$^{12}C(^{50}Fe,^{51}Co\gamma)$ 2012Mc01

History

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

2012Mc01: Includes also reaction with ^{9}Be target. ^{50}Fe beam at E=61.2 MeV/nucleon from ^{9}Be(^{50}Fe,X), at E=160 MeV/nucleon from ^{12}C(^{50}Fe,X) primary reaction, target thickness of 893 mg/cm^2. Target=72.8 *13* mg/cm^2 ^{12}C, 188 *4* mg/cm^2 ^{9}Be. γ-rays detected by an array of 32-fold segmented high-purity germanium detectors (SeGA). Measured particle spectra, energy loss, time of flight, Eγ, Iγ, (particle)γ-coin using S-800 spectrometer and SeGA array at NSCL facility. Deduced parallel momentum distributions, partial and inclusive cross sections. One-proton transfer reactions. DWBA analysis. Calculated proton configurations, spectroscopic factors, single-particle cross sections. Shell model calculations in fp shell. No γ rays were seen in coincidence with ^{51}Co ions.

^{51}Co Levels

E(level)	J^π	Comments
0	7/2$^-$	J^π: 7/2$^-$ supported in the present work from analysis of cross section data and parallel momentum distribution. $\Sigma^{inc}_{exp}(^{12}C)$=0.53 mb *13*, $\Sigma^{inc}_{exp}(^9Be)$=0.57 mb *8*.