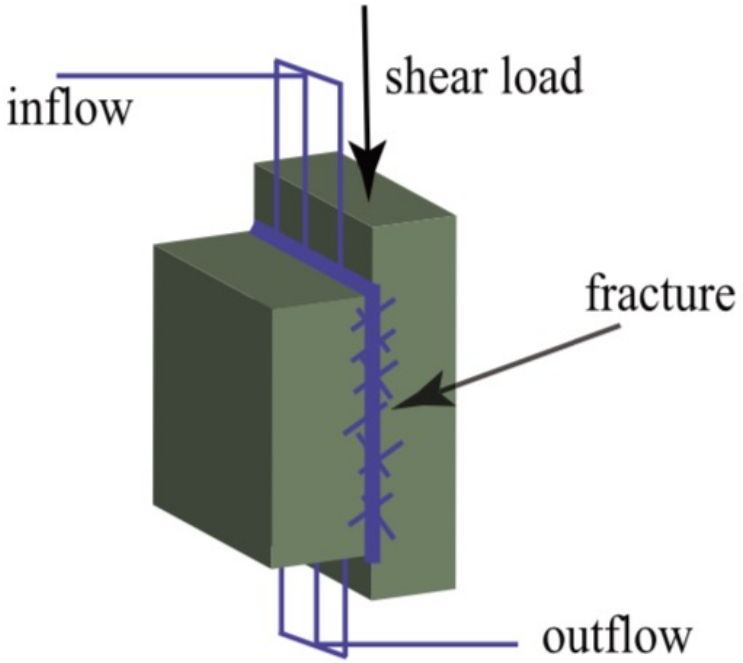
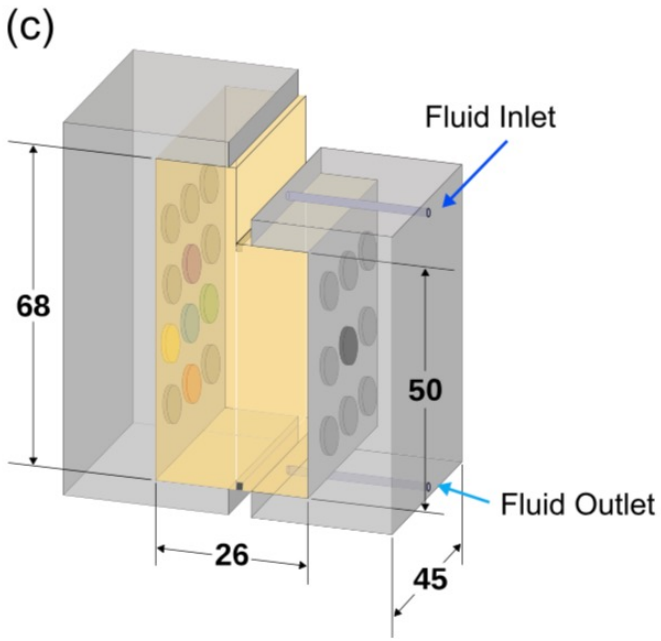
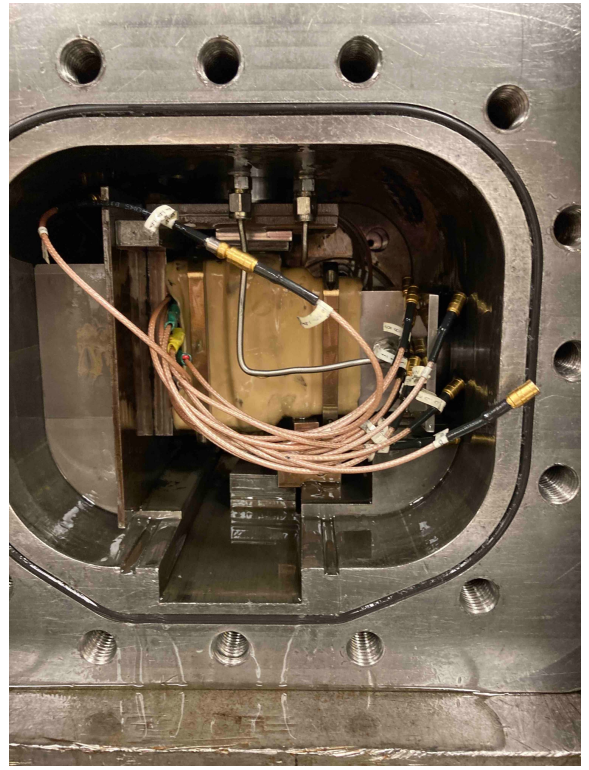
		Effective Normal Stress (MPa)	Shear velocity (µm/s) SHS times (s)	Pore pressure (humidity)	Temp (C)	
p5756	Granitoid; powdered to < 125 µm; Initial layer thickness was 4 mm	25, 50, 75	Vsteps from 1-100 SHS 3-1000	100% RH	23	Need to finish rsf models
p5760	Gneiss powdered to < 125 µm; Initial layer thickness was 4 mm	50, 75, 100	Vsteps from 1-100 SHS 3-1000	100% RH	23	Need to finish rsf models
p5772	Granitoid bare surfaces	20	3 to 100	5	23	Friction section and creep section rsf modeling, acoustic data
p5791	Granitoid powder (gouge)	20	1 to 100	5	80 and 110	Friction section and creep section
p5792	l-block calibration	5, 10 25	10	0	23	Piston friction/jackets
p5793	Granitoid bare surfaces					

