^{49}Sc β^- decay   **1971Ei03**

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	T. W. Burrows[a]	NDS 109, 1879 (2008)	14-Jul-2008

Parent: ^{49}Sc: E=0.0; J^π=7/2$^-$; $T_{1/2}$=57.18 min *13*; Q(β^-)=2006 *4*; %β^- decay=100.0
^{49}Sc-E,J^π,$T_{1/2}$: From ^{49}Sc Adopted Levels.
^{49}Sc-Q(β^-): From 2003Au03.
Measured γ's. Other: see 1995Bu23.

^{49}Ti Levels

E(level)[†]	J^{π}[‡]
0.0	7/2$^-$
1622.6 *6*	(5/2)$^-$
1761.9 *3*	5/2$^-$

[†] From least-squares fit to Eγ's (evaluator).
[‡] From the Adopted Levels.

β^- radiations

See 1987Mi18 for calculations of GT matrix elements.

E(decay)	E(level)	Iβ^-[†#]	Log ft	Comments
(244 *4*)	1761.9	0.05 *1*	5.6 *1*	av Eβ=72.6 *14*
(383 *4*)	1622.6	0.010 *3*	7.0 *2*	av Eβ=121.4 *15*
2002.7[‡] *58*	0.0	99.94 *1*	5.72 *1*	av Eβ=824.1 *19*

[†] From absolute photon intensities.
[‡] Weighted average (external) of 1992.5 *70* (1969Fl02; semi. Original value of 1983 *7* corrected by evaluator by comparing
   Q(β^-)(^{32}P)=1701 *4* (1969Fl02) with Q(β^-)(^{32}P)=1710.48 *22* (2003Au03) and 2006 *4* (1961Re06; mag spect. adjusted from 2010
   5 by 2003Au03).
[#] Absolute intensity per 100 decays.

γ(^{49}Ti)

E$_\gamma$	I$_\gamma$[†‡]	E$_i$(level)	J_i^π	E$_f$	J_f^π
1622.6 *6*	0.010 *3*	1622.6	(5/2)$^-$	0.0	7/2$^-$
1761.9 *3*	0.05 *1*	1761.9	5/2$^-$	0.0	7/2$^-$

[†] Photons per 100 decays from the absolute ^{49}Ca source strength.
[‡] Absolute intensity per 100 decays.

^{49}Sc β^- **decay**   **1971Ei03**

Decay Scheme

Intensities: I$_{(\gamma+ce)}$ per 100 parent decays

Legend

I$_\gamma <$ 2%$\times$I$_\gamma^{max}$
I$_\gamma <$ 10%$\times$I$_\gamma^{max}$
I$_\gamma >$ 10%$\times$I$_\gamma^{max}$

7/2$^-$ 0.0   57.18 min *13*

Q$_{\beta^-}$=2006 *4*   %β^-=100.0

$^{49}_{21}$Sc$_{28}$

Iβ^- Log *ft*

0.05   5.6   5/2$^-$ 1761.9
0.010   7.0   (5/2)$^-$ 1622.6

1761.9 0.08

1622.6 0.010

99.94   5.72   7/2$^-$ 0.0

$^{49}_{22}$Ti$_{27}$