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The Charged Lepton Mass Matrix and Non-zero θ_{13} with TeV Scale New Physics[1] AHMED RASHED, ALAKABHA DATTA, University of Mississippi — We provide an explicit structure of the charged lepton mass matrix which is 2-3 symmetric except for a single breaking of this symmetry by the muon mass. We identify a flavor symmetric limit for the mass matrices where the first generation is decoupled from the other two in the charged lepton sector while in the neutrino sector the third generation is decoupled from the first two generations. The leptonic mixing in the symmetric limit can be, among other structures, the bi-maximal (BM) or the tri-bimaximal (TBM) mixing. Symmetry breaking effects are included both in the charged lepton and the neutrino sector to produce corrections to the leptonic mixing and explain the recent θ_{13} measurements. A model that extends the SM by three right handed neutrinos, an extra Higgs doublet, and two singlet scalars is introduced to generate the leptonic mixing.

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