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# Exploring Strange Origin of Dirac Neutrino Masses at Hadron Colliders

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We consider the possibility that Dirac neutrino masses may be a manifestation of chiral symmetry breaking via non-perturbative QCD dynamics. Due to the key role of light quarks in this mechanism, this can naturally lead to signals that are accessible to hadron colliders. Bounds from charged meson decays imply that the strange quark condensate leads to the dominant effect. We propose a model with an extra Higgs doublet at the TeV scale with significant coupling to strange quarks and leptons, leading to Dirac neutrino mass generation. Current data on $D - \bar{D}$ mixing places constraints on the allowed parameter space of the model, with a 100 TeV $pp$ collider being capable of either discovering or excluding much of it.

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