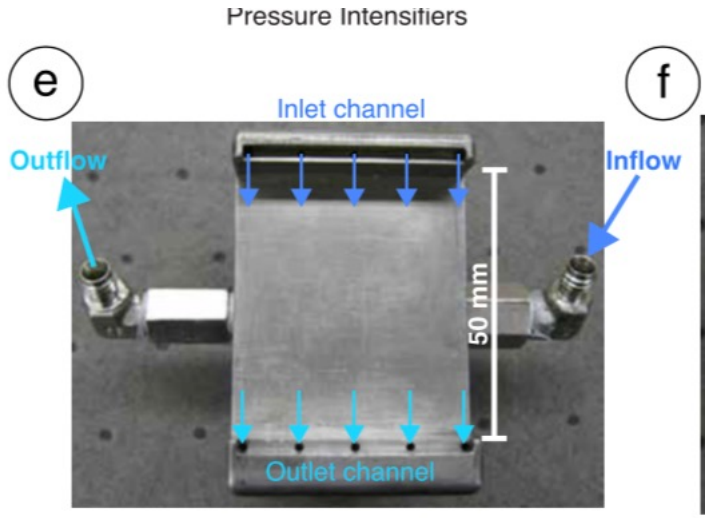
L-Block single direct shear geometry

Active/Passive acoustics



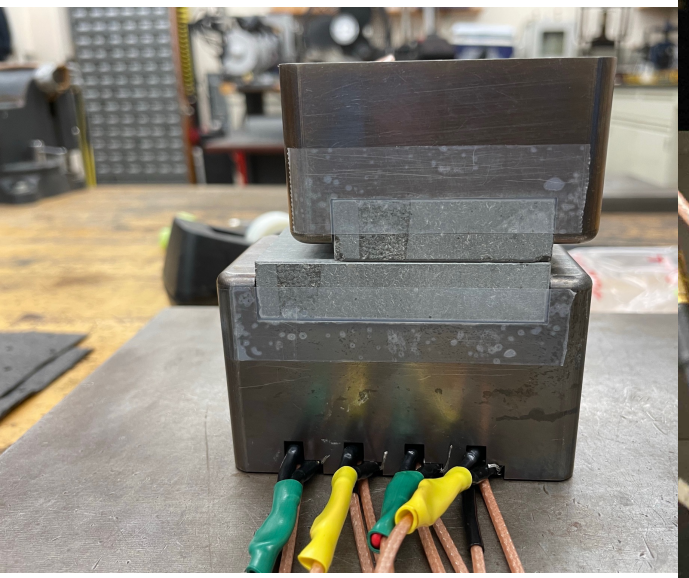


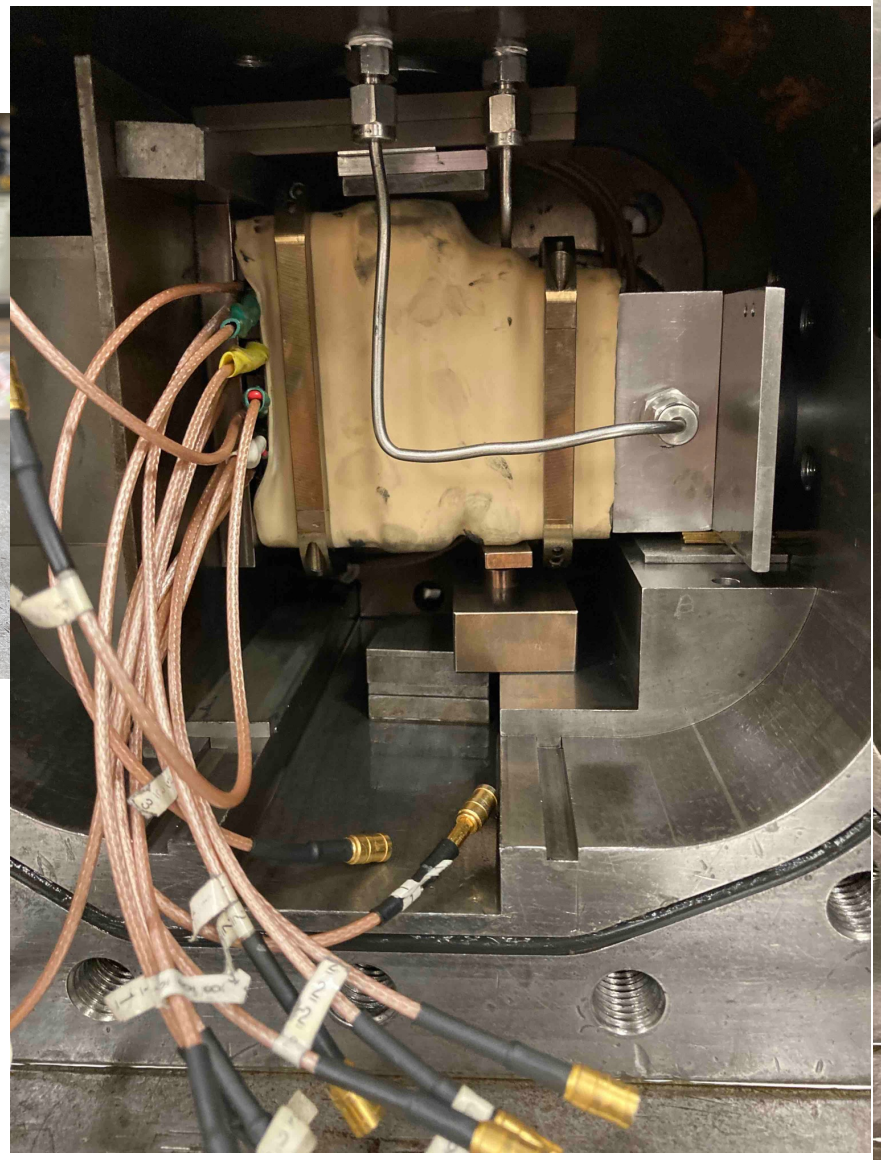


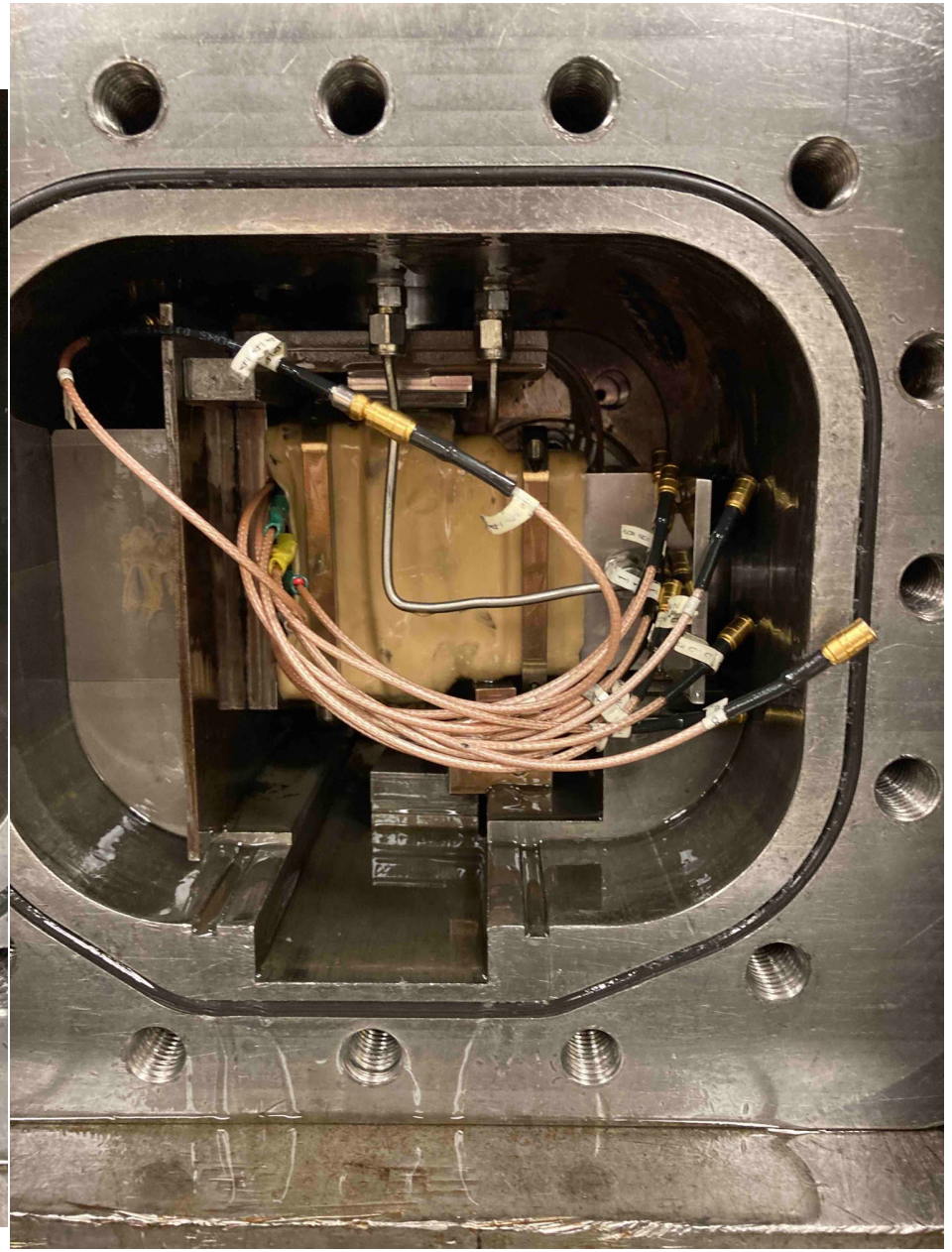


L-Block single direct shear geometry

