^{50}Ti(p,p′),(p,p′γ),(p,n) IAR 1973Ro40,1973Pr18,1974To10

History

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

Others: 1971Pr04, 1969Co07, 1976Kr13, 1974No12, 1973Sn01, 1972Mo43, 1987An11.
Measured σ(E(p); E,θ), resonance state analysis.
For (p,n) res see 1974To10 (E=5255) and 1971Pr04 (E=3570-3630).
For (p,p) res see 1973Pr18 (E=1830-2970), 1969Co07 (E=3400-7100), 1973Ro40 (E=1360-1380), and 1976Kr13 (E=9500-10000).
For (p,p′) res see 1974No12 (E=3588, 3606).
For (p,p′γ) res see 1973Sn01 (E=3500-4800), 1971Pr04 (E=3570-3630, 2960-3010), and 1972Mo43 (E=3500-5000).

^{51}V Levels

E(level)[†]	Jπ[‡]	L[h]	Γ (keV)	Comments
(8061.2 *4*)				E(level): E=S(p) (2017Wa10) for E(p)=0.
S(p)+1339[#] *2*	3/2⁻	1		Γ_p=7 eV *2*; Γ_γ=0.28 eV *11* (1973Ro40) Others: Γ_p=10 eV *5* (1973Pr18), 8 eV *3* (1970Ma36).
S(p)+1344[#] *2*	3/2⁻	1		Γ_p=45 eV *5*; Γ_γ=1.6 eV *6* Others: Γ_p=50 eV *10* (1973Pr18), 50 eV *15* (1970Ma36).
S(p)+1350[#] *2*	3/2⁻	1		Γ_p=9 eV *2*; Γ_γ=0.36 eV *16* Others: Γ_p=5 eV *3* (1973Pr18), 10 eV *4* (1970Ma36).
S(p)+2496[@]	1/2⁻	1	4.1	Γ: From 1973Pr18.
S(p)+2792[f]	7/2⁻			
S(p)+3528[&]	5/2⁻[g]	3	3.9 *10*	Γ_{p0}=3.78 keV *11*; $\Gamma_{p'}$=0.12 keV *9* Γ: From 1971Pr14. E(level): may correspond to 3588 in 1974No12.
S(p)+3546[a] *5*	3/2⁻[g]	1	4.1 *10*	Γ_{p0}=0.34 keV *30*; $\Gamma_{p'}$=3.8 keV *13* Γ: From 1972Mo43. E(level): may correspond to 3620 in 1969Co07.
S(p)+4235[b] *10*	1/2⁻[g]	1		$\Gamma_{p'}$=19 keV
S(p)+4294[c] *10*	5/2⁻[g]	3		
S(p)+4490[d] *10*	3/2⁻[g]	1		
S(p)+5152[e] *10*	9/2⁺			

[†] Only levels of IAR in ^{51}Ti are given here; 229 more resonance states observed in the range 1861≤E(p)≤7015. For IAR levels, E(level)=S(p)+(50/51)(E(p)(lab)), S(p)=8061.2 keV *4* (2017Wa10), E(p)(lab) are proton energy in lab system; for adopted E(p) see footnotes.
[‡] Based on σ(E; E(p),E(p′),θ) measurements and IAR analysis, and simple shell-model analysis.
[#] IAR of 3/2⁻ g.s. in ^{51}Ti; E(p) is from 1970Ma36. Other data for this resonance are from 1973Ro40. See also 1973Pr18.
[@] IAR of 1/2⁻ 1167 in ^{51}Ti; all data for this resonance are from 1973Pr18.
[&] IAR of 5/2⁻ 2144 in ^{51}Ti; all data for this resonance are from 1971Pr04.
[a] IAR of 3/2⁻ 2198 in ^{51}Ti; all data for this resonance are from 1972Mo43 and 1973Sn01.
[b] IAR of 1/2⁻ 2906 in ^{51}Ti; all data for this resonance are from 1972Mo43 and 1973Sn01.
[c] IAR of (5/2,7/2)⁻ 2919 in ^{51}Ti; all data for this resonance are from 1972Mo43 and 1973Sn01.
[d] IAR of 3/2⁻ 3174 in ^{51}Ti; all data for this resonance are from 1972Mo43 and 1973Sn01.
[e] IAR of 9/2⁺ 3771 in ^{51}Ti; all data for this resonance are from 1974To10.
[f] IAR of 7/2⁻ 1437 in ^{51}Ti; all data for this resonance are from 1971Pr04.
[g] Based on σ(E; E(p′),Eγ,θ), σ(E; E(p′),θ), and σ(E; Eγ,θ) measurements for ^{50}Ti(p,p′γ), angular-correlation study; and IAR analysis.
[h] From σ(θ) analysis.