

# Hadron Collider Sensitivity to Fat Flavourful Z's for $RK(*)$

*Tuesday 19 February 2019 10:00 (18 minutes)*

I will discuss the scenario where new physics in the form of a massive  $Z'$  particle explains apparent measurements of lepton flavour non-universality in  $B \rightarrow K(*)l^+l^-$  decays. Hadron collider sensitivities for direct production of such  $Z'$ s have been previously studied in the narrow width limit for a  $\mu^+\mu^-$  final state. I will extend the analysis to sizeable decay widths and improve the sensitivity estimate for the narrow width case. I will estimate the sensitivities of the high luminosity 14 TeV Large Hadron Collider (HL-LHC), a high energy 27 TeV LHC (HE-LHC), as well as a potential 100 TeV future circular collider (FCC).

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**Session Classification:** Science Session