

# LArPix R&D: Demonstration of large-area 3D charge readout for LArTPCs

*Saturday, 1 December 2018 09:10 (15 minutes)*

We have recently demonstrated 3D charge readout of LArTPCs using a custom cryogenic ASIC and an industry-standard PCB collection plane. This system (LArPix) achieves unambiguous readout by instrumenting each pad of the charge collection plane with a uniquely identifiable channel of a LArPix ASIC. Each LArPix ASIC provides charge amplification, digitization, and digital multiplexing for up to 32 channels. An array of ASICs can then be deployed to instrument the full anode area. LArPix utilizes industry standard practices to allow for scale-up with low production costs. This enables the use of large-area LArTPCs in high-rate environments, such as the DUNE near detector. I will present on the initial results and current status of the LArPix R&D effort.

## Session

Works in Progress (15+5 min)

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**Session Classification:** Works in Progress