

Abstract Submitted  
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**Deviations from Axisymmetry in Rotating Multiscale Gyrokinetics** IAN ABEL, Princeton Center for Theoretical Science, Princeton University, Princeton, NJ 08544, USA, MATT LANDREMAN, Department of Physics, University of Maryland, College Park, MD 20742-4111, USA — We extend Multiscale Rotating Gyrokinetics [Abel et. al. Rep. Prog. Phys. 2013] to include small non-axisymmetric magnetic fields, including both ripple and applied magnetic fields. We develop a framework in which neoclassical toroidal viscosities can compete with turbulent momentum fluxes in regulating the size of the global toroidal flow. In addition, we gain the capability to study the effects of small non-axisymmetric magnetic fields on the gyrokinetic turbulence itself. This work will also enable the study of how turbulence can affect the penetration of non-axisymmetric fields into the plasma.

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