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Status of the NP06/ENUBET neutrino beam

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The ENUBET experiment is developing a new narrow-band neutrino beam in which the flux and the flavor composition are known at 1% level, and the energy with $\mathcal{O}(10\%)$ precision. Such a goal is accomplished monitoring the associated charged leptons produced in the decay region of the ENUBET facility: e^+ and μ^+ from kaons are measured by a segmented calorimeter instrumenting the walls of the decay tunnel, while muon stations after the hadron dump can monitor ν from pions.
We report an improved design of the proton target and of the meson transfer line, that ensures a large neutrino flux while preserving an high purity in the lepton monitoring. The final design of the ENUBET demonstrator for the instrumented decay tunnel, that is due by end 2021 to prove the scalability and performance of the detector technology, will be discussed. Progress on the full simulation of the ENUBET facility, towards the full assessment of neutrino flux systematics, will be also reported.

TIPP2020 abstract resubmission?

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