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[312] Global Analysis of Leptophilic Z' Bosons

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One of the most minimal and most studied extensions of the Standard Model of particle physics is the Z' boson. The LHC bounds on Z' bosons that couple to quarks are very strong, models involving leptophilic Z' bosons are, however, much less constrained.

We perform global fits to leptophilic Z' models, putting bounds on the Z' couplings to leptons, and show correlations between flavour observables in simplified scenarios. In the case where Z' bosons only couple flavour off-diagonally to muons and taus, we can explain the $(g-2)_\mu$ anomaly, as well as the hints for lepton flavour universality violation in $\tau \rightarrow \mu\nu\nu$.

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