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Title:	Flavor physics without flavor symmetries
Authors:	Patel, K.M. (/jspui/browse?type=author&value=Patel%2C+K.M.)
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Abstract:	We quantitatively analyze a quark-lepton flavor model derived from a six-dimensional supersymmetric theory with S O (10) × U (1) gauge symmetry, compactified on an orbifold with magnetic flux. Two bulk 16 -plets charged under the U (1) provide the three quark-lepton generations whereas two uncharged 10 -plets yield two Higgs doublets. At the orbifold fixed points mass matrices are generated with rank one or two. Moreover, the zero modes mix with heavy vectorlike split multiplets. The model possesses no flavor symmetries. Nevertheless, there exist a number of relations between Yukawa couplings, remnants of the underlying grand unified theory symmetry and the wave function profiles of the zero modes, which lead to a prediction of the light neutrino mass scale, m v 1 ∼ 10 − 3 eV and heavy Majorana neutrino masses in the range from 1 0 12 to 1 0 14 GeV . The model successfully includes thermal leptogenesis.
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