



**HEP 2013  
Stockholm  
18-24 July 2013**



Contribution ID: 769

Type: **Talk presentation**

## Holographic thermalization patterns

*Saturday, 20 July 2013 12:09 (23 minutes)*

Understanding the process driving the complicated field dynamics during a relativistic heavy ion collision presents an exceptionally difficult problem, where the early onset of hydrodynamical behaviour of the produced matter points towards the system being strongly coupled.

An important aspect concerns the thermalization pattern with which the plasma constituents of different energies approach their final thermal distribution.

In the limit of weak coupling, the thermalization pattern is of the bottom-up type, with the soft excitations reaching thermal equilibrium first. In contrast, holographic studies in the infinite coupling limit point towards top-down thermalization, indicating a transition at intermediate coupling between the two behaviours.

Using a simplified model of holographic thermalization it is possible to go away from the infinite coupling limit. In this talk I will discuss the finite coupling effects on the thermalization pattern of the different plasma constituents, where indeed a shift towards the weak coupling scenario is visible.

**Primary author:** STRICKER, Stefan (TU Wien)

**Co-author:** VUORINEN, Aleksi

**Presenter:** STRICKER, Stefan (TU Wien)

**Session Classification:** Non-perturbative QFT and String Theory

**Track Classification:** Non-perturbative QFT and String Theory