

Abstract Submitted
for the DPP00 Meeting of
The American Physical Society

Sorting Category: 6.1.0 (Theoretical)

Continuum Gyrokinetic Code Simulations in a Non-cyclic Finite-width Radial Annulus¹

R.E. WALTZ, J. CANDY, M.N. ROSENBLUTH, General Atomics — A recently developed continuum nonlinear gyrokinetic 5D code GYRO employs a real space radial grid for potential global simulation. TAt present, the code can operate in the standard flux tube limit with cyclic radial boundary conditions and vanishing radial width to reproduce results of gyrokinetic codes formulated in the radial Fourier transform space of the ballooning mode representation. In this poster we explore a novel mode of operation in a noncyclic radial annulus with finite radial width and radial profile variation. A time and space average of the nonlinear $n = 0$ zonal flow drive is introduced as a source to maintain the equilibrium profiles. Zero-gradient radial boundary conditions allows finite transport in and out of the annulus.

¹Work supported by the U.S. DOE under Grant DE-FG03-95ER5409 and additionally by the DOE/OFES Plasma Sciences Advanced Computing Initiative (PSACI) Microturbulence Project.

Prefer Oral Session
 Prefer Poster Session

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Date submitted: July 12, 2000

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