

^{195}Tl IT decay (3.6 s) [1963Di10](#)

| Type | Author | History | Citation | Literature Cutoff Date |
|-----------------|----------------------------------|---------|---------------------|------------------------|
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Parent: ^{195}Tl : E=482.63 17; $J^\pi=9/2^-$; $T_{1/2}=3.6$ s 4; %IT decay=100.0

Sources produced by $^{187}\text{Re}(^{12}\text{C},4n)$ ([1963Di10](#)) and daughter nucleus of ^{195}Pb ε decay (15 min).

[1963Di10](#): $^{187}\text{Re}(^{12}\text{C},4n)$ E=59.67 MeV ([1963Di10](#)) natural target, pulsed beam, measured ce (s) between 67-MeV beam pulses: ce(K)(383 γ)/ce(L)(99 γ)=0.078.

^{195}Tl Levels

| E(level) [†] | J^π [‡] | $T_{1/2}$ | Comments |
|-----------------------|----------------------|-----------------------|--|
| 0.0 [‡] | 1/2 ⁺ | 1.16 [‡] h 5 | |
| 383.64 12 | 3/2 ⁺ | | |
| 482.63 17 | 9/2 ⁻ | 3.6 s 4 | %IT=100 $T_{1/2}$: from $\gamma(t)$ measurement (1963Di10). Other: 3.5 s 4 (1957An54). |

[†] From E_γ and decay scheme using least-squares fit to data.

[‡] From Adopted Levels.

$\gamma(^{195}\text{Tl})$

I_γ normalization: Assuming no γ -transition to g.s. from E(level)=482.6.

| E_γ | I_γ ^{†‡} | $E_i(\text{level})$ | J_i^π | E_f | J_f^π | Mult. | δ | $\alpha^\#$ | Comments |
|------------|--------------------------|---------------------|------------------|--------|------------------|-------|----------|-------------|--|
| 99.0 6 | 0.69 2 | 482.63 | 9/2 ⁻ | 383.64 | 3/2 ⁺ | E3 | | 157 6 | $\alpha(\text{K})=0.562$ 20; $\alpha(\text{L})=114$ 5; $\alpha(\text{M})=32.6$ 13; $\alpha(\text{N+..})=9.7$ 4 E_γ : from 1957An54 . Mult.: based on L-subshell ratios (^{195}Pb decay). |
| 383.64 12 | 100 | 383.64 | 3/2 ⁺ | 0.0 | 1/2 ⁺ | M1+E2 | 1.8 +4-3 | 0.090 11 | $\alpha(\text{K})=0.067$ 10; $\alpha(\text{L})=0.0176$ 10; $\alpha(\text{M})=0.00430$ 22; $\alpha(\text{N+..})=0.00130$ 7 E_γ : from 1977CoZM , ^{195}Pb ε decay. Mult.: from $\alpha(\text{exp})$. δ : 1.8 +4-3 from K/L=3.8 3 (1963Di10). Other $\delta=2.1$ from $I(\gamma+\text{ce})(99\gamma)=I(\gamma+\text{ce})(384\gamma)$ and $\text{ce}(\text{K})(383\gamma)/\text{ce}(\text{L})(99\gamma)=0.078$. |

[†] Relative photon intensity normalized to $I_\gamma(383.6\gamma)=100$ and intensity balance.

[‡] For absolute intensity per 100 decays, multiply by 0.917 9.

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

^{195}Tl IT decay (3.6 s) 1963Di10Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
%IT=100.0

Legend

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

