



# Seminar

## Random Matrices

**Gaultier Lambert**  
University Zürich

### Fluctuations of beta-ensembles in the high temperature regime

I will report on recent results from arXiv:1909.01142 (joint work with Adrien Hardy) and arXiv:1912.10261 on beta-ensembles (and Coulomb gas in higher dimension) in the so-called high temperature regime. I will first explain what is the high temperature regime, how it differs from the usual fixed  $\beta$  regime and why it is interesting. Then, I will present different theorems which characterize the fluctuations of the particles in the large  $N$  limit. I will first explain the large deviations principle and a central limit theorem which describes the fluctuations of the empirical measure. Then, I will show that local configurations converge to a Poisson point process in the bulk.

**Wednesday, 24 June 2020, 0900 hrs CEST**

Zoom Konferenzschaltung— Please contact Gernot Akemann  
(akemann@physik.uni-bielefeld.de) for details regarding access