Abstract Submitted
for the DNP19 Meeting of
The American Physical Society

Acceptance tests of Fast Interaction Trigger modules for the upgrade of the ALICE experiment ISAIAH MORGAN, RYAN STEMPEK, AUSTIN HARTON, EDMUNDO GARCIA-SOLIS, Chicago State University, YURI MELIKYAN, Institute for Nuclear Research of the Russian Academy of Sciences, MACIEJ SKRZYPEK, Helsinki Institute of Physics, University of Jyvaskyla, FIT-ALICE COLLABORATION — CERN (European Center for Nuclear Research) is a global laboratory devoted to proton and heavy-ion collisions at the Large Hadron Collider (LHC). ALICE (A Large Ion Collider Experiment) is one of four major experiments at the LHC. ALICE is dedicated to the study of the transition of matter to Quark-Gluon Plasma in heavy ion collisions. In Run 1 and 2, ALICE used several sub-detectors to provide, for instance, minimum bias trigger, multiplicity trigger, beam-gas event rejection, precise collision time, online vertex, multiplicity, and event plane determination. For Run 3 and 4 the former Forward Detectors will be replaced by the Fast Interaction Trigger (FIT) system. In this talk, we describe the key components of FIT, show the characteristics of the FIT detectors, and present sample performance results of the Micro Channel Plate (MCP) based photosensor modules designed for the FT0 Cherenkov array of FIT. The MCP module tests are taking place at CERN and involve six different characterization procedures to confirm the design parameters of the MCPs. This work is partially supported by the National Science Foundation under Grants No. NSF-PHY-1613118, NSF-PHY-1625081, and NSF-PHY-1719759.

Edmundo Garcia-Solis
Chicago State University

Date submitted: 27 Jun 2019 Electronic form version 1.4