

Abstract Submitted  
for the HAW14 Meeting of  
The American Physical Society

**Forward Drift Chambers for the GlueX experiment** LUBOMIR PENTCHEV, Jefferson Lab, GLUEX COLLABORATION — The GlueX experiment will search for exotic mesons produced by 9 GeV linearly polarized photon beam from the 12 GeV CEBAF machine. A hermetic solenoid-based detector system that includes tracking and calorimetry has been constructed. The Forward Drift Chamber (FDC) system consists of 24 circular planar drift chambers of 1 *m* diameter. Additional information from cathode strips, placed at both sides of the wire planes, is required to achieve efficient pattern recognition in the presence of high background rates in forward direction, resulting in 12,500 readout channels in total. The detection of relatively low energy photons by the electro-magnetic calorimeters imposes severe constraints on the amount of the material used in the FDC. Challenges in the production of this low-mass detector will be discussed. The FDC has been completed and recently installed in the bore of the solenoid magnet. Results from the tests of the whole detector system will be presented.

Lubomir Pentchev  
Jefferson Lab

Date submitted: 27 Jun 2014

Electronic form version 1.4