^{46}Ti(^{3}He,n) 1974Ev02,1975Al05

Type	Author	History Citation	Literature Cutoff Date
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1974Ev02: E=15, 18, and 21 MeV ^{3}He beams were produced from the Munich MP tandem accelerator. Target was 1 mg/cm^2 81.2% enriched self-supporting foil of ^{46}Ti. Neutrons were detected with liquid scintillators. Measured $\sigma(\theta$(c.m.)=0°−45°). Deduced levels, J, π, L-transfers from DWBA analysis. Comparisons with theoretical calculations.

1975Al05 (also 1972Al48): E=15 MeV ^{3}He beam was produced from the University of Rochester MP tandem. Target was 1.25 mg/cm^2 77.1% enriched self-supporting ^{46}Ti. Neutrons were detected with liquid scintillators. Measured $\sigma(\theta$=0°−40°, 5° steps), FWHM=300-600 keV. Deduced levels, L-transfer and spectroscopic factors from DWBA analysis. Emphasis on strongly excited L=0 "pairing" states.

1967Mi02: E=10-12 MeV ^{3}He beams from the ONR-CIT tandem on 84.5% enriched ^{46}Ti target. Neutron energies were measured by means of (n,α) reactions induced by neutrons in a silicon detector. Measured neutron spectrum. Deduced levels, Q-value, mass excess. Report g.s., 720, 2370 levels. Mass excess=−42813 keV *19* from Q(^{3}He,n)=5550 keV *18*.

Others:

1974FiZG,1975FiZL: E=25.4 MeV. Measured $\sigma(E_n,\theta)$. Deduced levels.

1970Br40: E=13.16 MeV. Measured $\sigma(E_n,\theta)$. Deduced levels.

^{48}Cr Levels

dσ/dΩ values from 1974Ev02 given under comments are for E(^{3}He)=18 MeV.

E(level)[†]	L[#]	S[@]	Comments
0.0[‡]	0	1.64	dσ/dΩ=1.7 mb/sr *4* at θ_{max}=0° (1974Ev02). dσ/d$\Omega(\theta$=0°)=0.15 mb/sr *9* (1967Mi02), 1.25 mb/sr *5* (1975Al05).
800[‡] *30*	(2)		E(level): other: tentative 720 *30* (1967Mi02). dσ/dΩ=0.08 mb/sr *2* at θ_{max}=15° (1974Ev02). σ/σ(g.s.)=0.42 *23* at θ=0° (1967Mi02).
2370? *50*			E(level): from 1967Mi02 only. σ/σ(g.s.)=0.34 *15* at θ=0° (1967Mi02).
5430 *30*	0	0.51[&]	E(level): others: 5480 *50* (1975Al05), 5330 (1974FiZG). dσ/dΩ=0.48 mb/sr *10* at θ_{max}=0° (1974Ev02). dσ/d$\Omega(\theta$=0°)=0.59 mb/sr *6* (1975Al05).
6010 *30*			E(level): possible doublet (by evaluator). dσ/dΩ=0.10 mb/sr *3* at θ_{max}=15° (1974Ev02).
7940 *30*			dσ/dΩ=0.23 mb/sr *7* at θ_{max}=15° (1974Ev02).
8770 *30*	0	0.54	E(level): others: 8800 *50* (1975Al05), 8840 (1974FiZG). dσ/dΩ=0.54 mb/sr *11* at θ_{max}=0° (1974Ev02). dσ/d$\Omega(\theta$=0°)=0.66 mb/sr *6* (1975Al05).
9530 *30*	0	0.90[&]	E(level): IAS(^{48}V,3.70 MeV) (1975Al05). Other: 9540 *50* (1975Al05). dσ/dΩ=0.92 mb/sr *19* at θ_{max}=0° (1974Ev02). dσ/d$\Omega(\theta$=0°)=1.09 mb/sr *5* (1975Al05).
9900[‡] *30*			dσ/dΩ=0.18 mb/sr *4* at θ_{max}=10° (1974Ev02).
11320[‡] *30*	0	0.5[&]	E(level): other: 11200 *100* (1975Al05). dσ/dΩ=0.48 mb/sr *9* at θ_{max}=0° (1974Ev02). dσ/d$\Omega(\theta$=0°)=0.6 mb/sr *2* (1975Al05).

[†] From 1974Ev02, unless otherwise noted.
[‡] Unresolved in 1975Al05.
[#] From DWBA analysis of $\sigma(\theta)$ in 1974Ev02.
[@] From DWBA analysis of $\sigma(\theta)$ in 1975Al05.
[&] Using cluster form factor for DWBA (1975Al05).