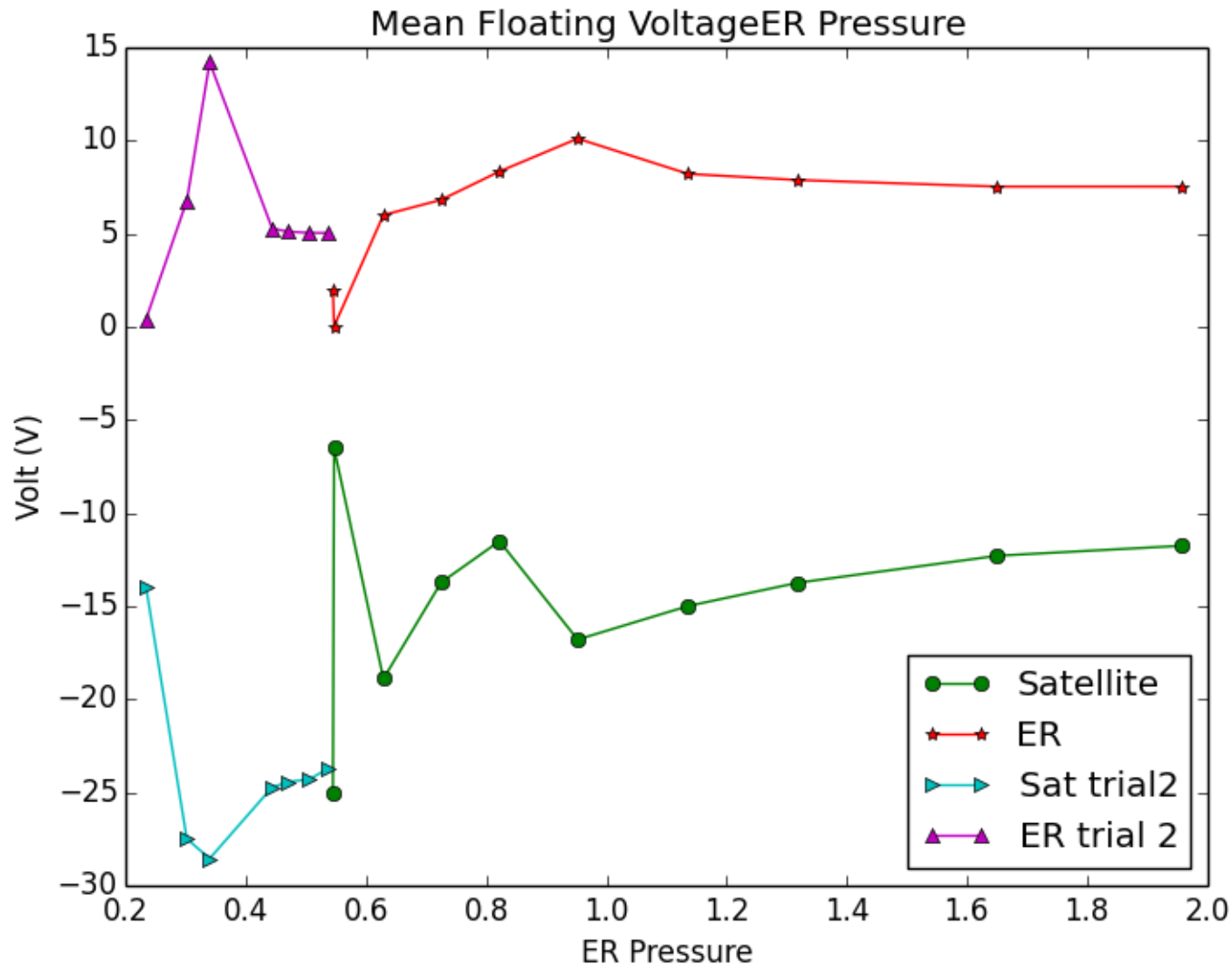


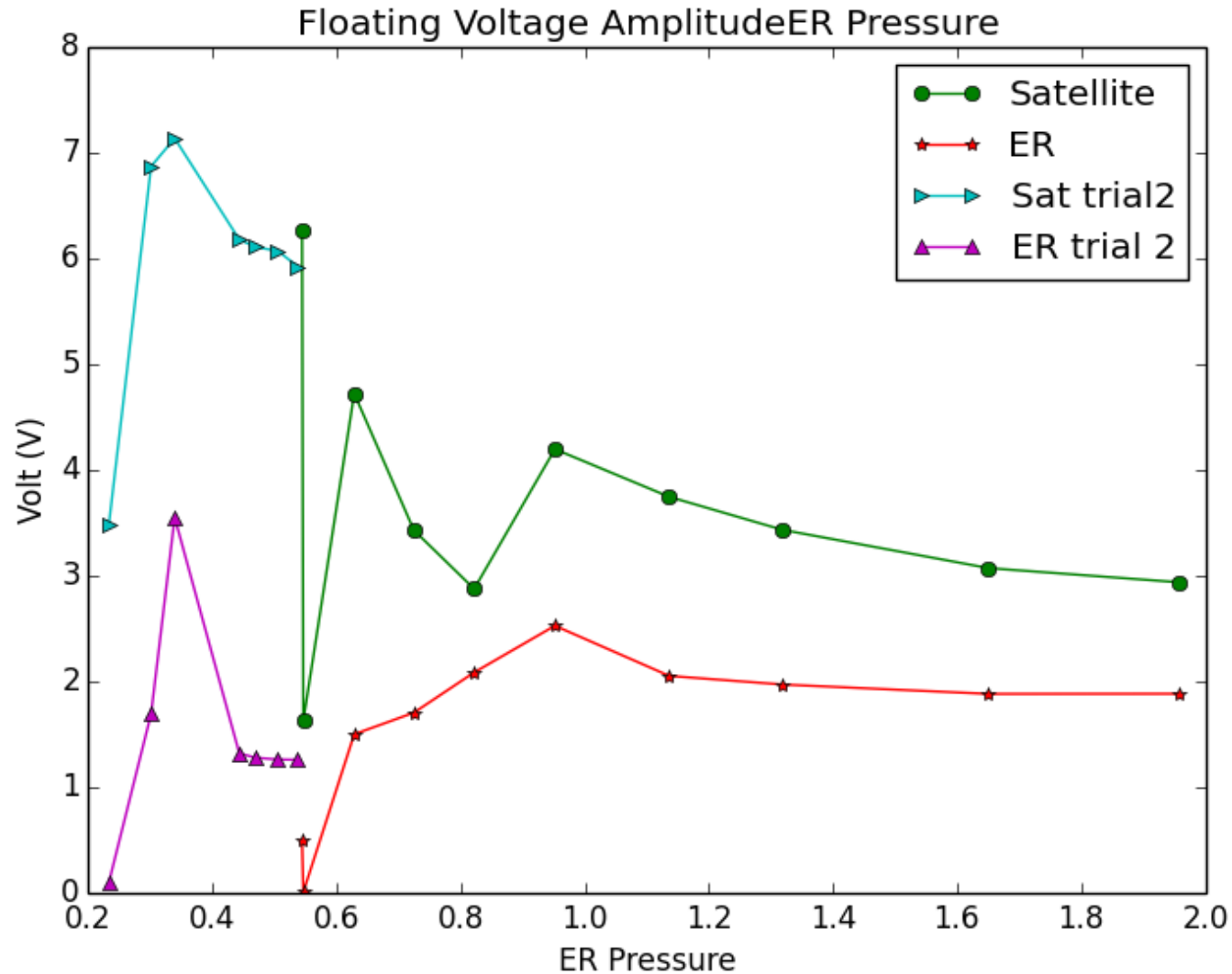
Initial Probe Measurements during Pressure/ Nozzle Current Scan

