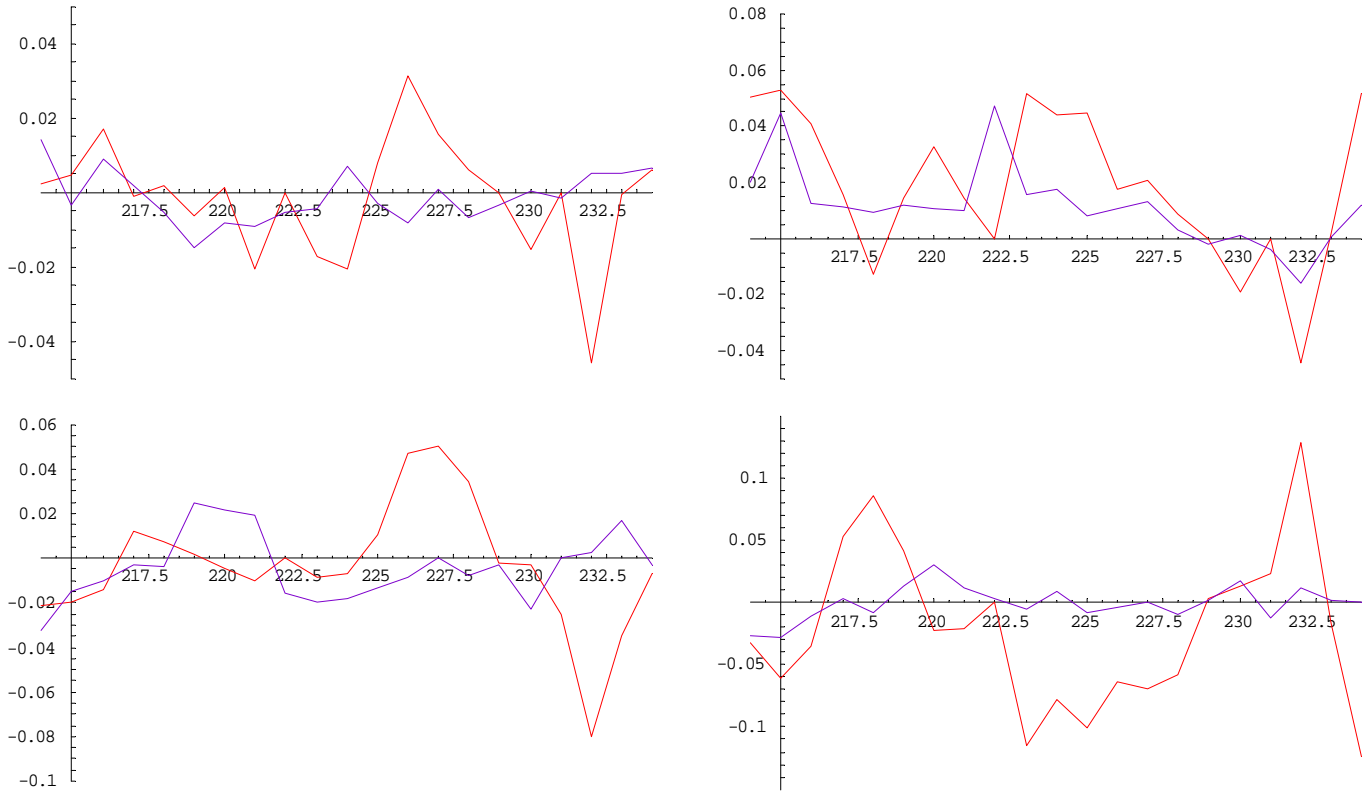


## State of Adiabatic Damping in the Accelerator

### IPM1C01 to IPM1H04B in Hall A

All plots show X & Y components of X PZT in row 1, and the same of Y PZT in row 2 in mm.

