

Outline

SLIDES SFT
2018

Nicodemo
Magnoli

Conformal
perturbation
theory

Quantum field
theory with
boundaries

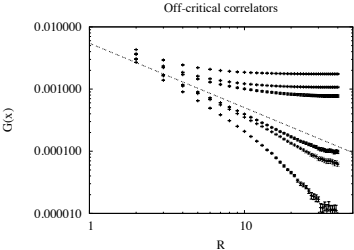
Hubble
constant
determination

- 1 Conformal perturbation theory
- 2 Quantum field theory with boundaries
- 3 Hubble constant determination

Partecipanti

- Nicodemo Magnoli (responsabile locale)
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- We studied the accuracy and predictive power of conformal perturbation theory by a comparison with lattice results in the neighbourhood of the finite-temperature deconfinement transition of $SU(2)$ Yang-Mills theory, assuming that the infrared properties of this non-Abelian gauge theory near criticality can be described by the Ising model. The results of this comparison showed that conformal perturbation theory yields quantitatively accurate predictions in a broad temperature range. We discussed the implications of these findings for the description of the critical end-point in the phase diagram of QCD at finite temperature and finite quark chemical potential (to be published).



- Introducing a planar boundary in Chern-Simons models to study the chiral current algebra on the boundary and the holographic two-dimensional reduction expressed in terms of a chiral scalar (1).

- Determination of Hubble constant through time delay measures in gravitational lensing. In particular it has been proposed a generalization of the standard formula keeping into account Shapiro delay (2) and (3).

[1] N.Maggiore, “From ChernSimons to TomonagaLuttinger”
Int.J.Mod.Phys.A 33, no. 02, 1850013 (2018).

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[2] N.Alchera, M.Bonici and N.Maggiore, “Towards a new
proposal for the time delay in gravitational lensing”, Symmetry
9 (2017) no.10, 202 doi:10.3390/sym9100202

[3] N.Alchera, M.Bonici, R.Cardinale, A.Domi, N.Maggiore,
C.Righi and S.Tosi, “Analysis of the angular dependence of
time delay in gravitational lensing,” arXiv:1804.03111
[astro-ph.CO].