

Abstract Submitted
for the APR17 Meeting of
The American Physical Society

Selective Population of Unbound Positive Parity States in ^{25}F and ^{26}F ¹ NATHAN FRANK, JACOB HERMAN, ALI RABEH, MATTHEW TUTTLE-TIMM, Augustana Coll - Rock Island, MONA COLLABORATION — Unbound Positive Parity States in ^{25}F and ^{26}F were populated in the one-proton removal reaction from a radioactive ^{27}Ne beam. The experiment was performed at the National Superconducting Cyclotron Laboratory (NSCL), where a 101.3 MeV/u ^{27}Ne ion beam impinged on a liquid deuterium target populating states in ^{26}F . States above the one- and two- neutron separation energies lead to ^{24}F and ^{25}F , respectively. The MoNA/LISA setup at NSCL was used to detect the fragments in coincidence with neutrons and the decay energy spectra of ^{25}F and ^{26}F were reconstructed by invariant mass spectroscopy. Resonance energies of approximately 0.35 MeV and 0.5 MeV for $^{25}\text{F}^*$ and $^{26}\text{F}^*$, respectively, were extracted. Based on the calculated spectroscopic strength distribution of negative and positive parity states in ^{26}F and the selectivity of one proton-removal reactions both states were assigned positive parity.

¹NSF Grant 1404236

Nathan Frank
Augustana Coll - Rock Island

Date submitted: 30 Sep 2016

Electronic form version 1.4