Red: 10/09 data (Baseline); Blue: 10/14 data (Final Solution)



**Fitted Coordinates at IPM1H04B**

	Before Injector Matching		After Injector Matching <sup>1</sup>	
	Position ( $\mu\text{m}$ )	Angle ( $\mu\text{rad}$ )	Position ( $\mu\text{m}$ )	Angle ( $\mu\text{rad}$ )
<b>X of X</b>	-0.6335	2.66203	-1.51983	0.335591
<b>X of Y</b>	-4.72277	5.31863	2.21588	0.582122
<b>Y of X</b>	38.8275	5.95532	-15.8006	-2.34312
<b>Y of Y</b>	-97.5311	-15.1025	1.676	0.694409

- Have seen similar plots before, but this one stayed in the machine
- Atypical behavior: Y blowup more than X – May change again next time<sup>2</sup>

<sup>1</sup> More noise dominated due to small amplitudes, but general trend is unmistakable.

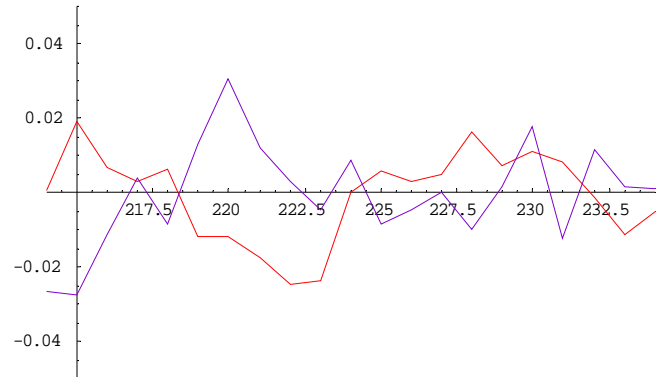
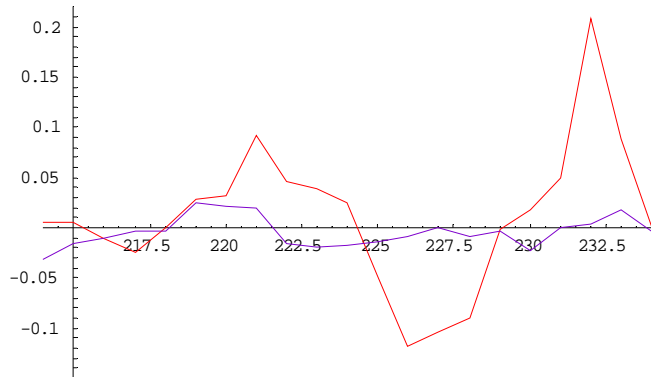
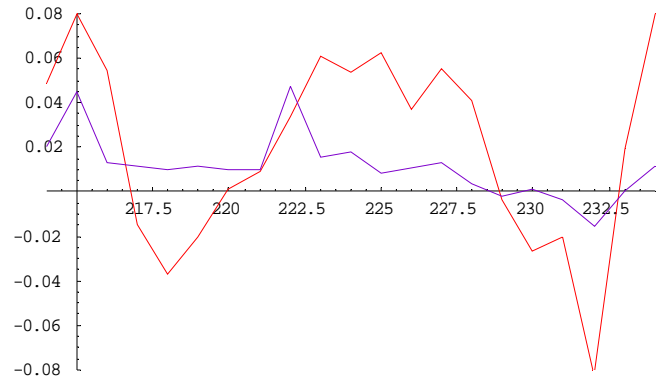
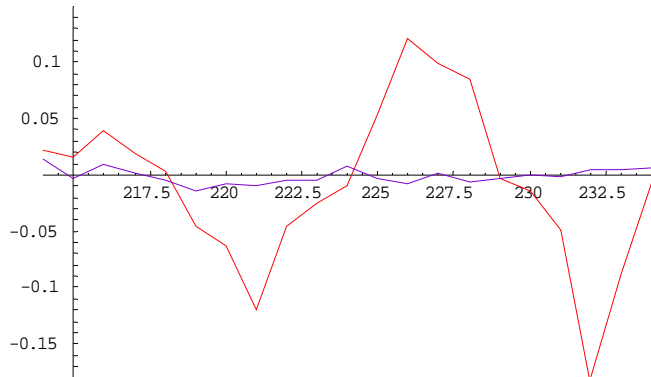
<sup>2</sup> X transport through the cryo-modules has always been much more singular.

