THEORETICAL PHYSICS SEMINAR

Title: Physics with ultra high energy neutrinos

Speaker: Dr. Sushant Raut, Royal Inst. Tech., Stockholm

Date/Time/Venue: 28th December (Monday)/2:30 PM/ Room No. 469

Abstract

The IceCube experiment at the South Pole has been constructed to observe ultra high energy neutrinos. These neutrinos, which arrive from extra-galactic sources, have energies in the TeV-PeV range and beyond. A study of these neutrinos complements the neutrino data collected by solar, atmospheric, reactor and accelerator-based neutrino beams. This talk discusses the analysis of IceCube data in the context of CP violation and neutrino decay. For specific source flavour ratios of astrophysical neutrinos, we present our fit to the CP-violating phase. Further, our analysis places constraints on the flavour ratio of astrophysical neutrinos. We also discuss the bounds that can be placed on neutrino decay lifetime.

All are welcome to attend