

Abstract Submitted  
for the DPP09 Meeting of  
The American Physical Society

**Progress report in developing a 3D parallel object-oriented Vlasov-Fokker-Planck code** MICHAEL TZOUFRAS, ANTHONY BELL, University of Oxford, RAOUL TRINES, PETER NORREYS, RAL, FRANK TSUNG, UCLA — We utilize the expansion of the electron distribution function to spherical harmonics to design an object-oriented VFP code [1]. Using this approach we significantly reduce the size of the computational grid, compared to what is required by standard VFP codes, thereby making it possible to model the entire distribution function in three dimensions. The object-oriented design allows for parallelism and interchangeability of numerical operators. The performance of the most up-to-date version of the code in terms of speed, accuracy and stability is discussed for standard plasma physics problems.

[1] A. R. Bell et al., Plasma Phys. Control. Fusion 48 (2006) R37-R57.

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Date submitted: 18 Jul 2009

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