^{48}Ti(α,pγ) 1970Ho16,1970Mo12,1972Go10

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Wang Jimin and Huang Xiaolong	NDS 144, 1 (2017)	1-Mar-2016

Other: 1970Sa15.
1970Ho16: E=14 MeV, measured σ(E(p),Eγ,θ), $\gamma(\theta)$, and p,$\gamma(\theta)$, θ=24°−90°, pγ. Shell-model calculation.
1970Mo12: E=9.6-9.9 MeV, measured σ(Eα; E(p),Eγ), γ, Iγ with E-ΔE detector and Ge(Li).
1970Sa15: E=12.0-15.0 MeV, measured Eγ, Iγ, and $\gamma\gamma$ with Ge(Li)-NaI.
1972Go10: E=9-10 MeV, measured Eγ, p$\gamma(\theta)$, and DSA.

^{51}V Levels

E(level)[†]	J$^\pi$[‡]	T$_{1/2}$[#]
0	7/2$^-$	
319.6 *3*	5/2$^-$	
928.31 *10*	3/2$^-$	
1609.33 *20*	11/2$^-$	0.44 ps *8*
1813.2 *3*	9/2$^-$	0.48 ps *10*
2410.3 *8*	3/2$^-$	≤0.04 ps
2546.3 *10*	1/2$^+$	
2677.3 *10*	(3/2)$^+$	0.62 ps *14*
2701.3 *11*	15/2$^-$	≥0.8 ps

[†] From Eγ's and level scheme, using least-squares fit to data.
[‡] Based on σ(E(p),Eγ,θ) χ^2 fits and shell-model calculations; values from 1970Ho16.
[#] From DSA method (1972Go10).

γ(^{51}V)

E$_i$(level)	J$_i^\pi$	E$_\gamma$[†]	I$_\gamma$[‡]	E$_f$	J$_f^\pi$	Mult.[@]	δ[#&]	Comments
319.6	5/2$^-$	319.3 *4*	100	0	7/2$^-$	M1+E2	+0.3 *+6−3*	
928.31	3/2$^-$	609.0 *8*	14 *1*	319.6	5/2$^-$	M1+E2		δ: 9 +∞ *-4*. Alternate value of +0.33 *14* not consistent with data in ^{51}Ti β^- decay.
		928.3 *1*	86 *1*	0	7/2$^-$	E2(+M3)	+0.03 *9*	
1609.33	11/2$^-$	1609.3 *2*	100	0	7/2$^-$	(E2+M3)	0.00 *7*	
1813.2	9/2$^-$	204.0[b] *8*		1609.33	11/2$^-$			
		1492.7 *6*	25.0 *15*	319.6	5/2$^-$	E2(+M3)	−0.05 *18*	
		1813.4 *3*	75.0 *15*	0	7/2$^-$	D+Q	−3.8 *+6−8*	
2410.3	3/2$^-$	2091[a] *1*	81 *3*	319.6	5/2$^-$	D+Q		δ: +0.36 *15* or >+3.3.
		2410[a] *1*	19 *3*	0	7/2$^-$	[E2]		Mult.: from ΔJ=2 and $\Delta\pi$=+. δ: δ(M3,E2)=0.0 *+4−8*.
2546.3	1/2$^+$	1618[a] *1*	100	928.31	3/2$^-$	E1		
2677.3	(3/2)$^+$	1749[a] *1*	100	928.31	3/2$^-$	(E1+M2)		δ: 0.00 *+9−5* or +3.6 *+21−7*.
2701.3	15/2$^-$	1092[a] *1*	100	1609.33	11/2$^-$	[E2]		Mult.: from ΔJ=2 and $\Delta\pi$=+. δ: δ(M3,E2)=−0.11 *+10−17*.

[†] From 1970Sa15, except as noted.
[‡] % photon branching from each level. Values from 1970Ho16.
[#] From $\gamma(\theta)$ (1970Ho16).
[@] From $\gamma(\theta)$, T$_{1/2}$, and branching ratio (1970Ho16).
[&] Phase convention of 1970Kr03.

Continued on next page (footnotes at end of table)

^{48}Ti(α,pγ) 1970Ho16,1970Mo12,1972Go10 (continued)

$\gamma(^{51}V)$ (continued)

[a] From 1970Mo12. Values also given in (^{3}He,dγ).
[b] Placement of transition in the level scheme is uncertain.

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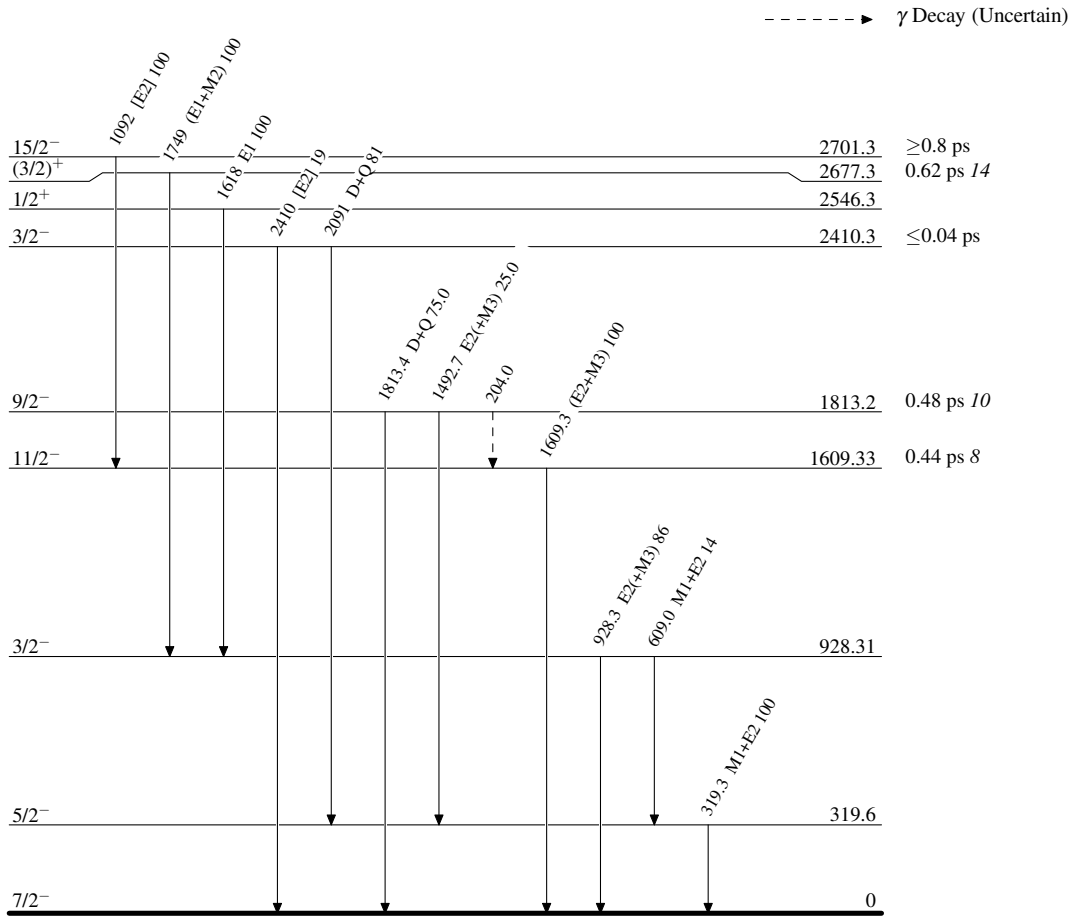
Legend

Level Scheme

Intensities: % photon branching from each level



$^{51}_{23}V_{28}$