



ICTS String Seminar (Online)

Title : BPS Fivebrane Stars

Speaker : Yoav Zigdon (University of Cambridge)

Date : Wednesday, 24th January 2024

Time : 03:00 PM (IST)

Abstract : We consider half-BPS bound states of NS5 branes and fundamental strings in the AdS decoupling limit. We revisit a solution corresponding to an ensemble average of these bound states, and find that the appropriate duality frame for describing the near-source structure is NS5-P. The typical microstate is described by a ball of fivebranes whose radius is parametrically much larger than the "stretched horizon" scale of the corresponding black hole. We also investigate quantum fluctuations of metric components in coherent states. We find that the fluctuations are small away from a tiny distance from the source, comparable to the 6D Planck scale. Comparing this result with an analysis in the literature of fluctuations in the maximally mixed state, we conclude that the large fluctuations previously found for the latter are statistical rather than quantum in nature, and that perturbative string theory provides an accurate description of these backgrounds.

Venue : Please click on the below link to join the seminar

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

Meeting ID: 880 9276 6911

Passcode: 232322