Active/Passive acoustics

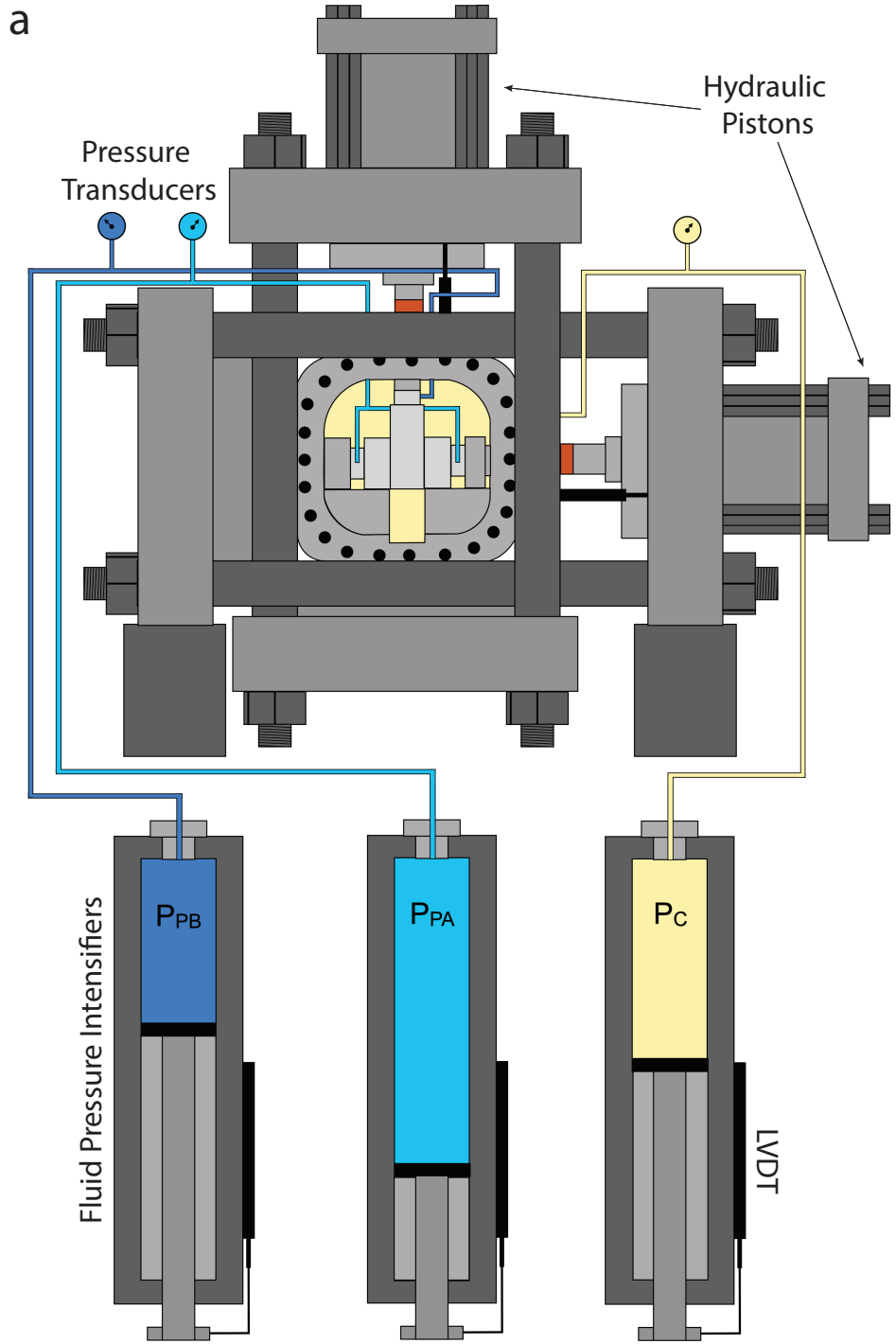


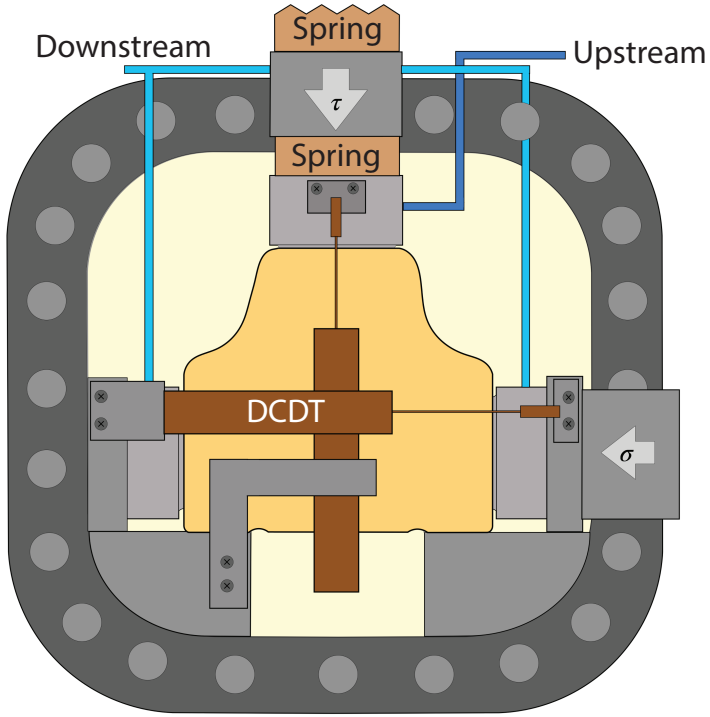


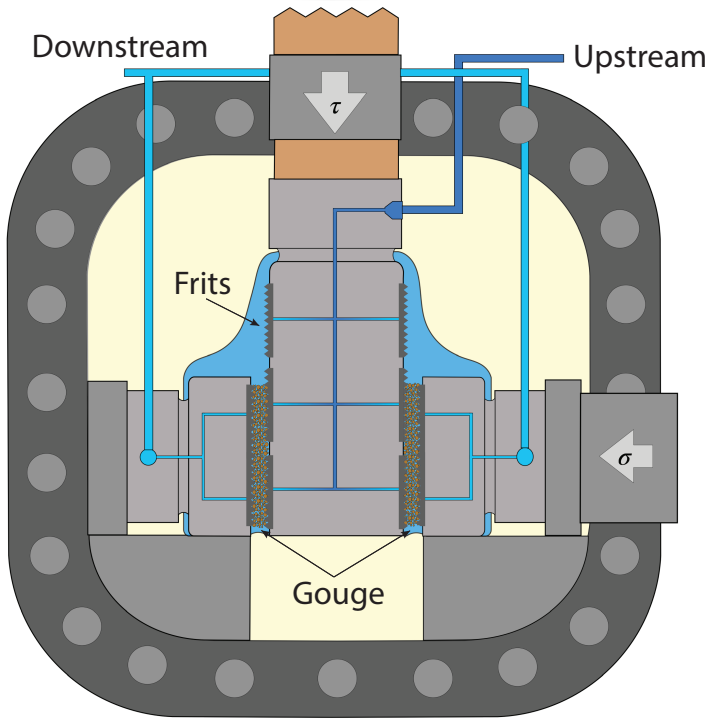


Double direct shear geometry

Active/Passive acoustics

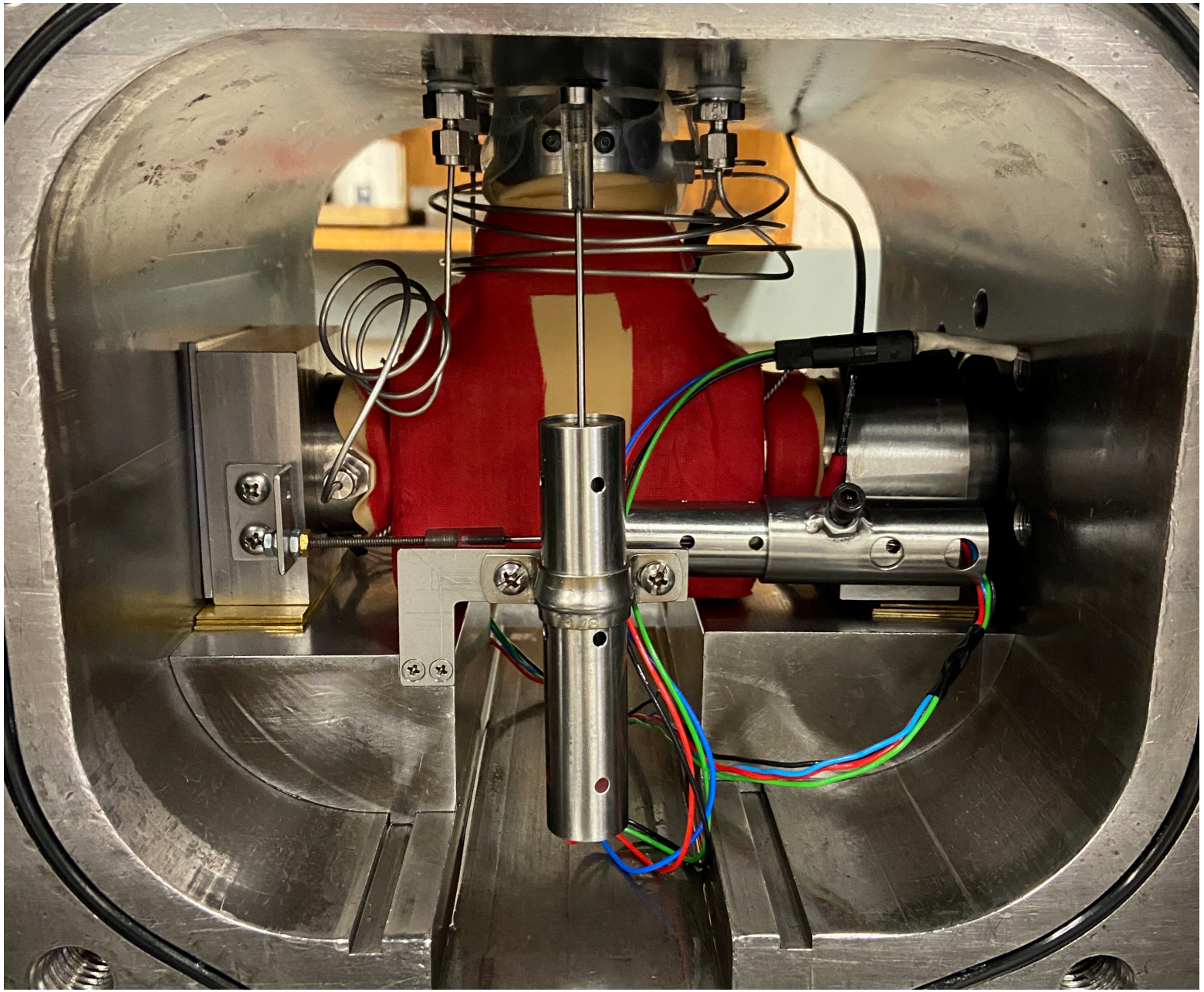






