SEMPARIS – Séminaires en région parisienne

`http ://string.lpthe.jussieu.fr/semparis/`

Cours

Vendredi 31 Mars 2023, 10 :15
IPHT, Salle Claude Itzykson, Bât. 774
Domaines : physics

Titre : *The space of holographic CFTs*

Orateur : **Eric Perlmutter**

Résumé : *This course will provide a modern point of view on the wide world of large N conformal field theory (CFT) in diverse spacetime dimensions, placed in the context of the conformal bootstrap and the AdS/CFT Correspondence.*
Some questions we will tackle :
What is a "Holographic CFT" ?
– When does a CFT give rise to an equivalent, emergent simple gravity description ?
– What is the conformal bootstrap, and how is it used to constrain and classify the space of consistent large N CFTs and theories of quantum gravity ?
– Is string theory the only choice ? How can we detect strings and extra dimensions from properties of field theories ?
– What precise predictions does quantum gravity seem to make about the space of strongly coupled CFTs ?
Provisional lecture plan :
Lectures I-II : Introducing CFTs and their data, large N conformal bootstrap, AdS/CFT, and the notion of "Holographic CFT"
Lecture III : Correlation functions and holography
Lecture IV : Bootstrapping the space of Holographic CFTs
Lecture V : Special focus : Two-dimensional CFTs and AdS_3 gravity

Course website : https ://courses.ipht.fr/ ?q=en/node/310

Videoconference and in person in Salle Itzykson, IPhT
Livestream on youtube.com/IPhT-TV : no subscription required