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## Mu2e Solenoid Field Mapping System

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The Mu2e experiment at Fermilab aims to search for charged-lepton flavor violation by looking for muon to electron conversion in the field of the nucleus. The concept of the experiment is to generate a low momentum muon beam, stopping the muons in a target and measuring the momentum of the conversion electrons. The implementation of this approach uses a non-trivial magnetic field in order to steer charged particles and measure the electron momenta. Precise knowledge of the magnetic field is crucial for the experiment. This presentation will describe the Field Mapping System at Mu2e, which will survey the magnetic field and then use that data to produce a semi-analytical continuous field map. The strict goals and requirements on the accuracy of the resultant field map lead to a novel combination of fundamental physics and state-of-the-art data analysis and computation.

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