Institut Henri Poincaré

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String Theory in Greater Paris

Rencontres Théoriciennes

"Supergravité, théorie des cordes et théorie M"

Jeudi 26 Mars 2020, 11:00

Matthew Walters

CERN

QFT from CFT

Quantum field theories describe RG flows between fixed points." This slogan provides a very useful qualitative picture, but we would like to make this statement more concrete and (ideally) more useful quantitatively. I will discuss a new proposed method for realizing this goal, which uses data from UV fixed points (i.e. CFTs) to numerically compute dynamical observables in more general strongly-coupled QFTs. This approach uses low-dimension operators from the UV CFT to approximate the low-energy eigenstates of the full QFT Hamiltonian, allowing us to study dynamics even at strong coupling. After presenting a general framework which can be applied to QFTs in any number of dimensions, I will then discuss its application to a particular 2D example where we can compare with known qualitative results, as well as recent ideas for applying this framework in higher dimensions and to gauge theories, including QCD.

Institut Henri Poincaré, salle 314, 3ème étage

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