

Abstract Submitted
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Radiation Damage on a Lead Glass Detector¹ WYATT CAMPBELL, Angelo State University, GLUEX COLLABORATION — The GlueX Experiment at the Thomas Jefferson National Accelerator Facility is constructed to search for hybrid mesons, particles made up of a gluon and a quark-antiquark pair. The electron accelerator beam is used to produce a photon beam that collides with a proton target, creating new, short-lived particles. In order to analyze the produced particles, GlueX surrounds the beam target with an array of detectors, including two calorimeters. The Forward Calorimeter (FCAL) sits in front of the target, down the beamline. Being near the photon beam line, which is a radiation source, might cause damage to the FCAL. To monitor this damage, an LED pulser monitoring system is attached to the FCAL. I analyzed data from this monitoring system to find evidence for, and to quantify, the radiation damage on the FCAL. My analysis found that there was a large amount of damage concentrated around where the beam line went through the FCAL.

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