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92 - PICO-40l Installation and Commissioning

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The PICO experiment is a dark matter direct-detection experiment at SNOLAB, which has set world-leading limits on the spin-dependent couplings of WIMPs to nucleii in the mass range of approximately 10-100 GeV. There have been several iterations of the PICO detector; each is a bubble chamber with a super-heated fluid as the active material. The current version of the PICO detector is PICO-40l, which has been substantially redesigned since the previous version, PICO-60. The installation of PICO-40l underground will be completed in early 2019, with commissioning and calibration data-taking occurring in the spring and summer.

The primary purpose of PICO-40l is to demonstrate the feasibility of the new design, which will be implemented at ton scale by the next detector, PICO-500. The commissioning results will be presented, along with any implications for the design of PICO-500. The schedule for data-taking will be presented as well, and the expected dark matter limits to be obtained from this run.

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