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Some phenomenological aspects of 6D SUSY SO(10) with magnetic flux

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Supersymmetric SO(10) theory with extra abelian symmetry in six spacetime dimensions can explain the multiplicity of quarks and lepton flavours. Bulk superfields charged under extra U(1) give rise to multiple 4D fields through magnetic flux compactification. Details of how the realistic fermion mass pattern arises in such a framework will be discussed and its prediction for the heavy and light neutrino mass scale will be outlined. The framework also predicts specific flavour patterns in proton decay somewhat different from usual 4D SO(10) GUT models. The effective theory below the GUT scale is a two-Higgs-doublet model with a pair of Higgsino and leads to particular predictions for the scalar spectrum.

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