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STUDIES OF NEUTRINO PROPERTIES AND INTERACTIONS AT THE KUO-SHENG REACTOR NEUTRINO LABORATORY WITH SUB-KEV GERMANIUM DETECTORS

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Germanium detectors with sub-keV sensitivities [1] offer a unique opportunity to study neutrino interactions and properties [2] as well as to search for light WIMP Dark Matter and axion-like particles [3]. The TEXONO Collaboration has been pursuing this research program at the Kuo-Sheng Neutrino Laboratory (KSNL) in Taiwan. We will highlight our results on neutrino electromagnetic properties, search of sterile neutrinos, as well as studies towards observation of neutrino-nucleus coherent scattering. The detector R&D programs which allow us to experimentally probe this new energy window will be discussed. The efforts set the stage and complement the CDEX dark matter experiment and beyond at the new China Jinping Underground Laboratory (CJPL) in China.

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