Mathematics and CS Seminar

On superbosonization identity and its applications to random matrix theory

Shon Ngo
ISTA

Host: Laszlo Erdös

The method of commuting and anticommuting variables (also known as the supersymmetry method) proved to be useful in many different questions of the random matrix theory. One of the variants of the supersymmetry method relies on the so-called superbosonization identity. This identity can be used to transform complicated integrals arising from the invariant random matrix ensembles to much simpler integrals with fixed number of commuting and anticommuting variables. The advantage of this approach is that the asymptotic behaviour of the latter integrals usually can be analyzed by standard methods (e.g. saddle point method). The proof of the superbosonization formula uses representation theory and Lie groups and in this talk I will outline the main ideas of the proof. The talk is based on the paper by Littelmann, Sommers and Zirnbauer (https://arxiv.org/abs/0707.2929).

Thursday, March 23, 2023 04:15pm - 05:15pm
Heinzel Seminar Room (I21.EG.101), Office Building West, ISTA

This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station. Please find a schedule of the ISTA Shuttle on our webpage: https://ista.ac.at/en/campus/how-to-get-here/ The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.