



**UNIVERSITÄT
BIELEFELD**



Faculty of Physics



Faculty of Mathematics



THE UNIVERSITY OF
MELBOURNE

Seminar

Bielefeld - Melbourne Random Matrices

Thomas Leble

University Paris-Cite, CNRS

Charge fluctuations in 2d Coulomb (and related) systems

The "two-dimensional one-component plasma" (2DOCP) or "2d log-gas" is a system of statistical physics that can be seen as an extension of the Ginibre ensemble of RMT to "arbitrary temperatures". It exhibits excellent and somewhat surprising rigidity properties. I will review some of those with a focus on the most basic observable, namely the "number statistics" in a sub-system, and compare them to what is known for other 2d point processes of the same kind. Then I will sketch a proof of "hyperuniformity", which was predicted a long time ago by physicists, while emphasizing the distance remaining to the full extent of their statements.

**Wednesday, 31 May 2023,
0900 hrs CET**

Zoom Conference call— Please contact Lucas Hackl
(Lucas.Hackl@unimelb.edu.au) for details regarding access