

Meeting PRIN "String Theory as a bridge between Gauge Theories and Quantum Gravity"



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Holography with heavy states as a tool to study black holes

Friday, 24 February 2023 09:30 (1 hour)

In holographic CFTs it is interesting to study operators whose dimension scales as the central charge when the latter is taken to be large. As an example of such operators, I consider multi-particle states formed by a large number of BPS single-particle constituents. Focusing on the example of the $(\text{AdS}_3 \times S^3)/\text{CFT}_2$ duality, I discuss how the gravitational backreaction of these heavy states is described by regular geometries that encode interesting CFT data. The quadratic fluctuations around these geometries capture the heavy-light four point correlators. Finally I comment on similarities and differences between these correlators and similar quantities calculated in the background of asymptotically AdS black holes.

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