



LHC Seminar

SPEAKER: Elizaveta Shabalina (Georg-August-Universitaet Goettingen (DE))

TITLE: **Recent progress in ATLAS top pair cross-sections: from precision measurements to rare processes**

DATE: Tue 16/09/2014 11:00

PLACE: Main Auditorium

ABSTRACT

High-precision top quark pair production cross-section measurements in proton-proton collisions at centre-of-mass energies of 7 and 8 TeV reach a precision of better than 4%, similar to that of recently achieved state-of-art NNLO+NNLL QCD calculations. These benchmark results can be used to extract physical parameters such as the top quark mass or constraints on new physics processes from the comparison between measurement and prediction. Inclusive, differential and fiducial cross section measurements for top pair production are also precision probes of QCD allowing to test latest Monte-Carlo generators. The large Run-1 data sample delivered by the LHC also allows the experiments to explore the production of top pair production in association with bosons. The seminar presents recent ATLAS results on cross-section measurements involving top quark pairs.