Institut Henri Poincaré

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String Theory in Greater Paris

Rencontres Théoriciennes

"Supergravité, théorie des cordes et théorie M"

Jeudi 30 Septembre 2021, 11:00

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Ben Gourion University

Convexity of Charged Operators in CFTs and the Weak Gravity Conjecture

In this talk I will introduce a particular formulation of the Weak Gravity Conjecture in AdS space in terms of the self-binding energy of a particle. The holographic CFT dual of this formulation corresponds to a certain convex-like structure for operators charged under continuous global symmetries. Motivated by this, we propose a conjecture that this convexity is a general property of all CFTs, not just those with weakly-curved gravitational duals. It is possible to test this in simple CFTs, the conjecture passes all the tests performed so far.

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