

High-k status and XPs 714 & 734

D. Smith for the high-k group

High-k system status

- Increase detection bandwidth
 - New video amps will increase detection bandwidth from 0.6 to 3.75 MHz
 - New DAQ card will increase sampling from 2.5 MS/s to 12.5 MS/s
 - Changes provide additional capability for analyzing **asymmetric spectra** (e.g. Doppler shift from toroidal rotation)
- New optical attenuator mounts will eliminate any **standing waves** with exit windows

XP-714 (Smith)

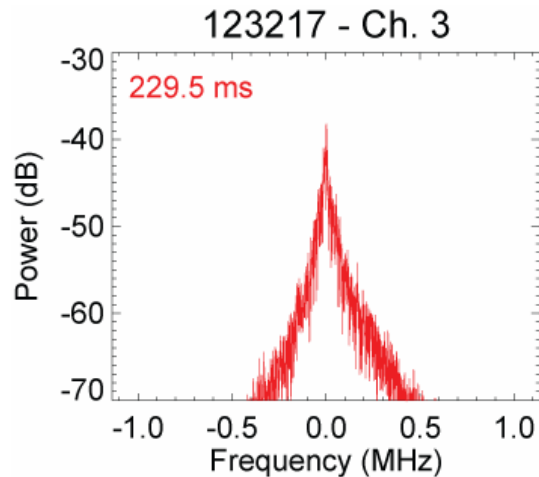
- Repeat TF scan of XP-534 (Kaye) at multiple high-k measurement locations

	$r/a \sim 0.25$	$r/a \sim 0.5$	$r/a \sim 0.7$
$B_T = 3.5 \text{ kG}$	123207	123228	123226
$B_T = 4.5 \text{ kG}$	123210/11	123230	123225
$B_T = 5.5 \text{ kG}$	123217	123231	12323/24

- In general, more MHD activity than target shots from XP-534

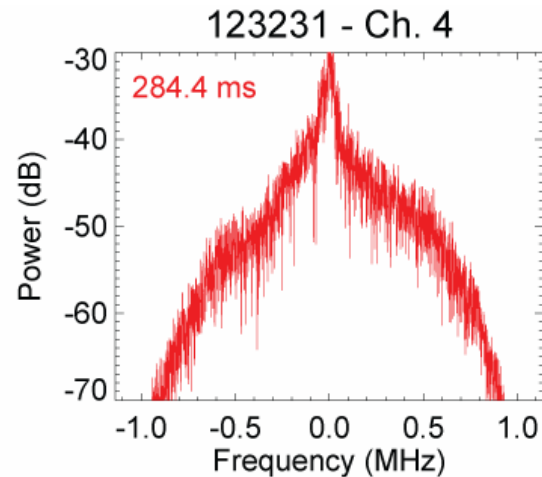
$$k_{\perp} \rho_e \sim 0.2 \text{ at } 5.5 \text{ kG}$$

$r/a \sim 0.25$

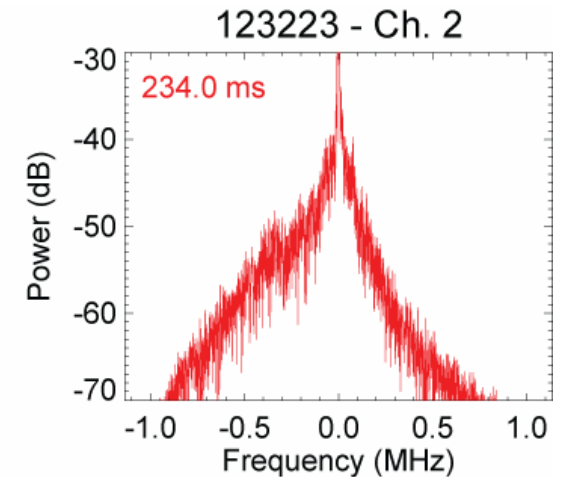


positive frequency corresponds to fluctuations propagating radially outward with a small component in the electron diamagnetic direction

