PASCOS 2014

Contribution ID : 156

Non Commutative Seiberg-Witten Space-Time Effects on Some Physical processes at ILC and LHC

Thursday 26 Jun 2014 at 17:10 (00h20')

Content :

Non commutative Seiberg-Witten (NCG)effects on the diphoton production at the ILC and inelastic Higgs production at the LHC are studied. It is found that some of the pure NCG contributions such as that of the combined gluon gluon fusion and associated Z boson Higgs production subprocess may give in some kinematical regions of the phase space important corrections at the same order of magnitude of the standard model one loop radiative corrections.Moreover, the obtained differential cross sections and contrary to the commutative case are characterized by an azimuthal angle dependence as a signal of the space-time non commutativity. The results are strongly dependent on the choice of the NCG parameter where its strength is bounded by some experimental data.

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Session classification : Parallel Thursday Evening: D: Various aspects of QFT

Track classification : Various aspects of QFT

Type : Parallel talk