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## **W' model and B meson anomalies. (Cristian Garcia)**

In recent years, evidence of Lepton Flavour Universality Violation has been observed in semi-leptonic decays associated with the charged-current transition  $b \rightarrow \bar{c} \ell \nu$  by BABAR, Belle and LHCb experiments, up to 3 standard deviations ( $3\sigma$ ). While for the neutral-current transition  $b \rightarrow \bar{c} \ell \ell$ , the BABAR collaboration in 2020 reported a discrepancy of  $1.8\sigma$  in the leptonic decay of the  $\Upsilon(3s)$  meson. Since the new physics operator that modifies the charged transition also contributes to the neutral process, in this work we study the impact of these measurements on a new physics model consisting of an extra triplet of left-handed vector-bosons ( $W'$ ,  $Z'$ ) that coupled preferably to fermions of the third family. We observe that this model cannot simultaneously explain the recent measurement obtained by BABAR for  $\Upsilon(3s)$  and the observables given by the transition  $b \rightarrow \bar{c} \ell \ell$ .

**Primary author:** GARCIA, cristian

**Presenter:** GARCIA, cristian

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