

Abstract Submitted
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The GlueX Forward Drift Chambers SIMON TAYLOR, Jefferson Lab, GLUEX COLLABORATION — The 12 GeV upgrade program at Jefferson Laboratory calls for the construction of a new experimental hall that will house a large-acceptance detector designed to study the excitation of the gluonic field binding quark–anti-quark pairs into mesons produced by a photon beam running at a tagged rate of $10^7 \gamma/s$. The GlueX detector is based on a large solenoid magnet that will enclose a lead–scintillating fiber calorimeter for detection of photons and drift chambers for tracking charged particles. The paths of particles traveling in the $1^\circ - 20^\circ$ angular range downstream of the target will be measured by a set of cathode strip chambers consisting of wire planes flanked by cathode planes divided into strips, enabling precision measurements of avalanche positions along the wires. The coordinate transverse to the wire is determined using the drift time. The combination of wire and cathode readout allows for reconstruction of “space points” at several positions along the beam line. I will present results from extensive studies of a small-scale prototype of one cathode strip chamber unit and discuss issues arising from operation within a large magnetic field.

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