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# Scattering Entanglement Entropy and Its Implications for Electroweak Phase Transitions

*Wednesday, 27 August 2025 09:30 (30 minutes)*

In this presentation, we discuss a relation between the dynamics of the ElectroWeak Phase Transition (EWPT) and the entanglement entropy defined in scattering processes. As a representative scenario, we focus on the SM extension with N singlet scalar fields with the global O(N) symmetry. We also discuss a possibility that the entanglement entropy may be used as an order parameter for the EWPT. The content of this talk is based on the following paper [https://arxiv.org/abs/2505.06001].

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