

Contribution ID: 68

Type: Oral Presentation

Single Leptoquark Search in ATLAS

Tuesday, 27 July 2021 12:45 (15 minutes)

The recent anomalous magnetic moment of the muon (muon g-2) result presents a pattern of deviation from the standard model prediction in the interaction of muons with a surrounding magnetic field. A similar deviation from the standard model prediction is seen in the LHCb results on rare B-meson decay. Plausible explanations of these anomalies are leptoquarks. Leptoquarks when coupled with a chirality flip interaction to a heavy quark can boost the muon's anomalous magnetic moment. This study presents a search for leptoquark in single production in ATLAS, with the leptoquark decaying into a one-light jet (b-tagged) and one lepton accompanied by an oppositely charged lepton in the final state.

Apply to be considered for a student ; award (Yes / No)?

Yes

Level for award;(Hons, MSc, PhD, N/A)?

PhD

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Session Classification: Nuclear, Particle and Radiation Physics

Track Classification: Track B - Nuclear, Particle and Radiation Physics