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The status of MICE Step IV

Muon beams of low emittance provide the basis for the intense, well-characterised neutrino beams of the Neutrino Factory and for lepton-antilepton collisions at energies of up to several TeV at the Muon Collider. The international Muon Ionization Cooling Experiment (MICE) will demonstrate ionization cooling – the technique by which it is proposed to reduce the μ -beam phase-space volume. MICE is being constructed in a series of steps. At Step IV, MICE will study the properties of liquid hydrogen and lithium hydride that affect cooling. A solenoidal spectrometer will measure emittance up and downstream of the absorber vessel, where a focusing coil will focus muons. The construction of Step IV at RAL is nearing completion. The status of the project will be described together with a summary of the performance of the principal components. Plans for the commissioning and operation and the Step IV measurement programme will be described.

additional information

This is an abstract aiming at a poster in the accelerator session complementing, together with another poster, a talk in the same session.

The three are submitted by the chair of the Speakers Bureau of the MICE collaboration as a coherent set of contributions. The Bureau will identify a member of the collaboration to present each accepted contribution.

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