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Constraints on the B-anomalies-motivated U1 leptoquark parameters from the LHC data

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The semileptonic B-decay anomalies could be a gateway to new physics. Of the theories and BSM models put forward, the vector charge-2/3 U_1 leptoquark (LQ) seems to be the best candidate to explain the anomalies seen in the $R_{D^{(*)}}$ and $R_{K^{(*)}}$ observables. In this talk, I will explore the LHC bounds on the U_1 leptoquark model. I will present a list of possible scenarios with different coupling combinations that can contribute to the relevant operators. I will then discuss how the latest dilepton data and the direct search data can either limit or exclude these scenarios. Finally, I would show how an LQ of mass of about 1.5 TeV survives the LHC and other flavour bounds and explain the anomalies simultaneously.

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