

Title: Analysis of MICE Spectrometer Solenoid Magnetic Field Measurements  
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Abstract:

The Muon Ionisation Cooling Experiment (MICE) is designed to demonstrate ionization cooling in a muon beam. Its goal is to measure a 10% change in transverse emittance of a muon beam going through a prototype Neutrino Factory cooling channel section with a 1% accuracy. To measure the emittance, MICE uses two solenoidal spectrometers.

The Spectrometer Solenoids are designed to have 4 T solenoidal fields, uniform at 3 per mil level in the tracking volumes. Analysis of magnetic field measurements of the Spectrometer Solenoids will be discussed, and results of extracting precise coil positions, angles, and coil radius measurements for input into magnet models will be presented.