

NEW PERSPECTIVES IN CONFORMAL FIELD THEORY AND GRAVITY

HELMHOLTZ

26 - 29 September 2023 DESY Hamburg, Germany



Contribution ID: 285

Type: **not specified**

JT gravity on hyperbolic lattices and discrete holography

Thursday 28 September 2023 16:08 (18 minutes)

In recent years the search for a holographic duality, which is based on tessellations of the hyperbolic plane has gained momentum and the construction of suitable boundary theories has been considered in the literature. We propose a discrete analog of JT gravity, defined on hyperbolic lattices as a dual bulk theory. We calculate the partition function in the Schwarzian regime, through an inflation rule, which is used to construct the lattice layer by layer. Furthermore we study the spacetime fluctuations of this system by mapping the bulk theory to an Ising model. The phase transition of this model is studied analytically through a mean field approach, as well as numerically.

Summary

Primary authors: ERDMENGER, Johanna (Julius-Maximilians-Universitaet Wuerzburg); KARL, Jonathan (Julius-Maximilians-university Würzburg); THURN, Yanick (Julius-Maximilians Universität Würzburg); Dr XIAN, Zhuo-Yu (Julius-Maximilians-university Würzburg)

Presenter: KARL, Jonathan (Julius-Maximilians-university Würzburg)

Session Classification: Parallel Session Thursday: Strings / Mathematical Physics IV

Track Classification: Strings & Mathematical Physics