



Contribution ID: 97

Type: 10 min Talk + Poster

Entanglement along a massless flow: the tricritical Ising model

Monday, 4 September 2023 17:10 (10 minutes)

In recent decades, the study of entanglement has attracted interest in several areas. In particular, in conformal field theories, the entanglement entropy of an interval is known to grow logarithmically with the size of the system, proportional to the central charge of the CFT.

On the other hand, CFTs describe the fixed points of the renormalization group flow. It is therefore interesting to study how entanglement varies as we move along a renormalization group, interpolating between two different CFTs.

In this work we study the entanglement entropy of an interval in the integrable massless renormalization flow connecting the UV tricritical and the IR critical Ising CFTs. We compute the form factors of twist fields along the flow and we find the first correction to the IR entanglement entropy. Near the IR, the massless flow is described by a $T\bar{T}$ deformation of the Ising CFT and we recover the predicted functional form for a $T\bar{T}$ deformed CFT.

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Session Classification: Gong Session for Posters