

Quark Confinement and the Hadron Spectrum XI



Contribution ID: 49

Type: **Poster**

Existence of Mass-Gap & Pure Yang –Mills Theory

Tuesday 9 September 2014 18:50 (1h 30m)

Due to the non-linearity involved in quantum chromodynamics (QCD), the required uncertainty in position of a transverse hard gluon, emitted in 3-jet event, is accommodated by allowing for the possibility that Gribov copies are created as virtual entities by quantum fluctuations of the transverse gluon energy over the brief intervals of time during which the special relativity theory and the quantum theory are merged together consistently in QCD. These Gribov copies can be ignored in perturbative sector due to asymptotic freedom of pure QCD empty space but their common characteristic i.e., zero value of Faddeev-popov operator, serves as a mathematical proof of mass-gap and color confinement properties on the boundary of the Gribov region, so-called the Gribov horizon in the non-perturbative sector of pure QCD.

Author: Mr DOGRA, Rajan (Government Industrial Training Institute for Women, Sector 11, Chandigarh, India)

Presenter: Mr DOGRA, Rajan (Government Industrial Training Institute for Women, Sector 11, Chandigarh, India)

Session Classification: Poster Session

Track Classification: Poster Session