Contribution ID: **29** Type: **not specified**

On the width of the confining flux tube in the 3D U(1) lattice gauge theory

Thursday, 10 December 2015 18:20 (20 minutes)

A great deal of information about the confining regime of gauge theories can be obtained from the dynamics of the flux tube connecting two opposite chromoelectric charges. Specifically, from the behaviour of its squared width at increasing intercharge distance, which, in an effective string theory approach, is predicted to be logarithmic. This prediction has been confirmed numerically in several models on the lattice, both at zero and at finite temperature, where a linear growth should set in.

The features of the 3D U(1) lattice gauge theory at finite lattice spacing allow us to study the behaviour of the squared width at a very high precision for several values of the coupling and to test the predictions of effective string theory. We discuss our results and relate them to the properties of the static intercharge potential in the same model.

Primary authors: VADACCHINO, Davide (TO); PANERO, Marco (University of Helsinki); CASELLE, Michele (TO)

Presenter: VADACCHINO, Davide (TO)

Session Classification: Session 6