FAKULTÄT für PHYSIK
LUDWIG-MAXIMILIANS-UNIVERSITÄT
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PHYSIK-DEPARTMENT
TECHNISCHE UNIVERSITÄT MÜNCHEN
MÜNCHEN/GARCHING

MLL-KOLLOQUIUM

Donnerstag, 18.06.2015, 16^{15} Uhr

Seminarraum 127, TUM, Physik II, Erdgeschoss/Nord
Treffen zum gemeinsamen Kaffee 16 Uhr

Dr. Tina Pollmann

(Laurentian University, Sudbury, Ontario/Canada)

Construction of the DEAP-3600 Dark Matter detector and first commissioning results

The DEAP-3600 experiment, located 2 km underground at SNOLAB in Sudbury, Canada, uses a 3.6 ton (1 ton fiducial) single-phase liquid argon target to search for Dark Matter particles in the form of WIMPs. The projected sensitivity to the spin-independent WIMP-nucleon scattering cross-section is 10^{-46} cm^2, about one order of magnitude improvement over current searches at 100 GeV WIMP mass. Beside locating the detector deep underground, this high sensitivity is achieved through careful detector design, material selection, and pulse shape discrimination.
We present the overall design and construction highlights of the DEAP-3600 detector and first commissioning results.

gez. Peter Thirolf
Tel. 289-14064

gez. Norbert Kaiser
Tel. 289-12367