

Abstract Submitted
for the APR10 Meeting of
The American Physical Society

MiniCLEAN- A Dark Matter Experiment: Overview and Status KIMBERLY PALLADINO, MIT, MINICLEAN COLLABORATION — MiniCLEAN is a direct dark matter detection experiment currently under construction at SNOLab. It will utilize 500 kg of liquid cryogen with a fiducial volume over 150 kg. Detection requires seeing a low energy nuclear recoil event in the single-phase target material. This is interchangeable between argon and neon, as they provide different responses to signal and background. MiniCLEAN's spherical geometry and modular design maximize light yield with cold photomultiplier tubes. Pulse shape discrimination will be used to separate electron recoil backgrounds from nuclear recoil signals, while efforts against radon contamination and shielding mitigate the troublesome neutron scattering events which mimic a dark matter signal. The design, projected sensitivity, assembly status and schedule will be presented.

Kimberly Palladino
MIT

Date submitted: 23 Oct 2009

Electronic form version 1.4