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SUSY searches at ATLAS in di-jet and multi-jet channels using alternatives to missing transverse energy R. PRAVAHAN, K. DE, Univ. of Texas at Arlington, ATLAS COLLABORATION — We investigate the possibilities of discovering Supersymmetry (SUSY) in the di-jet and multi-jet channels using the ATLAS detector at the LHC with $\sqrt{s} = 10$ TeV. This analysis investigates alternatives to reconstructed missing transverse energy (E_T^{Miss}) as the signature for LSP production in SUSY events, since (E_T^{Miss}) may be difficult to measure accurately during early data taking. Such alternative techniques of constructing kinematic variables can be used to search for new physics channels that produce jets and weakly interacting stable particles. We explore a number of kinematic variables to study the discovery significance for various SUSY models with $200pb^{-1}$ of integrated luminosity. In this talk I will present the work we have done towards the goal to study and understand if any one or combination of these variables can be used in place of, or in conjunction with E_T^{Miss} , to yield better discovery significance.

Jaehoon Yu
Univ. of Texas at Arlington

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