IOP Institute of Physics 2013 High Energy and Astro Particle Physics

Contribution ID: **101** Type: **not specified**

Search for Non-Resonant exotic physics in the dilepton channels with the ATLAS detector at the LHC

Tuesday, 9 April 2013 14:06 (12 minutes)

Presented is a search for nonresonant new phenomena, originating from either contact interactions or large extra spatial dimensions, carried out using events with either isolated ee or μμ. These events, produced at the LHC in proton-proton collisions at √s = 7 TeV, were recorded by the ATLAS detector. The data sample, collected throughout 2011, corresponds to an integrated luminosity of 4.9 and 5.0 fb-1 in the e+ e- and μ+ μ- channels, respectively. No significant deviations from the Standard Model expectation are observed. Using a Bayesian approach, 95% confidence level lower limits ranging from 9.0 to 13.9 TeV are placed on the energy scale of ℓℓqq contact interactions in the left-left isoscalar model. Lower limits ranging from 2.4 to 3.9 TeV are also set on the string scale in large extra dimension models. A look forward to advancements in the analysis for the data sample collected throughout 2012 is also discussed.

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Session Classification: Track 3

Track Classification: Parallel Track 3