

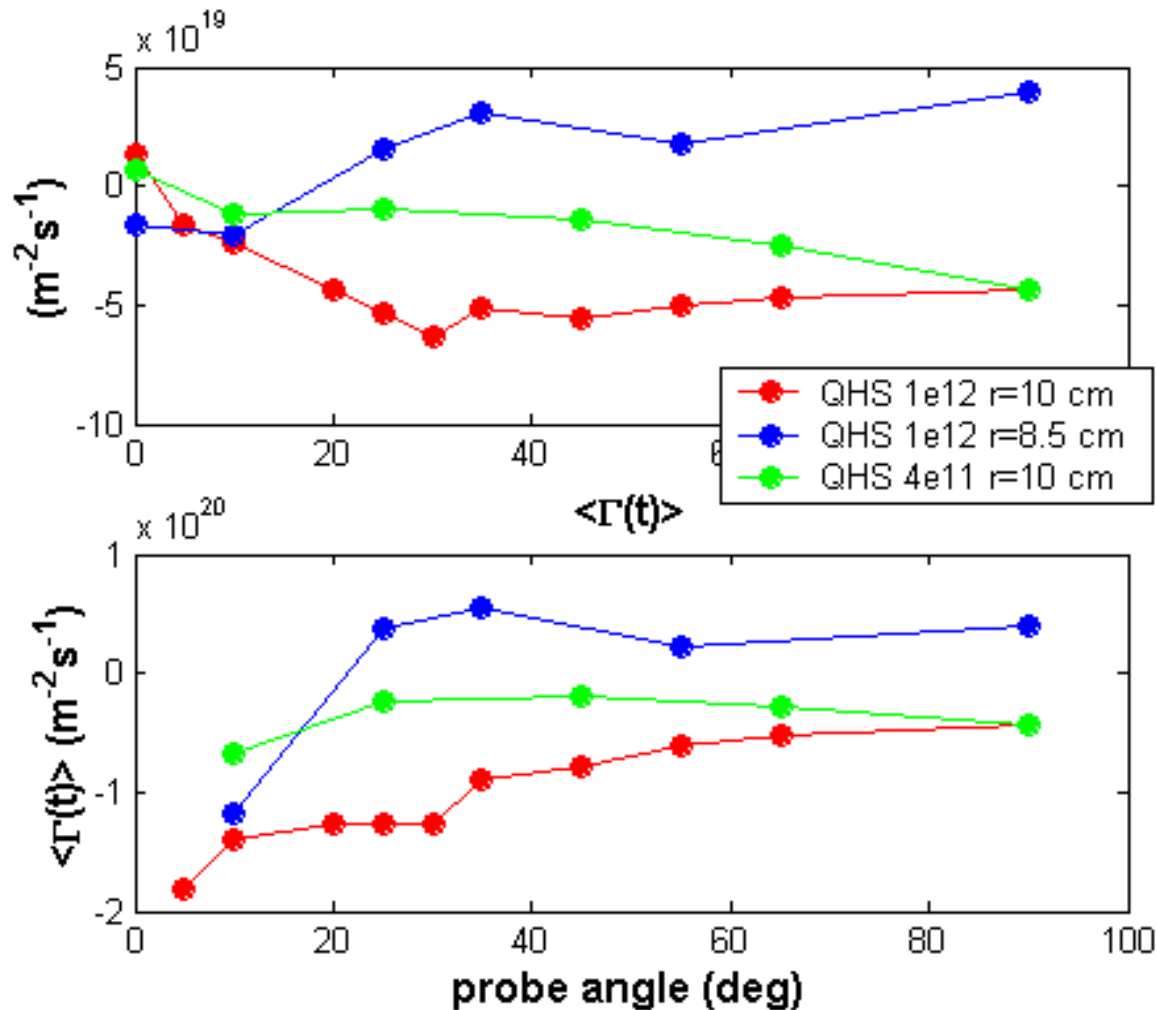
# Experiment in rotating probes...

W.G.

