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# Constraining non-Abelian flavour symmetries

*Tuesday, 7 December 2010 17:00 (25 minutes)*

We consider models of fermion masses and mixing, where the Standard Model is extended by the discrete family symmetry A4. In these models, the Standard Model Higgs field transforms as a triplet of the family symmetry group, giving quite an extended Higgs sector.

We consider two models that have been shown to explain the mass matrices in respectively the the quark sector and in the lepton sector. We study the Higgs boson spectrum in more detail, showing that the experimental bounds on light Higgses, the oblique corrections and rare decays of leptons and hadrons provide stringent bounds on the A4-triplet Higgs models.

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