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Linear Gyrokinetic Simulations of Electrostatic Ion Temperature Gradient Driven Instability In a Toroidal Reverse Field Pinch VARUN TANGRI, PAUL TERRY, Department of Physics, University Of Wisconsin, Madison, R.W. WALTZ, General Atomics, San Diego, CA — We address linear Ion Temperature Gradient (ITG) driven micro-turbulence in a real RFP geometry using GYRO[1], a code extensively used for simulations of micro-instabilities in tokamak geometry. The parameters in the RFP suggest an ultra-low q, negative shear regime with average bad curvature that has been rarely investigated. We show that this regime has unique mode structure and scaling properties. The code GYRO has been modified to simulate ITG in a collisionless, linear, electrostatic limit. We compute the growth rate spectrum, and analyze its dependence on density and temperature scalelengths. We also make comparisons with simple calculations and potential relevance of the slab and toroidal branches. [1] J. Candy and R.E. Waltz, J. Comp. Phys. 186, 545 (2003)

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