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Minimal Z' models for flavor anomalies

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We present the most general solutions for the charges of a nonuniversal Z' model with the same content of fermions of the
standard model plus three
right-handed neutrinos. From our analysis,
we show the existence of three different scenarios which, as far as we know, are new in the literature.
However, these solutions reduce to very well-known cases for particular choices of the free parameters.
We also define several benchmark models in order to show the flexibility of our parameterizations.
Finally, we show that it is possible to adjust some
of these benchmark models to several observables, including C_9 and C_{10} which are involved in the LHCb anomalies.
We use the upper limits on the Z' cross-sections
of extra gauge vector bosons Z' decaying into dileptons from the ATLAS data at 13 TeV with an accumulated luminosity of 36.1˜fb^{-1}
to set the 95\% CL allowed regions in the parameter space for a Z' mass of 5˜TeV.

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