

Sudhir Kumar Gupta

Research Summary:

Throughout the year, I was mainly focusing on a supersymmetric scenario in which right handed sneutrinos are the lightest supersymmetric particles as opposed to the conventional supersymmetric models. We (**Biswarup Mukhopadhyaya, Santosh K Rai and me**) studied collider signatures of such a scenario in the framework of minimal Supergravity in the context of Large Hadron Collider (LHC).

Recently, we (**Asesh Datta, Paramita Dey, Biswarup Mukhopadhyaya, Andreas Nyffeler and me**) initiated studies related with the distinction of Little Higgs models with supersymmetry at the LHC.

Publications:

1. Sudhir K Gupta, Biswarup Mukhopadhyaya and Santosh K Rai, *Distinguishing split supersymmetry in Higgs signals at the large hadron collider*, Physical Review D **73**, 075006, (2006)
2. Sudhir K Gupta, Biswarup Mukhopadhyaya and Santosh K Rai, *Right-chiral sneutrinos and long-lived staus: Event characteristics at the large hadron collider*, Physical Review D **75**, 075007, (2007)

Conference/Workshops/Schools Attended:

1. *Expecting LHC*, ICTP, Trieste, Italy, September, 2006
2. *Asian school on particles, strings and Cosmology*, Nasu, Japan, September, 2006.
3. *Topical meeting on LHC*, HRI, Allahabad, India, February, 2007.

Invited Lectures/Seminars:

1. *Long Lived staus at the Large Hadron Collider [LHC]*, HRI, Allahabad, March, 2007.