

Abstract Submitted  
for the DPP11 Meeting of  
The American Physical Society

**Full torus kinetic simulation of radio frequency wave in fusion plasmas** ANIMESH KULEY, ZHIHONG LIN, University of California Irvine — We are looking into a new kinetic simulation model to study the radio frequency heating and current drive of plasma using gyrokinetic toroidal code GTC. In this model electrons are treated as drift kinetic (DK) particles and ions are considered as fully kinetic (FK) particles. This scheme is particularly suitable for plasma heating and current drive with wave frequencies lower than the electron cyclotron frequency, ranging from fast wave and ion cyclotron wave to lower hybrid wave. This model also can handle physics with realistic electron-to-ion mass ratio and nonlinear dynamics in the full torus simulation.

Animesh Kuley  
University of California Irvine

Date submitted: 15 Jul 2011

Electronic form version 1.4