

Accurate Numerical Solution of Fokker-Planck-Landau Type Kinetic Equations

Lorenzo Pareschi

Department of Mathematics

University of Wisconsin-Madison, USA

e-mail : pareschi@math.wisc.edu

<http://www.unife.it/prl/>

Abstract

We describe a new approach to the numerical solution of the Fokker-Planck-Landau (FPL) equation in the non-homogeneous case. The method couples through a time splitting algorithm, a finite volume scheme for the Vlasov-Poisson system with a fast spectral solver for the collision operator. Numerical results for space homogeneous and space non homogeneous problems are presented.