



Speaker: Prof. Oleg Lisovyi, Université de Tours

Title: Quasiclassical conformal blocks and Heun connection matrix

Abstract:

Conformal blocks of Liouville CFT have simple global analytic properties with respect to the positions of degenerate fields. The corresponding monodromy is operator-valued as it involves shifts of internal momenta. In the quasiclassical limit, the BPZ equation satisfied by the simplest nontrivial example of such conformal block reduces to Heun equation. I will explain how careful analysis of the limit allows to solve the Heun connection problem in terms of quasiclassical Virasoro conformal blocks. This leads to a generalization (discovered by Bonelli, Iossa, Panea and Tanzini) of a conjectural relation between quasiclassical Liouville CFT and Heun accessory parameter function found by Zamolodchikov in 1986. I will then discuss how this relation can be checked with the help of the classical Darboux theorem relating the Heun connection matrix to the large-order asymptotics of the coefficients of the corresponding Frobenius solutions.