38th INTERNATIONAL CONFERENCE
ON HIGH ENERGY PHYSICS
AUGUST 3 - 10, 2016
CHICAGO

Contribution ID: **1134** Type: **Poster**

Search for the SM four top quark production with the ATLAS detector at the LHC.

Monday 8 August 2016 18:30 (2 hours)

A search for the Standard Model four top quark production in proton-proton collision data at √s=13TeV, collected with the ATLAS detector at the Large Hadron Collider is presented. Data is analysed in the single lepton channel which is characterised by an isolated electron or muon with high transverse momentum, large missing transverse energy and multiple jets. The search exploits the distinguishing up to 10 jets final state of the signal events and the high total jet transverse momenta, both of which provide good discrimination against the dominant background, namely the top-quark pair production in association with jets. Events are categorised according to their jet and b-tagged jet multiplicities in order to improve the sensitivity to systematic uncertainties arising from the jet energy calibration or the modelling of the $t\bar{t}$+jets production. Upper bounds on four top quark production with SM hypothesis and in several new physics scenarios are set.

Primary author: ATLAS, Collaboration (ATLAS)

Presenter: SERKIN, Leonid (INFN Gruppo Collegato di Udine and ICTP Trieste (IT))

Session Classification: Poster Session

Track Classification: Beyond the Standard Model