

Abstract Submitted
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Simulation of Temperature-Gradient Mode in the presence of Radio-Frequency Waves in Ionosphere¹ S SEN, NIA/William Mary/Bowie State University — In our earlier work (REDS Plasma Science and Technology, 171, 52 (2016)) the ion temperature driven modes was studied in the presence of radio frequency waves by the use of Gyro-Kinetic simulation Code. It was shown that the radio frequency waves through the ponderomotive force can stabilize the ion temperature gradient instabilities and contrary to the usual belief no radio frequency wave induced flow generation hypothesis was required. This might be a major way to explain many unknowns in the space plasma and can also help to create a transport barrier in the fusion energy generation. In this work we extend our earlier work to investigate the consequent transport and report the effect on the ion turbulent diffusivity.

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