

The ENUBET neutrino beam

The ENUBET ERC-CoG project is funded (2016-2021) to prove the possibility to monitor lepton production in the decay tunnel of neutrino beams at single particle level thus providing a 1% measurement of the flux at source. In particular, the three body semileptonic decay of kaons monitored by large angle positron production offers a fully controlled ν_e source at the GeV scale for a new generation of short baseline experiments. The ENUBET Coll will present the first end-to-end simulation of the beamline and a complete review of the performances of this non-conventional technique. Special emphasis will be given to the new static focusing system that has been validated in 2018. This scheme is very promising in view of operating the system in time-tagged mode. We will also present the performance of the positron tagger prototypes tested at CERN in 2017-2018, an outline on tests planned for 2018 at CERN and the expected sensitivity of ENUBET for ν_e and ν_μ cross section measurements.

Authorship annotation

on behalf of the ENUBET Coll.

Session and Location

Wednesday Session, Poster Wall #84 (Auditorium Gallery Left)

Poster included in proceedings:

yes

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Track Classification: Poster (participating in poster prize competition)