

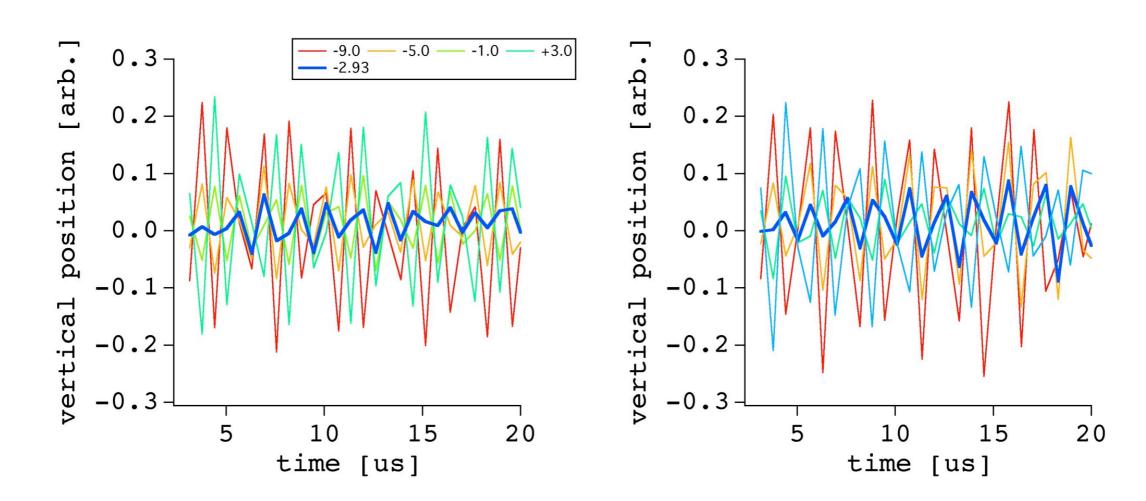
Orbit matching

S Machida ASTeC/STFC Rutherford Appleton Laboratory 8 May 2014

Vertical

Vertical orbit matching

For two setting of F/D ratio.



Nominal setting of S5V=-2.93A is the best among we tried.



Vertical orbit matching

To do

 Need a model of (vertical) BPM to convert (Vu-Vd)/(Vu+Vd) to position.



