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The ICARUS Experiment; latest results

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ICARUS-T600 is the first large-scale realization of the Liquid Argon Time Projection Chamber detection technology (LAr-TPC) for neutrino physics and nucleon decay searches. It is located in the LNGS underground laboratory where it has been running for three years (from May 2010 to June 2013) detecting both neutrinos from the CNGS beam and cosmics.
The LAr-TPC can be considered as a sort of “electronic bubble chamber”, combining an unprecedented accuracy over large fiducial volumes with uniform 3D imaging and calorimetry.
The successful and smooth operation of ICARUS-T600 represents a milestone towards the construction of a next generation of massive neutrino detectors, on the scale of tens of ktons.
ICARUS-T600 has been testing the possible existence of sterile neutrinos through the search for numu->nue oscillations in the CNGS beam: updated results from this search will be presented with enlarged statistics. The reconstruction performances of ICARUS-T600 will be discussed as well, focusing on recent results on muon momentum measurement through Multiple Coulomb Scattering.

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