Abstract Submitted
for the APR20 Meeting of
The American Physical Society

**Fabrication of a Cosmic Ray Veto System for the Mu2e Experiment** WILLIAM MUSK, Univ of Virginia, MU2E COLLABORATION — The Mu2e experiment at Fermilab will search for the charged-lepton flavor-violating process of a neutrino less muon-to-electron decay in the presence of a nucleus. The experiment expects a single-event sensitivity of $2.9*10^{-17}$, which is four orders of magnitude below the current strongest limits on this process. This requires all backgrounds to sum to fewer than one event over the lifetime of the experiment. One major background is due to cosmic-ray muons producing electrons that fake a signal inside of the Mu2e apparatus. The Mu2e Cosmic Ray Veto (CRV) has been designed to veto these cosmic-ray backgrounds with an efficiency of 99.99%, while causing a low dead time and operating in a high-intensity environment. The design and fabrication of the CRV are discussed.

William Musk
Univ of Virginia

Date submitted: 06 Jan 2020 Electronic form version 1.4