

- **Phase transition in Renyi Entropy**
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Entanglement entropies characterize the degree of entanglement present in a given quantum state, and in doing so probe interesting features of strongly coupled quantum systems. In this talk, we consider entanglement Renyi entropies of conformal field theories (CFT). If the CFT possesses a sufficiently low dimension scalar operator, the Renyi entropies will exhibit a phase transition at a critical value of the Renyi parameter. The location of the phase transition, along with the lowest eigenvalue of the reduced density matrix, can be computed as a function of the dimension of the lowest dimension non-trivial scalar operator in the theory.