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Lepton and Slepton mass matrices from $\Delta(54)$ symmetry

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We have studied $\Delta(54)$ flavor model for leptons and sleptons. The tri-bimaximal mixing can be reproduced for arbitrary neutrino masses if vacuum alignments of scalar fields are guaranteed. The deviation from the tri-bimaximal mixing of leptons is predicted. The predicted upper bound for $\sin \theta_{13}$ is 0.06. The magnitude of $\sin \theta_{23}$ could be deviated from the maximal mixing considerably, but $\sin \theta_{12}$ is hardly deviated from the tri-maximal mixing. We have also studied SUSY breaking terms in the slepton sector. Three families of lefthanded and right-handed slepton masses are degenerate. Even although flavor symmetry breaking effects are taken into account, our model leads to smaller values of flavor changing neutral currents than the present experimental bounds.

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