Jack Matteucci

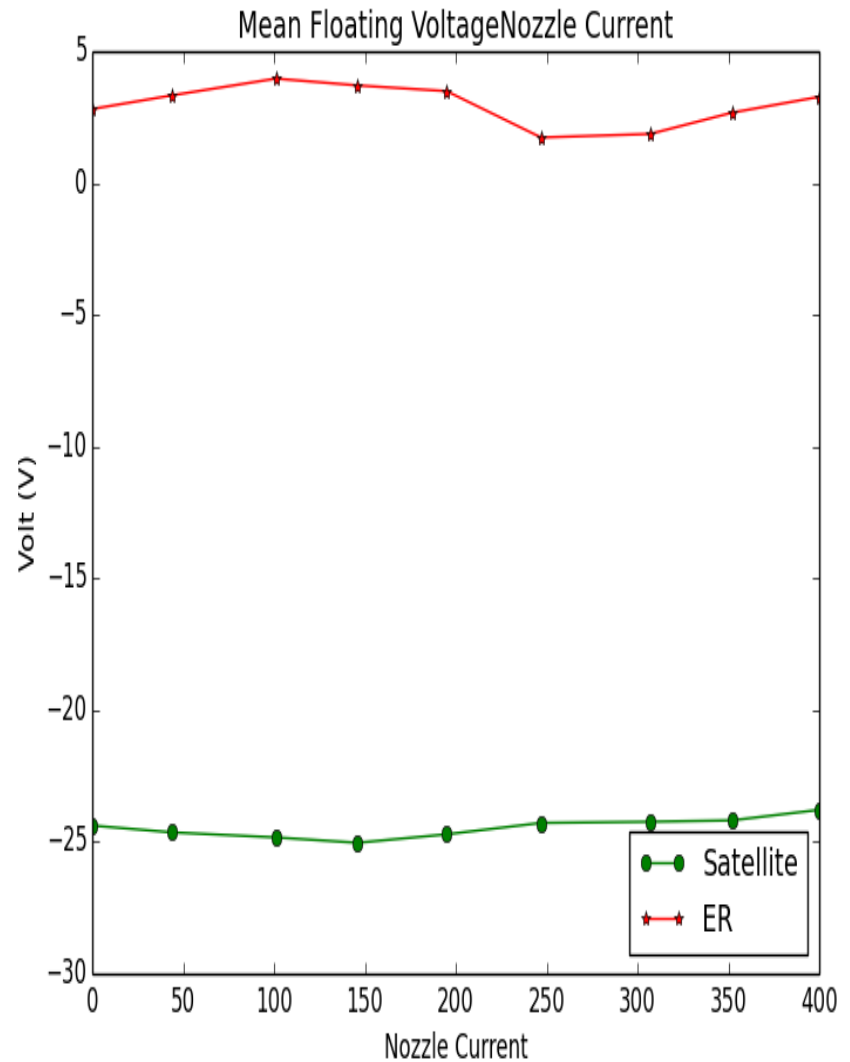
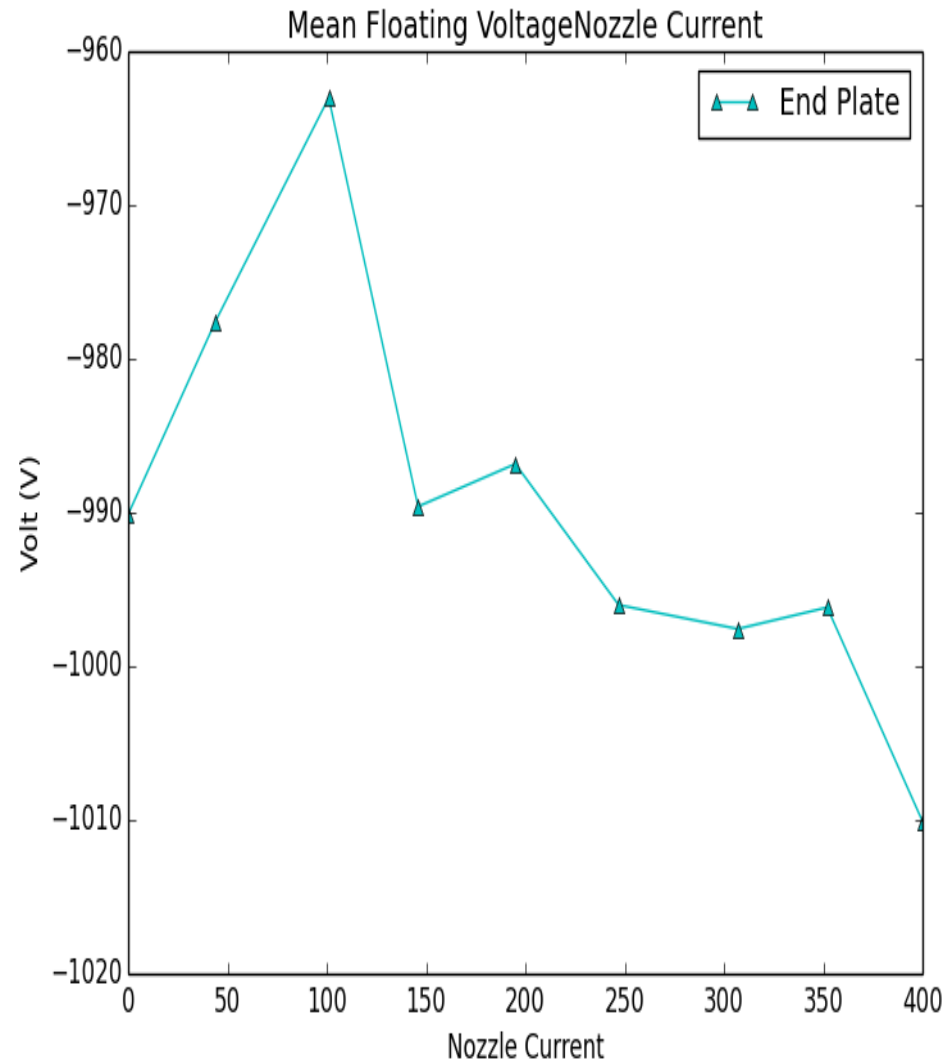
Day 1, Pressure Scan, Floating V mean



