

Constraining Leptonic Flavour Model Space

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The observed pattern of mixing in the neutrino sector may be explained by the presence of a non-Abelian, discrete flavour symmetry broken into residual subgroups at low energies. These flavour models require the presence of Standard Model singlet scalars, namely flavons, which decay to charged leptons in a flavour-conserving or violating manner. In this talk, I will present the constraints on the model parameters of an A_4 leptonic flavour model using a synergy of $g-2$, charged lepton flavour conversion and collider data. The most powerful constraints derive from the MEG collaboration's result on $\mu \rightarrow e \gamma$ and the reinterpretation of an 8 TeV ATLAS search for anomalous productions of multi-leptonic final states.

