^{52}Cr(^{14}C,^{16}O) 1988Ba45,1979Pe08

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen and Balraj Singh	NDS 157, 1 (2019)	15-Apr-2019

1979Pe08: E(^{14}C)=51 MeV from the NSF tandem, Daresbury. Measured $\sigma(\theta=4°-36°)$; magnetic spectrograph, proportional counter, ionization chamber. DWBA analysis.

1988Ba45: E(^{14}C)=113, 130 MeV from NSF tandem. Measured $\sigma(\theta$(c.m.)$=7°-28°)$; magnetic spectrograph, ionization chamber. DWBA.

^{50}Ti Levels

1988Ba45 observed no evidence of proton-pairing vibrations in this reaction. They also studied the energy dependence of the optical model potentials and the normalization factor for ^{50}Ti,^{52}Cr,^{54}Fe(^{14}C,^{16}C) for E(^{14}C)=51 to 130 MeV.

E(level)[†]	J$^{\pi}$[‡]	NC^{2}S$_1$C^{2}S$_2$[‡]	Comments
0	0$^+$	1.44	E(level): some evidence for multistep excitation in (^{14}C,^{16}O) (1979Pe08); reaction to g.s. followed by inelastic scattering.
1560	2$^+$	1.24	
2680	4$^+$	1.10	
3210	6$^+$	3.60	
4160?[#]			
4180?[#]			
4310			
5630?			E(level): Barely resolved from the neighboring high density of states.

[†] From 1988Ba45. First four levels also detected by 1979Pe08.

[‡] From DWBA in 1979Pe08. Products of two spectroscopic factors are given for two-proton pickup reaction.

[#] Unresolved.