

# IPAC 2011 Search

Vittorio Carlo Palladino



[Logout](#) [Print](#) [Search](#) [My Schedule](#) [Home](#)

**ID: 4374 Proton Contamination Studies in the Muon Ionization Cooling Experiment****Presenter** Summer Blot (University of Chicago, Chicago, Illinois)**Authors** Summer Blot (University of Chicago, Chicago, Illinois)

**Abstract** The Muon Ionization Cooling Experiment (MICE) aims to demonstrate transverse beam emittance reduction for a muon beam. To create these muons, a titanium target is dipped into the ISIS proton accelerator at Rutherford Appleton Laboratory (UK) to create pions, which are transported and decay to muons in the MICE beamline. Beam particle identification and triggering is performed using time of flight (ToF) detectors. When running the MICE beamline with positive polarity, protons produced in the target contaminate the muon beam with a sufficiently high rate to saturate the TOF detectors. Polyethylene sheets of varying thicknesses were installed to absorb the proton impurities in the beam. Studies with pion beams at momenta of 140, 200, and 240 MeV/c were performed with different proton absorber thicknesses. The results of these studies show good agreement with theoretical range plots and will be presented.

**Funding Agency****Type of Presentation** Poster**Main Classification** 03 Linear Colliders, Lepton Accelerators and New Acceleration Techniques**Sub Classification** A09 Muon Accelerators and Neutrino Factories

## 1 abstract matched your query.

Please contact the [IPAC 2011 Database Administrator](#) with questions, problems, and/or suggestions.

SPMS Author: *Matthew Arena — Fermi National Accelerator Laboratory*

06-JUL-11 13:01 (UTC)

JACoW SPMS Version 8.8.6

[JACoW Legal and Privacy Statements](#)