Beams and Applications Seminar Series

This ANL seminar series focuses on the physics, technology and applications of particle and photon beams. It is sponsored jointly by the ASD Division, the AWA group of the HEP Division, and the ATLAS group of the PHY Division

Bldg. 401, room B2100
Friday, February 9th
1:30 PM

Paul Lebrun
Fermilab

Ionization Cooling of Muon Beams

Host: Eliane Lessner

Intense neutrino sources based on high energy muon beams are currently under study. The front-end of this new accelerator complex requires a cooling section, where the transverse emittance of the low momentum (200 MeV/c) muon beam gets reduced by a factor ~4. Due to the short lifetime of the muons, and the large incoming emittance, ionization cooling appears to be the only feasible option. A muon cooling channel is therefore based on the use of liquid hydrogen absorbers and short linacs embedded in solenoidal lattice.

Computer simulations play an essential role at the design stage. After a brief introduction of muon ionization cooling, two distinct designs will be presented and the essence of the computer codes used in the design process, along with the "learned lessons," will be discussed.

For more information visit

http://www.aps.anl.gov/asd/physics/seminar.html

Visitors from off-site please contact Debbie Briddick
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to arrange for a gate pass.