

Abstract for an Invited Paper
for the APR09 Meeting of
The American Physical Society

Accelerator Physics and Technologies for Muon Colliders

ALAN BROSS, Fermi National Accelerator Laboratory

An accelerator complex that can produce ultra-intense beams of muons presents many opportunities to explore new physics. These facilities are unique in that, in a relatively straightforward way, they can present a physics program that can be staged and thus move forward incrementally, addressing exciting new physics at each step. Ultimately an intense cooled low-energy muon source could be accelerated to very-high energy to do energy-frontier physics with a muon collider. This talk will give an introduction to the physics capabilities of a muon collider, outline the accelerator physics of the facility and will then explore some of the limiting technologies that must be developed in order to make this “concept” a reality.