Day 1, Pressure Scan, Floating V amplitude



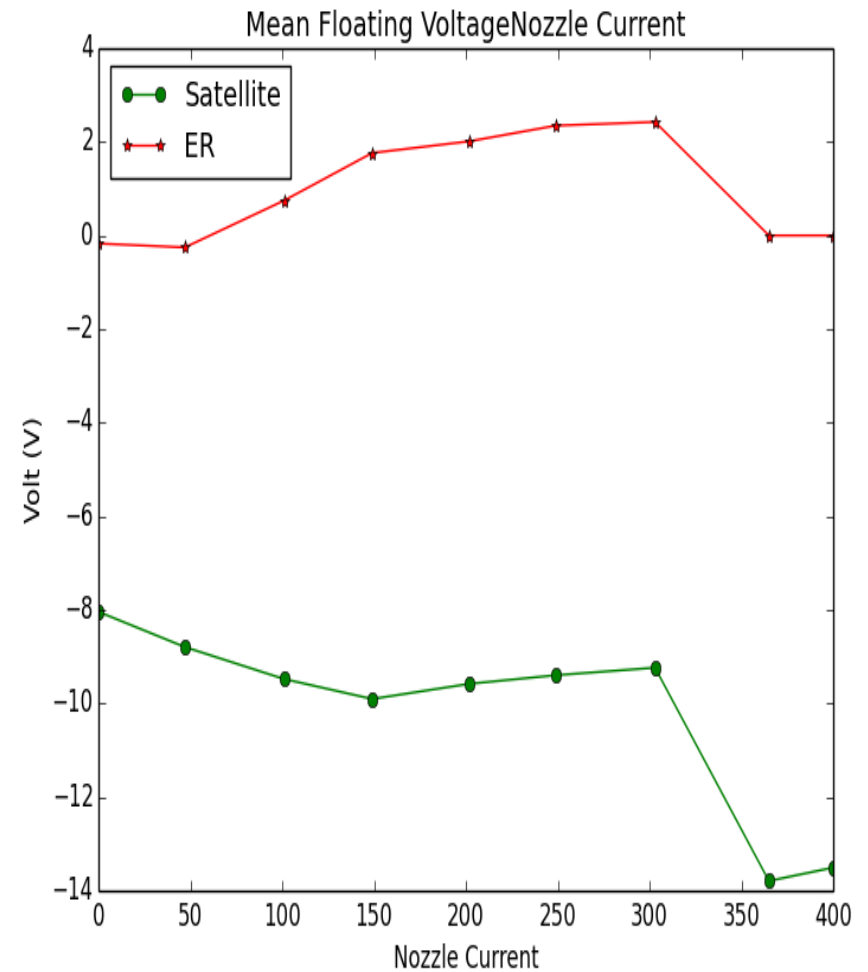
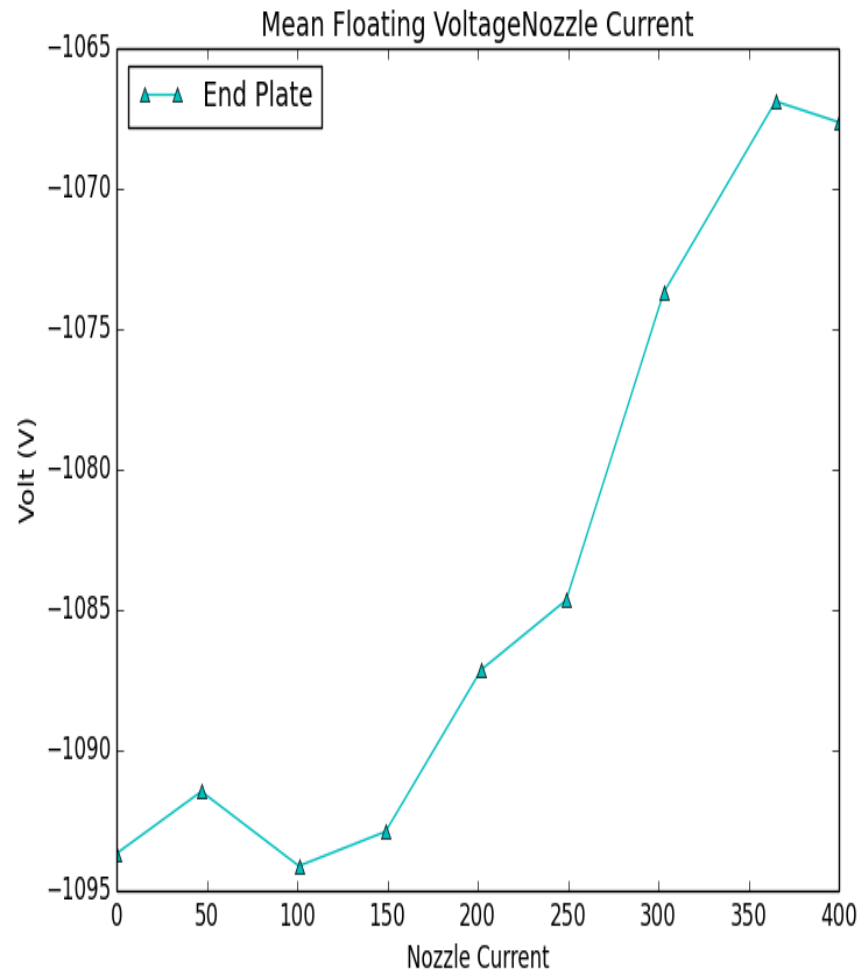
Day 2: Mean Floating Voltage on Probes