Horizontal when corrector coil is 468 A

2014-04-03: CO.tar

• 2014-04-04: CO_Corr468

In the following slides,

Ch1: S7up

Ch3: S11_1st

Ch2: S7dw

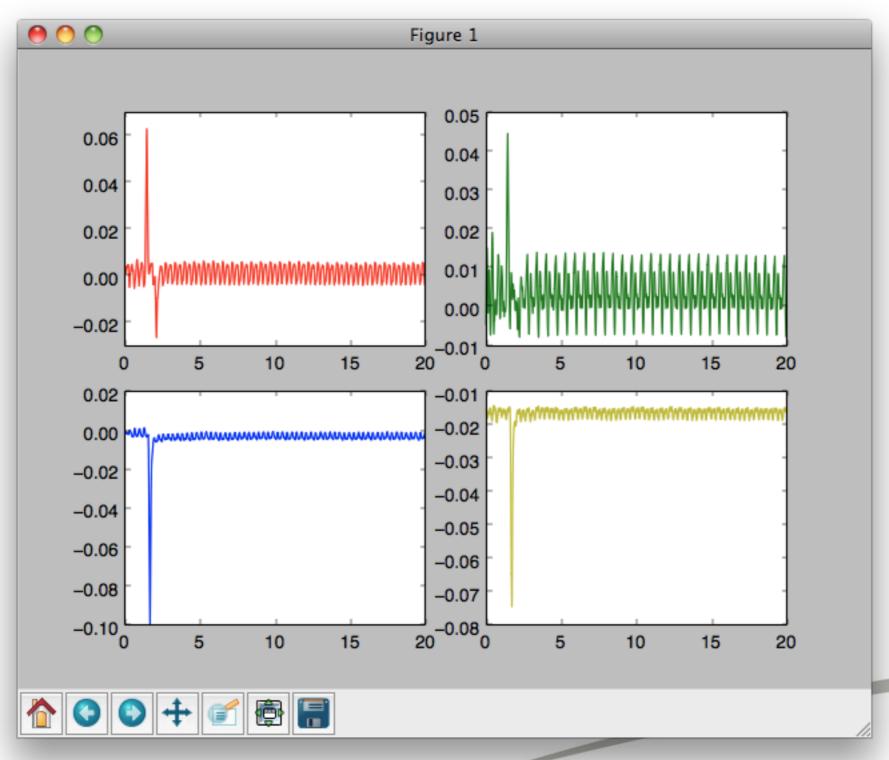
x: micro s

y: volts

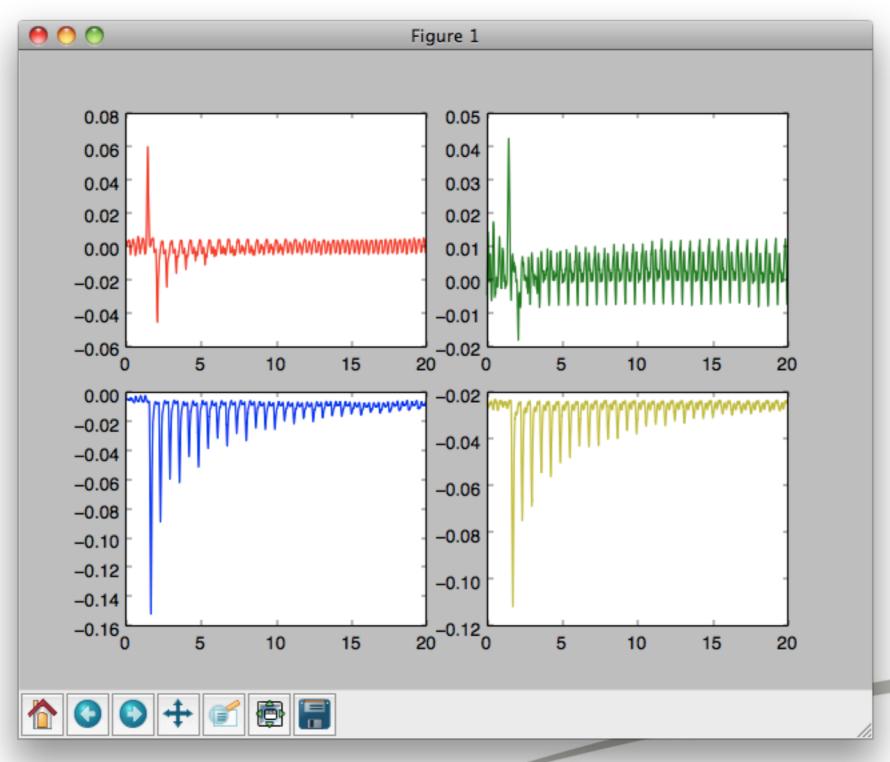
