^{50}Cr(p,n) 1971Ki17,2008Er04

History

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

1971Ki17: E=7-16 MeV beam from the University of Colorado 1.3-m sector-focusing cyclotron. Measured TOF spectrum of neutrons with a liquid scintillator. Deduced levels. See also (p,nγ) dataset for γ data.

2008Er04: Precise Q(ε) measurement for superallowed decay of ^{50}Mn to ^{50}Cr. The main $\varepsilon+\beta^+$ branch (>99.99%) is g.s. to g.s. transition. Penning-trap (JYFLTRAP) mass measurements of ^{50}Mn and ^{50}Cr using IGISOL facility where ^{50}Mn ions were produced by ^{50}Cr(p,n) reaction and ^{50}Cr produced by ^{50}Cr(p,p) reaction at E(p)=13-15 MeV. The JYFLTRAP facility used to measure masses of ^{50}Mn g.s. and isomer and that of ^{50}Cr.

Others:

2000Jo17: E=35 MeV. Measured $\sigma(\theta)$ for g.s.

1985Bl12: E=25 MeV. Measured angle integrated neutron spectra. No specific levels studied.

1975Ca18: E=22.8 MeV. Measured $\sigma(\theta)$. No levels studied.

1973Mc11: E=8.5-9 MeV. Measured neutron spectrum. Deduced separation of the ground state and isomer as 230 keV *20*.

1971Be46: E=23 MeV; measured $\sigma(\theta)$ for 5^+ level in ^{50}Mn.

1965Fr08: measured threshold energy for (p,n) reaction.

^{50}Mn Levels

E(level)[†]	J$^\pi$[‡]	Comments
0	0^+	
225.28 *9*	5^+	E(level): from measured mass difference between g.s. and isomer of ^{50}Mn from Penning-trap mass measurement (2008Er04). Other: 230 *20* (1973Mc11).
650 *20*		
800 *20*		
1030 *20*		
1150 *20*		
1710 *20*		
1770 *20*		
1860 *20*		
1940 *20*		

[†] All data are from neutron TOF at E=14.56 MeV (1971Ki17), except as noted.

[‡] From the Adopted Levels.