

Some analytical aspects of the Kontsevich matrix model

Friday, June 9, 2017 11:20 AM (40 minutes)

In this seminar I will show that the Kontsevich integral on $n \times n$ matrices ($n < \infty$) is the isomonodromic tau function associated to a 2×2 Riemann–Hilbert problem. This approach allows us to gain control of the analysis of the convergence as $n \rightarrow \infty$. By an appropriate choice of the external source matrix in Kontsevich's integral, I'll show that the limit produces the isomonodromic tau function of a special tronquée solution of the first Painlevé hierarchy, and I will identify the solution in terms of the Stokes' data of the associated linear problem. Time permitting I will address the problem of universality for the Kontsevich matrix model. This is a joint work with M. Bertola.

Primary author: Mr CAFASSO, Mattia (Université d'Angers)

Presenter: Mr CAFASSO, Mattia (Université d'Angers)