

Abstract Submitted  
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**Gyrokinetic simulations of ITG turbulence in the Reversed Field Pinch** I. PREDEBON, Consorzio RFX, Padova, Italy, C. ANGIONI, Max Planck Institut fur Plasmaphysik, Garching, Germany, S.C. GUO, Consorzio RFX, Padova, Italy — The Reversed Field Pinch geometry has been implemented in the gyrokinetic code GS2<sup>1,2</sup>, to investigate the instability of ion temperature gradient (ITG) modes in typical plasmas of the RFX-mod device. The numerical results are found in agreement with previous analytical<sup>3</sup> and numerical<sup>4</sup> estimates, in the appropriate limits. Consistently, ITG modes are found to be only marginally unstable, in correspondence to the steep temperature gradients at the boundary of the helical structure in the quasi-single helicity states. We discuss the dependence of the ITG instability threshold on the relevant parameters, like density gradient and magnetic shear. The excitation of trapped electron mode (TEM) turbulence is also considered.

<sup>1</sup>M. Kotschenreuther *et al.*, Comput. Phys. Commun. **88**, 128 (1995)

<sup>2</sup>W. Dorland *et al.*, Phys. Rev. Lett., **85**, 5579 (2000)

<sup>3</sup>S. C. Guo, Phys. Plasmas **15**, 122510 (2008)

<sup>4</sup>F. Sattin *et al.*, Easter Plasma Meeting 2009, Torino, Italy

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