## IOP 2014 Joint HEPP & APP Group Meeting



Contribution ID: 50 Type: contributed talk

## Evidence for Higgs Boson Decays to the $\tau\tau$ Final State with the ATLAS Detector

Tuesday 8 April 2014 16:00 (15 minutes)

I will present results of a search for the 125 GeV Higgs boson decaying to a pair of tau leptons. The dataset used is  $20.3 {\rm fb}^{-1}$  of proton-proton collision recorded by the ATLAS detector at a centre of mass energy of 8 TeV. The observed (expected) deviation from the background only hypothesis corresponds to a significance of 4.1 (3.2) standard deviations. The measured signal strength is  $\mu = 1.4^{+0.5}_{-0.4}$ .

This constitutes evidence for the existence of Higgs to  $\tau\tau$  decays and is consistent with the Standard Model expectation of a Higgs Boson with mass 125 GeV.

**Primary author:** JESKE, Carl (University of Warwick)

Presenter: JESKE, Carl (University of Warwick)

Session Classification: Parallel 2C

**Track Classification:** The Energy Frontier Programme