177 Tm β^- decay 1989Ry04

History									
Туре	Author	Citation	Literature Cutoff Date						
Full Evaluation	F. G. Kondev	NDS 159, 1 (2019)	30-Aug-2019						

Parent: ¹⁷⁷Tm: E=0.0; $J^{\pi}=(1/2^+)$; $T_{1/2}=95$ s 7; $Q(\beta^-)=3517$ SY; $\%\beta^-$ decay=100.0

Parent: ¹⁷⁷Tm: E=0.0+x; $J^{\pi} = (7/2^{-})$; $T_{1/2} = 77 \text{ s } 11$; $Q(\beta^{-}) = 3517 \text{ SY}$; $\%\beta^{-} \text{ decay} \le 100.0$ Mass-separated ¹⁷⁷Tm activity was produced by ¹³⁶Xe (1.22, 1.59 GeV), ¹⁸⁶W (2.17, 2.79 GeV), and ²³⁸U (2.71 GeV)

projectiles on targets of natural tungsten and tantalum. Assignment of this activity to 177 Tm was based on the observation of previously known 104.5 γ and 227.0 γ in 177 Yb. Measured E γ , I γ , $\beta\gamma$ coin, $\gamma\gamma$ coin, $T_{1/2}$. Detectors: plastic scintillator for β^- ,Ge(Li) for γ rays and x rays.

177 Yb Levels

E(level) [†]	$J^{\pi \ddagger}$	T _{1/2} ‡	Comments
0.0#	9/2+	1.911 h <i>3</i>	
104.5 [@] 3 150.0?	7/2-	4.48 ns 8	
331.5 ^{&} 6	1/2-	6.41 s 2	E(level): It is not clear from 1989Ry04 whether this level is produced in β^- decay of ¹⁷⁷ Tm or directly in multi-nucleon transfer reactions.
622.0 4			

[†] From least-squares fit to $E\gamma$.

[‡] From Adopted Levels.

$K^{\pi}=9/2^+$, $\nu 9/2[624]$. @ $K^{\pi}=7/2^-$, $\nu 7/2[514]$. & $K^{\pi}=1/2^-$, $\nu 1/2[510]$.

$\gamma(^{177}\text{Yb})$

Iy normalization: The decay scheme is incomplete and no normalization to absolute γ -ray intensities was carried out.

E_{γ}^{\dagger}	I_{γ}^{\dagger}	E _i (level)	\mathbf{J}_i^{π}	$E_f J_f^{\pi}$	Mult. [‡]	Comments
44.5 [@] 5	45	150.0?	7/0-	104.5 7/2-	F 1	E_{γ} : In prompt coincidence with 104.5 γ .
104.5 <i>3</i>	4.5×10^2 10	104.5	$7/2^{-}$	$0.0 \ 9/2^+$	E1	E_{γ} : In prompt coincidence with 44.5 γ and 517.5 γ .
227.0 5		331.5	1/2-	104.5 7/2-	M3	E_{γ} : Observed only in coincidence with 104.5 γ . Uncertainty assigned by the evaluator.
^x 500.0 [#] 1	22 7					
517.5 5	100 10	622.0		104.5 7/2-		E_{γ} : In prompt coincidence with 104.5 γ .
^x 589.0 [#] 1	40 10					
622.0 5	35 13	622.0		0.0 9/2+		

[†] From 1989Rv04.

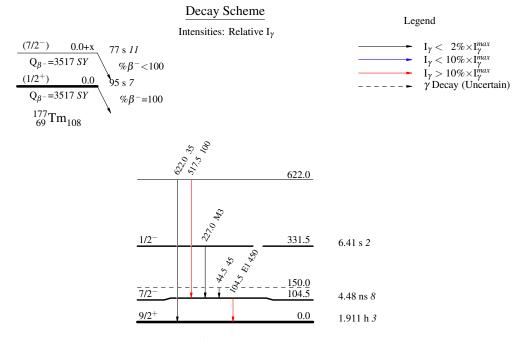
[‡] From adopted gammas.

[#] Tentatively assigned to 177 Tm β^- decay.

[@] Placement of transition in the level scheme is uncertain.

 $x \gamma$ ray not placed in level scheme.

¹⁷⁷Tm β^- decay 1989Ry04



 $^{177}_{70}$ Yb $_{107}$