

Baby MIND: last results from T9 beam line at CERN.

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T2K (Tokai-to-Kamioka) is a long-baseline neutrino oscillation experiment in Japan. T2K have non-canceling systematic errors on neutrino cross-sections, because of different primary nuclear targets of Super-K (water) and T2K off-axis near detector, ND280 (scintillator, hydrocarbon). In order to reduce this uncertainty a new Water-Grid-And-SCintillator detector (WAGASCI) has been developed. A magnetized iron neutrino detector (Baby MIND) will be used to measure momentum and charge identification of the outgoing muons from charged current interactions. The Baby MIND modules are composed of magnetized iron plates and long plastic scintillator bars read out at the both ends with wavelength shifting fibers and silicon photomultipliers. The front-end electronics board has been developed to perform the readout and digitization of the signals from the scintillator bars.

75-tonne neutrino detector (Baby MIND) with a new magnetization scheme, was tested in the Proton Synchrotron (PS) beam. The obtained results are presented in this paper.

Primary author(s) : Mr. MEFODIEV, Aleksandr (INR RAS)

Co-author(s) : Prof. BLONDEL, Alain Paul Pascal (Universite de Geneve); NOAH MESSOMO, Etam Albert (Universite de Geneve); Prof. KUDENKO, Yury (INR RAS)

Presenter(s) : Mr. MEFODIEV, Aleksandr (INR RAS)

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