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[308] Xenoscope - a full-scale vertical demonstrator for the DARWIN observatory

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The DARWIN observatory is a proposed multi-purpose experiment for dark matter and neutrino physics, featuring a 50 tonne (40 tonnes active) dual-phase xenon time projection chamber. To test key technological concepts required for the realization of DARWIN, we built Xenoscope at the University of Zurich, a full-scale vertical demonstrator using 350 kg of liquid xenon (LXe). It will be used as a first-time demonstration of electron drift in LXe over 2.6 m, as well as to study electron cloud diffusion and measure LXe optical properties. We present an overview of the Xenoscope facility, its commissioning, as well as current and future measurements.

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