

Abstract Submitted
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One and two dimensional electromagnetic gyrokinetic PIC simulation by δf method C.M. CHEN, Y. NISHIMURA, C.Z. CHENG, Institute of Space and Plasma Sciences, National Cheng Kung University — An electromagnetic gyrokinetic Particle-in-Cell simulation is studied aiming at long-wave-length magneto-hydrodynamic instabilities. A fully nonlinear characteristic method (δf method) of electrostatic gyrokinetic theory is employed.¹ For a one dimensional geometry, “0.5 dimension” is taken in “ y -direction” of the configuration space and another “0.5 dimension” is taken in the “ v_z -direction” of the velocity space. Recent electromagnetic δf simulation shows optimistic results.² We revisit the importance of the conservation properties in the low dimensional geometries. This work is supported by National Science Council of Taiwan, NSC 100-2112-M-006-021-MY3 and NSC 103-2112-M-006-021-MY3.

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