Ch4: S12



fil_55_f7probe_302

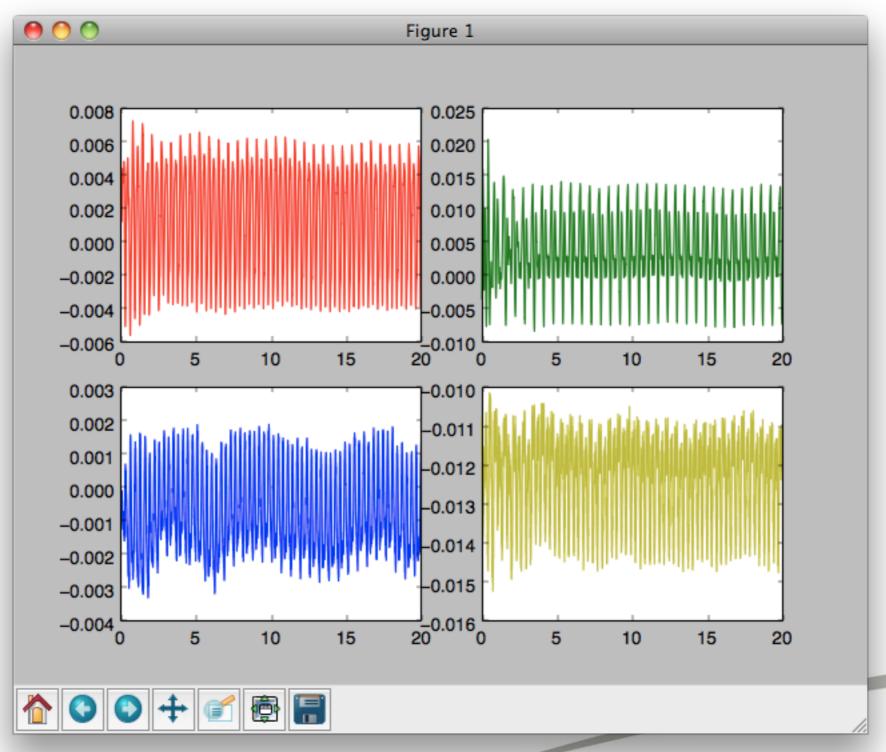


foil_60_f7probe_297

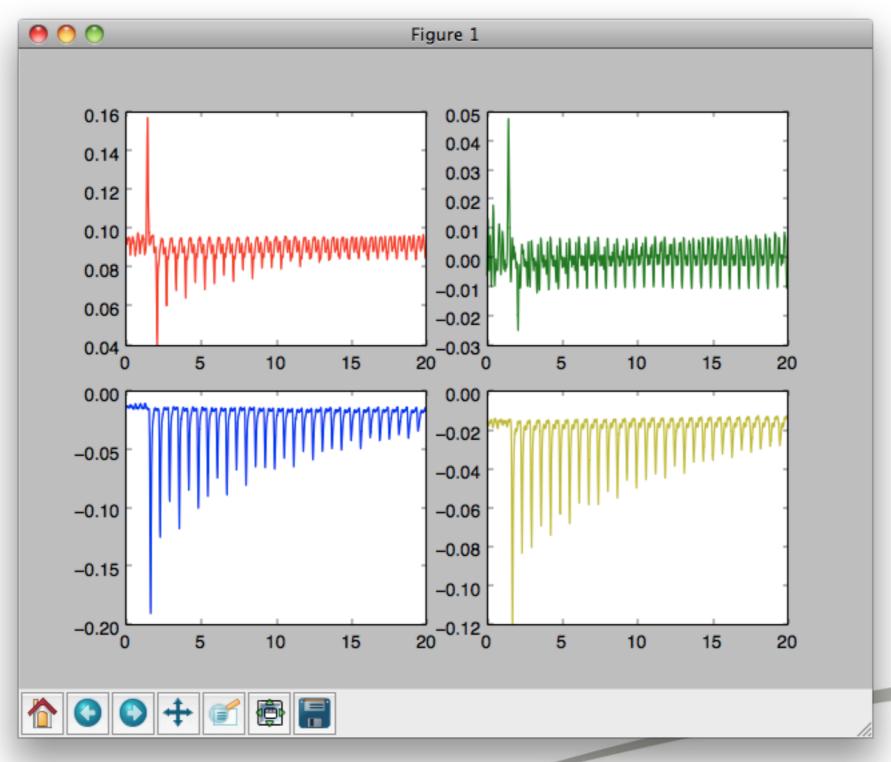




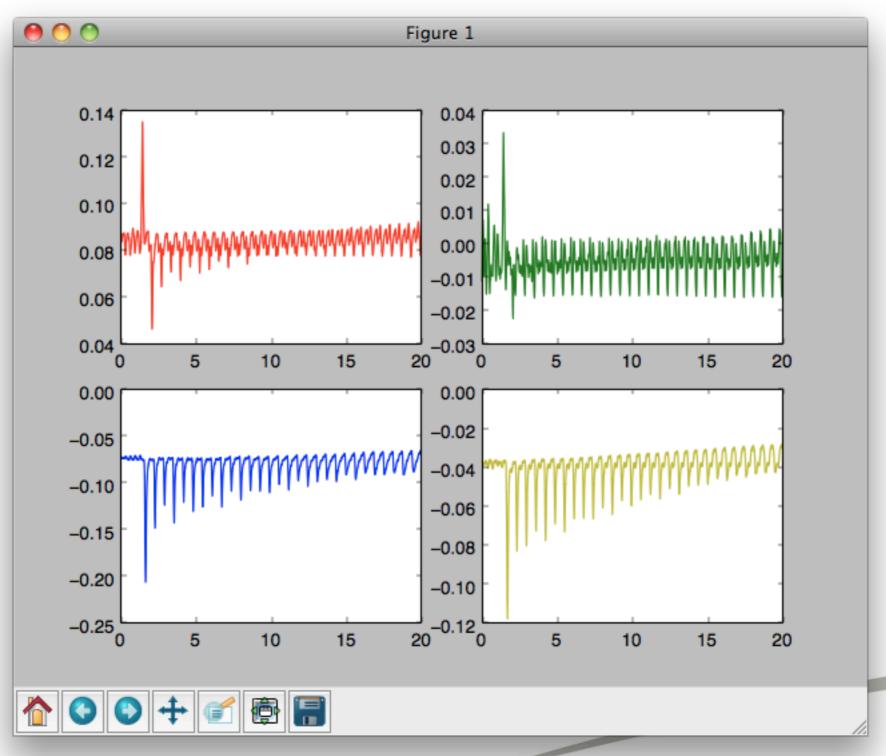
foil_62.5_f7probe_294.5_chopper0.034