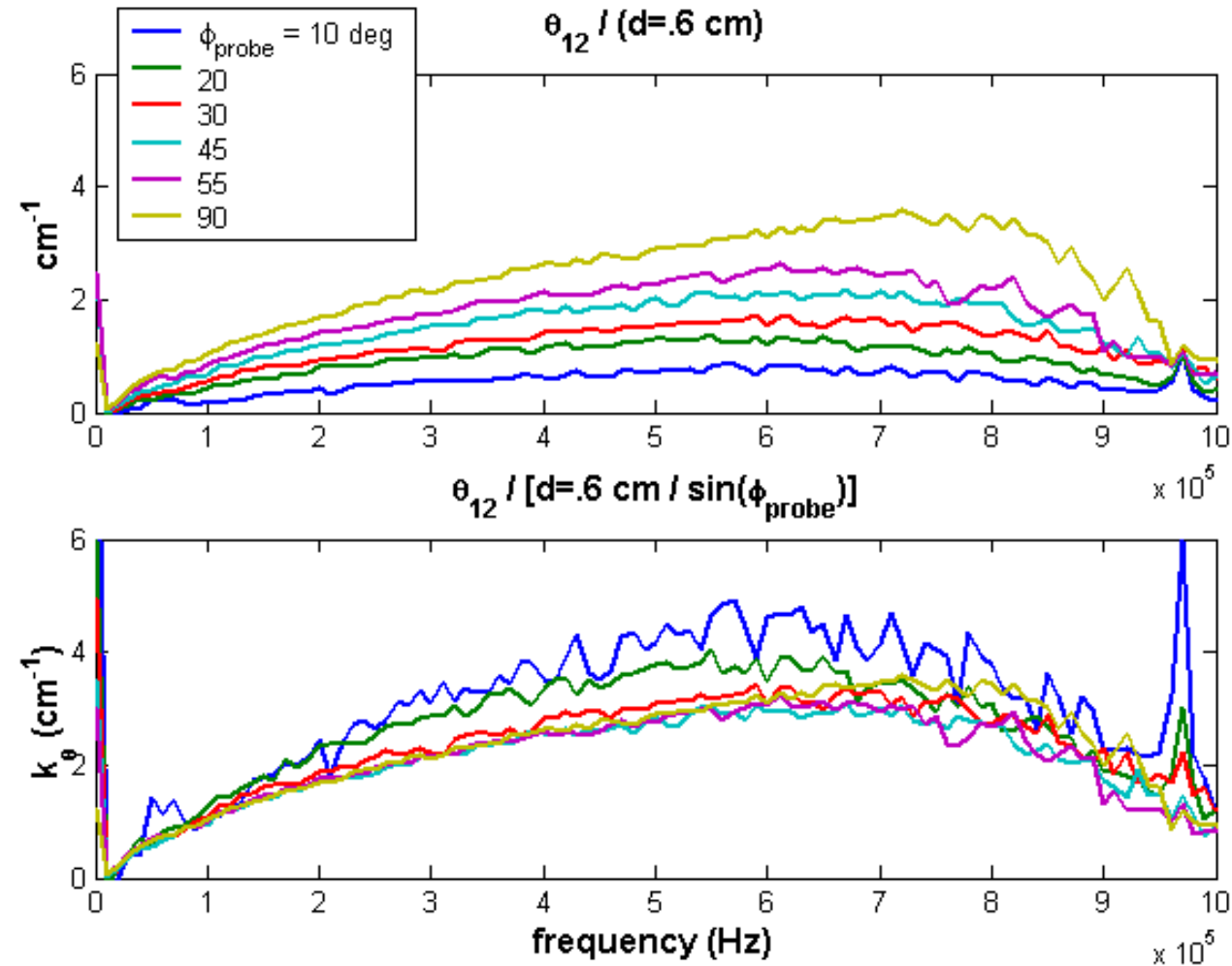
10/10/03

# Time averaged transport with varying probe rotation

- varying projected poloidal separation of probe tips in an attempt to verify the existence of (or lack of) smaller scales responsible for transport



