



MEETING OF THE AMERICAN PHYSICAL SOCIETY DIVISION OF PARTICLES AND FIELDS

Contribution ID: 284

Type: Poster

## A Panel Prototype for the Mu2e Straw Tube Tracker at Fermilab

*Monday, 31 July 2017 18:38 (1 minute)*

The Mu2e experiment will search for coherent, neutrino-less conversion of muons into electrons in the Coulomb field of an aluminum nucleus with a sensitivity of four orders of magnitude better than previous experiments. The signature of this process is an electron with energy nearly equal to the muon mass. Mu2e relies on a precision ( $\sim 0.1\%$ ) measurement of the outgoing electron momentum to separate signal from background. In order to achieve this goal, Mu2e has chosen a very low-mass straw tracker, made of about 20,000 5 mm diameter thin-walled (15  $\mu\text{m}$ ) Mylar® straws, held under tension to avoid the need for supports within the active volume, and arranged in an approximately 3 m long by 0.7 m radius cylinder, operated in vacuum and a 1 T magnetic field. Groups of 96 straws are assembled into modules, called panels. We present the prototype and the assembly procedure for a Mu2e tracker panel built at Fermilab.

**Primary author:** LUCÀ, Alessandra (FERMILAB)

**Presenter:** LUCÀ, Alessandra (FERMILAB)

**Session Classification:** Poster Session and Reception

**Track Classification:** Particle Detectors