

Abstract Submitted
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**Gyrokinetic Particle Simulation Of Drift Compressional Mode
In Magnetic Dipole Geometry** PETER PORAZIK, ZHIHONG LIN, University
of California, Irvine, Department of Physics and Astronomy — The Pc5 magnetic
pulsations dominated by compressional modes have been regularly observed in the
Earth's magnetosphere. The objective of this project is to study the linear excitation
and nonlinear evolution of these ultra low frequency pulsations, focusing on unstable
magnetic trapped particle modes, with kinetic effects due to wave-particle resonance
and finite Larmor radius. The method is to develop a three dimensional gyrokinetic
particle simulation, with the dipole equilibrium field modelling the Earth's magne-
tosphere. Results of drift-kinetic simulations will be presented. Currently the code
is being benchmarked against analytic results in the gyrokinetic regime.

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