# Direct Comparison with Happex Helium Run Measurement of 08/04

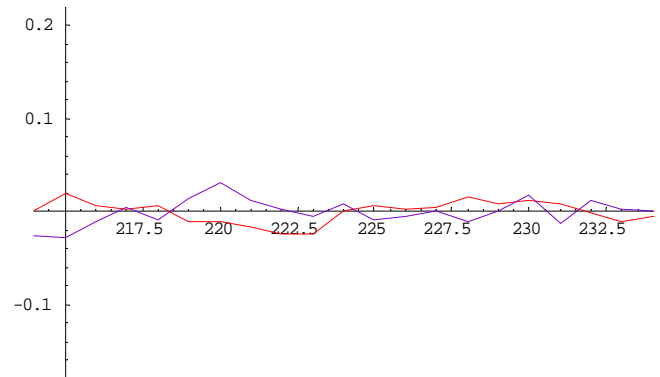
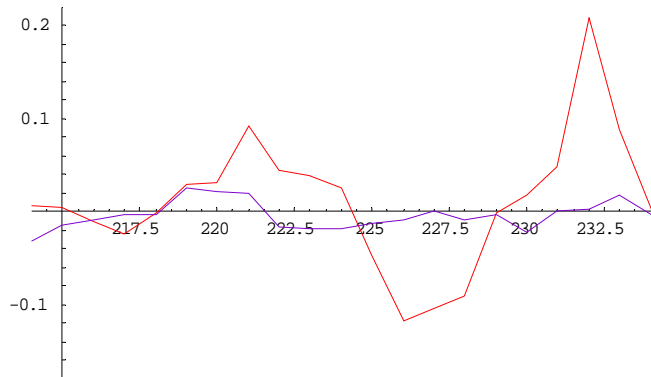
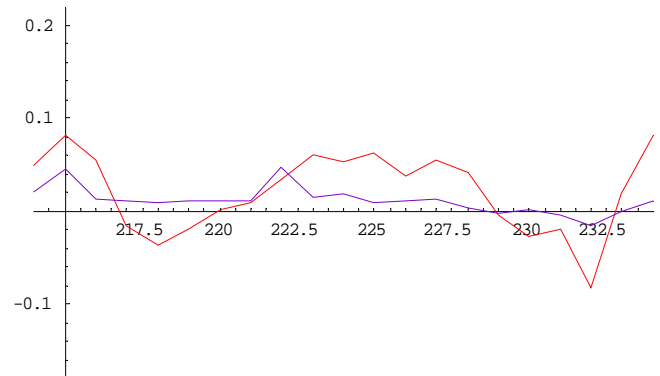
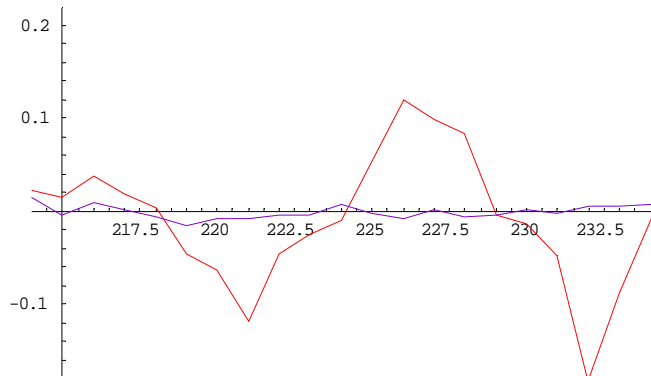
## IPM1C01 to IPM1H04B in Hall A

All plots show X & Y components of X PZT in row 1, and the same of Y PZT in row 2 in mm.

