Contribution ID: **361**   Type: **not specified**

SymTFT Entanglement and Holographic (Non)-Factorization

Thursday 10 July 2025 15:48 (17 minutes)

Symmetry topological field theories (SymTFTs) have been very useful tools in recent years for studying the generalized symmetries and 't Hooft anomalies of QFTs. When a QFT has a semiclassical holographic dual, there is typically a neat dictionary between the SymTFT data and configurations of various branes in the string background. In this talk, we will address such a dictionary in cases where the AdS spacetime has multiple asymptotic boundaries. A crucial new piece of data will turn out to be the entanglement structure of SymTFT states which, if non-trivial, leads to violations of factorization for partition functions and Hilbert spaces. Applying these considerations to eternal AdS black holes, we show that several conceptual puzzles regarding the conjectured holographic dual to a thermofield double state are resolved. In particular, we construct top-down counterexamples which falsify a conjecture stating that all objects threading the wormhole connecting the two causally disconnected regions are splittable.

Presenter: TORRES, Ethan

Session Classification: Parallel Session 2