

Abstract Submitted
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Beam Position Stabilization Using an Active Collimator in Hall D at Jefferson Lab RICHARD JONES, IGOR SENDEROVICH, University of Connecticut, GLUEX COLLABORATION¹ — The GlueX experiment planned for Hall D at Jefferson Lab relies on the process of coherent bremsstrahlung by 12 GeV electrons in a diamond crystal to produce a secondary beam of 9 GeV photons with a high degree of linear polarization. To achieve optimum polarization, the photon beam must be collimated to a half-angle of $20 \mu\text{r}$, which requires a long flight path of 75 m between the radiator and collimator and a means to keep the beam spot centered on the collimator aperture with an accuracy of a few μr . A active collimator has been designed which is capable of monitoring the centroid of the photon beam to within $\pm 200 \mu\text{m}$, with a sampling frequency of up to several hundred Hz. A prototype of this this device has been tested in the photon beam in Hall B. Results from this test are presented.

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