上海数学与交叉学科研究院



Shanghai Institute for Mathematics and Interdisciplinary Sciences

SIMIS Seminar series on Random matrix theory, Integrable systems and Applications.

Prof. Yunfeng Jiang

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"Resurgence of $T\overline{T}$ -deformed Partition Function"

Abstract

In this talk, I will discuss the torus partition function of $T\bar{T}$ -deformed conformal field theories. I will first review $T\bar{T}$ -deformation with an emphasis on the modular property of the deformed torus partition function. Then I will discuss how to compute the deformed partition function as a formal power series of the deformation parameter and introduce an efficient method to compute the coefficients. The large order perturbative data give convincing evidence that the series is asymptotic. One can make sense of the asymptotic series and extract non-perturbative contributions from it by resurgence. Finally I will discuss the origin of the non-perturbative contribution, which comes from new complex saddle points after analytically continuing the modular parameters in the integral representation of the partition function.

Note: Blackboard talk.

Biography of the speaker

Prof. Yunfeng Jiang received his PhD from Sorbonne University in 2015, Paris, France. He then moved to ETH Zurich and later to CERN for postdoctoral research from 2015 to 2021. He joined Southeast University in 2021 and is currently a professor at School of Physics and Shing-Tung Yau Center. His main research interests include integrable systems and their applications, quantum field theory and quantum gravity.

Date and Place: 24th December 2024, 11:00h-12:00h. Room: 1410. Send comments or questions to: Miguel Tierz to tierz at simis.cn