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Recent progress with the DEAP-3600 Dark Matter experiment

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DEAP-3600 is a single phase liquid argon (LAr) dark matter experiment. It is located 2 km underground at SNOLAB, in Sudbury, Ontario. The detector has 1 tonne fiducial mass target of LAr. Construction of DEAP-3600 is nearly complete and commissioning will start in January 2015. The target sensitivity to spin-independent scattering of 100 GeV WIMPs is 10−46 cm2 which improves the current limits by one order of magnitude. The DEAP- 3600 background target is 0.6 background events in the WIMP region of interest in 3 tonne-years from all sources. This is achieved by selecting ultra low radioactive materials, sanding DEAP-3600 acrylic vessel and developing external calibration sources and deployment systems. The β/γ backgrounds are mitigated by LAr excellent pulse shape discrimination. This talk will present an overview and status of the experiment.

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