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Five texture zeros in the lepton sector and neutrino oscillations at DUNE

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In this work, we have assumed special structures for the charged and neutral mass matrices in the lepton sector, inspired by structures for the up and down quark mass matrices that result by assuming a certain number of symmetrical zeros in their entries named texture zeros. A prediction of the lepton mixing matrix results from the rotation matrices that diagonalize the mass matrices in the neutral and charged lepton sectors. The use of texture zeros reduces the number of spurious parameters to the minimal ones needed to explain observations i.e. charged lepton masses and neutrino oscillation parameters. Specifically, we have considered the case of five texture zeros and we have confronted the resulted lepton mixing matrices with current measurements in the neutrino sector. Finally, sensitivities to the independent parameters in the mixing predicted by the nonequivalent forms were studied using simulated events at the DUNE neutrino oscillation experiment. We have found that DUNE is sensitive to non-zero CP-violation allowed in the models

Poster fallback option for rejected abstracts for parallel oral presentations

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