^{50}Cr(^{3}He,n) 1975Bo14,1975Al05,1972Ev02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Yang Dong, Huo Junde	NDS 128, 185 (2015)	10-Jul-2015

1975Bo14: E=13 MeV, measured $\sigma(\theta,E(n))$, tof (time resolution: 1.3-2 ns FWHM, 17.5-meter path). The neutrons were detected in 12 detectors placed between 0° and 55° at intervals of 5°. DWBA analysis.

1975Al05: E=15 MeV, measured $\sigma(\theta,E(n))$, tof (time resolution: ≈0.75 ns FWHM, 4-meter path). The neutrons were detected in 10.2 cm diameter ≠ 213 liquid scintillators of thickness 2.5 cm or 3.8 cm mounted on 12.7 cm photomultipliers. DWBA analysis.

1972Ev02: E=18,21 MeV, measured $\sigma(\theta,E(n))$, tof (energy resolution: 220-500 keV at 28 MeV, 8.7-meter path). The neutrons were detected in 12.7 cm diameter ≠ 213 liquid scintillator of thickness 2.54 cm coupled to an XP 1041 photomultipliers. DWBA analysis. See also 1974Ev02.

1975Al05 concentrate on 0^+ pairing-vibrational states. Discussion and classification of 0^+ states in terms of pairing-vibration model also undertaken by 1972Ev02. See these works for details.

All data are from 1975Bo14, except as noted.

^{52}Fe Levels

E(level)	L	dσ/dΩ†	Comments
0.0	0	620 *20*	
840 *30*	2	70 *10*	
2360 *50*	4	14 *3*	
2750 *30*	2	28 *5*	
3590 *30*	4	40 *5*	
4160 *20*	0	230 *15*	
4430 *30*	2	54 *15*	
5360 *30*	0	19 *5*	
5760 *20*	0	180 *20*	
5820 *30*	2	28 *10*	
6070 *30*	(2)	30 *7*	
6520 *30*	3	52 *7*	
6700 *30*	2	75 *10*	
7120 *50*			
7280 *50*			
7470 *30*	2	25 *5*	
7640 *50*			
7820 *50*			
8050 *20*	0	690 *40*	T=1 Identified as IAS (^{52}Mn 2474 keV), see 1975Bo14 and 1975Al05.
8360 *20*	2	140 *15*	T=1 Identified as IAS (^{52}Mn 2796 keV).
8570 *20*	0	420 *50*	T=2 Identified as IAS (^{52}Mn 2926 keV, ^{52}Cr g.s.).
9010 *30*	2	68 *10*	
9130 *50*			
9250 *50*			
9470 *50*			
9770 *50*			
10060 *30*	2	55 *7*	T=2 Identified as IAS (^{52}Mn 4439 keV, ^{52}Cr 1434 keV).
10310 *20*	0	95 *7*	
10810 *50*			
10990 *20*	0	185 *15*	T=2 Identified as IAS (^{52}Mn 5491 keV, ^{52}Cr 2647 keV).
11440 *50*			
11640 *50*			
11780 *30*	2	60 *10*	T=2 Identified as IAS (^{52}Cr 3162 keV).

† $d\sigma/d\Omega$ (μb/sr c.m.) at θ=0° for L=0, θ=20° for L=2, θ=25° for L=3, θ=35° for L=4.