Entanglement Content of Localized Excitations: Symmetry Resolution

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Abstract: In this talk I will introduce some basic ideas about entanglement measures in many-body quantum systems and I will present one of the leading approaches to computing such measures in 1D QFT. This approach is based on relating entanglement measures to correlations functions of a special class of fields called branch point twist fields. Once this connection has been made, the problem of computing entanglement measures is reduced to computing correlation functions. I will explain how these functions become especially simple for certain types of excited states of QFT and how this simplicity allows us to compute many different measures very explicitly, including a measure that has attracted a lot of interest recently: the symmetry resolved entanglement entropy.

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