

Abstract

The potential of the LHC for investigation of anomalous top quark interactions with gluon (g) through the production of tW -channel of single top quark is studied. In the Standard Model, the single top quarks in the tW -channel mode are charge symmetric meaning that $\sigma(pp \rightarrow tW^-) = \sigma(pp \rightarrow \bar{t}W^+)$. However, the presence of anomalous FCNC couplings leads to charge asymmetry. In this paper a method is proposed in which this charge asymmetry may be used to constrain anomalous FCNC couplings. The strength of resulting constraints is estimated for the LHC for the center of mass energies of 7 and 14 TeV.