Contribution ID: **98** Type: **Neutrinos**

The Singly-Charged Scalar Singlet as the Origin of Neutrino Masses

Wednesday 19 May 2021 15:15 (15 minutes)

We consider the generation of neutrino masses via a singly-charged scalar singlet. Under general assumptions we identify two distinct structures for the neutrino mass matrix. This yields a constraint for the antisymmetric Yukawa coupling of the singly-charged scalar singlet to two left-handed lepton doublets, irrespective of how the breaking of lepton-number conservation is achieved. The constraint disfavours large hierarchies among the Yukawa couplings. We study the implications for the phenomenology of lepton-flavour universality, measurements of the W-boson mass, flavour violation in the charged-lepton sector and decays of the singly-charged scalar singlet. We also discuss the parameter space that can address the Cabibbo Angle Anomaly.

Primary authors: FELKL, Tobias (University of New South Wales); SCHMIDT, Michael (UNSW Sydney); Mr HERRERO, Juan (IFIC, UV/CSIC)

Presenter: FELKL, Tobias (University of New South Wales)

Session Classification: Neutrinos 1