



Contribution ID: 272

Type: **Oral presentation (in person)**

New TPCs with charge spreading resistive Micromegas for T2K near detector

Tuesday 9 July 2024 11:40 (20 minutes)

Two new TPCs have been installed and commissioned at JPARC, as part of the upgraded T2K near detector long baseline neutrino experiment. It makes use of the 'Encapsulated Resistive Anode Micromegas' (ERAM) technology, developed in the last decade for the ILC TPC.

The characterization of the ERAM modules in X-ray tests, the modeling of the signal formation and of the charge spreading process, will be presented and confronted to direct surface resistivity measurements. The lessons learned for the construction and operation of an ILC TPC, and their limits, will be presented.

First event displays of the new TPCs in the JPARC neutrino beam, and performance in dE/dx and spatial resolution measured in beam tests will be shown.

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Session Classification: Vertex, Tracking, Timing detectors

Track Classification: Physics and Detector: Vertex, Tracking, Timing