$r/a \sim 0.5$



$r/a \sim 0.75$



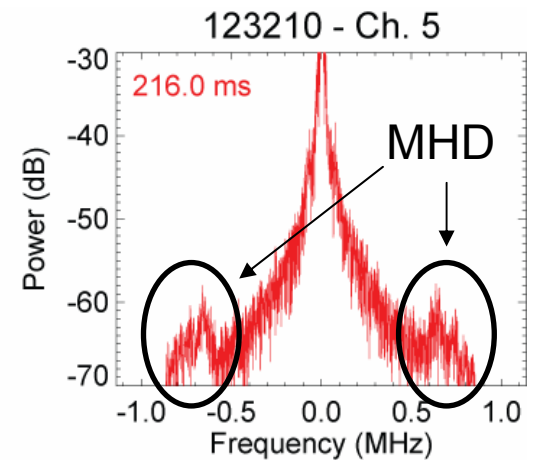
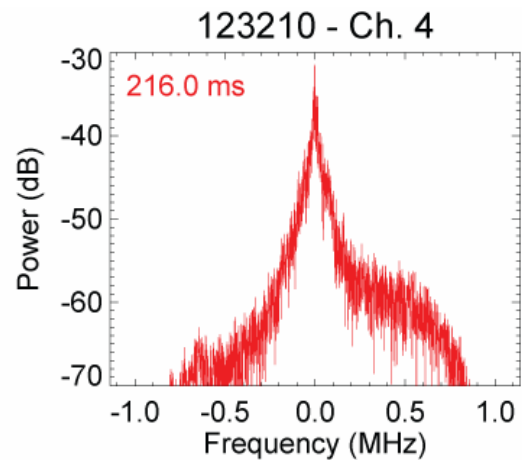
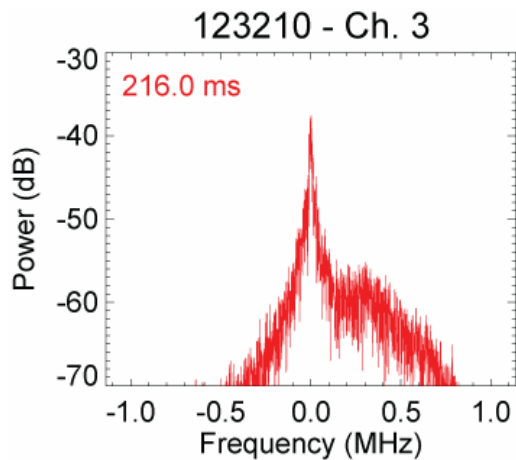
positive frequency corresponds to fluctuations propagating radially inward with a small component in the ion diamagnetic direction

4.5 kG, $r/a \sim 0.25$

$$k_{\perp} \rho_e \sim 0.25$$



$$k_{\perp} \rho_e \sim 0.45$$



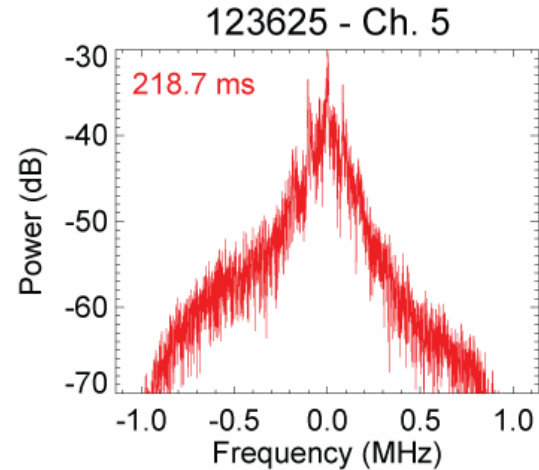
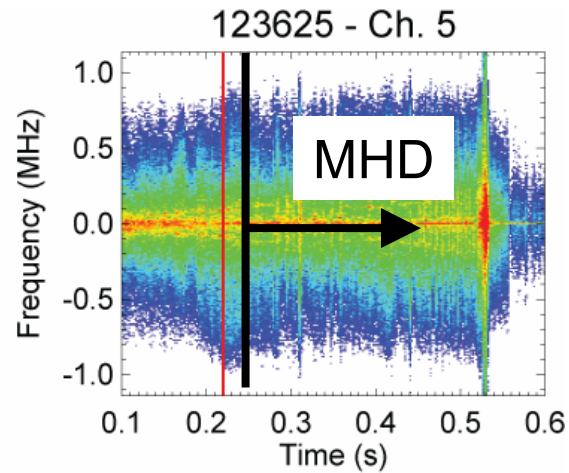
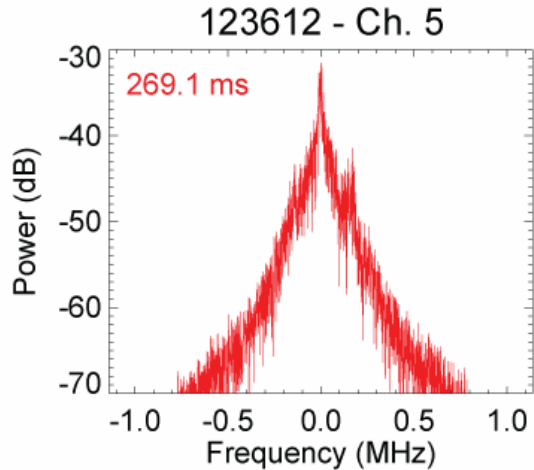
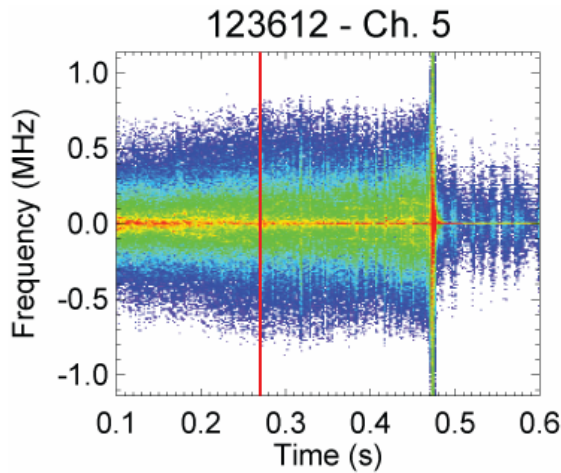
positive frequency corresponds to fluctuations propagating radially outward with a small component in the electron diamagnetic direction

