

DESY Seminar

Tuesday, 10.06.2008, 17h

DESY Hörsaal

LUNA and the neutrinos from the sun

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Nuclear reactions that generate energy and synthesize elements take place inside the stars in a relatively narrow energy window: the Gamow peak. The extremely low value of the cross-section inside the Gamow peak has always prevented its measurement in a laboratory at the Earth's surface, where the signal to background ratio is too small because of cosmic ray interactions. In order to explore this new domain of nuclear astrophysics LUNA (Laboratory for Underground Nuclear Astrophysics) started in 1991 its activity by installing a 50 kV electrostatic accelerator underground at the Gran Sasso Laboratory in central Italy, followed in the year 2000 by a 400 kV one. LUNA still remains the only underground accelerator facility existing in the world. In the seminar I will describe the main contributions given by LUNA to the study of the pp-chain and the CNO cycle in the Sun, in particular to the precise determination of the solar neutrino spectrum.

- **Tea and cookies will be served at 16.45h in the lobby**
- **After the seminar there is a chance for private discussions with the speaker over wine and pretzels**