

The principle of holography of information and its low-energy tests

Friday, 19 March 2021 11:30 (1 hour)

The principle of holography of information states that, in any theory of quantum gravity, a copy of all the information available on a Cauchy slice is also available near the boundary of the slice. This principle can be made precise and proved, under weak assumptions, for theories of gravity in AdS and in flat space and it has interesting implications for black holes. In this talk, we will describe how this principle can be tested within the realm of low-energy effective field theory. We will describe how observers placed in a low-energy state near the boundary of AdS can use a simple physical protocol to completely identify the state of the bulk without directly visiting the bulk. We will also describe low-energy thought experiments that can be used to similarly obtain information about the bulk state from near the boundary of flat space.

45' talk + 15' discussion

Presenter: RAJU, Suvrat