C(^{20}N,^{19}N) 2000Sa47,2004Sa14

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	G. C. Sheu, J. H. Kelley	ENSDF	06-Nov-2018

2000Sa47,2004Sa14: An E(^{20}N)=48 MeV/nucleon beam, produced by fragmentation of ^{40}Ar ions at GANIL, impinged on a 170 mg/cm^2 C target. The beam energy spread was ΔE/E=1% (2% in 2000Sa47). The one-neutron removal cross sections and core fragment longitudinal and transverse momentum distributions were measured using the SPEG spectrometer.

σ_{-1n}=86 mb *9* was measured; this compares the value $\sigma_{-1n}^{Glauber}$=83 mb (99 mb in 2004Sa14) calculated using a Glauber model. The longitudinal momentum distribution width FWHM$_{pz}^{cm}$=177 MeV/c *3*, transverse momentum width FWHM$_{px}^{cm}$=226 MeV/c *5* (2004Sa14), and J$^{\pi}$=1/2$^-$ (see also 1989Ca25) for the ground state were also deduced.

In (2004Sa14), the longitudinal momentum distribution width FWHM$_{pz}^{cm}$=176 MeV/c *11* was deduced using tantalum target, but no reliable σ_{1n} cross section could be estimated owing to the very broad transverse momentum distributions.

^{19}N Levels

E(level)	J$^{\pi}$
0	1/2$^-$