

ICTS String Seminar

- Title : The holographic nature of null infinity
- Speaker : Suvrat Raju (International Centre for Theoretical Sciences, Bengaluru)
- Date : Monday, May 04, 2020
- Time : 03:00 pm
- Abstract : I will argue that a careful examination of the low energy properties of quantum gravity, together with reasonable assumptions about the UV theory, leads to insights into the origin of holography in anti-de Sitter space. The same techniques also lead to a clear conjecture about how quantum information is localized in asymptotically flat spacetimes. The conjecture is that, in quantum gravity, all information about massless excitations can be obtained from an infinitesimal neighbourhood of the past boundary of future null infinity and does not require observations over all of future null infinity. In the context of the information paradox, this suggests that the fine-grained von Neumann entropy of the state defined on a segment $(-\infty, u)$ of future null infinity is independent of u . This conjecture also implies that the oft-discussed "Page curve" may be a misleading target to aim for in analyses of black hole evaporation.
- ICTS virtual seminar : Please register at
<https://docs.google.com/forms/d/e/1FAIpQLSf0jLgoqiOgDnxbEBGiuIWiOmh9WX8caH-pr13qDBZOO91img/viewform>
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Recordings of past talks can be found here:

<https://www.youtube.com/channel/UCw9LdPQ5t7Q7muD0qzn70TA>