



Contribution ID: 664

Type: **Parallel talk**

## Searching for Dark Matter with PICO-40L

*Thursday 11 July 2019 18:15 (15 minutes)*

PICO is an experiment using bubble chambers with superheated  $\text{C}_3\text{F}_8$  to detect nuclear recoils caused by WIMP dark matter. Due to their inherent electron recoil rejection and ability to probe spin-dependent interactions using fluorocarbon targets, bubble chambers have an established niche in the field of dark matter direct detection. PICO-60 set world-leading limits on the WIMP-proton interaction cross section, though was background limited and saw excess events at the interface between the water buffer and active fluid. PICO-40L is the next phase of the experiment employing a new “right-side-up” design to eliminate the buffer and thereby remove these backgrounds, in addition to providing a proof-of-concept for the future PICO-500 detector. PICO-40L is being installed in the spring of 2019 and is expected to be collecting data during the summer. This talk will provide an overview of the experiment and discuss the current status of PICO-40L.

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