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The PANCAKE Detector The PANCAKE Detector Development Platform for multi-ton LXe Detectors

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Liquid xenon (LXe) time projection chambers (TPCs) are the leading detector technology for searches for dark matter in form of WIMPs. The next generation LXe-based dark matter detector will be superseding current detectors in size and sensitivity, covering the entire accessible parameter space for WIMP masses above a few GeV/c². The technical realization of the central low-background TPC with a diameter of about 2.6m will be challenging due to the size of the detector, the low-temperature operation, and the required radiopurity levels. The PANCAKE detector development platform at the University of Freiburg will be used to develop and test flat TPC components with diameters up to 2.6m. We will present the platform, that can accommodate up to 400kg of LXe, and first results from the commissioning phase.

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