



## Progress of MICE, the International Muon Ionization Cooling Experiment

*Saturday, July 7, 2012 12:00 PM (15 minutes)*

Ionization Cooling is the only practical solution to preparing high brilliance muon beams for a neutrino factory or muon collider. The muon ionization cooling experiment (MICE) is under development at the Rutherford Appleton Laboratory (UK) by an international collaboration.

The muon beam line has been commissioned and, for the first time, measurements of beam emittance with particle physics detectors have been performed.

The remaining apparatus is currently under construction. First results with a liquid-hydrogen absorber will be produced in 2013; a couple of years later a full cell of a representative ionization cooling channel, including RF re-acceleration, will be in operation. The design offers opportunities to observe cooling with various absorbers and several optics configurations. Results will be compared with detailed simulations of cooling channel performance to ensure full understanding of the cooling process.

### Financial Support Justification for Early-Stage Researchers

This abstract is being submitted by the chair of the MICE speakers bureau. If accepted an early-stage member of the collaboration will be selected for the mission. It would be surprising from current experience if he/she were not be in need of support for the expensive trip and sejour.

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