XP-734 (Yuh)

- Strong RS
 - 2 MW NBI into He with HHFW
- High-k measurements at 110, 115, & 120 cm

1.2 MW HHFW

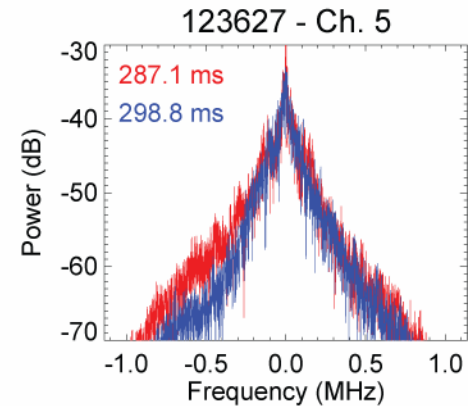
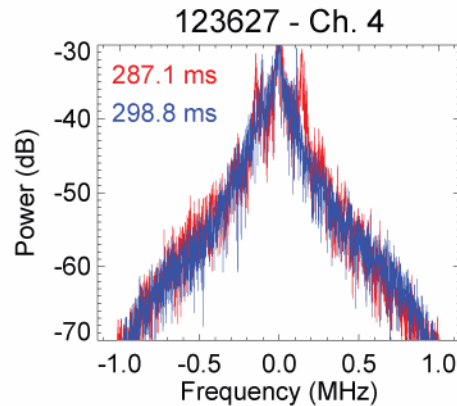
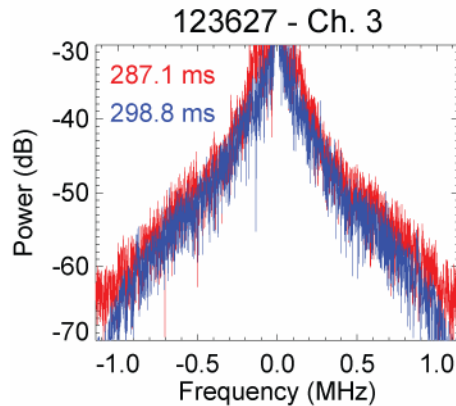
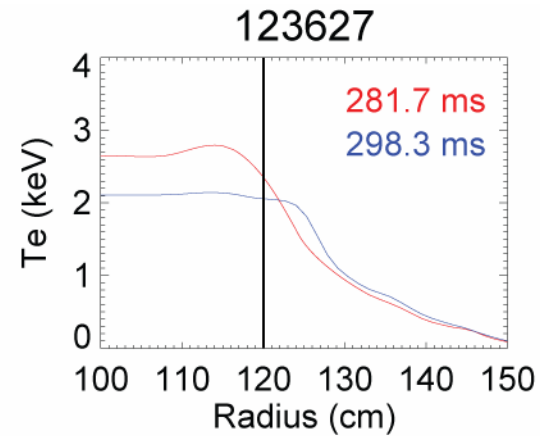
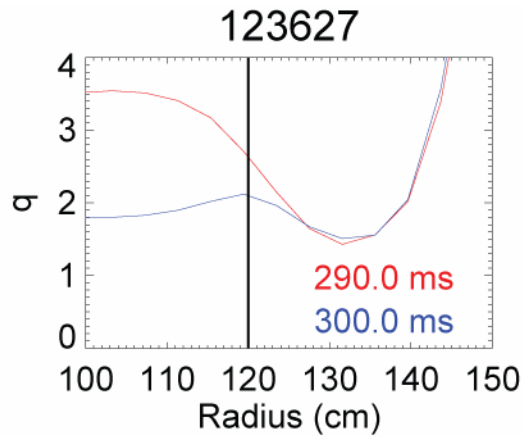
115 cm
within
Te knee



120 cm
on Te
knee

Discrete RS collapse

measurement
at 120 cm



low-k



high-k