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Dark Matter Detection with the DEAP/CLEAN Detectors

The MiniCLEAN and DEAP-3600 dark matter detectors use pulse-shape discrimination of scintillation light in liquid Argon (or Neon) to differentiate between electron-recoil background events and nuclear-recoil events from potential WIMP interactions. The simple design allows for scaling up to larger detectors without loss of discrimination power or detection efficiency. Both detectors are currently in construction, with expected sensitivities one to two orders of magnitude beyond the world's best current limits. The status of the MiniCLEAN and DEAP-3600 experiments will be discussed as well as plans for a larger detector.

Primary author: Dr KOS, Marek (Syracuse University/DEAP,CLEAN)

Presenter: Dr KOS, Marek (Syracuse University/DEAP,CLEAN)

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