

*AE effects on Electron Thermal Transport

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Content/Subject: Show relationship between presence/amplitude of GAE modes on increased thermal transport in core of NSTX (and MAST?)
H-mode plasmas - theory, ORBIT modeling, experimental data

New material: 2009 run, spatial information - 2 high-k radial locations show different mode amplitude, FReTIP confirms core localization of mode.

‘Bursting’ nature of GAEs may dramatically increase transport due to strong non-linear relationship between mode amplitude and effective χ_e (peak amplitude may dominate over time averaged amplitude)

Possibility of new BES data from 2010 run, shouldn’t rely on it

Todo list: Equilibrium/TRANSP runs for relevant shots, obtain calibrated δ_n/n data from high-k & FReTIP, compare to synthetic measurements from ORBIT if possible.

Investigate alternative theory (Kolesnichenko et al, PRL2010) of energy channeling via. wave damping. Can our data say anything about this?