

## A Prototype Straw Tube tracker for the Mu2e Experiment

The Mu2e Experiment at Fermilab will search for coherent, neutrino-less conversion of muons into electrons in the field of a nucleus with a sensitivity improvement of a factor of 10,000 over existing limits. Such a lepton flavor-violating reaction probes new physics at a scale inaccessible with direct searches at either present or planned high energy colliders. The heart of the Mu2e detector is a low-mass straw tube tracker which must have a momentum resolution of about 100 keV and operate in vacuum. We are currently building a prototype 96-straw panel. A total for 250 panels will make up the final Mu2e tracker. During my fellowship period, I will work with Fermilab physicists and engineers to complete and test the prototype panel. The final panel production will be done in Houston, as a joint effort of Rice University and the University of Houston.