

Invitation

to the seminar of Division of Elementary Particle Physics of
the Institute of Physics of the Czech Academy of Sciences

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Physics of neutrino experiment DUNE

Abstract: The Deep Underground Neutrino Experiment (DUNE) is a next generation, neutrino oscillation experiment which will utilize high-intensity ν_μ and $\bar{\nu}_\mu$ beam produced at Fermilab and will carry out a detailed study of neutrino mixing. In addition to the measurement of CP-violation in neutrino sector and determination of neutrino mass ordering, the experiment's main goals also include the search for proton decay and detection of neutrinos from supernova bursts.

In this talk, I will introduce the experiment with its key features and its main physics objectives. I will briefly discuss the prototype detectors ProtoDUNE running at CERN. I will then focus on topics which I worked on during my past appointment at the University of Sheffield: a study of DUNE's sensitivity to a particular proton decay channel, $p \rightarrow K^+ + \nu$, and detector calibration using cosmogenic muons.

Seminar will take place on **Thursday, November 25, 2021 at 2PM** in the conference hall in the building of the Institute of Physics, Na Slovance 2, Prague 8 on the ground floor.

It will be also held via **ZOOM video conference** system, for more info, see <https://indico.fzu.cz/event/106/>