Contribution ID: **189** Type: **not specified**

Vector Boson Productions of SUSY Sleptons, Chargino and Neutralinos

Vector Boson Fusion (VBF) processes allow us to study the non-colored sectors of supersymmetric extensions of the Standard Model at a hadron collider. I will present a feasibility study for searching for the chargino/neutralino system and sleptons in the $R-$parity conserving Minimal Supersymmetric Standard Model. The high
ET forward jets in opposite hemispheres are utilized to trigger VBF events which reduce the Standard Model backgrounds. I will develop cuts to extract signals from various production processes, e.g., lightest neutralino pair (for wino, bino and Higgsino types), chairgino pair, smuon and stau pairs. Since most of these particle appear in the dark matter content calculation, we will be able understand the dark matter connection of the SUSY models. I will also discuss the possibilities of identifying different dark matter scenarios at 8 TeV and 14 TeV LHC.
This talk is based on arXiv:1210.0964 (to appear in Phys. Rev. D) and two more upcoming publications.

Author: DUTTA, Bhaskar (Texas A&M University)

Presenter: DUTTA, Bhaskar (Texas A&M University)