Contribution ID: **206**   Type: **Plenary talks (by invitation only)**

Goldstone Bosons, Convexity of charged operators, and the Weak Gravity Conjecture

Friday 21 July 2023 09:00 (30 minutes)

The Weak Gravity Conjecture proposes that in any effective theory that can be consistently coupled to gravity, gravity must be the weakest force. I will review recent work on understanding this idea in anti-de Sitter space using holography. In particular, I will show that a certain formulation of the Weak Gravity Conjecture can be mapped to convexity properties of operators which are charged under global symmetries in conformal field theories . This convexity can then, in turn, be mapped to physical consistency constraints on Goldstone boson excitations about the charged states in the conformal field theory (which are dual to the charged operators by the state-operator correspondence).

Primary author: PALTI, Eran (Ben-Gurion University of the Negev)

Presenter: PALTI, Eran (Ben-Gurion University of the Negev)

Session Classification: Plenary Session

Track Classification: Plenary