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## Dirac Neutrino Mass Generation by Seesaw Type II Mechanism.

Since neutrinos were first proposed by Pauli, their mass has been a subject of intense theoretical and experimental research. These were postulated as massless particles due to the non-existence of right-hand neutrinos. Now that the existence of the mass of neutrinos has been proven, we are motivated to investigate the different ways in which it can be generated.

A Dirac seesaw type II model is proposed to obtain the small masses of neutrinos by extending the visible content of the standard model (SM) with a hidden sector consisting of a scalar singlet  $S$  and three neutrinos right singlets ( $\nu_{R_1}, \nu_{R_2}, \nu_{R_3}$ ). These right singlet neutrinos are charged under a new symmetry  $U(1)_{B-L}$ . In addition, it is necessary to add two heavy scalar doublets to play the role of messenger between the visible sector (SM) and the invisible sector (neutrinos singlets and singlet).

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