

Type I seesaw mechanism at TeV scale or below with minimal fields

A novel scenario is presented within the Type-I seesaw mechanism in which no other beyond Standard Model fields except three heavy right handed neutrinos, have been considered. Light neutrino masses around sub eV scale, could be possible at low seesaw scale around TeV or even below that. At the leading order, 6x6 seesaw mass matrix reproduces three massless neutrinos. The Dirac mass matrix with one loop corrections, breaks that massless texture and it is possible to get massive neutrinos. We have obtained the expression of mixing and Dirac CP violating phase for light neutrino mass matrix with one loop corrections. Only unknown parameters are the Yukawa couplings related to right handed neutrinos and their masses. These parameters satisfy the ATLAS, CMS experimental constraints.

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