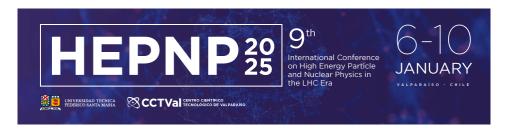
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Phenomenological aspects of the fermion and scalar sectors of a S4 flavored 3-3-1 model.

We proposed a viable and predictive model based on the $SU(3)_C \times SU(3)_L \times U(1)_X$ gauge symmetry, supplemented by the global U(1)_Lg symmetry, the S_4 family symmetry and several auxiliary cyclic symmetries, which successfully reproduces the experimentally observed SM fermion mass and mixing pattern. The tiny active neutrino masses are generated through an inverse seesaw mechanism mediated by right-handed Majorana neutrinos. The model is consistent with the SM fermion masses and mixings and successfully accommodates the current Higgs diphoton decay rate constraints as well as the constraints arising from oblique S, T and U parameters and we studied the meson mixing due to flavor changing neutral currents mediated by heavy scalars, finding parameter space consistent with experimental constraints.

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