



Department of
Theoretical Physics

THE QUANTUM SPACETIME SEMINAR SERIES

$\bar{T}T$ - deformed CFTs as non-local CFTs

(Zoom Seminar)

Monica Guica

(IPhT, Saclay)

Date: June 13, 2022

Time: 6 PM IST

Zoom link shall be shared separately



$\bar{T}T$ and $\bar{J}T$ - deformed CFTs provide an interesting example of non-local, yet UV-complete two-dimensional QFTs that are entirely solvable. I will start by showing that both classes of theories possess Virasoro \times Virasoro or Virasoro- Kac- Moody \times Virasoro - Kac- Moody symmetry. For the case of $\bar{J}T$, I will discuss the classical realization of these symmetries in terms of field-dependent coordinate transformations and show how the associated generators can be used to define an analogue of "primary" operators in this non-local theory, whose correlation functions are entirely fixed in terms of those of the undeformed CFT. In particular, two and three-point functions are simply given by the corresponding momentum-space correlator in the undeformed CFT, with all dimensions replaced by particular momentum-dependent conformal dimensions. Interestingly, scattering amplitudes off the near-horizon of extremal black holes are known to take a strikingly similar form.