Institut Henri Poincaré

11 rue Pierre et Marie Curie, 75231 Paris cedex 05

String Theory in Greater Paris

Rencontres Théoriciennes

“Supergravité, théorie des cordes et théorie M”

Jeudi 28 Mai 2020, 16:00

Thomas Hartman

Cornell University

Replica wormholes and the black hole information paradox

I will review recent progress on the black hole information puzzle involving the appearance of "islands" in the black hole interior. The islands arise from the replica trick used to calculate the entropy of Hawking radiation. This entropy receives large non-perturbative corrections from gravitational instantons called replica wormholes, which connect multiple copies of the black hole through the interiors. In several toy models where these contributions can be calculated explicitly, the resulting entropy is consistent with unitary black hole evaporation.

Institut Henri Poincaré, salle 314, 3ème étage