

## Fermion masses and mixings in 3HDM with $S_3$ flavor symmetry

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We investigate the Yukawa and the scalar sectors of a general  $S_3$ -symmetric three-Higgs doublet model. Assuming that the quarks and leptons belong to 2+1 dimensional representations of  $S_3$ , we obtain consistent fits to quark and lepton masses and mixings, including neutrino oscillations. We analyze the stability of the Higgs potential as well as perturbative unitarity constraints on the couplings. We explore the lowest allowed heavy Higgs boson mass in this framework, consistent with FCNC and neutron EDM constraints and find it to be in the few TeV range.

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