Contribution ID: **38** Type: **Invited oral contribution**

Protons at CERN: synergy with neutrino physics requirements

Wednesday, October 12, 2005 4:05 PM (25 minutes)

I shall describe the benefits for neutrino physics of having at CERN a multimegawatt proton machine (SPL) and/or high intensity sources of radioactive ions (as envisioned in the Eurisol project).
The SPL machine would deliver very intense so-called neutrino superbeams of 300 MeV in energy which could be aimed at a megaton-class underground detector located in the Frejus tunnel, while radioactive ions (He6, Ne18 or others), after acceleration by PS and SPS, would be stored in a decay ring and produce so-called neutrino beta-beams aimed at the same detectors.
Superbeams and betabeams are complementary and would allow to determine the missing parameters of neutrino mixing with an unprecedented sensitivity.
The SPL is also a perfect proton driver for a future neutrino factory, which would produce high energy neutrino beams with even better performances.

Author: Dr BOUCHEZ, Jacques (CEA)

Presenter: Dr BOUCHEZ, Jacques (CEA)

Session Classification: Facilities at CERN: injectors, short and mid-term plans for n_TOF and ISOLDE

Track Classification: Facilities at CERN: injectors, short and mid-term plans for n_TOF and ISOLDE