

NEW PERSPECTIVES IN
CONFORMAL FIELD THEORY AND GRAVITY

HELMHOLTZ

26 - 29 September 2023 DESY Hamburg, Germany



Contribution ID: 290

Type: **not specified**

Two-Point Functions in the D3-D5 Defect Conformal Field Theory

Thursday 28 September 2023 15:02 (18 minutes)

Boundary conditions and extended operators or defects are fundamental aspects of quantum field theory (QFT). Yet, they are generally poorly understood in higher-dimensional interacting QFTs because explicit computations are often intractable. Progress can be made by imposing highly restrictive symmetries. A particularly prominent example in 4d is the maximally supersymmetric Yang-Mills (SYM) theory. In this talk I will discuss an interface between two copies of $N=4$ SYM theory whose unitary gauge groups on either side have different rank. Owing to its holographic dual, this system is often called the D3-D5 defect conformal field theory (DCFT) with flux. It preserves some supersymmetry and conformal symmetry, which make it amenable to study using a variety of techniques. In particular, I will describe how perturbation theory and the superconformal bootstrap can be used to obtain new results about the two-point function of protected bulk operators and to constrain the DCFT data. This talk is based on work in progress with Jonah Baerman and Charlotte Kristjansen.

Summary

Primary author: CHALABI, Adam (Niels Bohr Institute)

Presenter: CHALABI, Adam (Niels Bohr Institute)

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

Track Classification: Strings & Mathematical Physics