# Institut Henri Poincaré

11 rue Pierre et Marie Curie, 75231 Paris cedex 05

## String Theory in Greater Paris

**Rencontres Théoriciennes**

**"Supergravité, théorie des cordes et théorie M"**

***Jeudi 28 Janvier 2021, 11:00***

# Eric Perlmutter

***Caltech & IPhT***

## A CFT Distance Conjecture

*We formulate a series of conjectures relating the geometry of conformal manifolds to the spectrum of local operators in conformal field theories in d>2 spacetime dimensions. We focus on conformal manifolds with limiting points at infinite distance with respect to the Zamolodchikov metric. Our central conjecture is that all theories at infinite distance possess an emergent higher-spin symmetry, generated by an infinite tower of currents whose anomalous dimensions vanish exponentially in the distance. Stated geometrically, the diameter of a non-compact conformal manifold must diverge logarithmically in the higher-spin gap. Our conjectures are related to the Distance Conjecture in the swampland program. We discuss the supporting evidence, their holographic interpretation, and implications for superconformal field theories.*

**Institut Henri Poincaré, salle 314, 3ème étage**

Retrouvez les activités de la communauté parisienne de théorie des cordes sur
`http ://string.lpthe.jussieu.fr`
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