

## Status of the international Muon ionization cooling experiment

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Muon ionization cooling provides the only practical solution to prepare high brilliance beams necessary for a neutrino factory or muon colliders. The muon ionization cooling experiment (MICE) is under development at the Rutherford Appleton Laboratory (UK). It comprises a dedicated beam line to generate a range of input emittance and momentum, with time-of-flight and Cherenkov detectors to ensure a pure muon beam. A first measurement of emittance is performed in the upstream magnetic spectrometer with a scintillating fiber tracker. A cooling cell will then follow, alternating energy loss in liquid hydrogen and RF acceleration. A second spectrometer identical to the first one and a particle identification system provide a measurement of the outgoing emittance. By July 2009 it is expected that the beam and first set of detectors will have been commissioned and a first measurement of input beam emittance may be reported. Along with the steps in the measurement of emittance reduction (cooling) that will follow later and in 2010.

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