Power \approx 200 W, ER = 0.44 \pm 0.01 mT, Main Current = 137 A

Day 2: Mean Floating Voltage on Probes

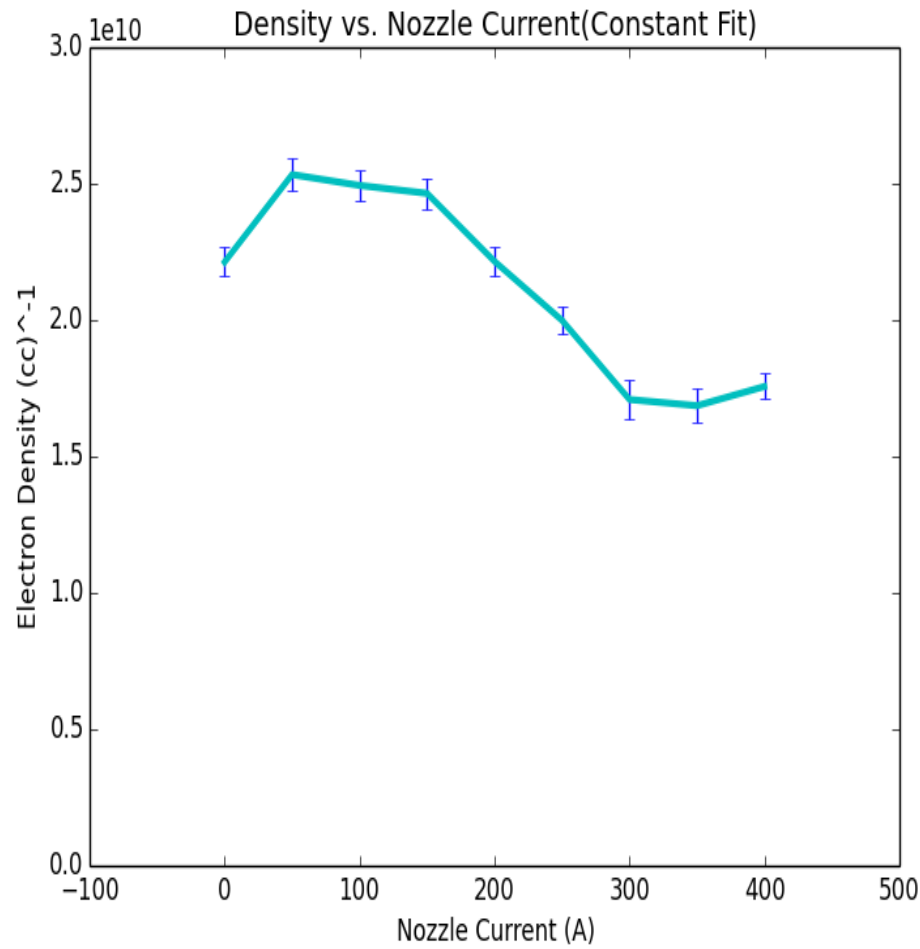
NOTE: LOWER field, MORE power, HIGHER pressure



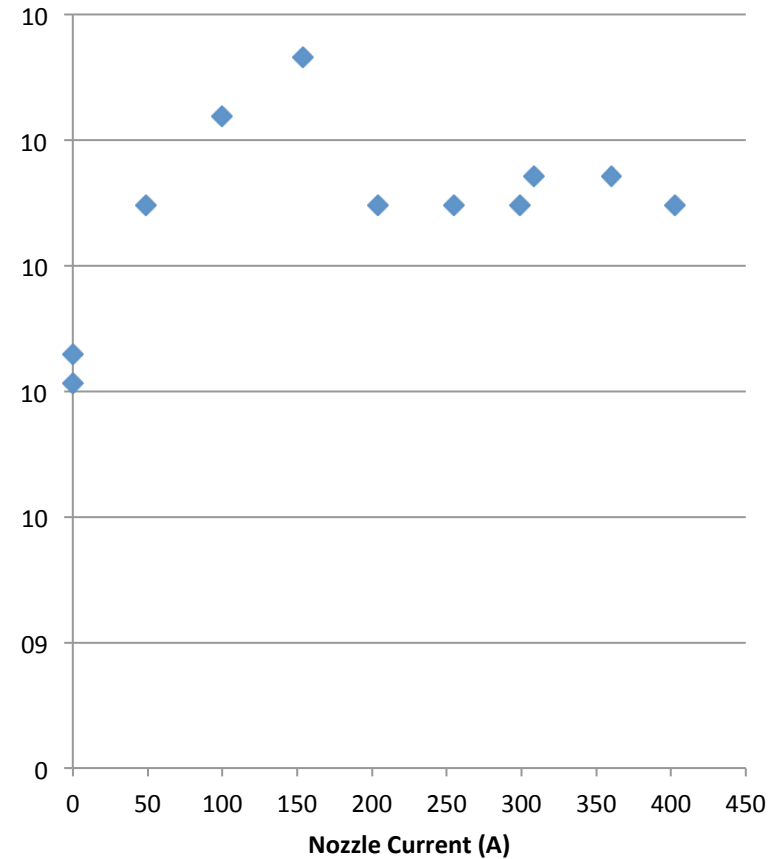
Power \approx 300 W, ER = 0.86 \pm 0.01 mT, Main Current = 92.6 A