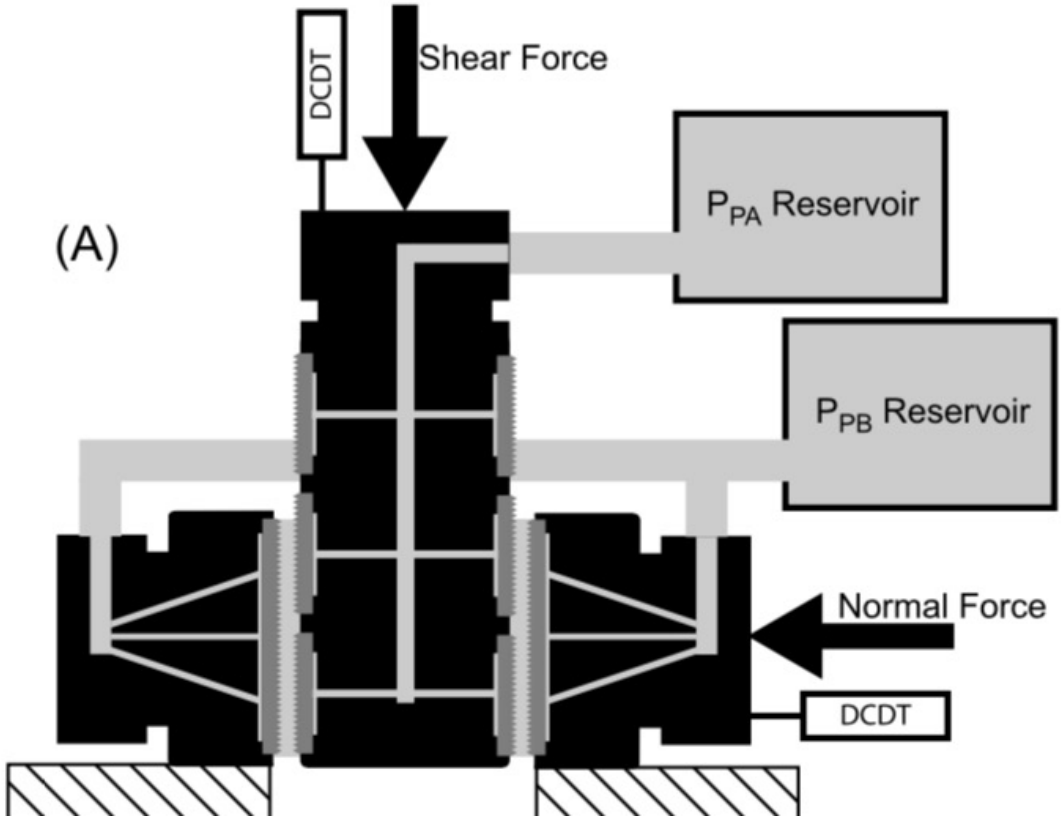
Double direct shear geometry

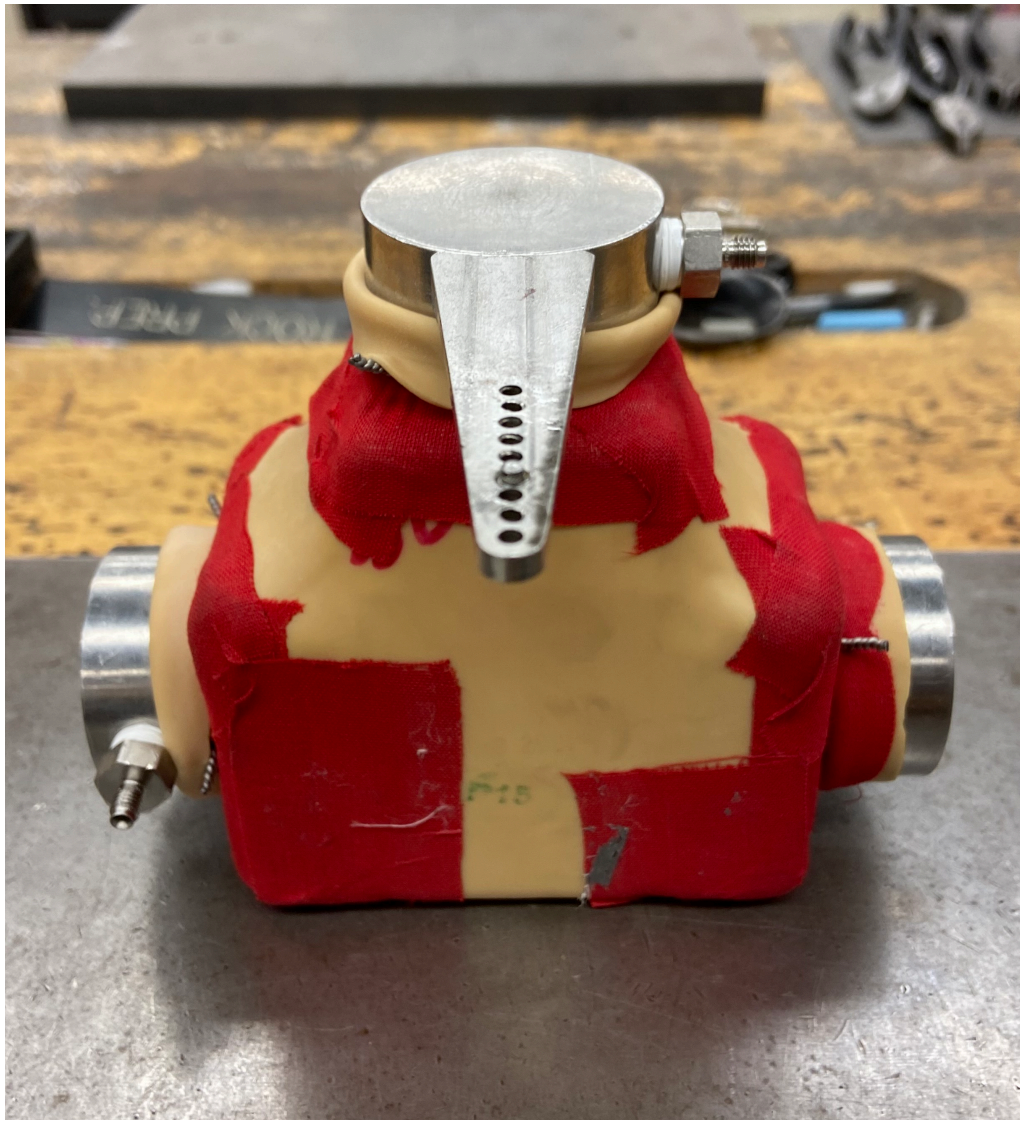
Active/Passive acoustics

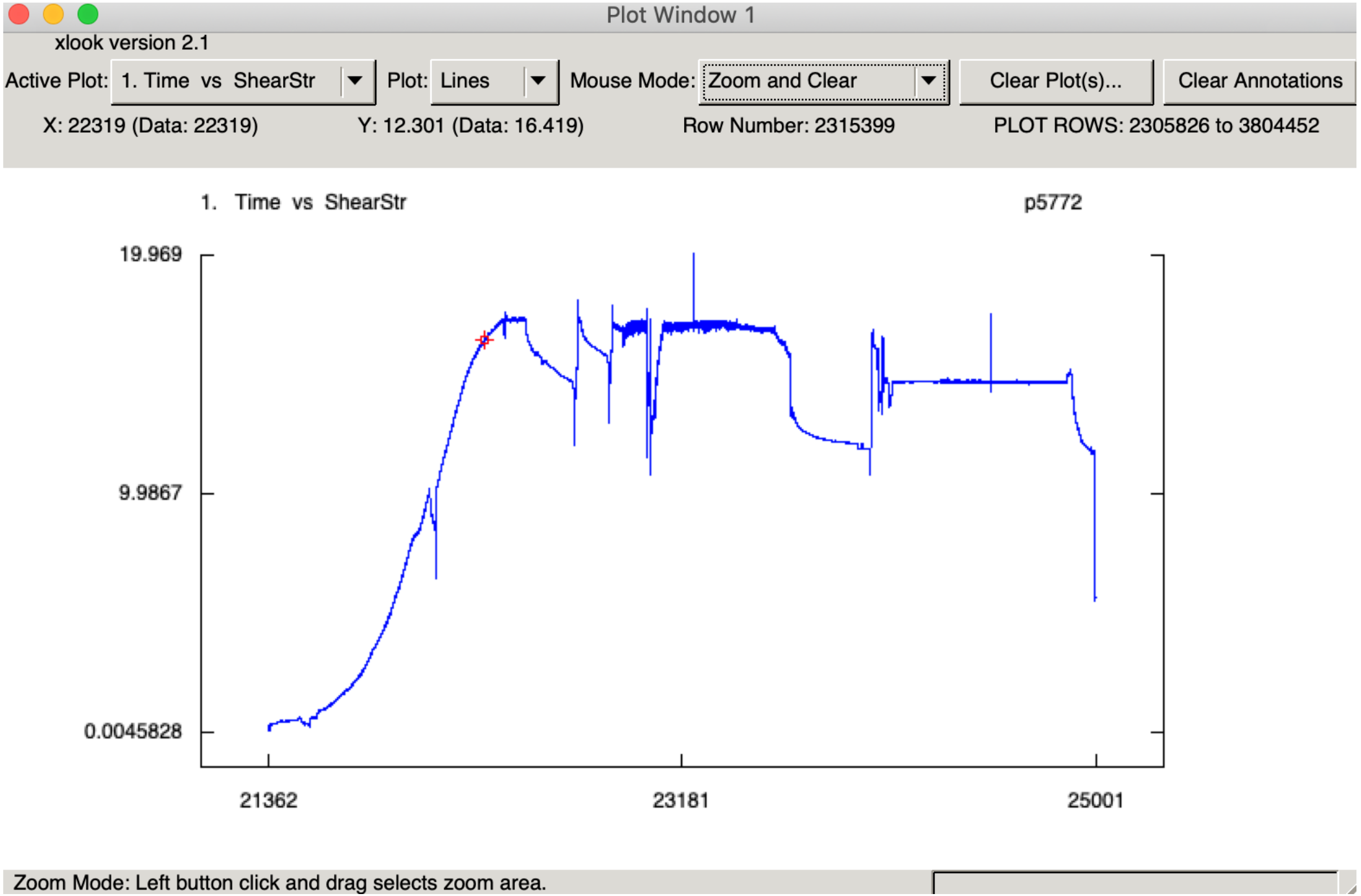


Double direct shear geometry

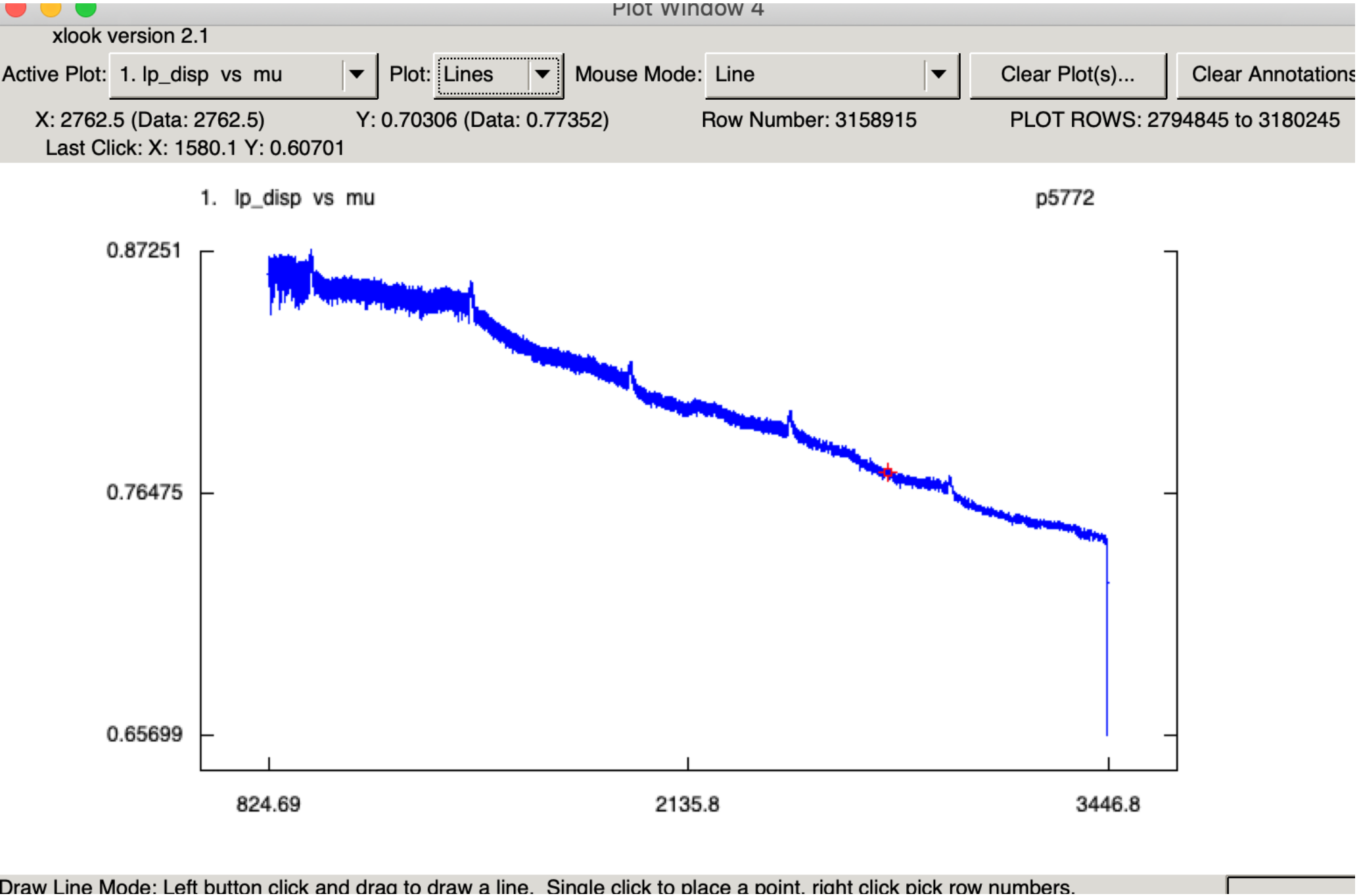
