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PICO: Current Status and Future Plans ORIN HARRIS, Northeastern Illinois University, PICO COLLABORATION — The PICO collaboration uses bubble chambers to search for WIMP dark matter. The bubble chambers are operated at a lower degree of superheat as compared to those of the 1960's, providing much longer live fractions, and excellent rejection of the dominant gamma background. Located at the SNOLAB deep underground laboratory, they are filled with fluorinated target fluids ideally suited for investigating spin-dependent WIMP-proton interactions. Previous bubble chambers, PICO-2L and PICO-60, provide the strongest constraints on spin-dependent WIMP-proton coupling. A new chamber design, PICO-40L, was installed at SNOLAB in 2019, and the ton-scale PICO-500 is currently being designed. This program is projected to improve WIMP-proton scattering sensitivity by an additional two orders of magnitude. I will report on the current status and future plans of these experiments.

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