

Joint seminar of the NPI of the CAS

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How can we study neutrino physics without neutrinos?

The neutrino physics was gradually gaining its importance during the last decades and in last years it became one of the fastest growing fields of particle physics. There are various unanswered and fundamental questions which are crucial to be understood in order to fully enter the era beyond the Standard Model. We still do not know what is the mass of the neutrino, what is the nature of the neutrino (Dirac or Majorana) and we also do not know whether the sterile neutrinos exist. These are just some examples of the opened questions in neutrino physics. The mass of the neutrino, for example, can be studied by cosmological observations, very precise measurements of endpoint of beta decay of tritium or by study of Double Beta Decay.

The talk will be dedicated to the search for neutrino-less Double Beta Decay with SuperNEMO experiment. The SuperNEMO detector is unique in the field because it is using so-called tracko-calorimetry method capable of reconstruction of event topology and particle identification. Its first phase – the demonstrator – is in the late phase of commissioning. Young team from IEAP CTU in Prague played and still plays an important role in the detector construction, simulations and data analysis.

The seminar will take place on Thursday, December 1, 2022 at 10:00 a.m. in the NPI meeting room (conference room).