

Search for anomalous production of events with same-sign dileptons and b jets in pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector

Thursday, 15 August 2013 14:10 (20 minutes)

A search is presented for exotic processes that result in final states containing jets including at least one b jet, sizable missing transverse momentum, and a pair of leptons with the same electric charge. There are several models that predict an enhanced rate of production of such events beyond the expectations of the Standard Model. The ones considered here are pair production of chiral b' quarks, pair production of vector-like quarks, enhanced same-sign top quark pair production, and four top quark production. Using a sample of 14.3 fb^{-1} of pp collisions at $\sqrt{s} = 8$ TeV recorded by the ATLAS detector at the Large Hadron Collider, with selection criteria optimized for each signal, 95% confidence level limits are set on, e.g., the mass of the new particles, and the cross section of the new processes. For some models, specific branching ratios are assumed for the decays of the new particles.

APS member ID

61088752

Primary author: LEI, Xiaowen (University of Arizona)

Presenter: LEI, Xiaowen (University of Arizona)

Session Classification: Physics Beyond the Standard Model

Track Classification: Physics Beyond the Standard Model