

Prospects of Neutrino Physics



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General SU(N) Scotogenic (non-)Supersymmetric and CFT Models

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Generalization of the scotogenic neutrino mass model in the supersymmetric, non-supersymmetric, and CFT framework is presented, where Standard Model gauge group $SU(3)_c \otimes SU(2)_L \otimes U(1)_Y$ is extended by $SU(N)_D$ dark gauge symmetry that stabilizes dark matter with $N \geq 2$. Neutrino masses are generated via dim-5 Weinberg effective operator, $\frac{(LH)(LH)}{\Lambda}$, therefore the $SU(N)_D$ gauge symmetry can be spontaneously broken as well as unbroken. We also discuss the embedding of $G_{SM} \otimes SU(N)_D$ gauge group into Grand Unified Theory (GUT) and gauge coupling unification.

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