



Probing AdS quantum gravity from gauge theories

Abstract:

I will present holographic approaches for studying quantum gravity through boundary gauge theories. I will focus on the BPS sector of 4d $N=4$ $U(N)$ super Yang–Mills theory and type IIB string theory on $AdS_5 \times S^5$. The discussion will be organized into three parts.

Lecture 1 (Tuesday, 18 Nov, 11:00am – 1:00pm, A 304):

I will discuss about saddles of the index for $N=4$ SYM in the Cardy/large N limits dual to thermodynamic phases of AdS_5 gravity.

Lecture 2 (Wednesday, 19 Nov, 11:00am – 1:00pm, AG 80):

I will discuss about supercharge cohomologies of $N=4$ SYM and their dual interpretation as quantum states in AdS_5 gravity.

Lecture 3 (Thursday, 20 Nov, 11:00am – 1:00pm, AG 66):

I will discuss about the role of ADE orbifold singularities within this AdS/CFT example.