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The DEAP-3600 Dark Matter Direct Detection Experiment

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DEAP-3600 is a single phase liquid argon (LAr) dark matter experiment, located 2 km underground at SNOLAB, in Sudbury, Ontario. The detector has 1 tonne fiducial mass of LAr. The target sensitivity to spin-independent scattering of 100 GeV WIMPs is 1×10^{-46} cm^2. The DEAP-3600 background target is <1 background events in the WIMP region of interest in 3 tonne-years exposure. The strategies to achieve this background are pulse shape discrimination to mitigate electron recoils, ultra-low radioactivity materials for detector construction to reduce neutron and alpha backgrounds, and in-situ sanding of the acrylic vessel to mitigate radon exposure of surfaces during construction and fabrication. Detector commissioning is underway and the WIMP search begins in 2016. This talk reports on recent progress from the DEAP-3600 experiment.

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