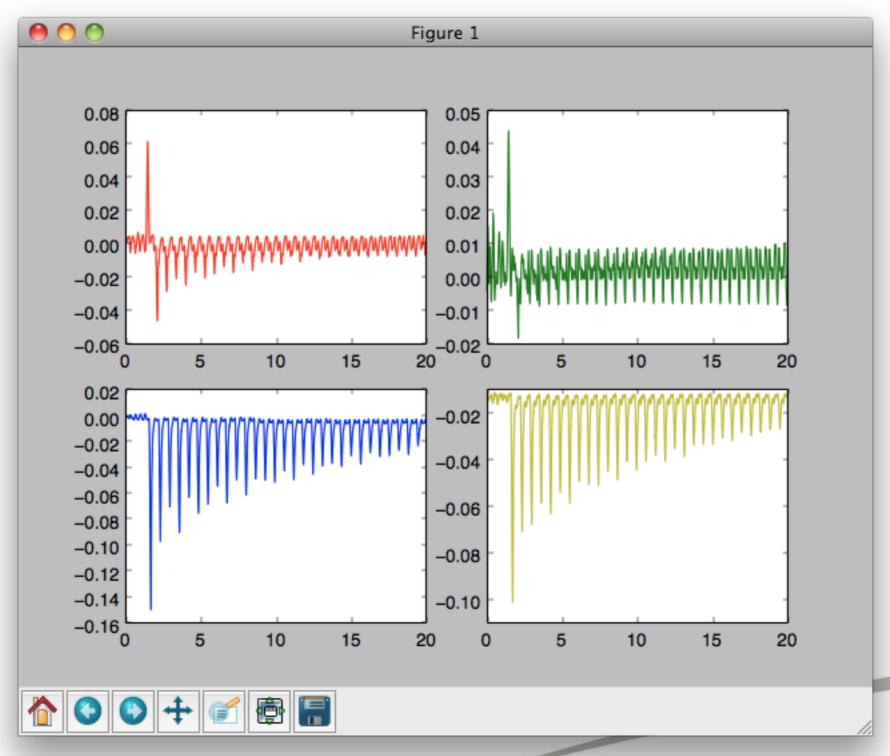
foil_62.5_f7probe_294.5_st6H_-3.5



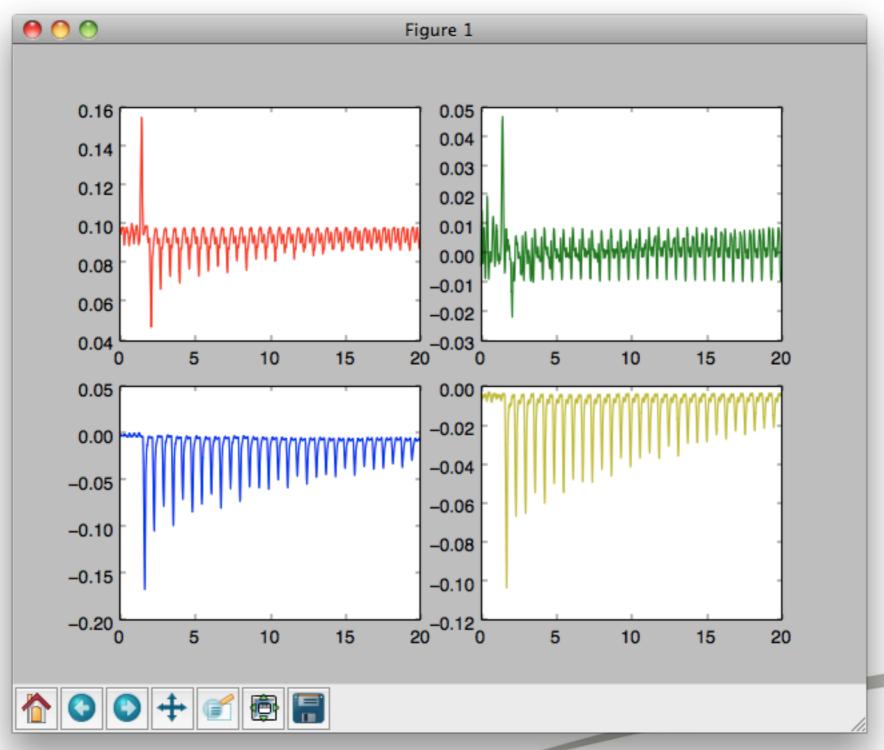
foil_62.5_f7probe_294.5_st6v_-2.5



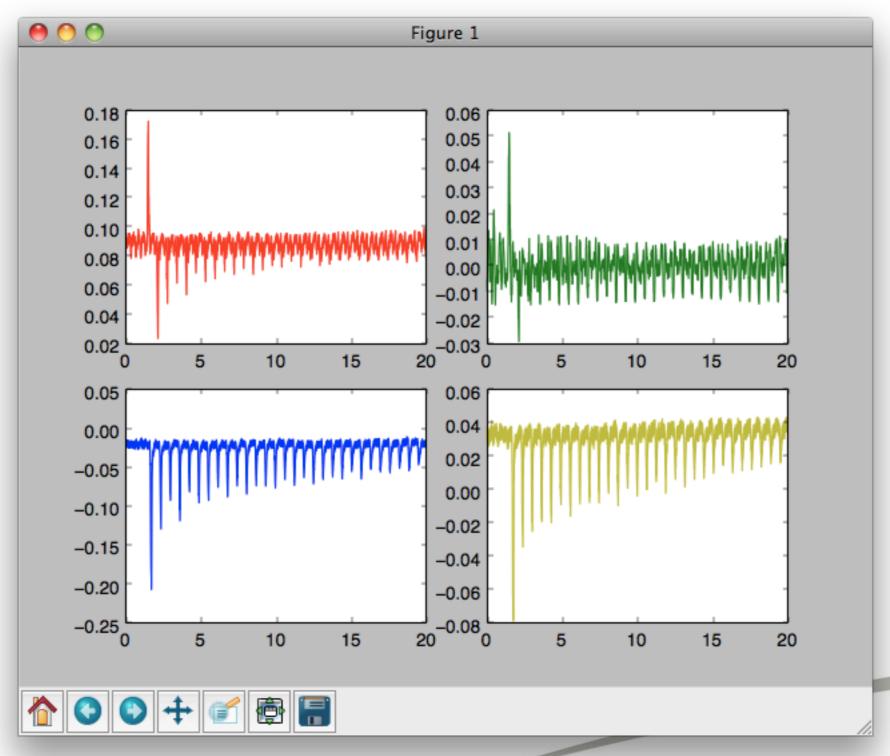
foil_62.5_f7probe_294.5



