Resistive Micromegas TPCs for the T2K experiment upgrade

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The T2K collaboration is preparing a rise of the beam intensity to increase the exposure aimed at establishing leptonic CP violation at 3 σ level for a significant fraction of the possible δ_{CP} values. The near detector ND280 upgrade could reduce the overall statistical and systematic uncertainties at the appropriate level of better than 4%.

We have developed an innovative concept comprising a totally active Super-Fine-Grained-Detector (Super-FGD), 2 High Angle Time Projection Chamber (HA-TPC) and 6 TOF planes.

The HA-TPC will be used for 3D track reconstruction, momentum measurement and particle identification and will be equipped with 32 resistive bulk Micromegas (34x42 cm²) covered by a 400 kOhm/square diamond like carbon foil to spread the charge over the pad plane, each pad being approximatively 1 cm².

The first resistive Micromegas modules have been tested in a test beam at CERN and at DESY. Results of these test beams will be shown in this talk.

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