Bulk Density

Single Probe



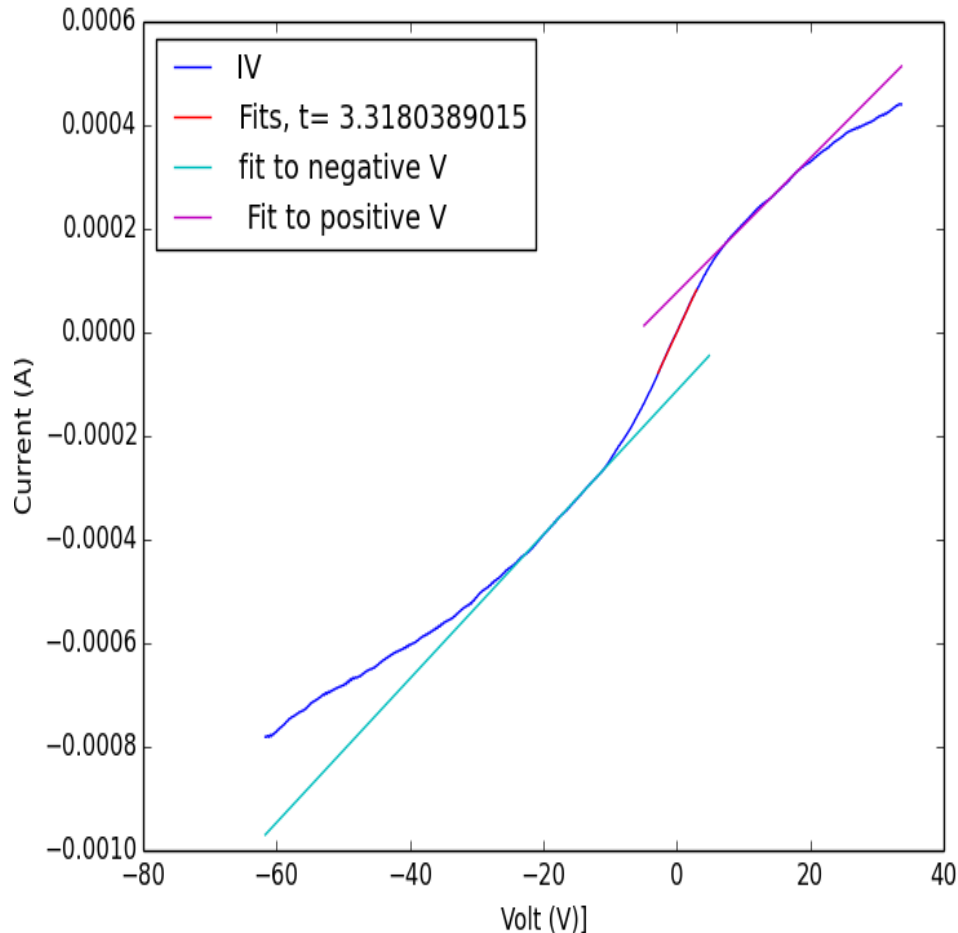
Interferometer data



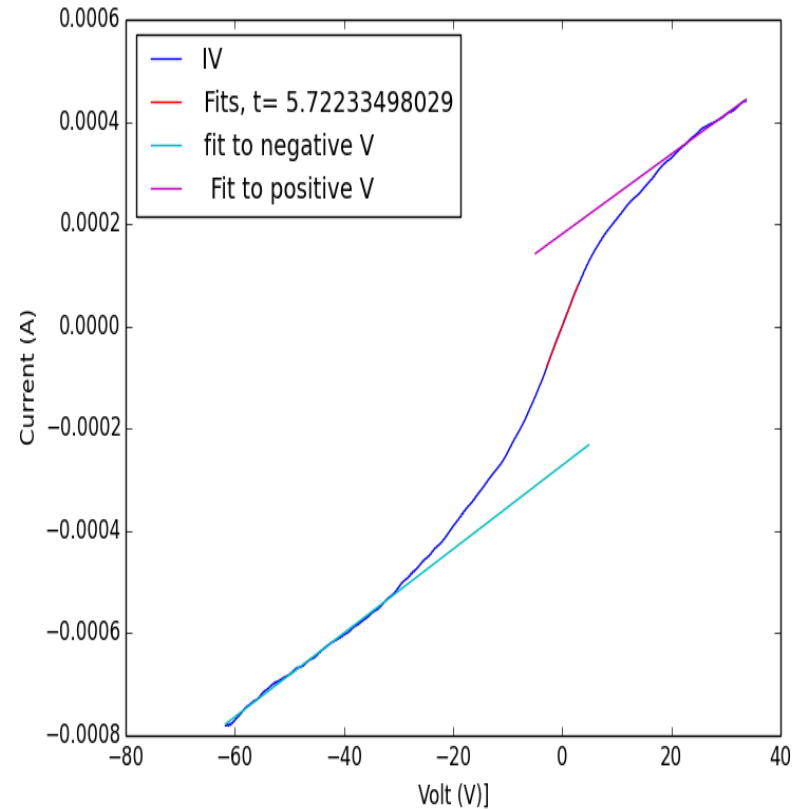
Power \approx 150 W, ER = 0.78 \pm 0.01 mT, Main Current = 92.2 A

Double Probe (400 A)

