

DIS2011

Electroweak Physics and Beyond the Standard Model Parallel Session II, Tuesday 12th of April 2011, 11:15-13:03

Title: Precocious Diphoton Signals of the Little Radion at Hadron Colliders

Thomas McElmurry (BNL)

In Little Randall-Sundrum models, the bulk couplings of the radion to massless gauge fields can yield a greatly enhanced diphoton signal at hadron colliders. We examine the implications of the Tevatron data for the little radion and also show that the 7 TeV run at the Large Hadron Collider will have an impressive reach in this channel. The diphoton signal is crucial in the search for a light radion, or the dual dilaton, and can potentially probe the ultraviolet scale of the theory.

Title: Searches for SUSY with ATLAS

Shikma Bressler (Israel Institute of Technology, Technion)

This talk presents the first searches for signals of Supersymmetry in the data collected in 2010 by the ATLAS experiment in LHC collisions at a centre-of-mass energy of 7 TeV. The searches are performed in various channels containing different types of leptons and jets. The sensitivity of these results to squark and gluinos greatly surpasses that of previous collider experiments. Similarly searches for long lived and stable particles, taking full advantage of the excellent performance of the detector, will also be reported.

Title: Search for new physics with high pT leptons

Federico De Guio (INFN Milano-Bicocca)

We discuss the results of searches for new physics phenomena with high pT leptons in the final state, using pp collisions at 7 TeV delivered by LHC and collected with the CMS detector in 2010. Several of these early searches allow setting the most stringent limits on potential new physics phenomena such as new gauge bosons or leptoquarks. The analyses will be discussed, methods to determine background from data and the determined limits are presented. The results demonstrate good understanding of the detector and backgrounds in a variety of channels.

Title: Study of ditau production at ZEUS (this talk is to be scheduled on Tuesday only)

Elisabetta Gallo

A study of events containing two tau leptons with high transverse momentum has been performed with the ZEUS detector at HERA, using a data sample corresponding to an integrated luminosity of 0.33 /fb. The tau candidates were identified from their decays into electrons, muons or hadronic jets. The number of tau-pair candidates has been compared with the prediction from the Standard Model, where the largest contribution is expected from Bethe-Heitler processes. The total visible cross section was extracted. Standard Model expectations agree well with the measured distributions, also at high invariant mass of the tau pair.

Title: Searches for New Physics with D0 at the Tevatron

James Kraus

The D0 experiment at the Fermilab Tevatron Collider has now collected over 8 /fb of data, leading to excellent sensitivity to physics beyond the standard model. In this talk, recent results from searches for a variety of possible manifestations of new physics will be presented.