

ICTS String Seminar (HYBRID)

Title : Some aspects of black hole microstate counting

Speaker : Shanmugapriya Prakashan (Chennai Mathematical Institute)

Date : Wednesday 13th September, 2023

Time : 03:30 PM (IST)

Abstract : It is understood that black holes with identical near horizon geometries must have the same microscopic degeneracies. Sen et al studied an apparent counter-example of the above and proposed black hole hair removal as a resolution to the resulting index mismatch puzzle. Motivated by their work, we show that black hole hair removal is a resolution of a similar puzzle for $\mathcal{N} = 4$ CHL orbifold models as well.

In the second part of the talk, we study several microscopic indices for CHL black holes. These indices appear as Fourier coefficients of Siegel modular forms. We use these coefficients to show the positivity of microstate degeneracy for low charges.

Finally, in some ongoing work, we compute the entropy of higher dimensional BPS black holes using a recently proposed path integral prescription and find agreement with the known results.

Venue : **Offline:** Emmy Noether Seminar Room (ICTS)

Online: Please click the below link to join the seminar

<https://icts-res-in.zoom.us/j/88092766911?pwd=R3ZrVk9yeW96ZmQ4ZG9KRzVhenRKZz09>