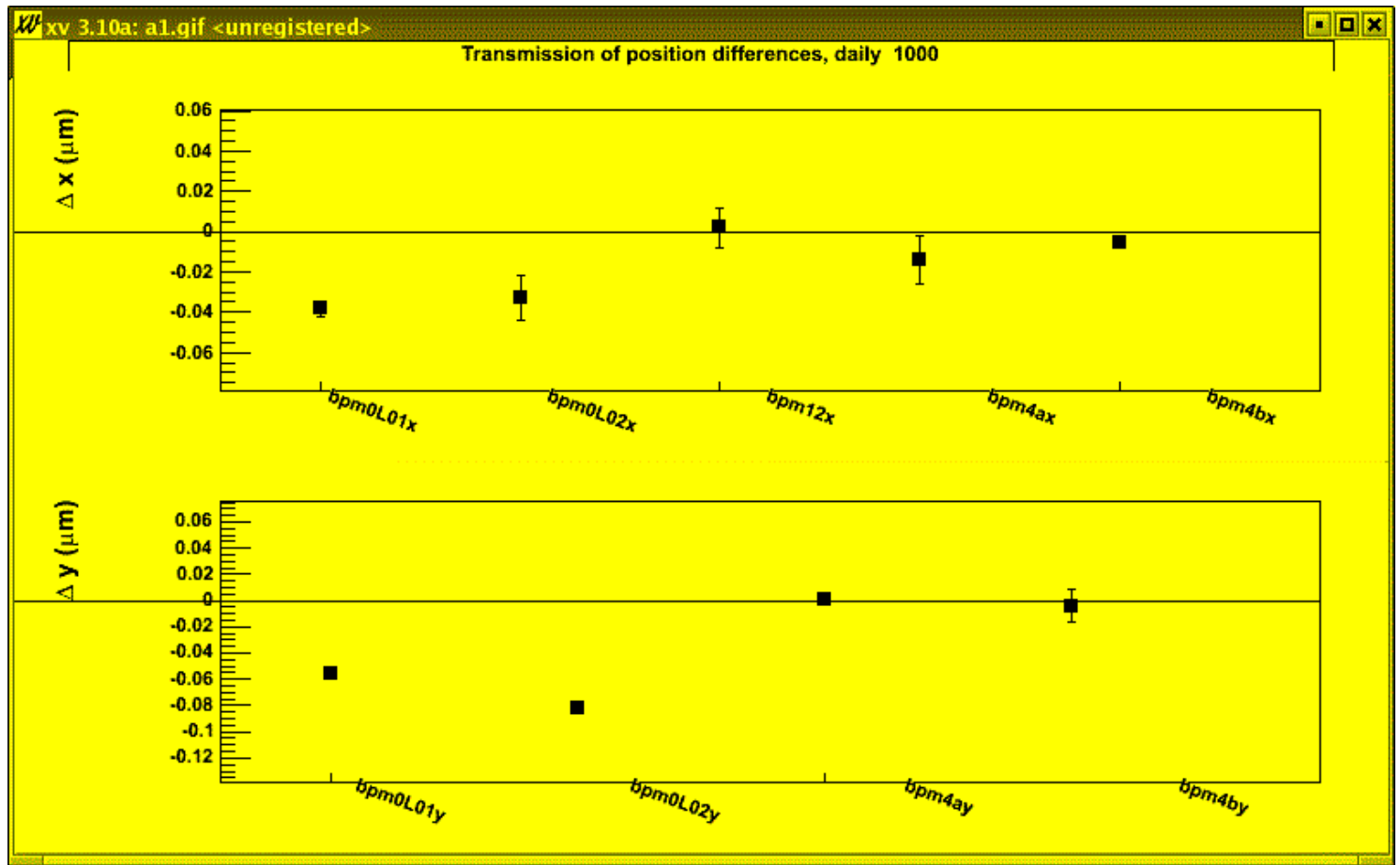
Red: 08/04 data (Amplitude unknown, but  $\leq 90$ ); Blue: 10/14 data (Final Solution; Amplitude=90)



## Same plots, different scale



## Helicity Correlated Orbit Measurement (Paschke)



This reflects the combined effect of

- **Laser setup**
- **100 keV setup**
- **Injector matching.**

We are closing in on this sometimes-elusive target

Next

- **Establish more streamlined and robust procedure**
- **New Tools**
  - **Automated matching from Injector to Hall**
  - **PZT booster**
- **Daily monitoring of PZT propagation**

# Half Wave Plate In Data (Paschke)

