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【382】 Xurich II: A Dual-phase TPC for Scintillation and Ionization Yield Measurements in Liquid Xenon

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As part of R&D studies related to dark matter searches, we have designed, built and operating new, small-scale dual-phase xenon TPC at the University of Zurich. Detector performance is comparable to the state-of-the-art xenon-based detectors, and the experimental goal is to conduct signal yield measurements for low-energy neutron interactions.

In this contribution I will describe detector with associated equipment, introduce the data analysis and the pulse identification algorithm, and present results from the calibration runs and first measurements with a neutron generator. In particular, I will show systematic measurements of such fundamental parameters as electron drift velocity and nuclear/electronic recoil discrimination at various electric fields, comparing these to literature values.

Primary author: Dr KISH, Alexander (University of Zurich)

Presenter: Dr KISH, Alexander (University of Zurich)

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