Planar Theory



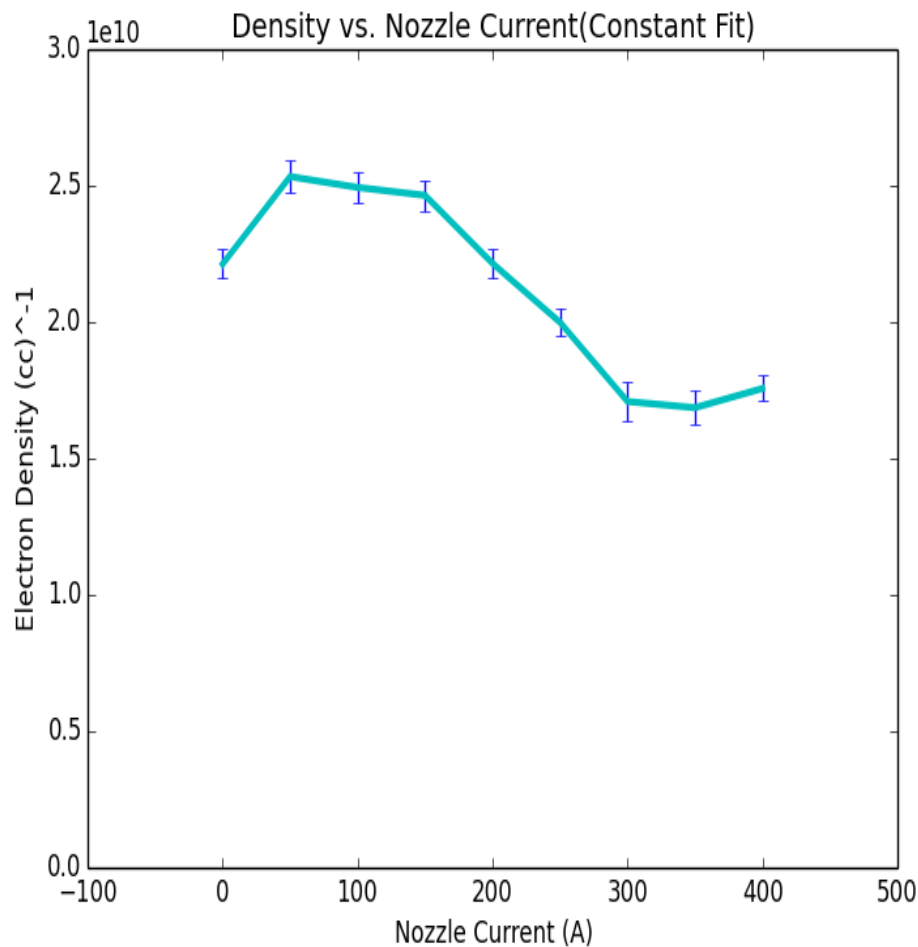
Cylindrical Theory



Power \sim 150 W, ER = 0.78 \pm 0.01 mT, Main Current = 92.2 A

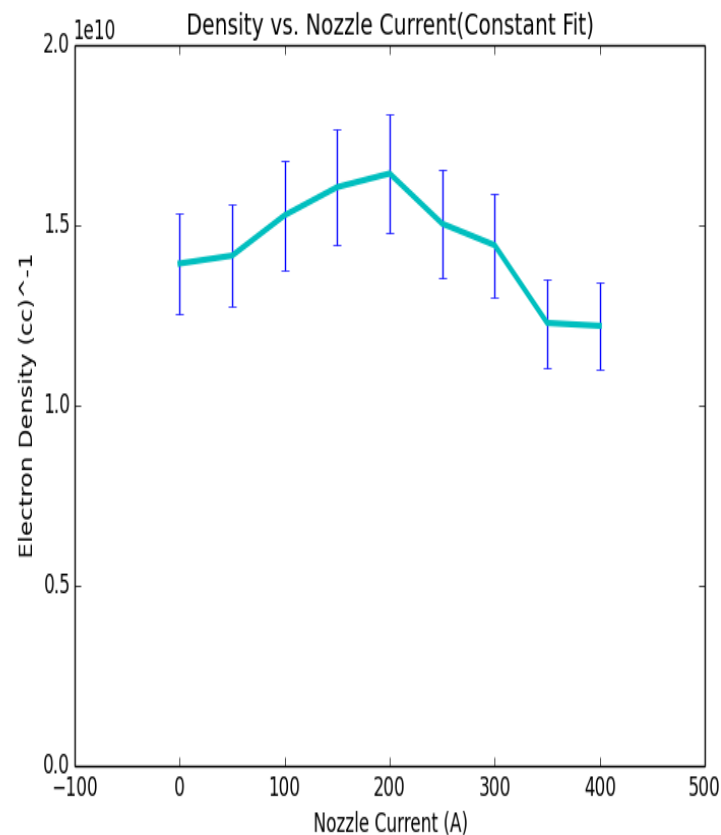
Bulk Density

Single Probe



Double Probe

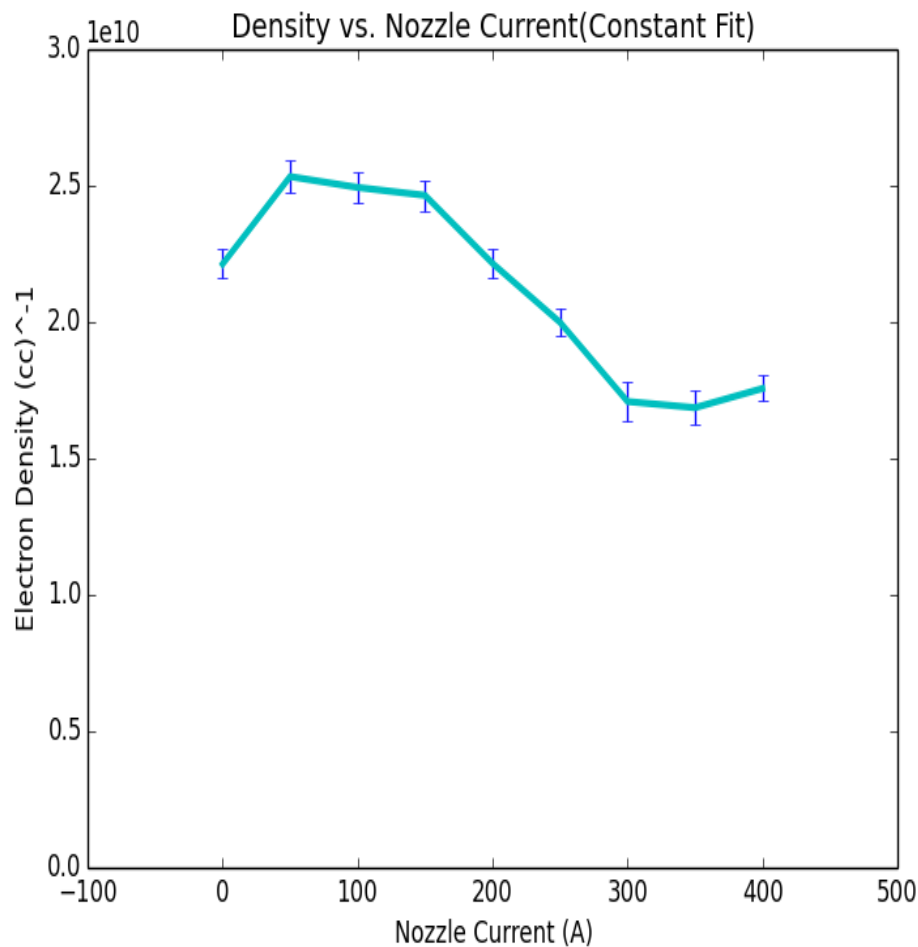
Planar



Power \approx 150 W, ER = 0.78 \pm 0.01 mT, Main Current = 92.2 A

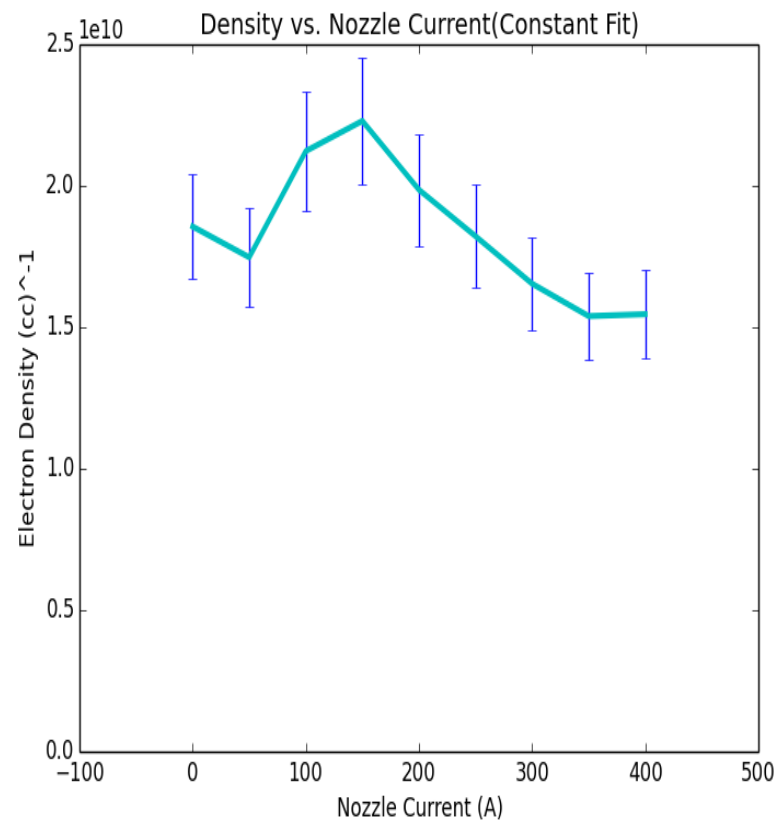
Bulk Density

Single Probe



