^{48}Ti(μ^-,nγ): At rest 2006Eg04,2019Zi01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Ota and E. A. Mccutchan	NDS 203,1 (2025)	1-Apr-2025

2006Eg04: 1-2 grams of enriched ^{48}Ti irradiated by negative muons from the μE4 beam line of the Paul Scherrer Institute, Switzerland. Measured Eγ's and muon lifetimes using three HPGe γ-detectors.

2019Zi01: 250 mg/cm^2 TiO_2 powder (enriched to 95.8% ^{48}Ti) was irradiated by negative muons from the μE4 and μE1 beam lines of the Paul Scherrer Institute, Switzerland. Measured Eγ's and muon lifetimes using HPGe detectors.

Muon disappearance lifetime = 361.1 ns *24* (2019Zi01) and 362.9 ns *18* (2006Eg04). Total capture rate (λ_{cap})= 2.323×10^6 s^{-1} *15* (2019Zi01) and 2.756×10^6 s^{-1} *13* (2006Eg04).

^{47}Sc Levels

E(level)[†]	J$^\pi$[‡]
0.0	7/2$^-$
767.1	(3/2)$^+$
807.8	3/2$^-$
1297.1	5/2$^-$
1404	5/2$^+$

[†] From Eγ.
[‡] From the Adopted Levels.

γ(^{47}Sc)

E$_\gamma$[†]	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$
[x]121				
[x]131				
[x]147				
[x]227				
[x]370				
767.1[‡]	767.1	(3/2)$^+$	0.0	7/2$^-$
807.8[‡]	807.8	3/2$^-$	0.0	7/2$^-$
1297.1[‡]	1297.1	5/2$^-$	0.0	7/2$^-$
1404	1404	5/2$^+$	0.0	7/2$^-$

[†] From 2006Eg04, except where noted.
[‡] From 2019Zi01.
[x] γ ray not placed in level scheme.

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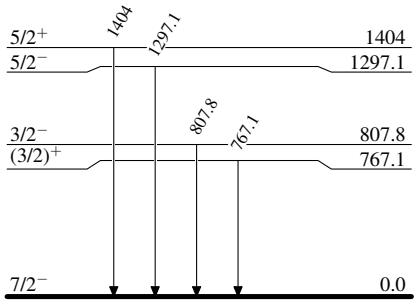
Level Scheme



$^{47}_{21}Sc_{26}$