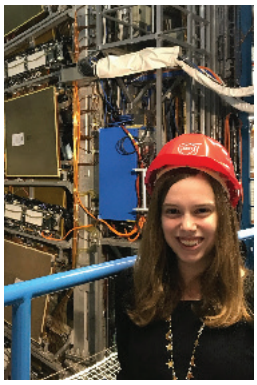
WIDG

Wright Laboratory



Emma Castiglia

Yale University

November 19, 2019 at 12:00 p.m. in WLC-245

Search for the Associated Production of a Higgs boson with a vector boson (W or Z), with the Higgs boson decaying to two tau leptons (VH, H → ττ) at the ATLAS Experiment

A theoretically well-motivated, but currently unmeasured Higgs boson decay channel at the ATLAS detector is the associated production of a Higgs boson with a vector boson, where the Higgs boson decays to a pair of taus. In this analysis, we allow the taus to decay hadronically or leptonically and require the W or Z bosons to decay leptonically. This analysis uses data from proton-proton collisions taken during Run 2 at the Large Hadron Collider with the ATLAS detector (2015-2018), with a recorded integrated luminosity of 147 fb-1 at a center of mass energy of 13 TeV. The background is modeled by a data-driven method to correct for misidentified electrons, muons, and taus, and by Monte Carlo simulation for the irreducible background, which is primarily dibosons. I will discuss the current status of the analysis, tau identification and calibration in the detector, and our future plans.

Host: Ako Jamil

Lunch will be served beginning at 11:45 a.m. RSVP required.

Sponsored by the Flint Fund, Yale Wright Laboratory, Yale University, and the Yale Physics Department.