Physics Seminar: Indranil Halder Wednesday, March 6.2:00 – 3:00pm

Location: 313

Title: Stretched horizon, replica trick, and off-shell winding condensate, and all that

Abstract: \$\alpha'\$ corrections to near horizon dynamics of a Schwarzschild black hole in a large number of spacetime dimensions \$D\$ are governed by the worldsheet theory composed of the cigar CFT and the classical sigma model on the sphere at the horizon, along with a timelike-Liouville theory of central charge \$26-D\$. At leading order in weak string coupling, black hole thermodynamics is insensitive to the details of timelike Liouville theory. In this limit, we use the Lewkowycz-Maldacena-trick motivated infinitesimally off-shell closed string worldsheet formalism in [arxiv: 2310.02313] to calculate thermal entropy exactly in \$\alpha'\\$. The leading term in the \$\alpha|\to 0\$ limit and the first stingy correction of our result are in precise agreement with the target space Callan-Myers-Perry formula.