 keV (1956Me94), 281 keV (1973Ka45). I_γ : Deduced from $I(\gamma+ce)$. Mult.: K/L=8 1 in 1956Me94.

[†] Additional information 1.

[‡] From adopted gammas.

[#] Absolute intensity per 100 decays.

^{110}Sn ϵ decay 1956Me94Decay SchemeIntensities: $I_{(\gamma+ce)}$ per 100 parent decays