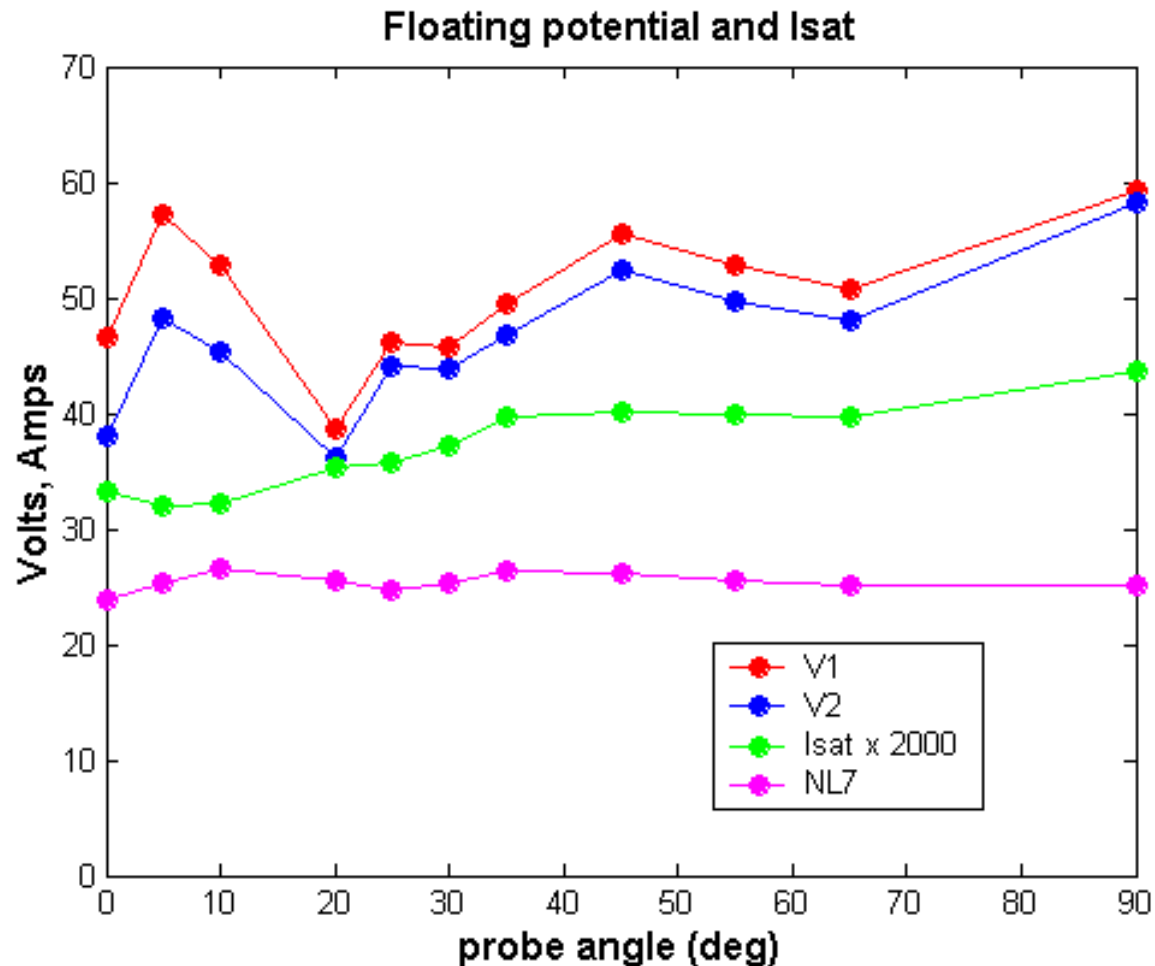
# “Poloidal” wavenumber spectra



For  $\phi_{\text{probe}} \geq 30$  degrees  
(dsep  $\geq 3\text{mm}$ )  
- $k_\theta$  spectra remain  
roughly identical