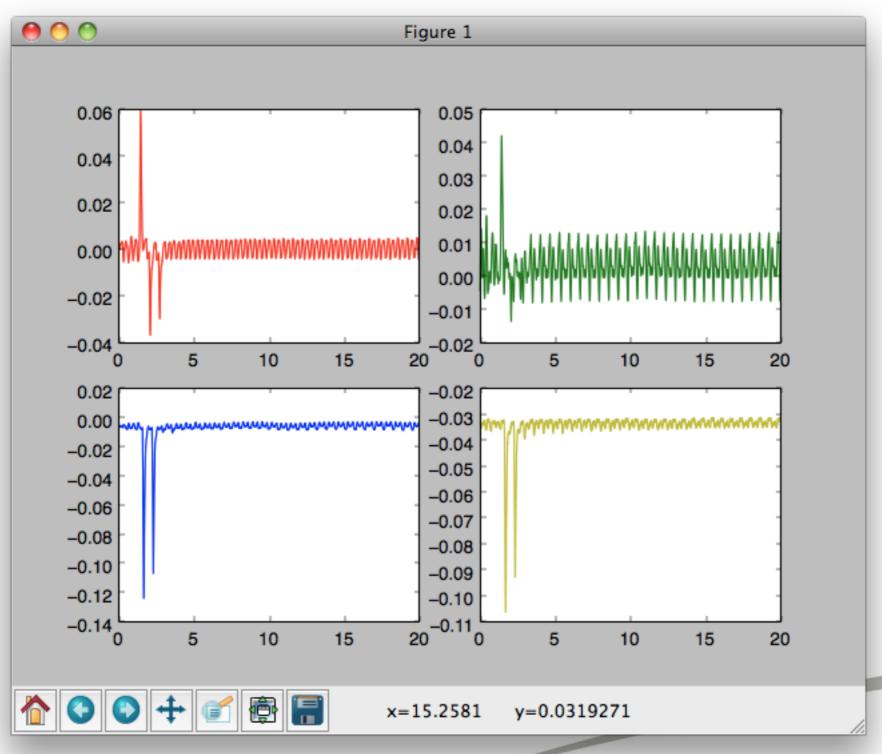
foil_62.5_f7probe_420



foil_65_f7probe_292

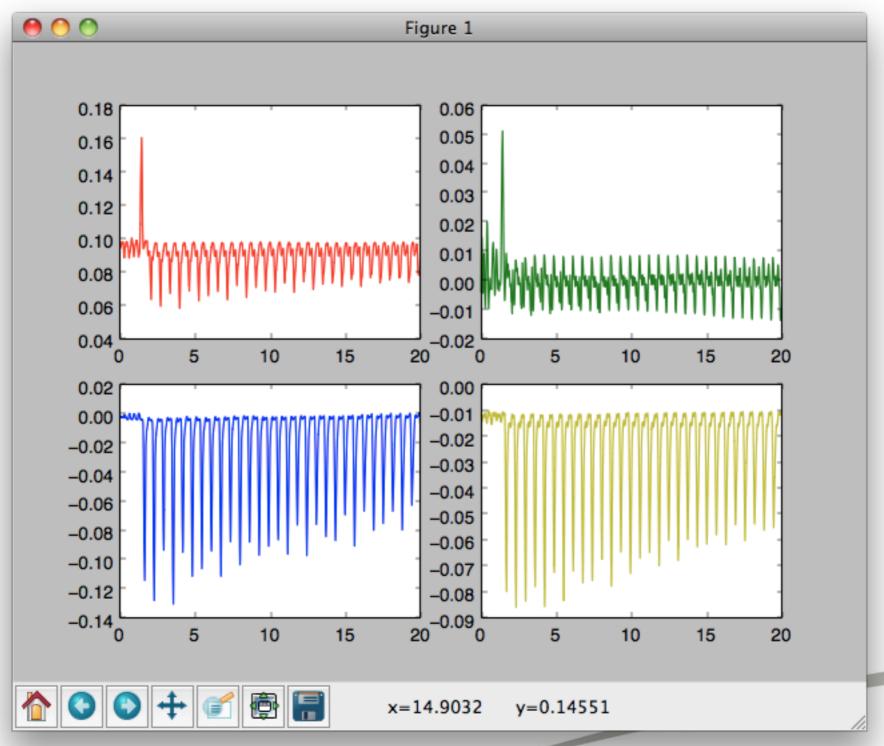


foil_70_f7probe_287

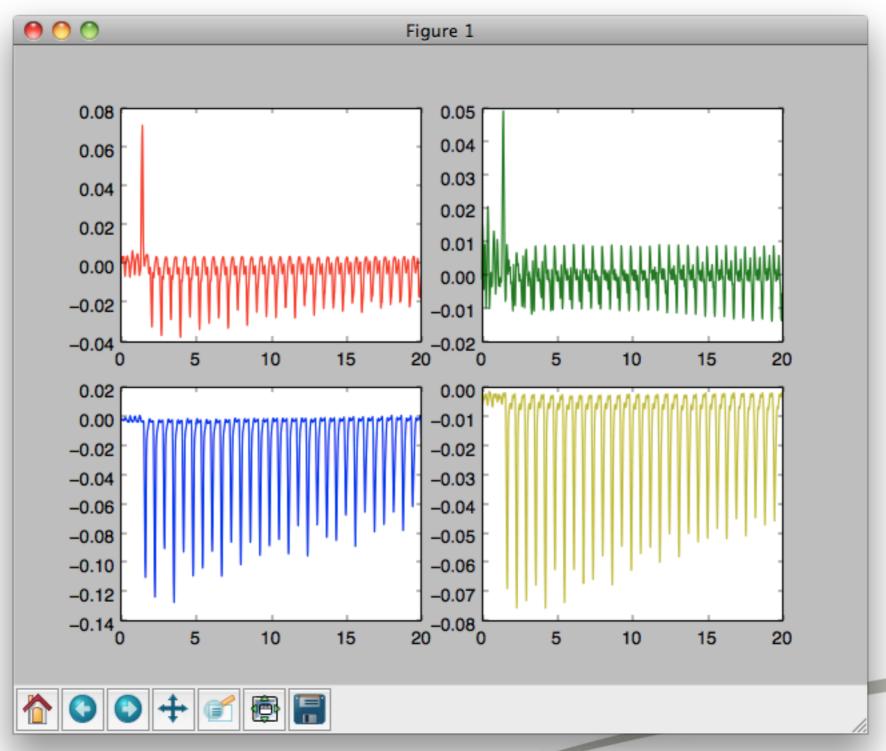




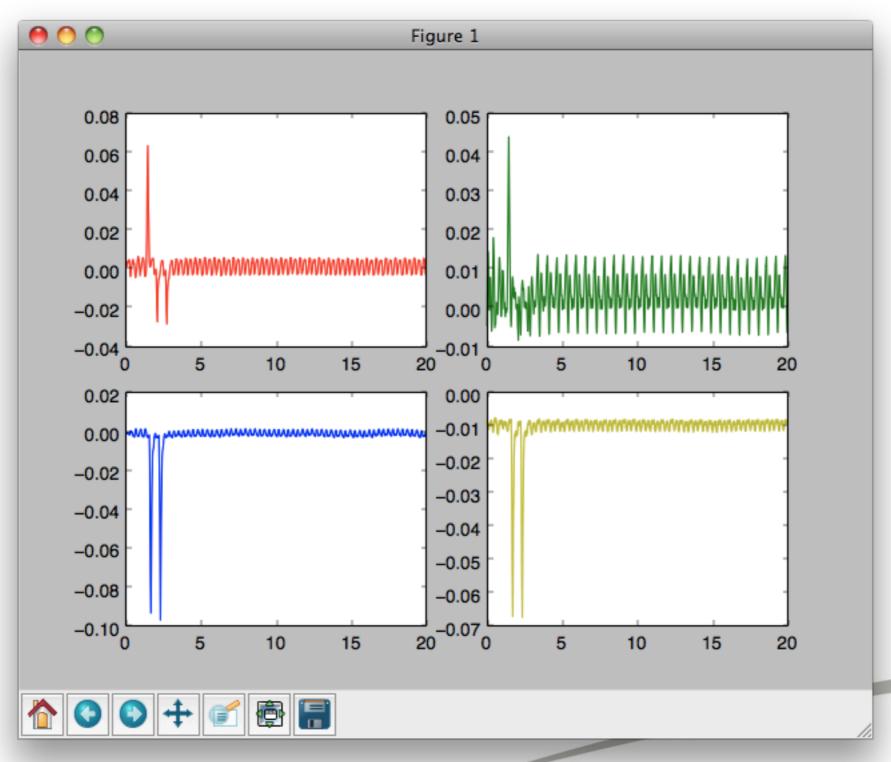
foil_74.5_f7probe_420



