Department of Theoretical Physics

Free Meson Seminar

Speaker	:	Mark Vagins (Univ. of Tokyo and Univ. of California, Irvine)
Topic	:	GADZOOKS! Supernova Neutrinos Without The Annoying Wait
Day, Date & Time	:	Thursday, February 25, 2010 at 2:30 p.m.
Place	:	AG 69

Abstract

Water Cherenkov detectors have been used for many years to study neutrino interactions and search for nucleon decays. Super-Kamiokande, at 50 kilotons the largest such underground detector in the world, has enjoyed over ten years of interesting and important physics results. Looking to the future, for the last six years R&D on a potential upgrade to the detector has been underway. Enriching Super-K with 100,000 kilograms of a water-soluble gadolinium compound - thereby enabling it to detect thermal neutrons and dramatically improving its performance as a detector for supernova neutrinos, reactor neutrinos, atmospheric neutrinos, and also as a target for the new T2K long-baseline neutrino experiment - will be discussed.

(Nilmani Mathur)