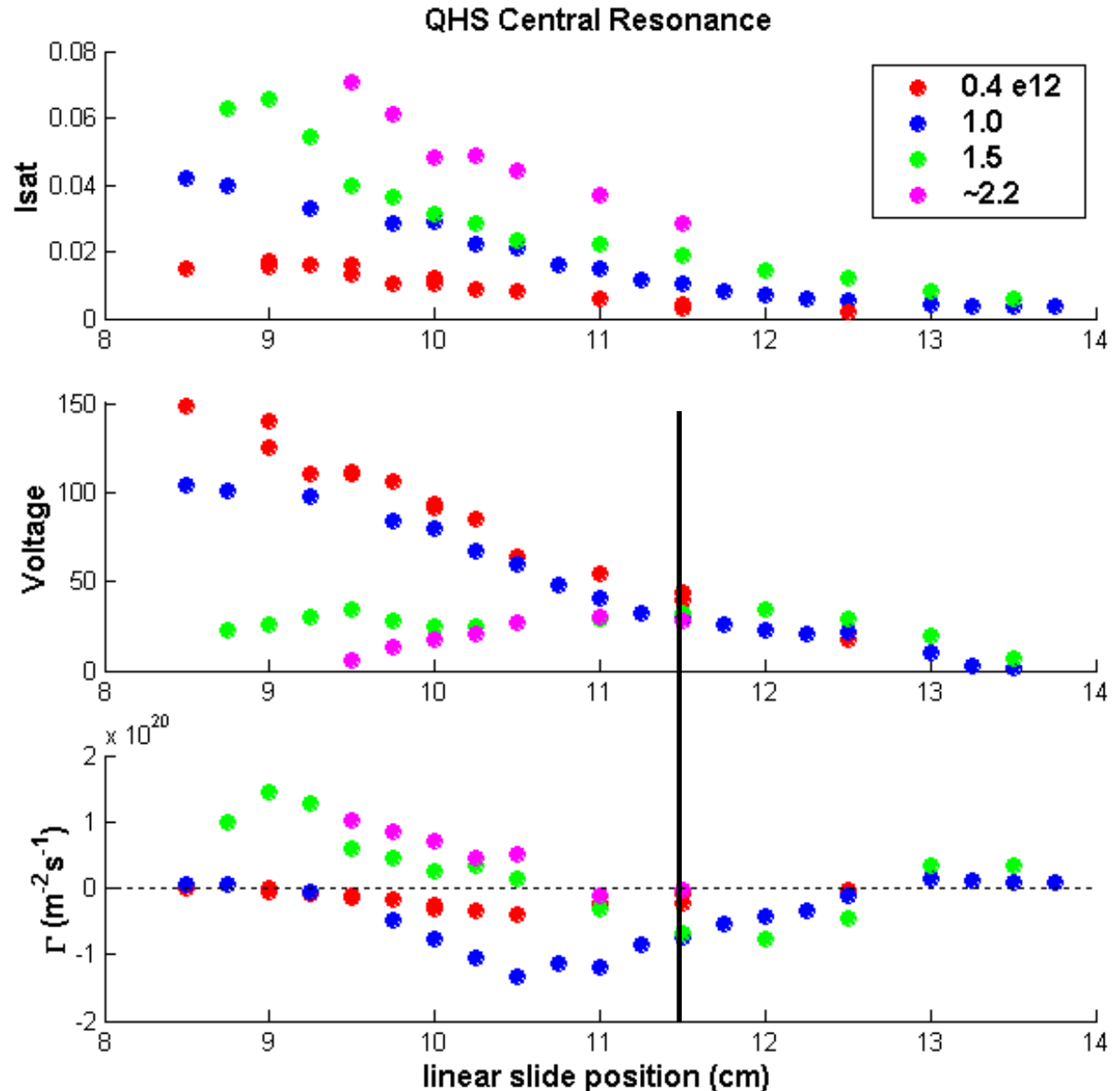
# Mean Vfloat, Isat, line-avg. density

- Shadowing effects?



# Radial profiles in QHS at various densities

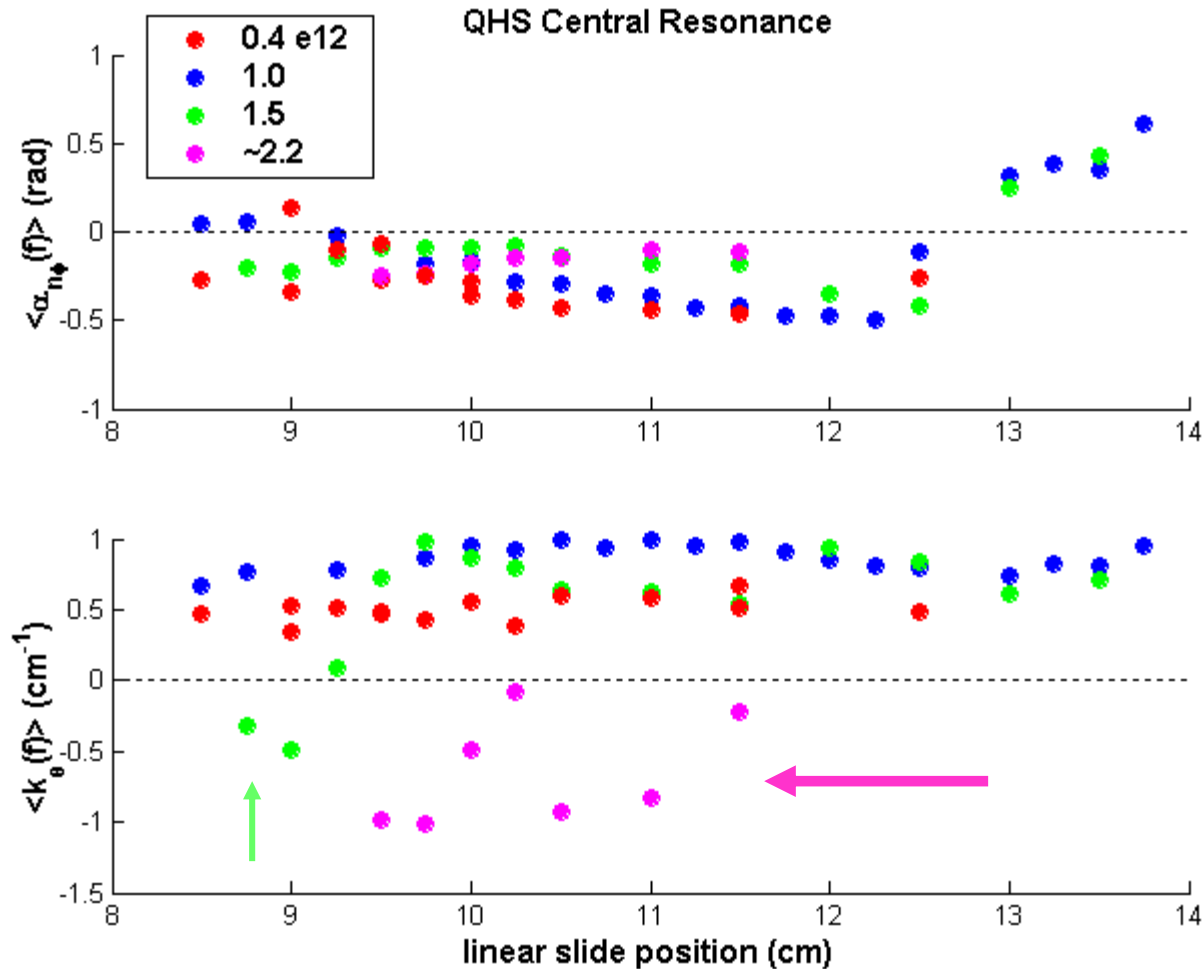
# QHS profiles at densities 0.4 - $\sim 2.2e12$



- Significant change in floating potential profile
- Transport becomes outward over larger portion of the edge (sep.  $\sim 11.5$  cm)

