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Neutrino masses and mixing in an inverse seesaw (2,3) model augmented with S4 modular flavor symmetry

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In our work, we have used modular invariance approach to construct a neutrino mass model in the framework of the inverse seesaw(2,3) mechanism with modular S4 flavor symmetry. The use of modular invariance requires less number of flavon fields which increases the predictability of the model. The phenomenological study of the neutrino mass matrix is carried out using the current 3σ ranges of neutrino oscillation data to test the compatibility of the model with experiments. Again the use of inverse seesaw mechanism allows the right-handed neutrinos to have masses in the TeV scale which may be feasible at the current collider experiments.

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