Contribution ID: **13** Type: **Invited**

Prospects of CEvNS Detection with the XENON100 Detector

Sunday 10 November 2019 11:00 (20 minutes)

Two-phase xenon detectors are being actively developed over the last decade and made substantial improvement of search sensitivity for WIMP dark matter. These detectors, operated in time projection chamber (TPC) mode, strongly suppress the electronic recoil background, making it possible to detect CEvNS of neutrinos at the Spallation Neutron Source (SNS). In addition, two-phase xenon detectors operated in electron counting (EC) mode are sensitive to single-electron signals, making it possible to detect CEvNS from reactor neutrinos and Solar neutrinos. Drawing experience from the XENON10, XENON100 and recent XENON1T experiments, we will discuss the prospects of detecting coherent scattering of neutrinos from SNS, reactors and the Sun using an improved and movable XENON100 detector.

Author: NI, Kaixuan (University of California San Diego)

Presenter: NI, Kaixuan (University of California San Diego)

Session Classification: Noble-element detectors and dark matter