Area Seminar

Title	Aspects of type IIB large volume D3/D7 mu-Split SUSY
Date and Time	29/11/2013 14:30:00
Speaker	Dr Mansi Dhuria Department of Physics, IIT Roorkee
Area	Theoretical Physics
Venue	Room No.469

Abstract

A phenomenological model is presented which can be obtained as a local Swiss-Cheese Calabi-Yau string-theoretic compactification with a mobile D3 and fluxed stacks of wrapped D7-branes, and provides a natural realization of mu-Split SUSY with a high SUSY-breaking scale wherein the squarks, sleptons, gauginos,Higgsino and one Higgs are very heavy and with fine tuning, one is able to obtain a 125-GeV light Higgs. We discuss the role of the (a) heavy squarks and sleptons in (ai) obtaining long-lived gluinos (a natural consequence of split SUSY), (aii) in verifying that the NLSP decays into the gravitino LSP respects the BBN constraints with the lifetime of the LSP(gravitino) coming out to be of the order or larger than the age of the universe, and (b) the light Higgs in obtaining (bi) a gravitino relic abundance of around 0.1, and (bii) electronic EDM close to the experimental upperbounds.