Contribution ID: **13** Type: **not specified**

Precision holography for 5D Super Yang-Mills

Friday, 12 August 2022 10:00 (45 minutes)

With the advent of AdS/CFT and localisation, supersymmetric extensions of Wilson loop (WL) operators came to the forefront as tools to advance our understanding of holography itself. In this talk, I will focus on a circular Wilson loop in maximally supersymmetric Yang-Mills theory (MSYM) living on a 5-sphere. This operator preserves 1/2 of the supercharges of the theory and its vacuum expectation value (vev) is known in the planar limit and at any value of the 't Hooft coupling via supersymmetric localisation.

The holographic dual to MSYM on a five-sphere is geometrically realised by a stack of N D4-branes with spherical worldvolume in ten dimensions. In particular, the vev of the circular WL is holographically dual to the partition function of a fundamental string in this background. I will illustrate the main steps in the computations of the string partition, with an emphasis on the next-to-leading order corrections in the large 't Hooft coupling expansion, and on the role of the non-constant dilaton in this background.

Presenter: PULETTI , Valentina