

# XeSAT2023 - International Workshop on Applications of Noble Gas Xenon to Science and Technology



ID de Contribution: 10

Type: Non spécifié

## Development of a high pressure single-anode radial TPC for the search of $2\beta 0\nu$ decays

*jeudi 8 juin 2023 11:30 (25 minutes)*

The objective of R&D R2D2 is to develop a very simple TPC filled with pressurized xenon for the search of neutrinoless double beta decays ( $2\beta 0\nu$ ). We tested several chamber concepts - spherical (SPC) or cylindrical (CPC) geometries - with an argon-methane gas mixture at pressures up to 8 bars. We report the results obtained in ionization and proportional modes, especially in terms of signal shape and energy resolution. Furthermore, based on both an in-house simulation for the signal formation and our experimental observations, we have studied the possibilities of localization and discrimination of the interaction tracks within these detectors. Future developments will also be presented.

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