The 22nd international workshop on Next Generation Nucleon Decay and Neutrino Detectors (NNN23)



Contribution ID: 75

Type: Abstract for a Poster

LArPix and LightPix: Scalable electronics for very large detectors

Future neutrino experiments and rare event searches require exceptionally large detectors with high granularity. I will discuss LArPix, which provides an integrated detector system (amplification, triggering, digitization, and multiplexed readout) that has been designed to scale in excess of 10⁶ channels. Results from the production of 0.5 million LArPix channels and performance in a ton-scale liquid argon time-projection chamber will be presented. To achieve this we had to overcome issues in noise, waste heat, cryogenic-compatibility, reliability, and scalability. I will also discuss progress with LightPix, a variant designed to support scalable readout of large arrays of silicon photomultipliers in cryogenic environments.

Presenter: GREENBERG, Stephen (University of California, Berkeley and Lawrence Berkeley National Lab)

Session Classification: Poster Session and Aperitif