Double Probe

Cylindrical



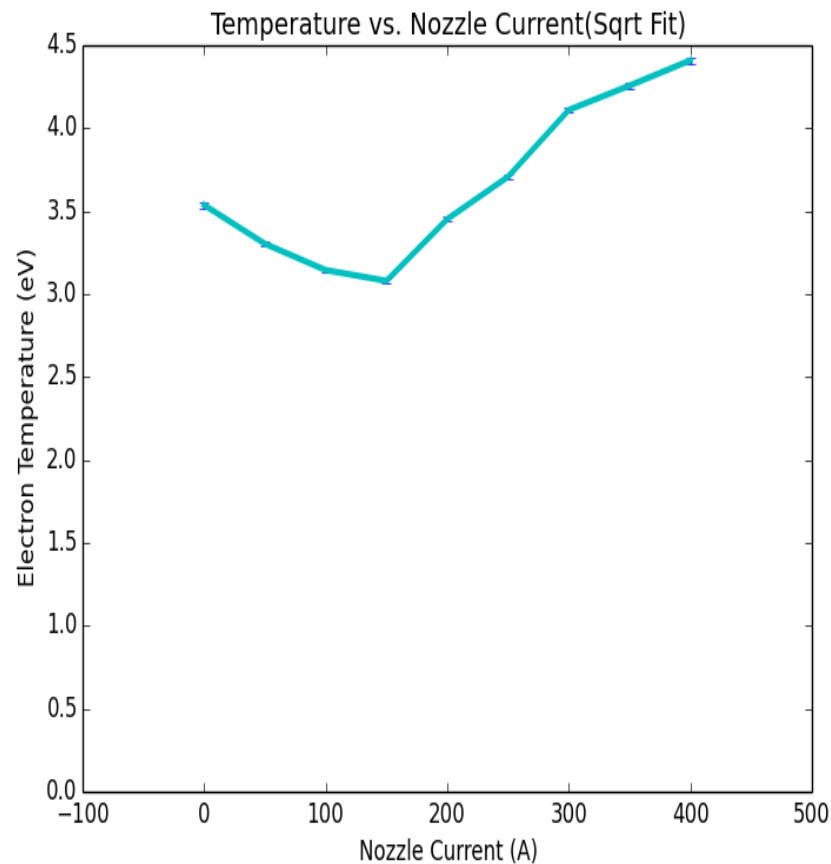
Power ≈ 150 W, ER = 0.78 ± 0.01 mT, Main Current = 92.2 A

NOTE: Lower power, other than

That similar conditions to slide before

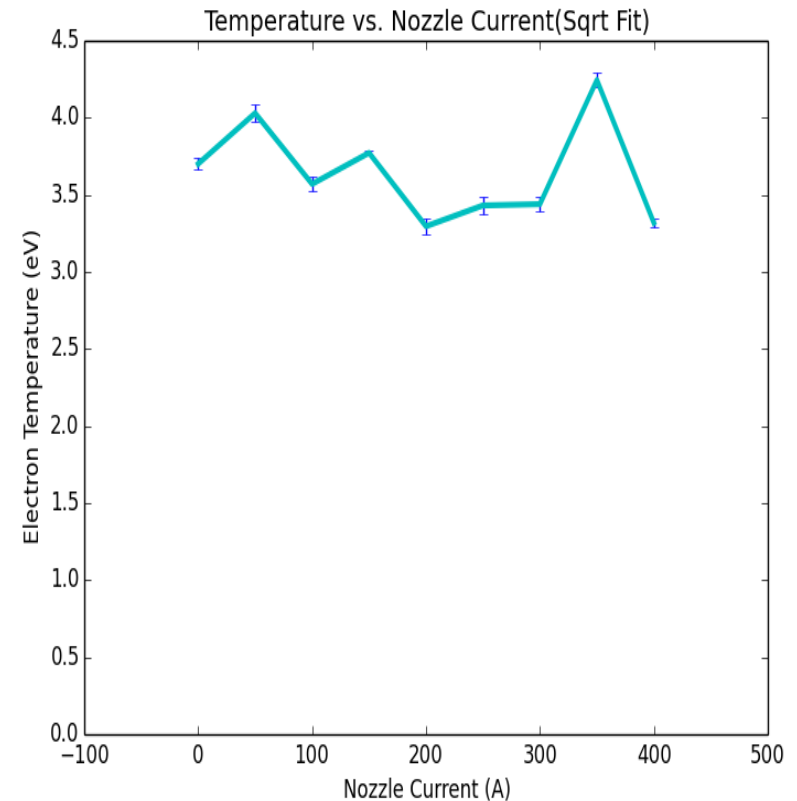
Bulk Temperature

Single Probe



Double Probe

Planar



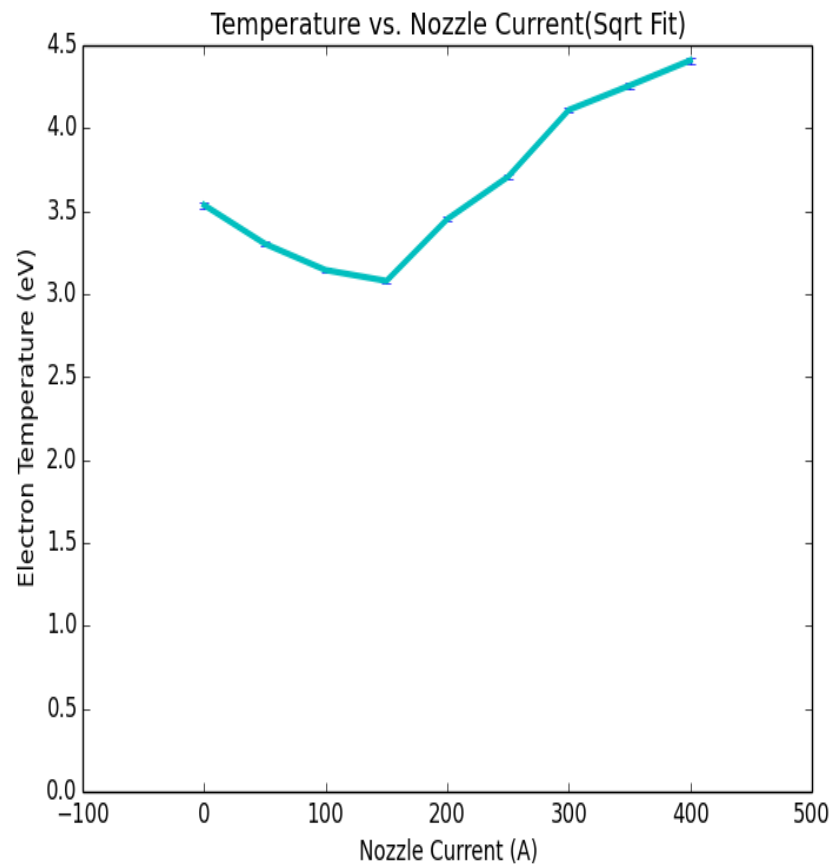
Power \approx 150 W, ER = 0.78 \pm 0.01 mT, Main Current = 92.2 A

