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# Past, present and future of the ICARUS T600 detector

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The ICARUS-T600 is the biggest LAr-TPC detector ever realized. The ICARUS Collaboration concluded a very successful, long duration run with the T600 detector at the LNGS underground laboratory, taking data both with the CNGS neutrino beam and with cosmic rays. It performed a sensitive search for anomalous νe appearance as suggested by LSND signal and experimental neutrino anomalies at reactors and with the calibration sources in solar neutrino searches. The analysis of the νμCC events collected with the CNGS beam is progressing, in view of the comparison with the expected flux in absence of anomalies. The collected cosmic ray triggers are being analyzed too aiming at studying the atmospheric neutrino interactions. The detector is being overhauled at CERN and will be ready to be installed at Fermilab by the end of this year to investigate within the SBN project the presence of sterile neutrino, exploring in three years of data taking the νμ to νe appearance signal with 5 sigma sensitivity in the parameter region indicated by the LSND experiment and measuring the νμ disappearance with a sensitivity exceeding an order of magnitude the present experimental limits.

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