Contribution ID: **552** Type: **Parallel session talk**

Final design of the ENUBET monitored neutrino beam and its implementation at CERN

Saturday 20 July 2024 16:45 (15 minutes)

The NP06/ENUBET experiment concluded its ERC funded R&D program demonstrating that the monitoring of charged leptons from meson decays in an instrumented decay tunnel can constrain the systematics on the resulting neutrino flux to 1%, opening the way for a cross section measurement with unprecedented precision. The two milestones of this phase, the end-to-end simulation of a site independent beamline optimized for the DUNE energy range and the testbeam characterization of a large scale prototype of the tunnel instrumentation, will be discussed.
We will also present studies for a site dependent implementation at CERN carried out in the framework of Physics Beyond Colliders. This work is based on a more efficient version of the beamline able to cover the HK energy region as well and will include radioprotection and civil engineering studies, with the goal of proposing a cross section experiment in the North Area with the two protoDUNEs as neutrino detectors, to be run after CERN LS3.

Alternate track

1. Detectors for Future Facilities, R&D, Novel Techniques

I read the instructions above

Yes

Primary authors: MEREGAGLIA, Anselmo (Centre National de la Recherche Scientifique (FR)); PUPILLI, Fabio (Universita e INFN, Padova (IT))

Presenter: MEREGAGLIA, Anselmo (Centre National de la Recherche Scientifique (FR))

Session Classification: Neutrino Physics

Track Classification: 02. Neutrino Physics