

Abstract Submitted
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Global gyrokinetic simulations of the W7-X stellarator using the GTC code¹ JAVIER H NICOLAU, HONGYU WANG², ZHIHONG LIN, University of California, Irvine — Ion temperature gradient (ITG) turbulence in the Wendelstein 7-X (W7-X) is simulated using the gyrokinetic particle simulation code GTC. Using an electrostatic model with adiabatic electrons in a 3D geometry with magnetic coordinates, linear and non linear simulations are carried out in a partial torus. Numerical results are compared with other codes. Mode structure and coupling in W7-X stellarator is analyzed. Suppression of ITG turbulence due to zone flows is observed. Initial comparisons between neoclassical transport and turbulence transport are reported.

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