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Revisiting two-zero texture in the light of gauged Type-II seesaw

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In neutrino oscillation experiments, it was discovered more than twenty years ago that neutrinos have nonzero masses. Till then the values of two mass-squared differences have been measured with an unprecedented accuracy without revealing the absolute mass scale for neutrinos. On the other hand, the underlying symmetry that can generate the appropriate neutrino-mixing pattern also remains undetermined. Although there exist many possibilities, among them the two-zero texture is one of the attractive choices since it has less number of free parameters in the neutrino mass matrix and thereby provides definite predictions on other parameters of the PMNS matrix, which will be probed in the near future. In this talk, I will first revisit the two-zero texture and show its predictions on the Dirac CP phase and effective Majorana mass, the latter one being the key quantity for neutrino-less double beta decay. Thereafter, I will demonstrate how the two-zero texture can be realised in a gauged Type-II seesaw model and will indicate some of the consequences.

Track type

Neutrino Physics

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