Active/Passive acoustics





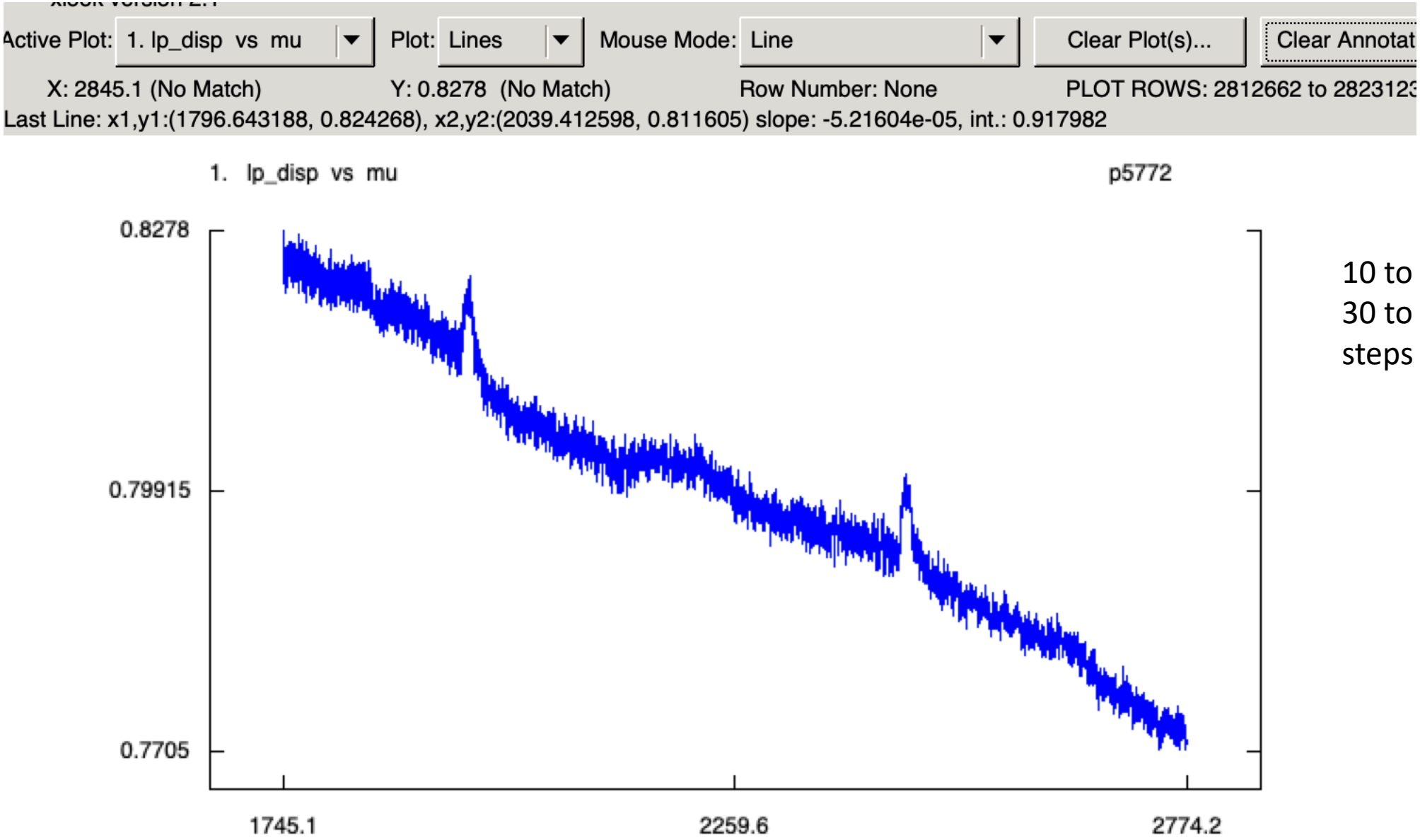


Overview of the section where we did v. steps

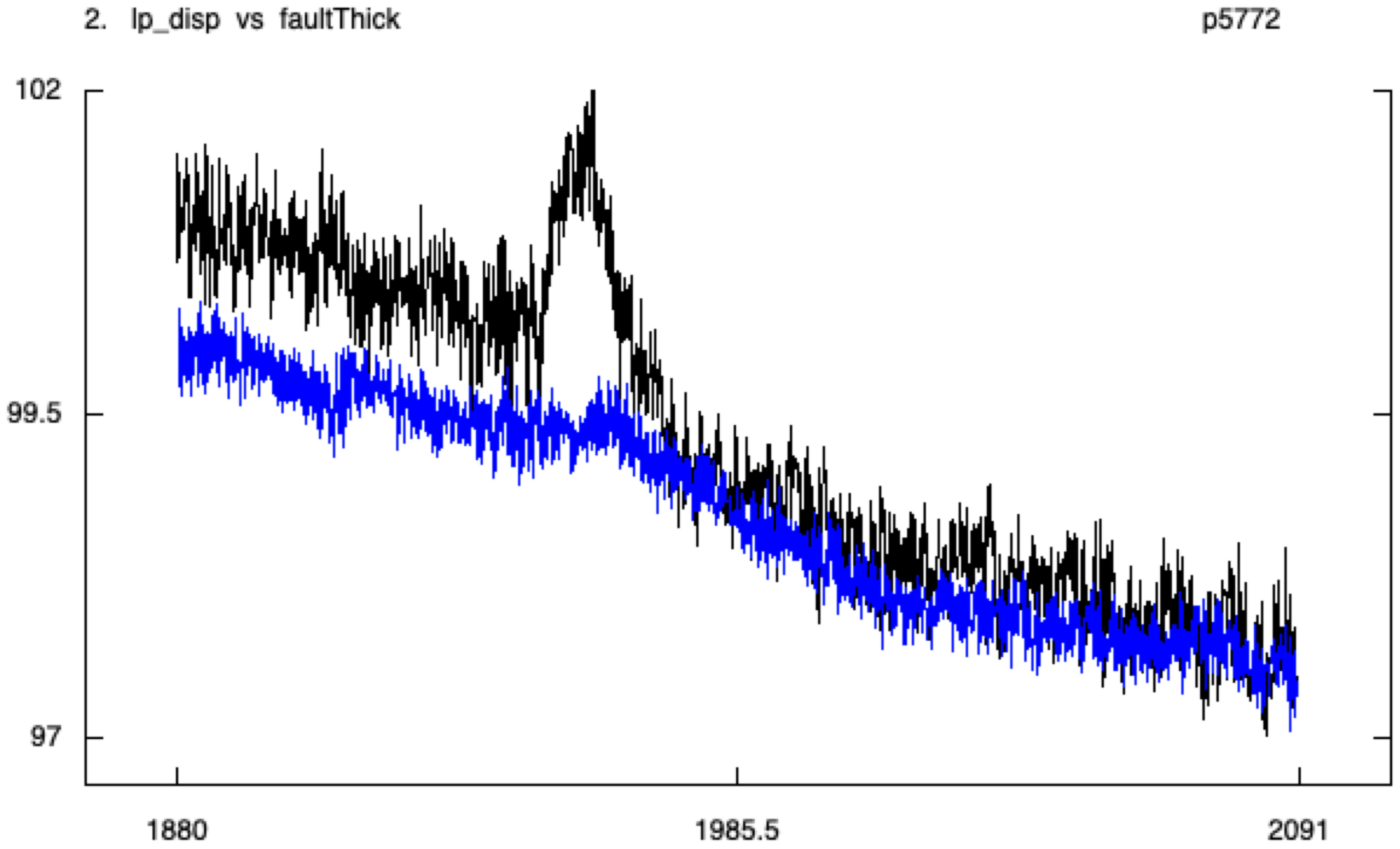


Fric disp. plot showing weakening trend

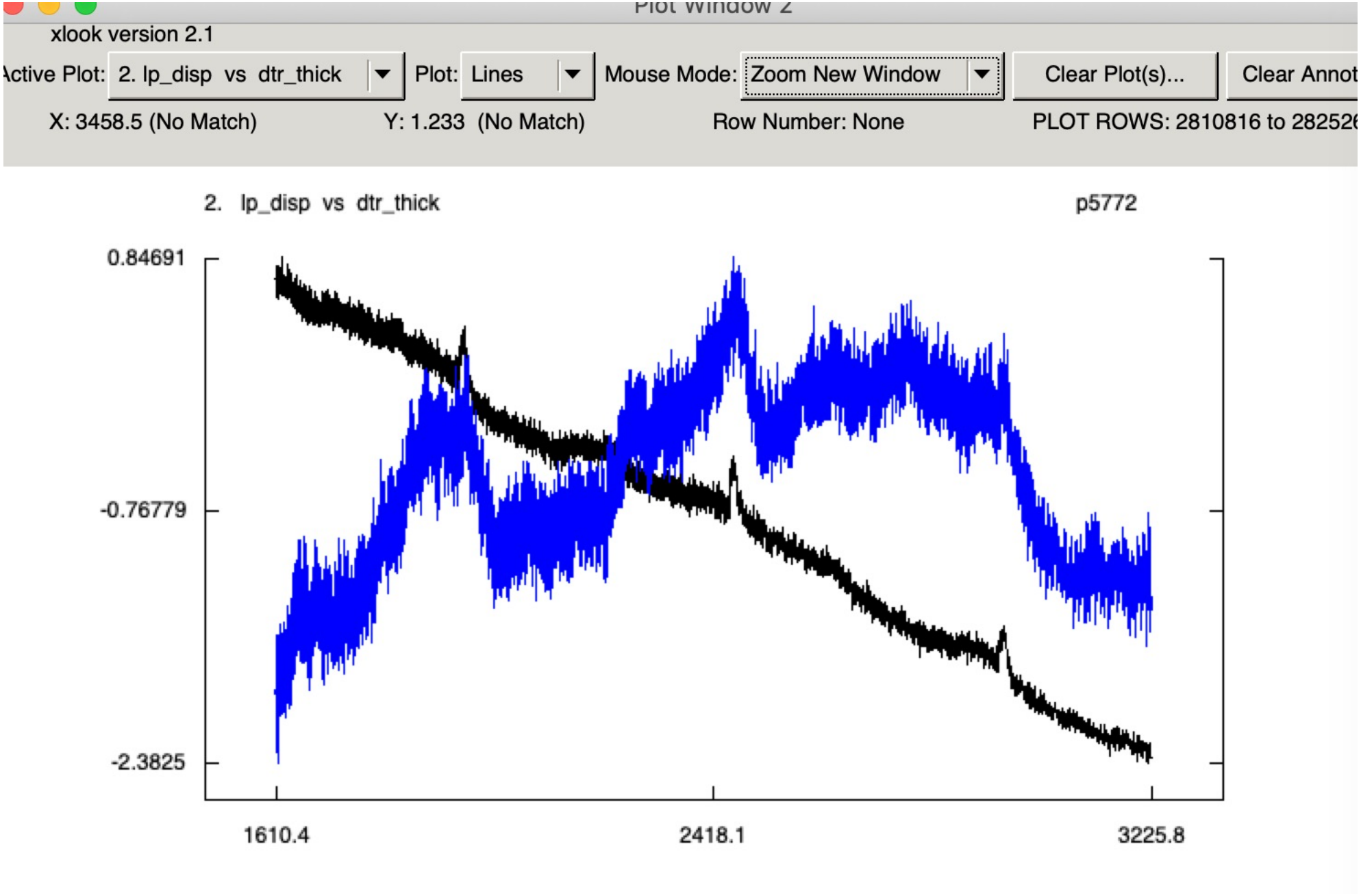
It's a simple linear trend.



