^{147}Tm ε decay 1993To02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	N. Nica and B. Singh	NDS 181, 1 (2022)	9-Mar-2022

Parent: ^{147}Tm: E=0.0; $J^\pi=11/2^-$; $T_{1/2}$=0.58 s *3*; Q(ε)=10630 *40*; %ε+%$β^+$ decay=85 *5*

^{147}Tm-E,J^π,$T_{1/2}$: from ^{147}Tm Adopted Levels.

^{147}Tm-Q(ε): From 2021Wa16.

^{147}Tm-%ε+%$β^+$ decay: from 1993To02.

1993To02: ^{92}Mo(^{58}Ni,p2n) E=261 MeV (245 MeV at target midpoint) with OASIS on-line separator with tape transport at Lawrence Berkeley National Laboratory. σ=0.2 mb. Used ΔE-E particle telescope, planar HPGe detector, 1-mm thick plastic scintillator, and two Ge detectors (of 52% and 24% efficiencies). Measured γ, γ-Kx, γγ± and $β^+$p coincidences. Found 2-8 MeV distributed protons from ^{147}Er decay.

Other: 1984HoZN.

^{147}Er Levels

E(level)	J^π[†]	$T_{1/2}$[‡]	Comments
0.0	$(1/2^+)$	3.2 s *12*	%ε+%$β^+$=100; %$β^+$p>0 %ε+%$β^+$,%$β^+$p: from the Adopted Levels. configuration: $νs_{1/2}$.
80.9	$(3/2^+)$		configuration: $νd_{3/2}$.
0.0+x	$(11/2^-)$	1.6 s *2*	%ε+%$β^+$=100; %$β^+$p>0 E(level): x=100 keV *50* (2021Ko07, syst); x<118 keV (1993To02). %ε+%$β^+$,%$β^+$p: from the Adopted Levels. configuration: $νh_{11/2}$.

[†] From syst of $νs_{1/2}$, $νd_{3/2}$, and $νh_{11/2}$ (neutron hole) states in Sm, Gd, Dy, and Er nuclei with N=77, 79, and 81. These values are adopted in Adopted Levels.

[‡] From Adopted Levels.

ε,$β^+$ radiations

E(decay)	E(level)
$(5\times10^{3}$[†] *5*)	0.0+x

[†] Estimated for a range of levels.

γ(^{147}Er)

E_γ	E_i(level)	J_i^π	E_f	J_f^π
80.9	80.9	$(3/2^+)$	0.0	$(1/2^+)$

^{147}Tm ε decay 1993To02

Decay Scheme