Probing infinite distance, one codimension at a time: the good, the bad... and the integer?

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Abstract

Towers of states and infinite distance limits in field space are known to play a crucial role in the breaking of gravitational EFTs. In this talk, I will focus on recent developments related to codimension-2 and codimension-1 solutions that dynamically explore such infinite distance limits: EFT strings and dynamical cobordisms. First, I will present an attempt to prove the Integral Scaling Conjecture, which relates the tension of EFT strings to the mass scale of the towers that become light along the flow, using the Emergent String Conjecture and related taxonomy rules. Then, I will motivate and present a necessary condition for the UV viability of dynamical cobordism solutions by combining swampland insights (including EFT strings themselves) with the well-known Gubser and Maldacena-Nuñez criteria.

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