

High Energy Physics Seminar

Date: June 27, 2016 (Monday)

Time: 2:30 pm

Venue: AG-66

Speaker: Ramkrishna Dewanjee
(TIFR)

Title: Search for ttH production in multi-lepton final states at $\sqrt{s} = 13$ TeV

Abstract:

The LHC Run I data has been exploited to measure nearly all the accessible properties of the newly discovered Higgs boson. In general, agreement with the SM predictions given the current uncertainties (10–30 %) have been found. The coupling of the Higgs boson to top quarks is particularly relevant. Given its large mass, the top quark could play a special role in the breaking of the electroweak symmetry. The top-Higgs interaction vertex is only directly accessible when the Higgs boson is produced in association with one or more top quarks. A search for the standard model Higgs boson produced in association with a top quark pair is presented. Data collected by the CMS experiment in pp collisions at a center of mass energy of $\sqrt{s} = 13$ TeV and corresponding to an integrated luminosity of 2.3 fb⁻¹ is used. The analysis targets the WW*, ZZ* and $\tau\tau$ decay channels of the Higgs boson by selecting final states with two same-sign leptons or more than three leptons, produced in association with b jets. No evidence of signal is found and exclusion limits have been placed on the cross-section times branching ratio for the processes.

Seminar Coordinator: