Experiment in rotating probes…

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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 $\geq$ 3mm) - $k_\theta$ 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 - ~2.2e12

- Significant change in floating potential profile
- Transport becomes outward over larger portion of the edge (sep. ~ 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...