

Complete Muon Cooling Channel Design and Simulations

Considerable progress has been made in developing promising subsystems for muon beam cooling channels to provide the extraordinary reduction of emittances required for an energy-frontier muon collider. However, it has not yet been demonstrated that the various proposed cooling subsystems can be consolidated into an integrated end-to-end design. Presented here are concepts to address the matching of emittances between subsystems through an extension of the theoretical framework of the Helical Cooling Channel (HCC), which allows a general analytical approach to guide the transition from one set of cooling channel parameters to another.

Primary author: Dr YOSHIKAWA, Cary (Muons, Inc.)

Presenter: Dr YOSHIKAWA, Cary (Muons, Inc.)