

## Lepton flavor violation and leptoquark decay in the colored Zee-Babu model

We consider a neutrino mass generating model which employs a scalar leptoquark, and a scalar diquark. The neutrino masses are generated at the two-loop level, as in the Zee-Babu model and the scalars play the role of the doubly and singly charged scalar in the Zee-Babu model. With a moderate working assumption that the magnitudes of the six Yukawa couplings between diquark and the down-type quarks are of the same order, strong connections are found between the neutrino masses and the charged lepton flavor violating processes. In particular, we study  $l \rightarrow l' \gamma$  and  $Z \rightarrow l l'$ , and find that some portions of the parameter space of this model are within the reach of the planned charged lepton flavor violating experiments. Interesting lower bounds are predicted. The type of neutrino mass hierarchy could also be determined by measuring the charged lepton flavor violating double ratios. Moreover, definite leptoquark decay branching ratios are predicted when there is no Yukawa interaction between the right-handed fermions and leptoquark, which could help refine the collider search limit on the scalar leptoquark mass.

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