



Contribution ID: 172

Type: **Contribution Talk**

## LAr Doping R&D for Low Energy Sensitive LArTPCs

*Thursday, 1 December 2022 09:50 (20 minutes)*

The low energy program of next generation LArTPCs is currently expected to span a range of energies as low as 10s of MeV. LArTPC capabilities below 10 MeV could enable DUNE sensitivity to solar neutrinos and neutrino-less double-beta decay in addition to enhanced sensitivity to the supernova neutrino signals. We summarize the challenges of enhancing LArTPC sensitivities near 1 MeV and propose photosensitive dopants to address said challenges. We will also detail the studies we are undertaking in a 10-cm cubic LArTPC at Fermilab in pursuit of a systematic characterization of the MeV-scale capabilities of doped LArTPCs.

**Primary author:** PSIHAS, Fernanda (Fermi National Accelerator Laboratory)

**Presenter:** PSIHAS, Fernanda (Fermi National Accelerator Laboratory)

**Session Classification:** WG3: Noble Element Detectors

**Track Classification:** WG3: Noble Element Detectors