POETIC VI

September 7th-11th 2015
Palaiseau, France

6th International Conference on Physics Opportunities at an Electron-Ion Collider

Contribution ID: **112**   Type: **Oral Presentation**

Holographic approaches of thermalization in confining geometries

Friday 11 September 2015 10:20 (20 minutes)

Confinement is a strongly coupled phenomenon that can be studied using non perturbative methods such as lattice QCD. However, the more interesting case of time dependent transitions from confining configurations to thermalization, as it is the case in heavy ion collisions, requires different approaches. In this talk, a first attempt, in the context of AdS/CFT, to study such processes will be presented. AdS/CFT allows the mapping and studying of non perturbative processes of gauge theories by solving differential (Einstein) equations with prescribed boundary conditions. The idea is then the following: one begins with initial data of a geometry that corresponds to a confining gauge theory and injects energy into the system at time t=0. The goal is to follow the evolution of the system in time; the set up is thus a Cauchy initial value problem. The main purpose of the paper is to answer the question whether and under which circumstances the geometry will eventually collapse into a black hole, which mimics thermalization in the field (gauge) theory side.

Author: TALIOTIS, Anastasios

Presenter: TALIOTIS, Anastasios

Session Classification: pp-pA-AA Parallel

Track Classification: Connection with pp, pA and AA physics