Abstract Submitted for the APR15 Meeting of The American Physical Society

Heavy Photon Search Commissioning Run and Performance of the Electromagnetic Calorimeter HOLLY SZUMILA-VANCE, Old Dominion University, HEAVY PHOTON SEARCH COLLABORATION COLLABORATION — The Heavy Photon Search (HPS) experiment at Jefferson Lab will search for a possible new heavy vector boson that couples weakly to electric charge and can decay to e^+e^- pairs. HPS utilizes an Electromagnetic Calorimeter (ECal) for fast triggering and complementary energy information in the reconstruction of the $e^+e^$ invariant mass. The ECal is composed of 442 PbWO₄ crystals readout through large area avalanche photo-diodes and digitized using flash ADCs. The initial testing and calibration of the ECal began in the fall of 2014 using a light monitoring system, cosmic muons, and 2 GeV beam electrons. Proper performance of the ECal is crucial for optimizing the trigger selection for potential Heavy Photon events and eliminating background from accidentals. This talk covers the design, calibration, and performance of the HPS ECal during the commissioning run.

> Holly Szumila-Vance Old Dominion University

Date submitted: 09 Jan 2015

Electronic form version 1.4