Abstract Submitted
for the MAS16 Meeting of
The American Physical Society

Supersymmetry and Yukawa Unification ADITYA HEBBAR, QAISAR SHAFI, University of Delaware, GEORGE LEONTARIS, University of Ioannina — Supersymmetry is arguably the most compelling extension of the remarkably successful Standard Model of strong, weak and electromagnetic interactions. One of the salient features of supersymmetry is the prediction of gauge unification i.e unification of the above 3 forces at a high energy scale ($\sim 10^{15}$ GeV). This unification also compels us to posit the existence of grand unification theories (GUTs) at these higher energies, which at low energies break down to the Standard Model due to spontaneous symmetry breaking. In this presentation, we show some predictions of supersymmetric GUTs that exhibit Yukawa unification (unification of masses of fermions) in addition to gauge unification, that can be tested at the Large Hadron Collider (LHC) and the proposed 100 TeV collider.

Aditya Hebbar
University of Delaware

Date submitted: 13 Sep 2016 Electronic form version 1.4