

PRE-CORTONA MEETING

Department of Physics, University of Perugia, Aula E

May 27, 2014

Valentina Forini

Humboldt University Berlin, forini@physik.hu-berlin.de

🕒 15:00 - 16:30

Unitarity methods for scattering in two dimensions

Unitarity-based methods, whose use in four dimensions has been crucial for an efficient evaluation of scattering amplitudes in non-abelian gauge theories and gravity theories, will be applied to several massive two-dimensional models, including the world-sheet superstring in backgrounds relevant for the AdS/CFT correspondence. Evidence will be given for the cut-constructibility in the case of supersymmetric integrable models.

Erik Tonni

SISSA, Trieste, erik.tonni@sissa.it

🕒 17:00 - 18:30

Aspects of entanglement: entropies, negativity and causal holographic information

Entanglement of quantum states and its measures play an important role in many areas of theoretical physics. The entanglement entropy is a good measure for pure states, while the negativity allows to measure entanglement for mixed states. A method to compute negativity in QFT through the replica trick will be described. Analytic results and their numerical checks will be presented for simple 2D CFTs like the compactified boson and the Ising model. Within the class of theories with a holographic dual, besides the holographic entanglement entropy, a natural quantity to introduce is the causal holographic information. Its definition and properties will be discussed.