

The PICO-40L Detector Design

The PICO collaboration employs bubble chambers to search for direct interactions with dark matter particles. The operating parameters of these detectors can be tuned so that they are almost completely insensitive to gamma rays and other near-minimum-ionizing radiation that is the main background for most dark matter detectors. PICO 40, the next generation detector, will incorporate several design improvements that will reduce backgrounds from neutrons and particulate contamination. I will present an overview of the detector's operating principles and design with focus on the most recent improvements.

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Session Classification: Poster Session

Track Classification: Dark Matter