Poster session 4 – Friday 8 July

P4.019 **The MICE demonstration of muon ionization cooling**

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on behalf of MICE collaboration

Muon beams of low emittance provide the basis for the intense, well characterised neutrino beams necessary to elucidate the physics of flavour at the Neutrino Factory and to providelepton-antilepton collisions up to several TeV at the Muon Collider. The international Muon Ionization Cooling Experiment (MICE) will demonstrate muon ionization cooling, the technique proposed to reduce the phase-s pace volume occupied by the muon beam at such facilities. In an ionizationcooling channel, the muon beam traverses a material (the absorber) loosing energy, which is replaced using RF cavities. The combined effect is to reduce the transverse emittance of the beam (transverse cooling). The configuration of MICE required to deliver the demonstration of ionization cooling is being prepared in parallel to the execution of a programme of measurement designed to characterise the cooling properties of liquid hydrogen and lithium hydride. The design of the cooling demonstration experiment will be presented together with a summary of the performance of each of its components and the cooling performance of the experiment. The status of the construction project will be summarized.

Submitted by the MICE speakers bureau that will identify later a member of the collaboration to present the contribution