

A conservative semi-Lagrangian method for the gyrokinetic Vlasov equation

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In this talk, after a short review of different classes of semi-Lagrangian methods, we shall introduce a conservative semi-Lagrangian method aimed at the simulation of the gyrokinetic Vlasov equation which is an approximation of the Vlasov equation valid when there is a very large magnetic field and that is widely used for the simulation of the development of turbulence in magnetic fusion plasmas. Specific issues linked to limiters, which play a major role for these problems, and the geometry of the tokamak that is dealt with using mapped meshes will be addressed.