Nuclear Physics Seminar
January 18, 2016

Speaker: Huanzhao Liu, Southern Methodist University

Title: “A precise measurement of the top quark mass in the dilepton final states using 9.7fb-1 of DO Run II data”

Abstract: We measure the top quark mass in dilepton final states of ttbar events in ppbar collisions at √s = 1.96 TeV, using data corresponding to an integrated luminosity of 9.7 fb−1 at the Fermilab Tevatron Collider. The analysis features a comprehensive optimization of the neutrino weighting method to minimize the statistical uncertainties. We also improve the calibration of jet energies using the calibration determined in ttbar -> lepton+jets events, which reduces the otherwise limiting systematic uncertainty from the jet energy scale. The measured top quark mass is mt = 173.32 ± 1.36(stat) ± 0.85(syst) GeV.