

## Entanglement and Islands in de Sitter JT Gravity

*Friday 21 April 2023 14:30 (1 hour)*

In recent years, our understanding of (entanglement) entropy in gravitational systems has led to remarkable insights into the nature of black holes and in particular the discovery of entanglement islands. In this talk, I will discuss to what extent these developments can be applied to the de Sitter horizon in JT gravity. I will stress the important differences of black hole vs. cosmological horizons and review several proposals to apply the island formula to de Sitter space. In particular, while pure de Sitter space in thermal equilibrium does not seem to support non-pathological islands, I will show how a non-equilibrium quantum state does harbor them. This suggests the necessity of going beyond equilibrium dynamics to decode information from the Gibbons-Hawking radiation.

**Author:** AALSMA, Lars (Arizona State University)

**Presenter:** AALSMA, Lars (Arizona State University)