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On neutrino and charged lepton masses and mixings: A view from the electroweak-scale right-handed neutrino model

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We present a model of neutrino masses within the framework of the EW- ν_R model in which the experimentally desired form of the PMNS matrix is obtained by applying an A_4 symmetry to the Higgs singlet sector responsible for the neutrino Dirac mass matrix. This mechanism naturally avoids potential conflict with the LHC data which severely constrains the Higgs sector, in particular the Higgs doublets. Moreover, by making a simple *ansatz* we extract $\mathcal{M}_l \mathcal{M}_l^\dagger$ for the charged lepton sector. A similar *ansatz* is proposed for the quark sector. The sources of masses for the neutrinos are entirely different from those for the charged leptons and for the quarks and this might explain why U_{PMNS} is *very different* from V_{CKM} .

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