

## Searching for SUSY Particles at the LHC Using VBF Topology

**Kechen Wang\***

**Center for Future High Energy Physics, Institute of High Energy Physics,  
Chinese Academy of Sciences, Beijing, China**

**\*kechen@ihep.ac.cn**

Vector Boson Fusion (VBF) processes has been used for Higgs search at the LHC. In my talk, I will present the simulation results we got by applying VBF topology selection in SUSY particle searches. The VBF topology has 2 VBF-tagging jets with typical characteristics, which can be used to reduce the standard model background. Such topology is also independent on the mass split between the SUSY particle and lightest neutralino and can broadly enhance the missing energy distribution. These make study using the VBF topology selection feasible in the compressed scenarios where the performance of the traditional search strategies becomes poor. Within my talk, I will firstly give a short introduction about the current SUSY particle search status at the LHC. Then I will show our application of VBF searches in top squark [1], SUSY dark matter [2,3] and slepton [4] searches. The expected experiment reach of each SUSY particle at 14 TeV will be shown. Our strategy works for a future higher energy hadron collider.

References:

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