

Latest results and status of the XENON program

Summary

The XENON program aims for direct WIMP detection with a dual phase xenon time projection chambers (TPCs). The XENON100 detector is still taking data at Laboratori Nazionali del Gran Sasso (LNGS), since 2009, and it is now being used as a test-bench for new method of calibrations for the next generation, XENON1T, that will be the first experiment to use liquid xenon in a time projection chamber at the ton scale. It is designed to achieve two orders of magnitude higher sensitivity than its predecessor. The most recent results of the collaboration will be presented: from XENON100 calibration measurements to XENON1T status and its projected sensitivity, that has been recently evaluated to reach a minimum cross section of $1.6 \cdot 10^{-47} \text{ cm}^2$ at $m_\chi = 50 \text{ GeV}/c^2$ after 2 years exposure and 1 ton of fiducial volume.

Author: MICHENEAU, Kevin (Subatech Nantes)

Presenter: MICHENEAU, Kevin (Subatech Nantes)

Session Classification: BSM + DM