10 to 30 and
30 to 100
steps



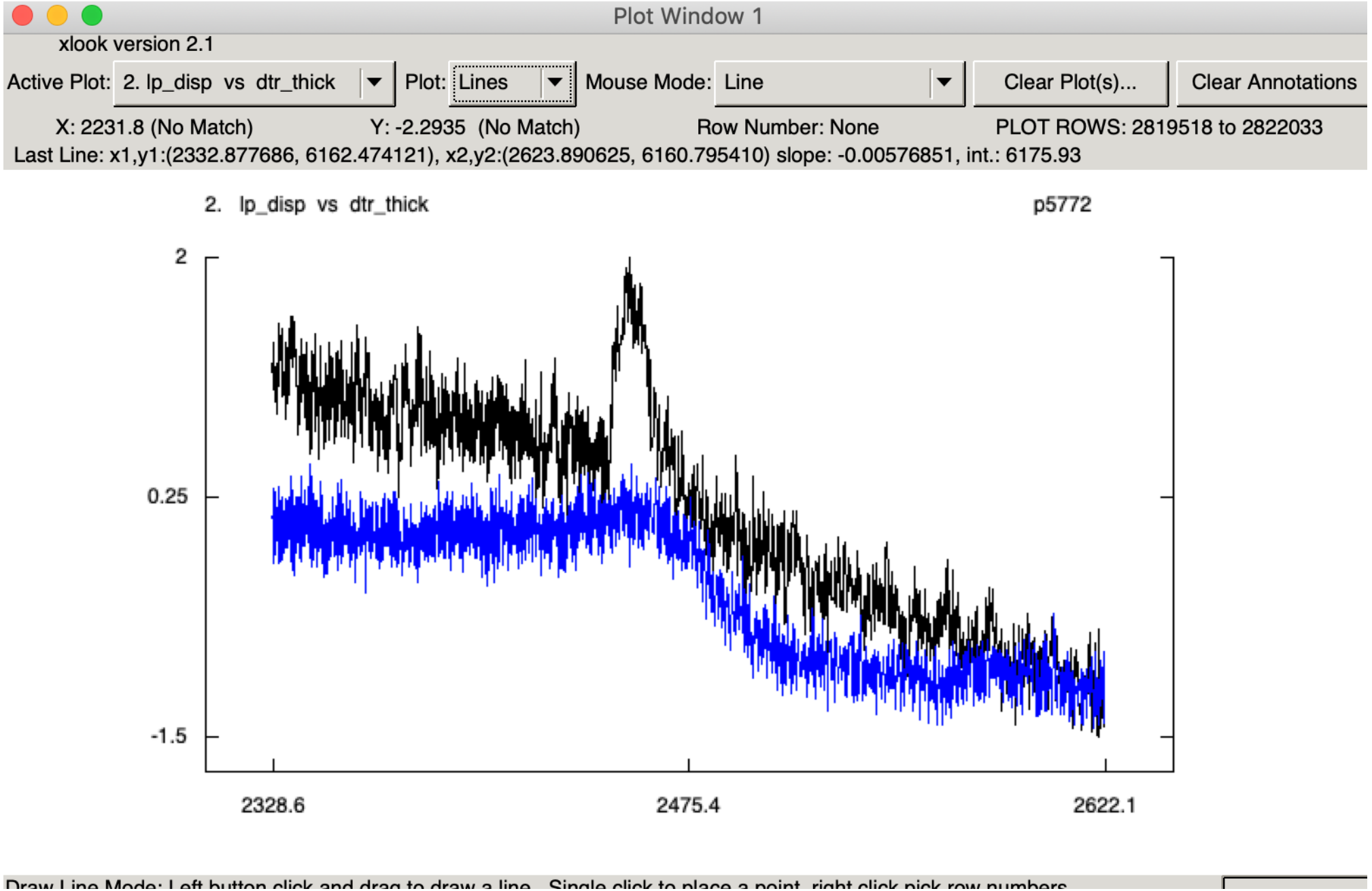
10 to 30 step showing friction (blk) and internal horizontal disp. I set it to an arbitrary value. Overall trend of fault thickness is compaction but note break in slope showing dilation upon the v step



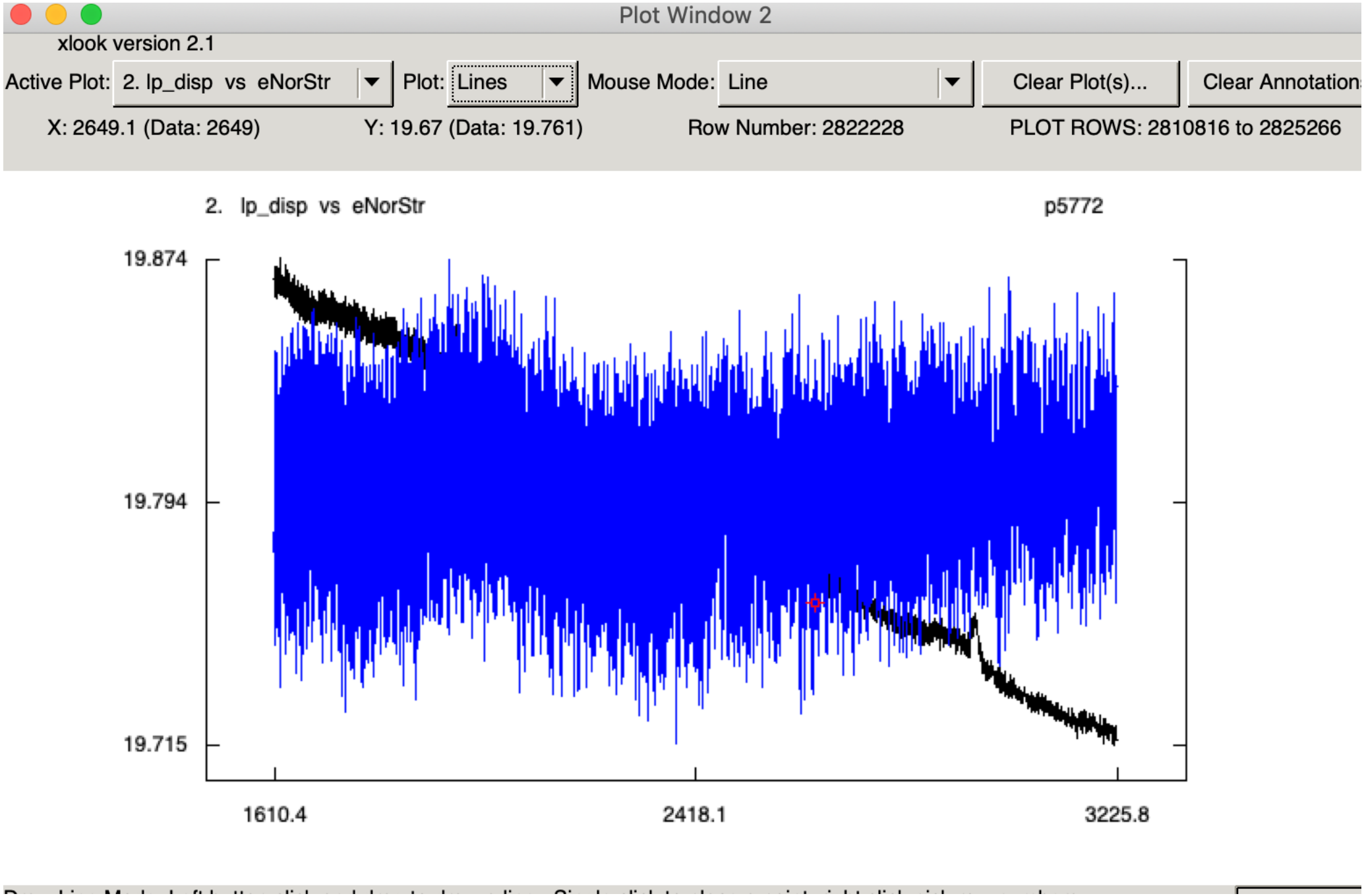
Detail of friction (blk) and internal horizontal disp for three v. steps

I set fault thick. to an arbitrary value. I detrended the fault thickness curve here, overall, and in the next slide for just one step.

Note that changes in fault thickness occur over about the distance of friction Dc



30 to 100 step showing friction (blk) and internal horizontal disp. I set it to an arbitrary value. I detrended the fault thickness at 30 µm/s
Note that relative dilation upon the v step is tiny and then there's compaction of about 1 µm over about the distance of friction Dc



Sanity check to look at normal stress changes during v steps. Left access is effective nor. stress in MPa

The changes are within the noise.

rsf model fits quite well.

