

## Topological signatures of $0\nu\beta\beta$ events on a stripped 2-dimensional readout at a high pressure Xenon TPC

The search for the neutrinoless double beta decay ( $0\nu\beta\beta$ ) is one of the most important quests nowadays in neutrino physics. Among the different techniques used, High Pressure Xenon (HPXe) gas Time Projection Chambers (TPC) stand out because they allow to image the topology of the  $0\nu\beta\beta$  event (one straggling track ending in two blobs), and use it to discriminate signal from background.

Reducing the number of channels required to register the events helps to miniaturize electronics and its impact on the background budget of the experiment. The microbulk detector readout conceived for PandaX-III uses stripped channels in x and y, reducing considerably the number of channels required in comparison to a pixelated readout. This necessary channel reduction leads to two projected track images, losing full 3-dimensional track reconstruction capability. In this work, we assess the impact of this readout and the benefits of increasing detector granularity on a HPXe TPC.

### Authorship annotation

for the PandaX-III collaboration

### Session and Location

Monday Session, Poster Wall #48 (Auditorium Gallery Right)

### Poster included in proceedings:

yes

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**Track Classification:** Poster (participating in poster prize competition)