



Istituto Nazionale di Fisica Nucleare

Bologna Workshop on:

## CFT AND INTEGRABLE MODELS

and their applications from gauge/gravity dualities to statistical mechanics and quantum information



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## Charge Imbalance resolved Rényi negativity of free compact boson

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When a theory possesses an additive global internal symmetry, its spatial entanglement spectrum for the states with fixed a global charge may be resolved into the local charge sectors corresponding to the subsystem. This has been termed symmetry-resolved entanglement. Free compact bosons possess a global  $U(1)$  symmetry due to invariance under translations in the target space. I will discuss the symmetry resolution of entanglement between two disjoint intervals for free compact boson in its ground state. Since we have a mixed state in two disjoint interval, we must study the negativity measures. I will discuss the symmetry resolution of Rényi negativity in this proposed talk. While Rényi negativity in itself is not an optimal entanglement measure, but contains all the information needed to compute negativity measures.

Reference: [https://link.springer.com/article/10.1007/JHEP02\(2023\)118](https://link.springer.com/article/10.1007/JHEP02(2023)118)

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