



DESY Seminar

24 October 2006, 17:00, DESY Hörsaal

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Supernovae: from Cosmology to Neutrino Astrophysics

The discovery of Dark Energy with Type Ia Supernovae has been followed by considerable observational activity to further constrain its properties. After a brief introduction to the field of observational Cosmology I will show results of two large Supernovae campaigns currently taking data: The Supernova Legacy Survey on the CFHT telescope, which produces the worlds largest set of supernovae in the redshift range $0.2 < z < 0.9$, and a campaign to observe Supernovae in massive, high redshift ($1 < z < 1.5$) Galaxy Clusters using the Hubble Space Telescope. I will discuss implications on the equation of state of Dark Energy, as obtained from the analysis of a combination of the currently available data. In the last part of the talk I will discuss the proposed project SNET (SuperNova Early Trigger), which aims at optically detecting supernovae in very nearby galaxies within a day after explosion. This will allow to considerably reduce the background in the search for high energy (TeV) and low energy (MeV) neutrinos in detectors such as IceCube, SuperKamiokande and its proposed Mton successors.

- Tea and cookies will be served at 16:45 in the lobby.
- After the seminar there is a chance for private discussions with the speaker over wine and pretzels also in the lobby.