— Cours thématiques du CPHT —

An Introduction to Conformal Field Theory in 2 + 1 Dimensions

Two lectures by **Junchen Rong** (CPHT)

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Salle de conférences Louis Michel
April 7 & 11, 2025 from **11:00** to **13:00**

Abstract

In this series of lectures, I will explore conformal field theories (CFTs) in 2 + 1 dimensions and the renormalisation group flows connecting them. I will begin by examining scalar CFTs, which correspond to Wilson-Fisher fixed points in $4-\varepsilon$ dimensions, focusing on their stability properties from a modern perspective. Following this, I will discuss 2 + 1 dimensional gauge theories with bosonic or fermionic matter. If time permits, I will also discuss the connections between these CFTs and quantum/statistical phase transitions.

Organisers: A. Fiorucci, P. M. Petropoulos, M. Sanchez