



**FZU**

Institute of Physics  
of the Czech  
Academy of Sciences

## Invitation

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



### Dr. Viktor Pěč

Institute of Physics of the  
Czech Academy of Sciences

## Neutrino physics at DUNE

**Abstract:** DUNE is a next-generation neutrino experiment currently under construction. It is aiming to resolve the question of violation of CP symmetry in the lepton sector through the measurement of how oscillation of neutrinos differs from that of anti-neutrinos. Its unique design will allow to: make precise measurements of neutrino oscillation parameters, look for neutrinos from core-collapse supernova, search for BSM nucleon decays, and more. Should an observable supernova neutrino burst happen, DUNE will want to exploit its detection potential to its maximum. To this end, an enhanced measurement of the energy spectrum of the neutrinos would provide constraints on the models of the collapse. My current project is the investigation of the possibility to employ two distinct calorimetry techniques to improve the measurement. In this presentation, I will give an introduction to the design and physics goals of the experiment. I will discuss how the combined calorimetry can be tested in DUNE's prototype detector at CERN, ProtoDUNE.

**When:** Thursday, May 16, 2024 at 2PM

**Where:** Main conference hall, Institute of Physics, Na Slovance 2, Prague 8

For more information, please see <https://indico.fzu.cz/event/247>