

# **Theoretical Physics Seminar**

## **Novel phenomenological features neutrinophilic two Higgs doublet model**

**Speaker:** Dr. Soumya Sadhukhan

**From:** Physical research laboratory, Ahmedabad.

**When:** September 28<sup>th</sup>, 2017 Thursday 4:00 pm

**Place:** Room No. 469

Decay of active neutrinos is one of the possibilities that can explain the depletion of the neutrino flux detected in the IceCube experiment at an energy around the PeV scale. Here we explore the decay of neutrinos and subsequent decrease in neutrino count in the framework of a neutrinophilic two Higgs doublet model (2HDM). It is also discussed how the non standard interaction (NSI) of neutrinos can arise in a modified neutrinophilic 2HDM scenario. There are also comments on various theoretical and experimental constraints that can affect the explanation of these phenomenological features.

**All are welcome**