

## Numerical methods for the Vlasov-Poisson system under the quasi neutral and fluid scalings.

*Tuesday, December 13, 2022 9:00 AM (45 minutes)*

In this talk we will discuss the development and the analysis of asymptotic stable and consistent schemes in the joint quasi-neutral and fluid limits for the collisional Vlasov Poisson system.

We will first introduce the quasi neutral scaling and its formal limit and then we will discuss different numerical approaches based on splitting techniques for dealing with the stiffness of the resulting equations.

We will then propose a new scheme which is stable for arbitrary choices of the time steps independently from the small scale dynamics and we perform a linear stability analysis.

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