TAE phase varies strongly with radius – Investigate cause

- Reflectometers measure strong radial TAE phase variation

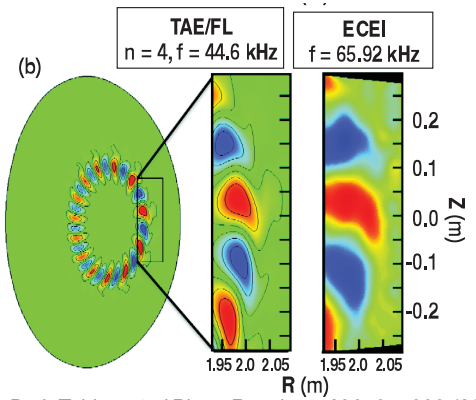
Possible explanations for phase variation

- Coupling to fast-ions – predicted by code (TAE/FL in DIII-D, M3D-K in NSTX)
- Elevation of reflectometers + broad poloidal harmonic spectrum - predicted by NOVA-K (ideal MHD) in NSTX

Experiment: isolate cause

- Position reflectometers in midplane
- Measure local k_Θ – small vertical jogs
- Compare measurement with NOVA-K & M3D-K

DIII-D RSAE



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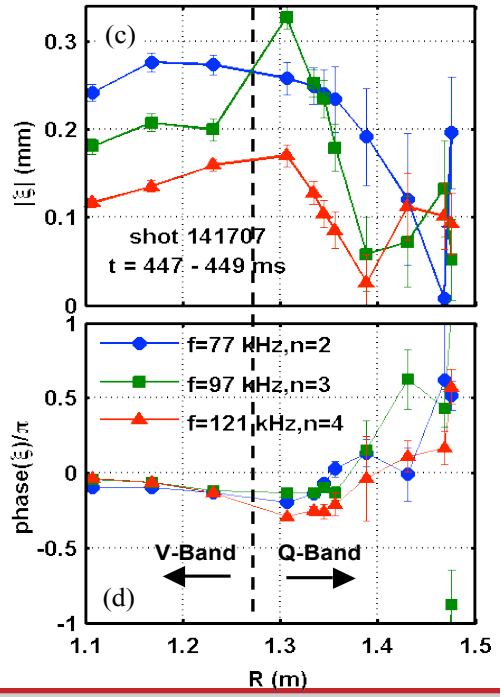
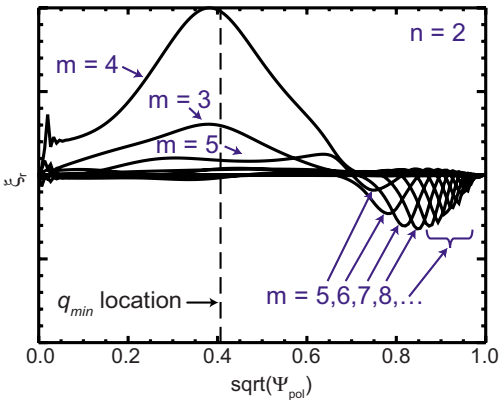
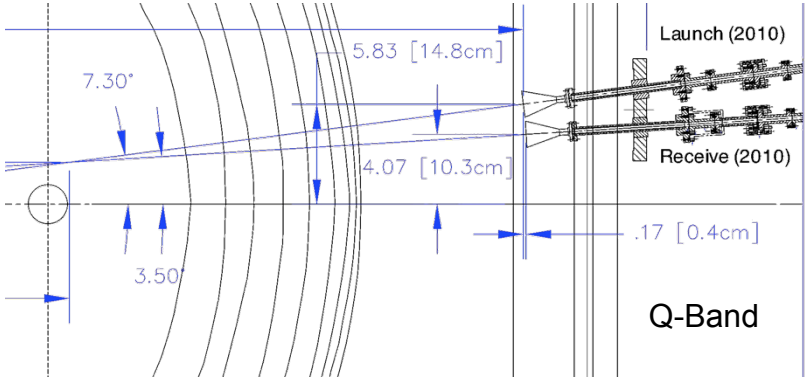
NSTX TAE structure



NSTX NOVA-K eigenmode
RSAE/TAE hybrid



Reflectometer Position



M3D-K calculation of TAE phase and amplitude