



ENUBET

PS/SPS user meeting 9 May 2018

- Aim of the testbeam
- Installation
- Plans until May 23



Goals of the test

ENUBET (Neutrino Platform, NP03-Plafond): design a new generation of neutrino beams with superior control of the flux at source. Instrumentation of the decay tunnel to monitor positron production from three body decay of the kaon ($K^+ \rightarrow \pi^0 e^+ \nu_e$) \Rightarrow **calorimeter** for positron identification and energy measurement, **photon veto**

2017 Tests of shashlik calorimeter with embedded SiPM:

Pro: compactness, physics performance OK for 4.3 X0 sampling

Cons: radiation hardness of the SiPM is OK for the aim of ENUBET 10^{11} n/cm² but no large safety margins

Several prototypes for the calorimeter and the photon veto

2018 Tests of calorimeter with lateral readout (EJ-204+BCF92)

Pro: no constraints from SiPM irradiation

Cons: mechanics and installation more complicated

Performance for electron an mip? To be tested in May

[May 2018]

Final geometry for the photon veto

[May 2018]

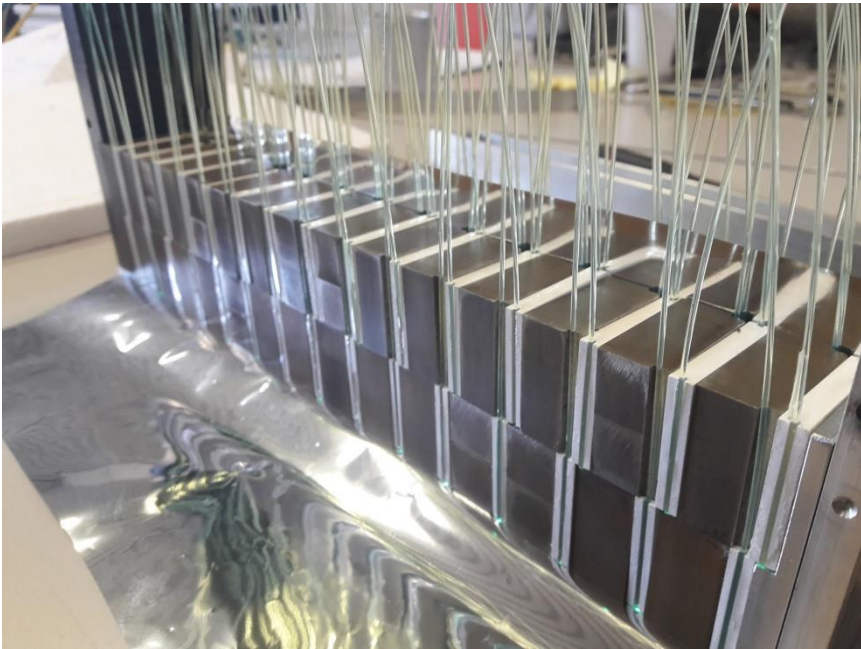
Installation

- Experimental area: Available on **May 9 at noon.**
- Calorimeter + photon veto: OK (installing readout board today)
- Two Cherenkovs: flushing CO2 to achieve high gas purity after the tests performed on Tuesday (Nikos and Yannis)
- DESY table: already on-site. To be moved in the experimental area and connected
- DAQ: to be installed

Safety clearance requested for Thursday at 15:00



Prototype under test



Plans and requests

1st week: full characterization of the prototype with lateral light readout.
Mip and electron response

we would like to use the electron enriched target

2nd week: test of photon veto using converted photons from π^0 decay (π^0 produced by charge exchange $\pi^- N \rightarrow \pi^0 X$). Ancillary measurements to complete the papers on on the 2017 tests: polysiloxane scintillator, light yield with muons of some Ultra-Compact Modules (UCM)

move back to hadron target after May 16