

Branes, Islands, and Massive Gravitons

Monday, 26 July 2021 15:50 (45 minutes)

Recent developments have led to a breakthrough in our understanding of the evaporation of black holes in very special systems: gravity in a box, coupled to an external bath. To what extent these considerations apply to generic black holes is a point of debate. In this talk we will demonstrate that one of the main ingredients in these calculations, the appearance of entanglement islands, generally leads to a clash with basic ideas of entanglement wedge reconstruction and Gauss' law. This clash is resolved in the existing examples by one very special feature of gravity in a box, coupled to a bath: the graviton is massive in these systems. This crucial importance of the graviton mass in the existing constructions makes generalizations of current thinking to realistic black holes challenging.

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