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Search for Contact Interactions with Dimuons at the Atlas Detector

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Comments

The Standard Model has been very successful over the last few decades in its agreement with experimental evidence; however there are some remaining puzzles in our understanding of the Universe which have yet to be solved. Even if the Higgs boson and Super Symmetry are discovered, questions still arise, such as why Nature is primarily made of matter when antimatter should have been produced in equal amounts at the beginning of the Universe, why the fundamental particles have the mass hierarchy that they do, what the nature of dark matter is, or whether or not quarks and leptons are themselves made of constituent parts, just to name a few. Theories Beyond the Standard Model attempt to tackle these questions, and also provide alternative explanations for electroweak symmetry breaking in case the Higgs mechanism in the Standard Model contradicts what is observed. The ATLAS detector was built to discover new physics from high-energy proton-proton collisions delivered by the Large Hadron Collider and to probe the electroweak scale with hard interactions at energies near ~1 TeV. While searching for new physics