

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 14 Décembre 2023, 11:45*

**Andrea Cavaglià**

*University of Turin*

**ting four-point functions with integrability, conformal bootstrap and parity sym**

*In theories like  $N = 4$  Super Yang Mills, we have two remarkable sets of tools at our disposal : integrability and the conformal bootstrap, which encode different information. The combination of these two approaches can lead to accurate bounds for some nontrivial 3-point functions in the planar limit, particularly in the setup of defect observables built on a supersymmetric Wilson line. However, while the precision is very good for the OPE coefficients of low-lying states, higher in the spectrum it drops rapidly, limiting the possibility to reconstruct correlation functions. I will present a new approach which allows to deduce rigorous bounds directly for a 4-point function, adapting appropriately the numerical bootstrap algorithms. I will show how, supplemented with different types of information from integrability, this method leads to a very precise determination of the correlator. I will also discuss the implications of a previously unnoticed parity symmetry in the defect CFT and future directions.*

**Institut Henri Poincaré, salle 314, 3<sup>ème</sup> étage**

Retrouvez les activités de la communauté parisienne de théorie des cordes sur  
<http://string.lpthe.jussieu.fr>  
La liste de tous les séminaires en région parisienne est disponible sur  
<http://string.lpthe.jussieu.fr/semparis>

---