^{47}V β^+ decay 1973Fi02

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	T. W. Burrows	NDS 108, 923 (2007)	20-Feb-2007

Parent: ^{47}V: E=0.0; $J^\pi=3/2^-$; $T_{1/2}$=32.6 min *3*; Q(β^+)=2930.34 *30*; %β^+ decay=100.0

^{47}V-Q(β^+): From 2003Au03.

Measured γ's and $T_{1/2}$(^{47}V g.s.); anti-annihilation geometry. Measured I$\gamma(\gamma^\pm)$/Σ Iγ; plexiglass to stop β^+'s close to source.

Others: see 1995Bu05.

^{47}Ti Levels

E(level)†	J^π‡	$T_{1/2}$
0.0	$5/2^-$	stable
159.6 *3*	$7/2^-$	
1549.9 *3*	$3/2^-$	
1794.1 *4*	$1/2^-$	
2163.0 *5*	$3/2^-$	
2166.9 *11*	5/2	
2525.8 *4*	$3/2^-$,$5/2^-$	
2548.8 *5*	$3/2^-$	
2793.4 *5*	$1/2^-$	

† Calculated by evaluator using least-squares adjustment procedures.

‡ From the Adopted Levels.

ε,β^+ radiations

See 1987Mi18 for calculations of GT matrix elements.

E(decay)	E(level)	Iβ^+†	Iε†	Log *ft*	I($\varepsilon+\beta^+$)†	Comments
(136.9 *6*)	2793.4		0.0031 *6*	5.18 *9*	0.0031 *6*	εK=0.8872; εL=0.09618; εM+=0.01668
(381.5 *6*)	2548.8		0.0067 *5*	5.77 *4*	0.0067 *5*	εK=0.8915; εL=0.09251; εM+=0.01597
(404.5 *5*)	2525.8		0.0172 *9*	5.41 *3*	0.0172 *9*	εK=0.8917; εL=0.09239; εM+=0.01595
(763.4 *12*)	2166.9		0.0099 *7*	6.25 *4*	0.0099 *7*	εK=0.8927; εL=0.09154; εM+=0.01578
(767.3 *6*)	2163.0		0.071 *3*	5.36 *2*	0.071 *3*	εK=0.8927; εL=0.09153; εM+=0.01578
(1136.2 *5*)	1794.1	0.000399 *22*	0.285 *10*	5.10 *2*	0.285 *10*	av Eβ=49.3 *5*; εK=0.8918; εL=0.09110; εM+=0.01570
(1380.4 *4*)	1549.9	0.0054 *7*	0.044 *5*	6.08 *6*	0.049 *6*	av Eβ=148.7 *5*; εK=0.7948 *10*; εL=0.08108 *10*; εM+=0.013969 *17*
(2930.3 *3*)	0.0	96.54 *3*	3.01 *3*	4.901 *5*	99.552 *15*	av Eβ=831.8 *5*; εK=0.02703 *5*; εL=0.002748 *5*; εM+=0.0004733 *8*

† Absolute intensity per 100 decays.

$\gamma(^{47}Ti)$

Iγ normalization: from I$\gamma(\gamma^\pm)$=1.01×10^5 *3*, theoretical ε/β^+ ratio for g.s. feeding (β^+ feeding to other states negligible), and Σ [Iγ(1+α)+(Iβ^++Iε)(to g.s.)]=100.

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^{47}V β^+ decay 1973Fi02 (continued)

$\gamma(^{47}Ti)$ (continued)

E_γ	I_γ[†#]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	α[‡]	Comments
159.8 *5*	55.9 *25*	159.6	7/2$^-$	0.0	5/2$^-$	M1+E2	−0.099 *9*	0.0045 *3*	α=0.0045 *3*; α(K)exp=0.00406 *21*; α(L)exp≈0.000406 *21*; α(M)=6.54×10^{-5} *14* α(N+..)=3.49×10^{-6} *7* α(N)=3.49×10^{-6} *7*
244.4 *5*	49.1 *23*	1794.1	1/2$^-$	1549.9	3/2$^-$	M1+E2	−0.30 *6*	0.0027 *3*	α=0.0027 *3*; α(K)=0.0025 *3*; α(L)=0.000225 *24*; α(M)=2.9×10^{-5} *3*; α(N+..)=1.53×10^{-6} *16* α(N)=1.53×10^{-6} *16*
1243.5 *5*	1.3 *3*	2793.4	1/2$^-$	1549.9	3/2$^-$				
1390.4 *4*	41.5 *12*	1549.9	3/2$^-$	159.6	7/2$^-$	E2		0.0001090 *16*	α=0.0001090 *16*; α(K)=5.20×10^{-5} *8*; α(L)=4.65×10^{-6} *7*; α(M)=5.94×10^{-7} *9*; α(N+..)=5.18×10^{-5} *8* α(N)=3.23×10^{-8} *5*; α(IPF)=5.18×10^{-5} *8*
1549.9 *4*	34.8 *10*	1549.9	3/2$^-$	0.0	5/2$^-$	M1+E2	+0.46 *10*	1.26×10^{-4} *3*	α=1.26×10^{-4} *3*; α(K)=3.76×10^{-5} *7*; α(L)=3.35×10^{-6} *6*; α(M)=4.29×10^{-7} *7*; α(N+..)=8.50×10^{-5} *22* α(N)=2.34×10^{-8} *4*; α(IPF)=8.50×10^{-5} *22*
1793.9 *4*	100	1794.1	1/2$^-$	0.0	5/2$^-$	(E2)		0.000249 *4*	α=0.000249 *4*; α(K)=3.12×10^{-5} *5*; α(L)=2.78×10^{-6} *4*; α(M)=3.56×10^{-7} *5*; α(N+..)=0.000215 *3* α(N)=1.94×10^{-8} *3*; α(IPF)=0.000215 *3*
2003.1 *10*	1.9 *2*	2163.0	3/2$^-$	159.6	7/2$^-$	(E2)		0.000343 *5*	α=0.000343 *5*; α(K)=2.54×10^{-5} *4*; α(L)=2.27×10^{-6} *4*; α(M)=2.90×10^{-7} *4*; α(N+..)=0.000315 *5* α(N)=1.578×10^{-8} *23*; α(IPF)=0.000315 *5*
2007.3 *10*	5.2 *3*	2166.9	5/2	159.6	7/2$^-$				
2163.0 *5*	35.1 *8*	2163.0	3/2$^-$	0.0	5/2$^-$	(M1(+E2))	0.0 *1*	0.000342 *5*	α=0.000342 *5*; α(K)=2.07×10^{-5} *3*; α(L)=1.84×10^{-6} *3*; α(M)=2.36×10^{-7} *4*; α(N+..)=0.000319 *5* α(N)=1.285×10^{-8} *18*; α(IPF)=0.000319 *5*
2366.3 *5*	4.4 *3*	2525.8	3/2$^-$,5/2$^-$	159.6	7/2$^-$				
2525.6 *5*	4.6 *2*	2525.8	3/2$^-$,5/2$^-$	0.0	5/2$^-$				
2548.7 *5*	3.5 *2*	2548.8	3/2$^-$	0.0	5/2$^-$				
2793.3 *10*	0.34 *6*	2793.4	1/2$^-$	0.0	5/2$^-$				

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^{47}V β^+ decay 1973Fi02 (continued)

$\gamma(^{47}Ti)$ (continued)

† Relative photon intensity.
‡ From the Adopted Gammas.
# For absolute intensity per 100 decays, multiply by 1.91×10^{-3} *6*.

^{47}V β^+ decay 1973Fi02

Decay Scheme

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