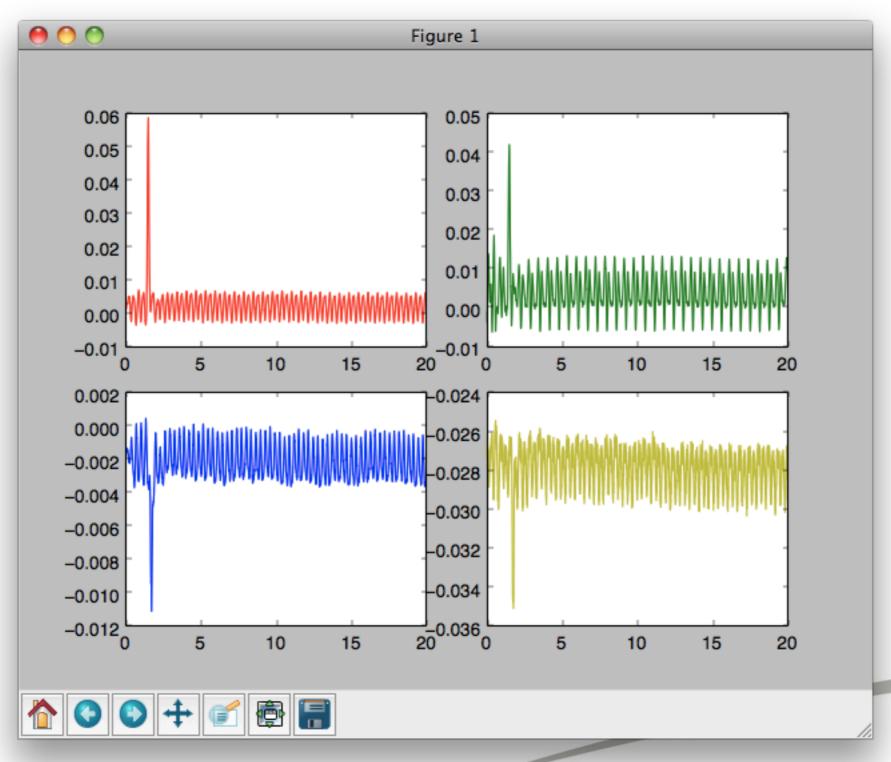
foil_74.5_f7probe_420_wide



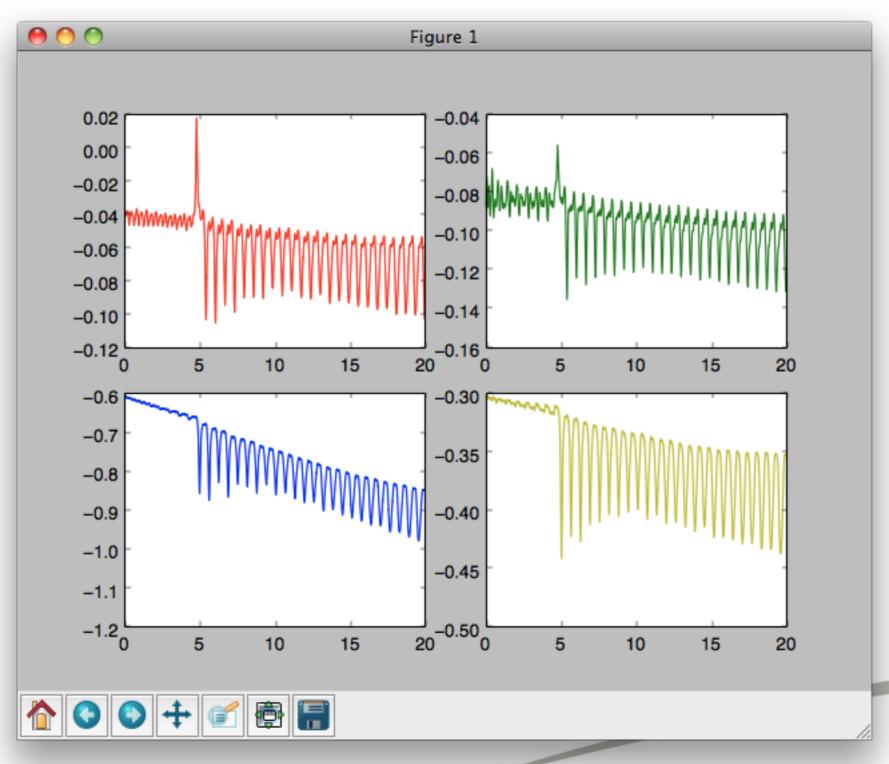
foil_75_f7probe_282



foil_80_f7probe_277



check_yestarday



- Modulation of S11_1st (horizontal triangle plate) is similar to that of S7up (vertical top plate) (red and blue curves).
- S11_1st is sensitive to vertical coherent oscillation, but not pickup horizontal one.
- Primary frequency:

S11_1st	S7up
0.408	0.411

 S11_1st (horizontal triangle plate) only does not tell the horizontal orbit mismatch.



Future improvements

Thoughts

- Horizontal BPM monitor
 - Triangle plates could be paired. Is it possible to make it?
- Larger foil holder
 - Foil holder will be not the aperture limit.

