

Title: The MICE Controls and Monitoring system
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Abstract:

The Muon Ionization Cooling Experiment (MICE) is a demonstration experiment to prove the viability of cooling a beam of muons for use in a Neutrino Factory and Muon Collider. The MICE cooling channel is a section of a modified Study II cooling channel which will provide a 10% reduction in beam emittance. In order to ensure a reliable measurement, we intend to measure the beam emittance before and after the cooling channel at the level of 1%, or an absolute measurement of 0.001. This makes MICE as a precision experiment which requires strict controls and monitoring of all experimental parameters in order to control systematic errors. The MICE Controls and Monitoring system is based on EPICS and integrates with the DAQ, Configuration Database, State Machines, and Data monitoring systems. A description of this system and its implementation are discussed.