

# Asymptotic analysis and simulation of collisional Vlasov-Poisson models

*mercredi 20 mars 2024 16:50 (30 minutes)*

This presentation focuses on collisional Vlasov-Poisson systems. These kinetic models are of primary interest, as they encode the multiple scales that arise in a plasma, ranging from fluid-like behavior when collisions dominate to wave interactions in weakly collisional regimes. We present quantitative results that capture the scales of both the continuous model and its discretized formulation. Then, we carry out various simulations which highlight our theoretical results (phase transition between regimes, plasma instabilities).

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