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Studying Low-Lying States of ^{9}B with a Super-Enge Split-Pole Spectrograph (SE-SPS) RACHEL MALECEK, Louisiana State University — We used the single-particle transfer reaction, ^{10}B(^{3}He, α), to investigate the structure of the light, neutron-deficient nucleus ^{9}B. We are interested in ^{9}B specifically because years of previous efforts have yet to agree on definitive results for the energy, width, and spin-parity of its first-excited state. Over the years, there have been many attempts to measure the energy and width of this state of ^{9}B, which is thought to be the mirror of the first-excited state of ^{9}Be. However, because this is a difficult state to populate, the experimental results vary between 0.7 to 1.8 MeV for the energy and 0.3 to 1.5 MeV for the width. We performed the ^{10}B(^{3}He,α) reaction with the tandem accelerator at Florida State University. A 24-MeV ^{3}He beam was incident on an isotopically enriched self-supporting ^{10}B target. Alpha particles were momentum-analyzed by the new SE-SPS and detected at the focal plane while protons were detected by Double-Sided Silicon Strip Detectors at backward angles. Data was taken every 5 degrees between 5 degrees and 35 degrees in the laboratory frame. Preliminary results will be presented.

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