

Abstract Submitted
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Developing Diamond Muon Detectors for DUNE NICHOLAS JOHNSTON, University of Colorado Boulder, DEEP UNDERGROUND NEUTRINO EXPERIMENT COLLABORATION — The Deep Underground Neutrino Experiment is a neutrino oscillation and mass hierarchy experiment currently under development, and will be the most sensitive neutrino experiment built to date when it begins operation in the mid-2020s. When a proton beam impacts the nuclei of a fixed target, kaons and pions are created which decay to muons and neutrinos. The muon beam will pass through an absorber hall containing many types of sensors to characterize the beam. One type of sensor which is being investigated is a diamond detector. These detectors are useful for real-time beam position, quality, and energy spectrum measurements. This talk will focus on the design, construction and testing of custom diamond detectors at the University of Colorado Boulder.

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