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Scalar leptoquarks at the LHC and flavour anomalies: a comparison of pair-production modes at NLO-QCD

Friday 2 December 2022 09:40 (15 minutes)

In this talk, I discuss the scalar Leptoquark pair production at the Large Hadron Collider (LHC) at next-to-leading order in QCD including contributions of diagrams involving the exchange of leptons in the t-channel. In this work, we discuss not only the so-called on-diagonal channels that involve same-mass eigenstates but also off-diagonal channels that include different mass eigenstates. We found that for moderate to large values of the Yukawa type leptoquark-quark-lepton couplings, the off-diagonal channels dominate over the on-diagonal channels. I comment on the size of the off-diagonal channel contributions in viable scenarios addressing the flavour anomalies.

Declaration

I certify that I have checked that I am authorised to submit the abstract with the listed co-authors with their current affiliations

Change of Speaker

I understand that change of speaker is allowed provided that no participant gives more than one talk. Otherwise, we will ask the speaker to choose between one or the other abstract to be presented.

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