

Mu2e Straw Tube Tracker Pre-Production Panel Performance Studies

Tuesday 13 July 2021 17:00 (15 minutes)

The Mu2e experiment aims to measure the neutrinoless, muon-to-electron conversion process in the field of a nucleus with a single event sensitivity of 2.8×10^{-17} . The Mu2e tracker utilizes an array of straw tube panels in a solenoidal magnetic field to track the conversion electrons and measure their momenta. Using pre-production panels, tracker operation and diagnosis schemes were developed and implemented. Straw channel noise levels were shown to meet the design requirements at optimized thresholds. Using ^{55}Fe radioactive source data and cosmic data, a wire-based time division calibration was performed and the associated longitudinal wire position resolution was measured to be better than 35 mm.

Are you are a member of the APS Division of Particles and Fields?

Yes

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