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The status of the construction of MICE Step IV

The International Muon Ionisation Cooling Experiment, decisive for the performance of a Neutrino Factory, in its next step IV will provide the first precise measurements of emittances and first evidence of cooling in 2015. The pair of MICE “emittometers” must be in place for this, upstream and downstream of the ionization cooling module. Each required the construction of a tracker (sci-fibers) measuring muon helices in solenoid coils that surround it. Solenoid coils confine muons to spiral in all components of an ionization cooling module. The first of these, that is now ready for Step IV, will be the first of three AFC (absorber-focus coil) modules: a Li-H vessel inside its own FC “focusing” coils. Li-H and other simpler, possibly competitive, liquid and solid absorber samples are also being prepared. The assembly process is in progress. Construction, performances, lessons learned will be described. Final step V and step VI demonstration requires two more AFC modules and two re-accelerating modules, RFCC’s made of RF cavities inside their own focusing CC (“coupling” coils). The choices made and challenges being faced in this longer term construction efforts simultaneously in progress will also briefly be pointed to.

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