R/S Fric Tool

law/options	r	disp_col	1	mu_col	12
mu_fit_col	9	first_row	2814493	vs_row	2815410
last_row	2816982	weight_row	2815511	lin_term	-5.31439e-05
c_tol	1e-3	lambda	-0.1	wc	0
stiff	0.003	v_initial	10	v_final	30
mu_initial	0.814	a	0.01	b1	0.013
dc1	13				

Model: Forward | Inversion | 1 State Variable | 2 State Variable

Normal Weighting | Alternative Weighting

Single Velocity Step | Multiple Velocity Step

Do QI | Cancel

lambda < 0, Forward Modeling

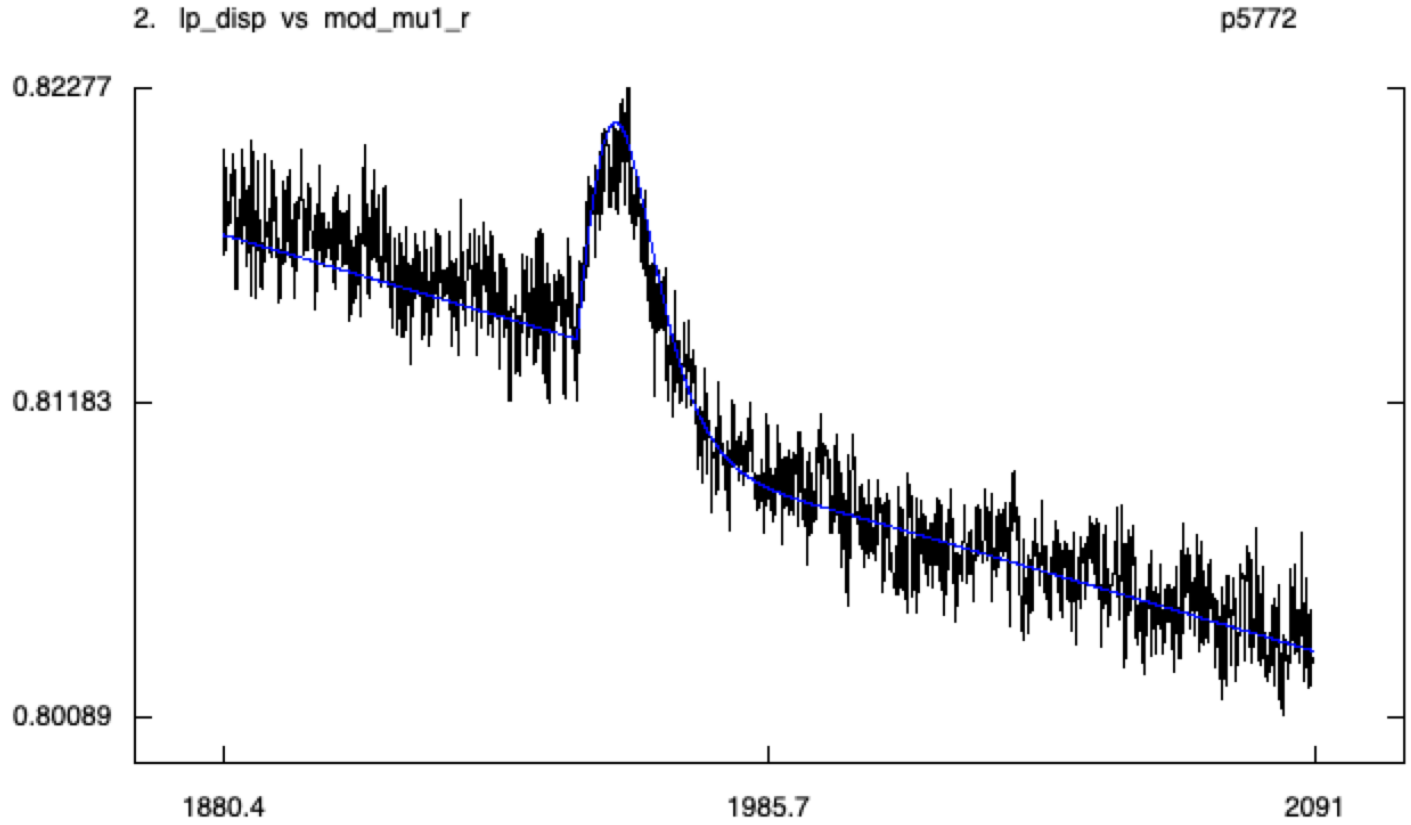
Plot Window 3

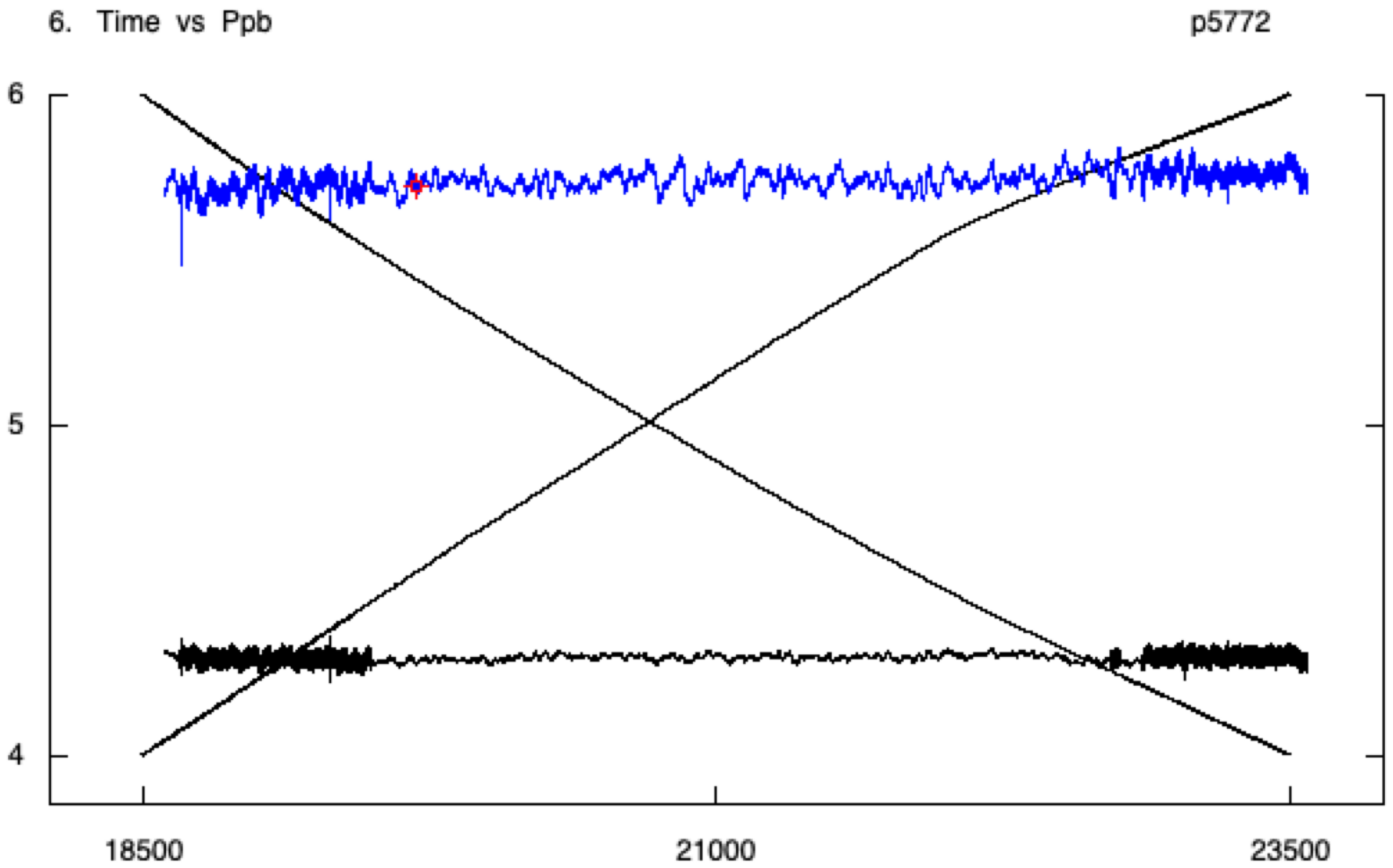
xlook version 2.1

Active Plot: 2. lp_disp vs mod_mu1_r | Plot: Lines | Mouse Mode: Line | Clear Plot(s)... | Clear Annotations

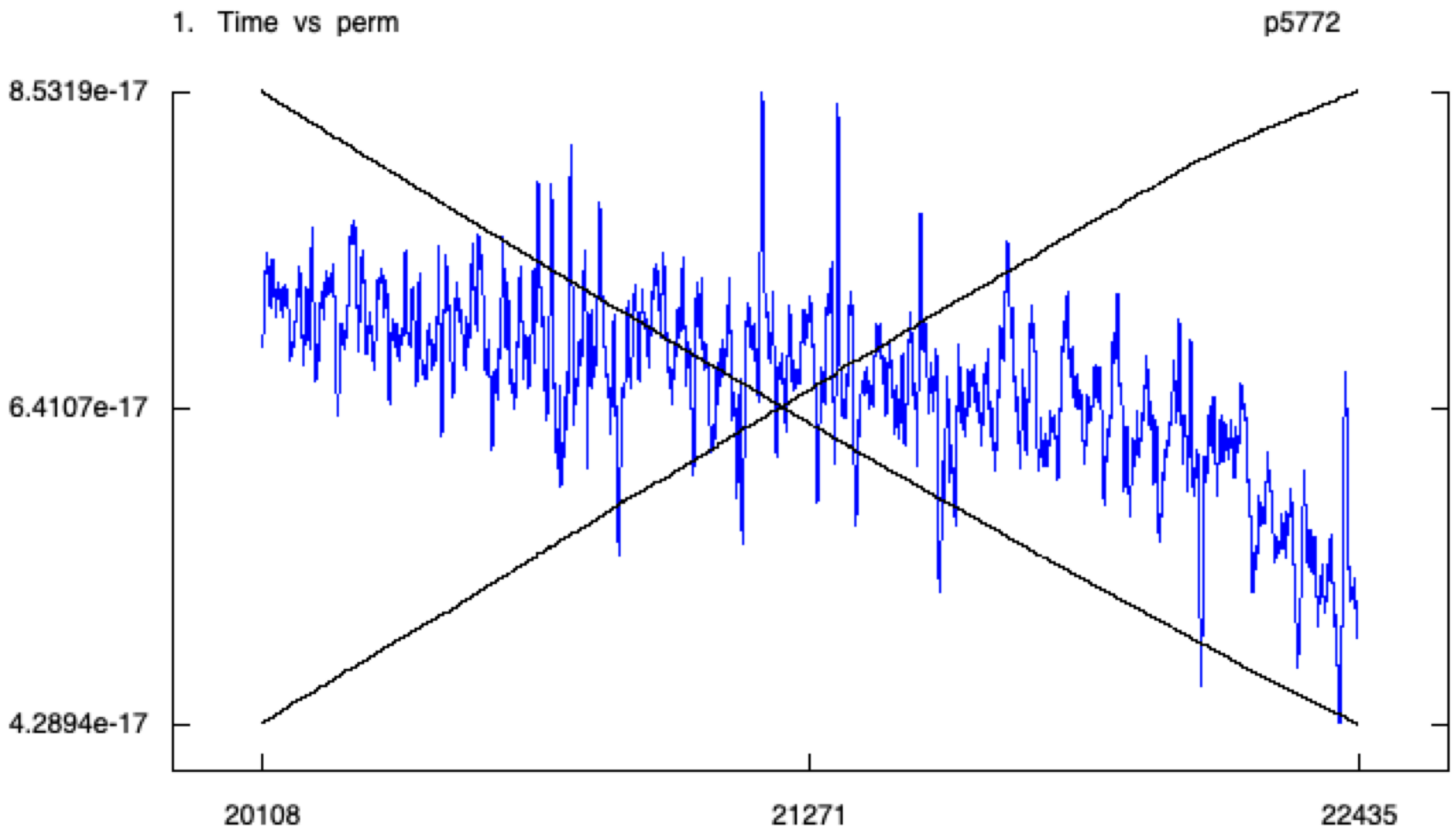
X: 1876.9 (No Match) Y: 0.82633 (No Match) Row Number: None PLOT ROWS: 2814493 to 2816982

