



Contribution ID: 193

Type: Talk

Confinement/deconfinement phase transition in SU(3) Yang-Mills theory and non-Abelian dual Meissner effect.

Sunday 5 August 2018 15:20 (20 minutes)

The dual superconductivity is a promising mechanism of quark confinement. In the preceding works, we have given a non-Abelian dual superconductivity picture for quark confinement, and demonstrated the numerical evidences on the lattice.

In this talk, we focus on the the confinement and deconfinement phase transition at finite temperature in view of the dual superconductivity. By using our new formulation of lattice Yang-Mills theory and numerical simulations on the lattice, we extract the dominant mode for confinement by decomposing the Yang-Mills field, and we investigate the Polyakov loop average, static quark potential, chromoelectric flux, and induced monopole current for both Yang-Mills field and decomposed restricted field in both confinement and deconfinement phase at finite temperature.

We further discuss the role of the chromomagnetic monopole in the confinement/deconfinement phase transition.

Authors: KONDO, Kei-Ichi (Chiba University); KATO, Seikou (Oyama College)

Session Classification: Vacuum structure and confinement

Track Classification: A: Vacuum structure and confinement