Area Seminar

Title	Looking for Minimal Linear Seesaw Model at the Large Hadron Collider
Date and Time	22/08/2014 16:00:00
Speaker	Gulab Bhambaniy PRL
Area	Theoretical Physics
Venue	Room No. 469
Abstract	In this talk I will discuss the Minimal Linear Seesaw Model(MLSM) in which two fermion singlets with opposite lepton numbers are added to the Standard Model (SM). The smallness of neutrino mass is explained through the small lepton number violating (LNV) Yukawa coupling. This allows to have both, TeV scale new physics as well as sizable light-heavy mixing, which are needed to have significant phenomenology of the model at LHC. The model is fully reconstructable in terms of neutrino oscillation parameters apart from the overall coupling. This coupling can be constrained from vacuum meta-stability and lepton flavor violating (LFV) process. The phenomenology of heavy neutrinos in this model at 14 TeV LHC will be discussed. The heavy neutrinos can be produced at LHC via S-channel and vector boson fusion (VBF) type of diagrams. The decay of heavy neutrinos lead to trilepton with missing transverse energy signal and VBF type signal which is characterized by two extra forward tagged jets. The significance of the signals will be discussed.