

The RWTH Aachen PHYSICS COLLOQUIUM

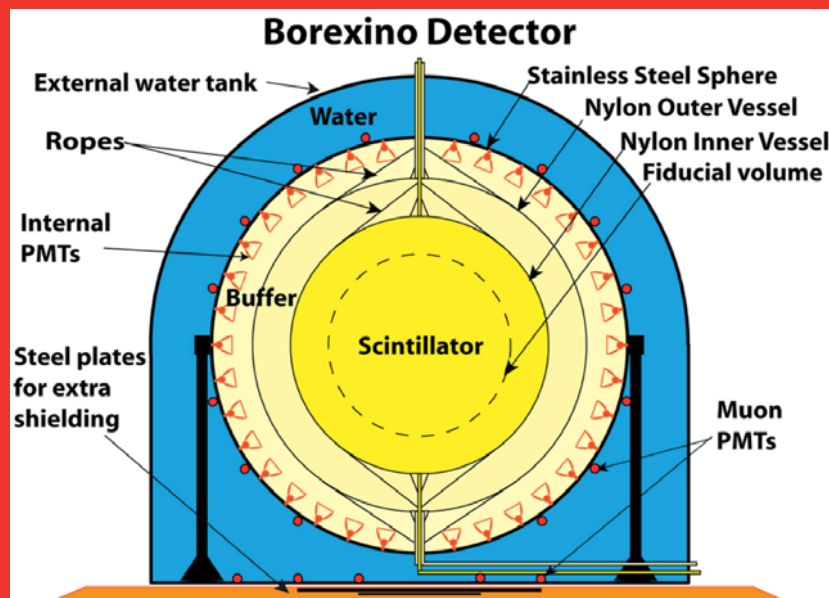
at the Physikzentrum Melaten

January 12, 2015

16:30h in 28D001

Franz von Feilitzsch (TU Munich)

Results of the Borexino experiment and perspectives of low energy neutrino astronomy



The "Borexino" experiment is a 300 m³ liquid scintillator detector located in the Gran Sasso laboratory of the INFN, 1000 m underground and 150 km from Rome in the Apennine mountains. The primary aim of the experiment is the measurement of the solar neutrino spectrum down to low energies, in particular the measurement of the mono-energetic neutrinos from Be7 e-capture in the center of the sun. Recently, it succeeded in addition to measure neutrinos from the dominant solar pp-fusion at very low energies, which completes the measurement of the full solar neutrino spectrum.

The impact of these results for neutrino oscillation parameters, solar physics and further scientific goals like the measurement of neutrinos emitted from the interior of the earth and the search for sterile neutrinos are discussed together with possible future developments of low energy neutrino astronomy.

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