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## Warped Seesaw is Physically Inverted

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Warped extra dimensions can address both the Planck-weak and flavor hierarchies of the Standard Model (SM). In this paper we discuss the SM neutrino mass generation in a scenario in which a SM singlet bulk fermion —coupled to the Higgs and the lepton doublet near the IR brane —is given a Majorana mass of order the Planck scale on the UV brane. Despite the resemblance to a type I seesaw mechanism, a careful investigation based on the mass basis for the singlet 4D modes reveals a very different picture. Namely, the SM neutrino masses are generated dominantly by the exchange of the TeV-scale mass eigenstates of the singlet, that are pseudo-Dirac and have a sizable Higgs-induced mixing with the SM doublet neutrino: remarkably, in warped 5D models the anticipated type I seesaw morphs into a natural realization of the so-called “inverse” seesaw. This understanding uncovers an intriguing and direct link between neutrino mass generation (and possibly leptogenesis) and TeV-scale physics. We also perform estimates using the dual CFT picture of our framework, which back-up our 5D calculation.

### Summary

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