

Abstract Submitted  
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**Particle Identification Using a Ring Imaging Cherenkov Counter**

JUSTIN GOODWILL, FATIHA BENMOKTHAR, Duquesne Univ — The installation of a Ring Imaging Cherenkov counter (RICH) on the CLAS12 spectrometer in Hall B of Jefferson Lab will aid in particle identification, specifically with regard to the separation between protons, pions, kaons. The RICH functions by detecting a ring of radiation that is given off by particles moving faster than the speed of light in a medium through the use of multi-anode photomultiplier tubes (MAPMTs). Because the size of the ring is dependent on the velocity of the particles, one can separate the incoming charged particles. With 391 MAPMTs being used in the specific design at Jefferson Lab, sophisticated electronic systems are needed to achieve complete data acquisition and ensure the safe operation of RICH. To monitor these electronic systems, the slow control system uses a compilation of graphical user interfaces (GUIs) that communicates and, if necessary, changes certain process variables such as the high voltage going to the MAPMTs and the temperature of the system. My actual project focuses on the development of an efficient and reliable slow control system for this detector as well as a java based analyzer for offline data analysis.

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