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# Ma-Ke Yuan: Rényi Entropy with Surface Defects in Six Dimensions

*Thursday, July 17, 2025 3:30 PM (20 minutes)*

Defect operators in quantum field theory have attracted significant attention in recent years. Meanwhile, quantum information measures—such as Rényi entropy—provide powerful tools to probe quantum field theories. In this talk, I will focus on surface defects in 6d (2,0) theories and their contributions to the Rényi entropy and supersymmetric Rényi entropy. Remarkably, the contribution to supersymmetric Rényi entropy can be compactly expressed in terms of the Weyl anomaly coefficients of the defects. I will begin by reviewing related concepts, including defects, entanglement entropy, replica trick, and (supersymmetric) Rényi entropy. After motivating this work, I will present explicit calculations in free field theory and holography. The talk will conclude with discussions on future directions, including possible connections with monodromy defects.