

Progress towards the completion of the MICE apparatus

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MICE aims to demonstrate 10% ionisation cooling of a synthesised beam of muons by its interaction with low Z absorber materials followed by restoration of translational momentum in RF linacs. Extensions to the apparatus required to achieve STEP IV, including the first absorber cell, of either liquid hydrogen or lithium hydride, sandwiched between two particle tracking spectrometers shall be described. Two very large superconducting spectrometer solenoids and one focus coil solenoid, manufactured in the US and UK, will provide a magnetic field of $\sim 4\text{T}$ respectively in the volume of the two trackers and the absorber cell. The development, testing and integration of these challenging components will be reported. Progress towards STEPs V & VI including tests of the RF cavities to demonstrate the required 8MV/m gradient in a strong magnetic field will be presented, including the RF drive system to deliver 2MW , 1ms pulses of 201MHz frequency at a PRF of 1Hz , the distribution network to deliver 1MW to each cavity with correct RF phasing, diagnostics to determine the gradient and transit phase of the muons and the development of the very large diameter magnets required for the linacs.