Last Line: x1,y1:(23640.457031, 1958.252319), x2,y2:(23644.396484, 2078.014404) slope: 30.4007, int.: -716728



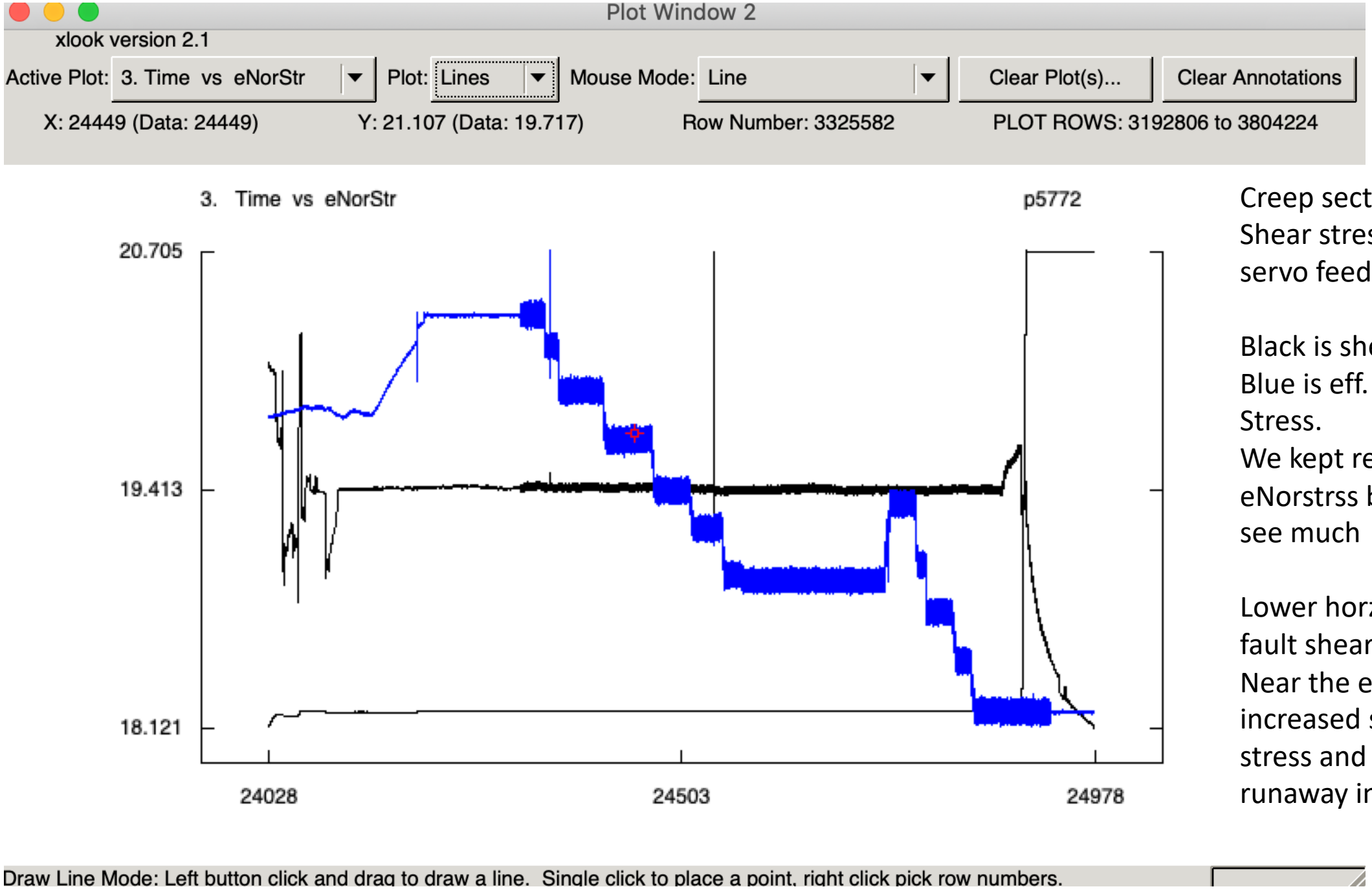


Section where we measured perm. Horizontal lines are Ppb and Ppa Linear trends are flow rate from a and b



Darcy perm. in blue, k = 6e-17 m^2

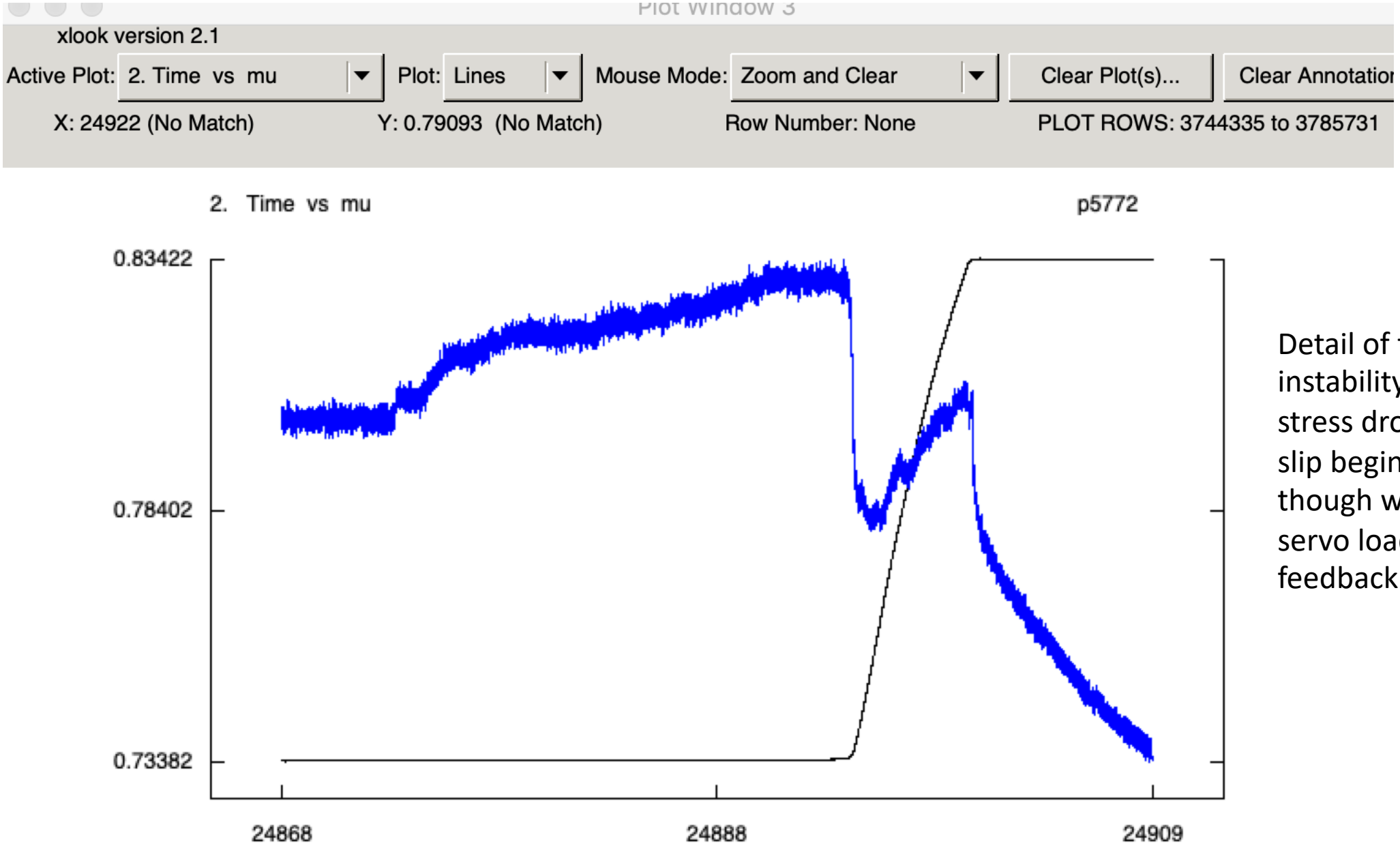
Linear trends are flow rate from a and b



Creep section
Shear stress was servo feedback.

Black is shear stress
Blue is eff. Nor Stress.
We kept reducing eNorstrss but didn't see much

Lower horz. Line is fault shear disp.
Near the end we increased shear stress and got a runaway instability



Detail of the shear instability –note stress drop when slip begins even though we're in servo load feedback.