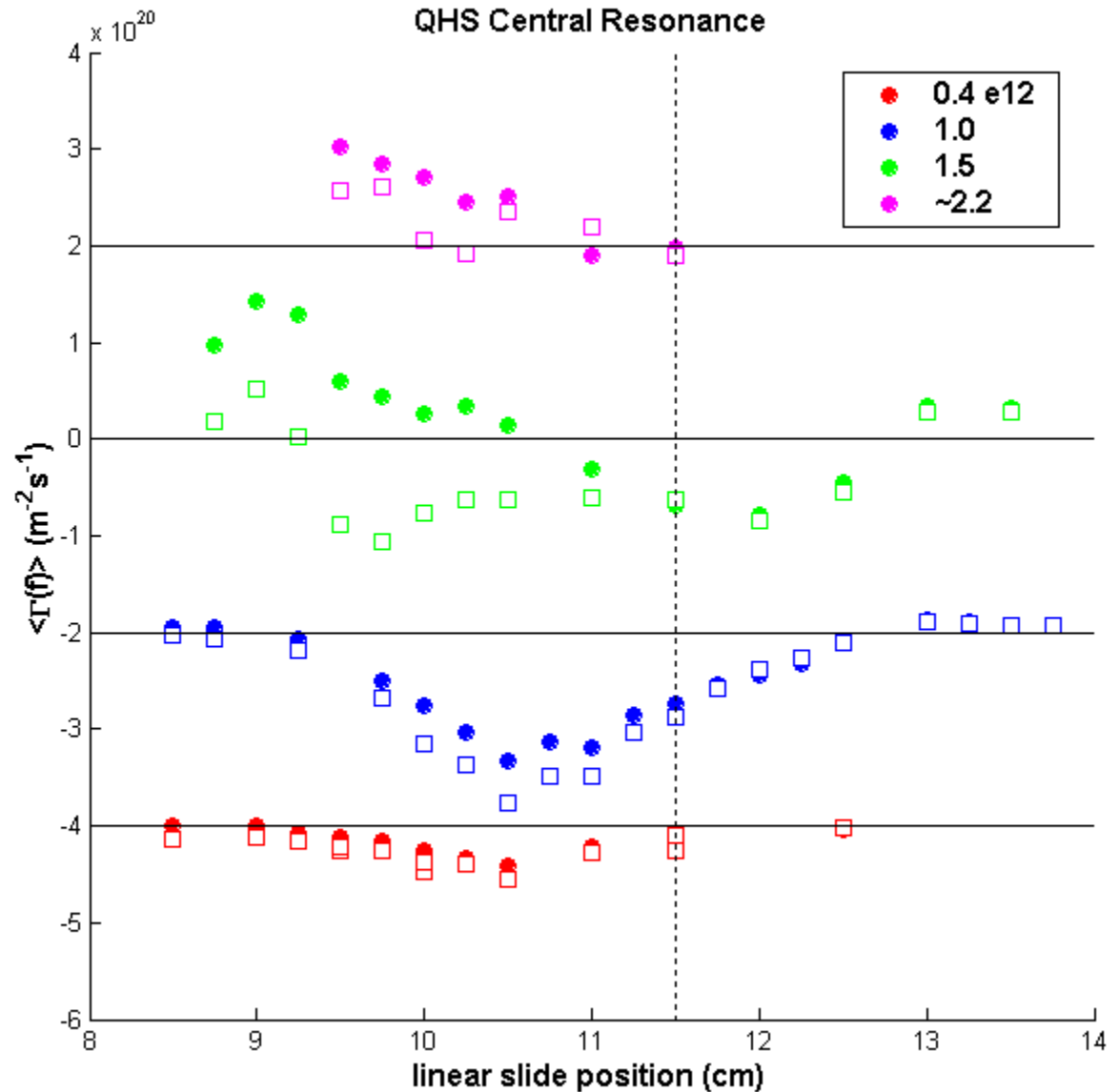
# Why is this?

- Propagation direction changes ( $k_\theta$  is negative),  $\alpha_{n\phi}$  remains negative.
  - $\Gamma(f) = k_\theta(f) |P_{n\phi}(f)| \sin(\alpha_{n\phi}(f))/B$



# Difference in $\Gamma$ estimation

- Closed circles – time averaged  $\Gamma$
- Open squares – frequency averaged  $\{k_\theta(f) |P_{n\phi}(f)| \sin(\alpha_{n\phi}(f))/B\}$





# In r/a coordinates...

