

## Analysis and Applied Mathematics Seminar

### *Large Deviation Principle for local empirical measure of Coulomb gases at intermediate temperature regime*

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**Abstract:** We work with Coulomb gases at an intermediate temperature regime. We define a local empirical field and identify a critical temperature scaling. We show that if the scaling of the temperature is supercritical, the local empirical field satisfies an LDP with an entropy-based rate function. We also show that if the scaling of the temperature is subcritical, the local empirical field satisfies an LDP with an energy-based rate function. An important idea in this work is to exploit the different scaling relations satisfied by the Coulomb energy and the entropy.

Monday, April 5 at 4:00 PM in Zoom