

Analysis of discontinuous Galerkin/Hermite spectral methods for the Vlasov-Poisson system

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In this talk, I present some recent results obtained in collaboration with Francis Filbet. We study discontinuous Galerkin approximations for the Vlasov-Poisson system written as an hyperbolic system using Hermite polynomials. We introduce a new L^2 weighted space, with a time dependent weight, allowing to prove global stability. Moreover, we prove the convergence of the proposed method by establishing error estimates between the numerical solution and the smooth solution to the Vlasov-Poisson system.

Orateur: BESSEMOULIN-CHATARD, Marianne