

Exact \overline{TT} deformation of two-dimensional Yang-Mills theory

Tuesday, 14 June 2022 12:30 (35 minutes)

In this talk, I will discuss the \overline{TT} deformation of Yang-Mills theory in two dimensions. Focusing on the sphere topology and unitary gauge groups, I will show how the deformed partition function can be obtained by solving the relevant flow equation at the level of individual flux sectors. For positive values of the deformation parameter, the quantum spectrum of the theory experiences a truncation, the partition function reducing to a sum over a finite set of energy levels. For negative values, the appearance of nonperturbative contributions drastically modifies the structure of the partition function regularising its naive divergences. In the large- N expansion, the theory exhibits a rich phase diagram where the transitions between different phases are driven by instantons both in the 't Hooft coupling (leading to a deformed Douglas-Kazakov phase transition) and in the deformation parameter.

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