Contribution ID: **41** Type: **not specified**

Janossy densities of the thinned Airy point process: the Schrödinger and (c)KdV equations

Thursday, May 26, 2022 2:30 PM (45 minutes)

The aim of the talk is to show that the Janossy densities of a suitably thinned Airy kernel point process are governed by the Schrödinger and (cylindrical) KdV equations; moreover, we prove that the associated wave functions satisfy a system of coupled integro-differential Painlevé II equations.
These results are obtained by characterizing the Janossy densities in terms of a Riemann-Hilbert matrix factorization problem with poles which is analysed by the theory of Darboux-Schlesinger transformations. This approach also allows to investigate asymptotics for the Janossy densities in various regimes (in progress). The talk is based on ongoing work with T. Claeys, G. Glesner and G. Ruzza.

Primary authors: GLESNER, Gabriel; RUZZA, Giulio (Université catholique de Louvain); TARRICONE, Sofia (UCLouvain); CLAEYS, Tom (UCLouvain)

Presenter: TARRICONE, Sofia (UCLouvain)