Saturday 9 July, 11:20 – 11:45

Session 18: Innovation in the generation of neutrino beams

FNAL Proton Improvement Plan

V Shiltsev

Fermilab, USA

The flagship of Fermilab's long term research program is the Deep Underground Neutrino Experiment (DUNE), located Sanford Underground Research Facility (SURF) in Lead, South Dakota, which will study neutrino oscillations with a baseline of 1300 km. The neutrinos will be produced in the Long Baseline Neutrino Facility (LBNF), a proposed new beam line from Fermilab's Main Injector. The physics goals of the DUNE require a proton beam with a power of roughly 2.5 MW at 120 GeV, which is roughly five times the current maximum power. I will outline the main challenges toward multi-MW beam power operation of the Fermilab accelerator complex and the staged plan to achieve the required performance over the next 15 years.