Snowmass Joint Workshop on New Physics Opportunities with Neutrino Experiments: Theoretical & Experimental Perspectives

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Opportunity to study physics beyond standard neutrino oscillations at the upcoming accelerator based neutrino oscillation experiments

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A major goal of the present and future long-baseline neutrino oscillation experiments is to make precision measurements of neutrino flavour oscillations, which are well-explained by mixing between three active flavors within current experimental constraints. However, other mechanisms could be responsible for neutrino flavour change on a sub-leading level. The combination of the high intensity proton beam facilities and high-resolution detectors will make beyond standard model (BSM) physics accessible in the accelerator based neutrino experiments. In this talk, I will discuss about the searches for different BSM physics topics (low mass dark matter, HNL) in the context of ongoing and future neutrino experiments like ICARUS@SBN and at DUNE.

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