



Contribution ID: 116

Type: **Contribution Talk**

Results of a prototype TES detector for the Ricochet experiment

Thursday, 1 December 2022 11:15 (20 minutes)

Coherent elastic neutrino-nucleus scattering ($CE\nu NS$) offers a valuable approach in searching for physics beyond the Standard Model. The Ricochet neutrino experiment aims to perform a precision measurement of the $CE\nu NS$ spectrum at the ILL nuclear reactor with cryogenic solid-state detectors. The experiment will employ an array of 36 detectors, each with a mass of around 30 g and a target energy threshold of 50 eV. Nine of these detectors, the Q-Array, will use Transition Edge Sensors (TESs) coupled to gram-scale targets to observe particle interactions. In this talk, I will present the initial performance of a Q-Array-style detector architecture consisting of a 1-gram Si target coupled to a single TES.

Primary author: CHAPLINSKY, Luke (Member@umass.edu)

Co-authors: CHANG, Clarence (Argonne National Laboratory); SCHMIDT, Benjamin (Northwestern University); BRATRUD, Grace (Northwestern University); CHEN, Ran (Northwestern University); FIGUEROA-FELICIANO, Enectali (Northwestern University); HERTEL, Scott (University of Massachusetts Amherst); HONG, Ziqing (University of Toronto); KENNARD, Kyle (Northwestern University); LIDABEL, Mateo (Northwestern University); LISOVENKO, Marharyta (Argonne National Laboratory); PINCKNEY, Doug (University of Massachusetts Amherst); VALENTINA, Novati (Northwestern University); VEIHMEYER, Charles (University of Massachusetts Amherst); WANG, Gensheng (Argonne National Laboratory); YEFREMENKO, Volodymyr (Argonne National Laboratory); ZHANG, Jianjie (Argonne National Laboratory)

Presenter: CHAPLINSKY, Luke (Member@umass.edu)

Session Classification: WG4: Quantum and Superconducting Detectors

Track Classification: WG4: Quantum and Superconducting Detectors