Institut Henri Poincaré

11 rue Pierre et Marie Curie, 75231 Paris cedex 05

String Theory in Greater Paris

Rencontres Théoriciennes

“Supergravité, théorie des cordes et théorie M”

Jeudi 8 Décembre 2022, 10:00

Nat Levine

ENS Paris

Bootstrapping bulk locality

Field theories in AdS give rise to CFTs through their boundary correlators. Conversely, only special CFTs correspond to local bulk theories. We study the constraints imposed by bulk locality and the reconstruction of bulk fields as a bootstrap problem. By constructing a complete basis of functionals, we recast the locality constraint as a list of sum rules on the Boundary Operator Expansion and boundary OPE data. These sum rules are "dual" to the Generalized Free Field spectrum, and we also engineer a large family of "interacting" bases of functionals that naturally bootstrap interacting solutions. We discuss the flat- space limit, when the locality problem becomes that of constructing local form factors from an S-matrix.

Institut Henri Poincaré, salle 314, 3ème étage