



Contribution ID: 233

Type: **not specified**

The confining baryonic Y-string on the lattice

Friday 12 September 2014 17:20 (30 minutes)

We look for the signature of the confining Y-bosonic string in the gluonic profile due to a system of three static quarks on the lattice. The gluonic distribution is calculated in pure Yang-Mills lattice gauge theory at finite temperature with Polyakov loops operators. The analysis of the action density unveils a background of a filled- Δ distribution. However, we found an underlying structure of three string-like configuration that interpolates from Δ to a Y-configurations; all within the Δ -shaped background. The length of the revealed Y-string-like distribution is maximum near the deconfinement point. The action density width profile returns good fits to a baryonic string model only for large quark separation. The Y-string configurations provides good fits for both the in-plane and off-plane width profile.

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Session Classification: Parallel I: A3 Vacuum structure and confinement

Track Classification: Section A: Vacuum Structure and Confinement