Abstract Submitted
for the DNP15 Meeting of
The American Physical Society

Structure of 10N via 9C+p Resonance Scattering
JOSHUA HOOKER, GRIGORY ROGACHEV, YEVGEN KOSHCHIY, ETHAN UBERSEDER, HESHANI JAYATISSA, CURTIS HUNT, BRIAN ROEDER, Texas A&M University — The study of ^{10}N through the reaction $^{9}C(p,p)^{9}C$ using a new time projection chamber (TexAT-P1) at the Cyclotron Institute at Texas A&M University. Only one experiment before this study on ^{10}N has claimed to have observed the ground state. We build on this result by providing a spin-parity assignment of the ground state and low-lying excited states in ^{10}N. The mirror nucleus, ^{10}Li, is not well known and also has uncertainty its spin-parity assignments and excitation energies in low-lying states. This nucleus is important to study as it can help explain the two neutron halo nucleus ^{11}Li as its nuclear matter radius is as large as that of ^{208}Pb.

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Date submitted: 09 Jul 2015 Electronic form version 1.4