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 18 Novembre 2021, 11:45

Domenico Orlando

Torino INFN

Vector models at large charge (and some supersymmetry)

I will discuss the IR fixed point of the O(N) vector model in 3 dimensions (Wilson-Fisher point) in the framework of the large charge expansion. First I will construct an EFT valid for any N, then verify the prediction of the model in the double scaling limit of large N, large charge and finally discuss the use of resurgence to extend the validity of the EFT to sectors of small charge. I'll also show how studying the system at fixed charge allows to compute a large-N effective potential without using Feynman diagrams and use this result to discuss the consistency of the theory in higher dimensions.

Institut Henri Poincaré, salle 314, 3ème étage