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# Survival of three-fold quasi-degenerate neutrino mass model with CP odd parity

Discrimination of three neutrino mass patterns, namely normal hierarchical, inverted hierarchical and three-fold quasi-degenerate models, in both experimental as well as theoretical fronts, is an outstanding issue in neutrino research. Three-fold quasi-degenerate Majorana neutrino mass models with CP-parity pattern (+-+) in the three mass eigenvalues (m1, -m2,m3, exhibits a strong variation of the absolute neutrino masses with the value of the solar mixing angle, within 2-3 symmetry framework of the mass matrices. This variation leads to the prediction of solar mixing angle lower than the tribimaximal(TBM)value corresponding to absolute neutrino mass in the range m=0.1eV. However for TBM value, the neutrino mass corresponds to m=0.4eV. Lower values of neutrino mass beyond TBM solar mixing, is in good agreement with neutrino oscillation data. In fact these are far from discrimination from the bounds on absolute neutrino masses derived from neutrinoless double beta decay as well as WMAP cosmology. However this property is absent in other two classes of three-fold quasi-degenerate models with CP-parity patterns (+++) and (++-) where the prediction of neutrino mass stands at m=0.4eV for a wide range os solar mixing angle starting from TBM value and below.

## Summary

The new parametrization of neutrino mass matrix having 2-3 symmetry with only two parameters in case of three-fold quasi-degenerate models,simplifies the numerical analysis for evaluation of eigenvalues and mixing angles. The identification of flavour twister term which is the ratio of these two parameters, enables us to lower the solar mixing angle beyond tribimaximal mixings. In the process the absolute value of neutrino mass is also lowered from 0.4eV to 0.1eV, and this makes the model far from discrimination from the bounds given by neutrinoless double beta decay experiment as well as cosmology. The present finding is new and has important implications for future experiments.

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