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Update on the MiniCLEAN Dark Matter Experiment

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The direct search for dark matter is entering a period of increased sensitivity to the hypothetical Weakly Interacting Massive Particle (WIMP). One such technology that is being examined is a scintillation only noble liquid experiment, MiniCLEAN. MiniCLEAN utilizes over 500 kg of liquid cryogen to detect nuclear recoils from WIMP dark matter and serves as a demonstration for a future detector of order 50 to 100 tonnes. The liquid cryogen is interchangeable between argon and neon to study the A^2 dependence of the potential signal and examine backgrounds. MiniCLEAN utilizes a unique modular design with spherical geometry to maximize the light yield using cold photomultiplier tubes in a single-phase detector. Pulse shape discrimination techniques are used to separate nuclear recoil signals from electron recoil backgrounds. MiniCLEAN will be spiked with additional ^{39}Ar to demonstrate the effective reach of the pulse shape discrimination capability. Assembly of the experiment is underway at SNOLAB and an update on the project will be given.

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