Contribution ID: **9** Type: **not specified**

Peculiar phase transitions in three dimensional gauge systems

We summarize the results obtained from lattice simulations for some peculiar continuous phase transitions of three dimensional gauge systems with scalar matter. In several cases these models display continuous phase transitions whose critical behavior can not be described by a gauge invariant phi^4 effective field theory. The case in which gauge degrees of freedom develop long range correlations is probably the simplest one in which this happens, but theories with discrete gauge groups offers further possibilities. While introducing the topic we will comment on its possible relevance for the nonperturbative definition of three dimensional gauge QFTs and for finite temperature transitions of 4d gauge theories (e.g. the chiral transition).

Author: BONATI, Claudio (Pisa University)

Presenter: BONATI, Claudio (Pisa University)