

THEORETICAL PHYSICS SEMINAR

Title: 331 Models and Grand Unification: A Step From Minimal SU(5) to Minimal SU(6)

Speaker: Mr. Chandan Hati, THEPH PRL

Date/Time/Venue: 1st Thursday (Thursday)/4:00 PM/ Room No. 469

Tea will be served at 3:30pm outside Room 469

ABSTRACT

We will discuss the possibility of grand unification of the 331 model. Two possibilities will arise. In SU(6) one can embed the 331 model as a subgroup such that different multiplets appear with different multiplicities. Such a scenario may emerge from the flux breaking of the unified group in an E(6) F-theory GUT. This provides new ways of achieving gauge coupling unification in 331 models while providing the radiative origin of neutrino masses. Alternatively, a sequential variant of the 331 model can fit within a minimal SU(6) grand unification, which in turn can be a natural E(6) subgroup. This minimal SU(6) embedding does not require any bulk exotics to account for the chiral families while allowing for a TeV scale 331 model with seesaw-type neutrino masses.

All are welcome to attend