^{213}Tl β^- decay (23.8 s)   **2014Mo02**

| | | History | |
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia	NDS 181, 475 (2022)	1-Jan-2022

Parent: ^{213}Tl: E=0.0; J$^\pi$=(1/2$^+$); T$_{1/2}$=23.8 s 44; Q(β^-)=4987 28; %β^- decay=100.0

Adapted/Edited the XUNDL dataset compiled by B. Singh (McMaster), March 5, 2014.

Proposed decay scheme is tentative.

^{213}Tl was produced by projectile fragmentation using E(^{238}U)=1 GeV/nucleon beam at GSI with an intensity of 1.5×10^9 ions/spill (a repetition of 3 s and an extraction time of 1 s). The reaction products were separated and identified in the magnetic spectrometer Fragment Separator (FRS). Separation of ^{213}Tl nuclei is based on Bρ-ΔE-Bρ scheme. Implanted in a composite DSSSD detector system comprising of 3 layers. The DSSSD detectors were surrounded by the RISING γ-ray spectrometer comprised of 105 HPGe crystals arranged clusters of seven elements. Measured Eγ, Iγ, $\gamma\gamma$-coin, β-γ-t coin in coincidence with implanted recoils.

^{213}Pb Levels

E(level)	J$^{\pi\dagger}$	T$_{1/2}$	Comments
0	9/2$^+$	10.2 min 3	T$_{1/2}$: From Adopted Levels.
675	(5/2$^+$,7/2$^+$)		

† From 2014Mo02 based on shell-model predictions.

γ(^{213}Pb)

E$_\gamma$†	I$_\gamma$	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$
675	100 29	675	(5/2$^+$,7/2$^+$)	0	9/2$^+$

† No numerical datum of the resolution was listed in 2014Mo02.

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Decay Scheme

Intensities: Relative I_{γ}

$(1/2^{+})$ 0.0   23.8 s *44*

$Q_{\beta^{-}}=4987\ 28$ $\%\beta^{-}=100.0$

${}^{213}_{81}\text{Tl}_{132}$

675 100

$(5/2^{+},7/2^{+})$ 675

$9/2^{+}$ 0   10.2 min *3*

${}^{213}_{82}\text{Pb}_{131}$

${}^{213}\textbf{Tl}\ \boldsymbol{\beta}^{-}$ **decay (23.8 s)**   **2014Mo02**