LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN

ARNOLD SOMMERFELD CENTER FOR THEORETICAL PHYSICS

Sommerfeld Theory Colloquium

Prof. Katherine Freese

Michigan University

Dark Matter in the Universe

The question "What is the Universe made of?" is the longest outstanding problem in all of modern physics. Ordinary atoms only constitute 5% of the total, while the rest is made of unknown dark matter and dark energy. A variety of dark matter candidates exist, including new fundamental particles, the Weakly Interacting Massive Particles (WIMPs). Over the past 25 years, there has been a three pronged approach to WIMP detection: creating them at particle accelerators; searches for detection of astrophysical WIMPs scattering off of nuclei in underground detectors; and" indirect detection" of WIMP annihilation products (neutrinos, positrons, or photons). Over the past few years the situation has become very exciting as many different experiments are independently seeing unexplained results; yet the various experiments do not seem to agree. The hunt for dark matter has become very exciting and yet very puzzling. This talk will describe the current anomalies that may herald WIMP discovery.

Wednesday, 27 February 2013, 16:15h, Room A348/349, Theresienstr. 37/III

Prof. H. Fritzsch