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Gyrokinetic Simulation of Trapped Electron Mode Turbulence
YONG XIAO, ZHIHONG LIN, University of California, Irvine — Trapped electron mode (TEM) has long been considered as an important candidate to account for the anomalous transport in the core plasma. Global gyrokinetic particle simulation using the GTC code finds that the trapped electron mode (TEM) can be driven unstable by steep density gradient. Gyrokinetic particle simulation shows that in TEM turbulence trapped electrons can drive larger heat transport that ions. A second busty phenomenon is observed, which differs from its ITG counter part. It is also found that zonal flow plays an important role in regulating TEM turbulence with the current parameters, as it does for ITG turbulence.

Yong Xiao
University of California, Irvine

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