NOTE: Lower power, other than

That similar conditions to slide before

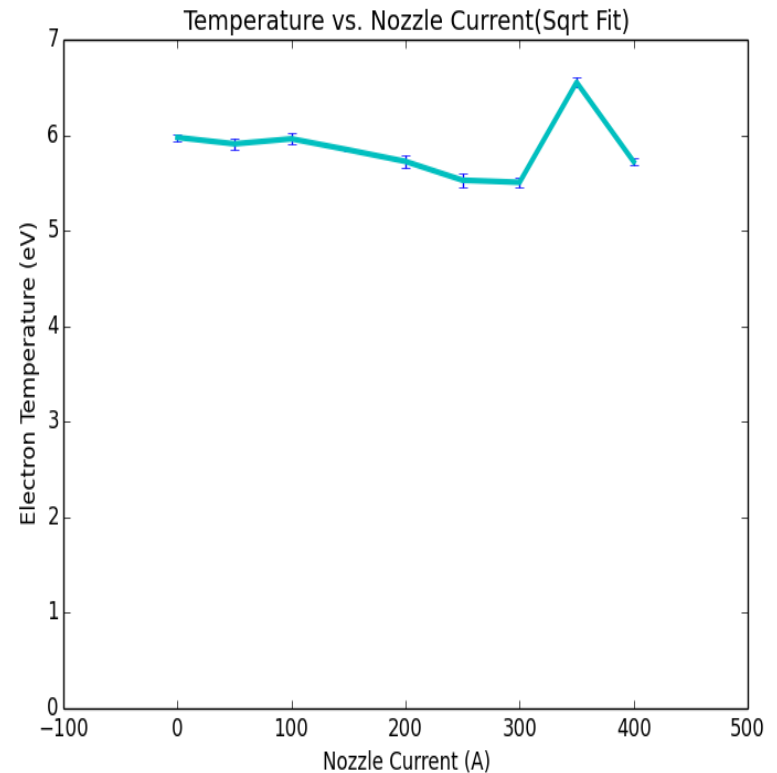
Bulk Temperature

Single Probe



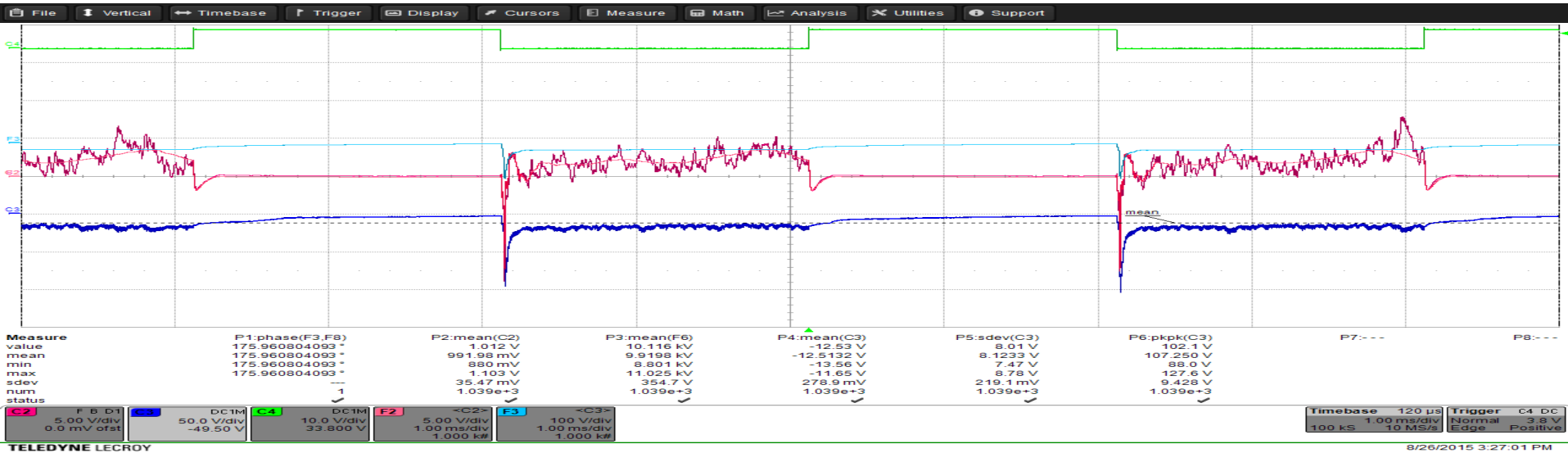
Double Probe

Cylindrical



Power \approx 150 W, ER = 0.78 \pm 0.01 mT, Main Current = 92.2 A

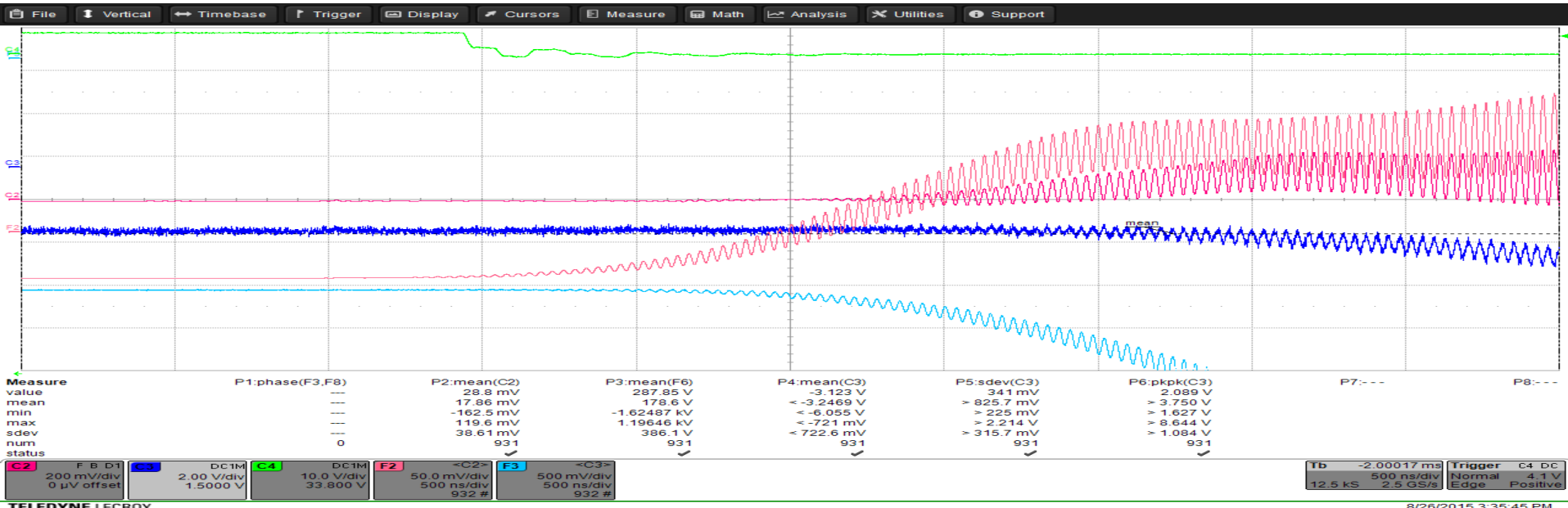
Modulation Delay



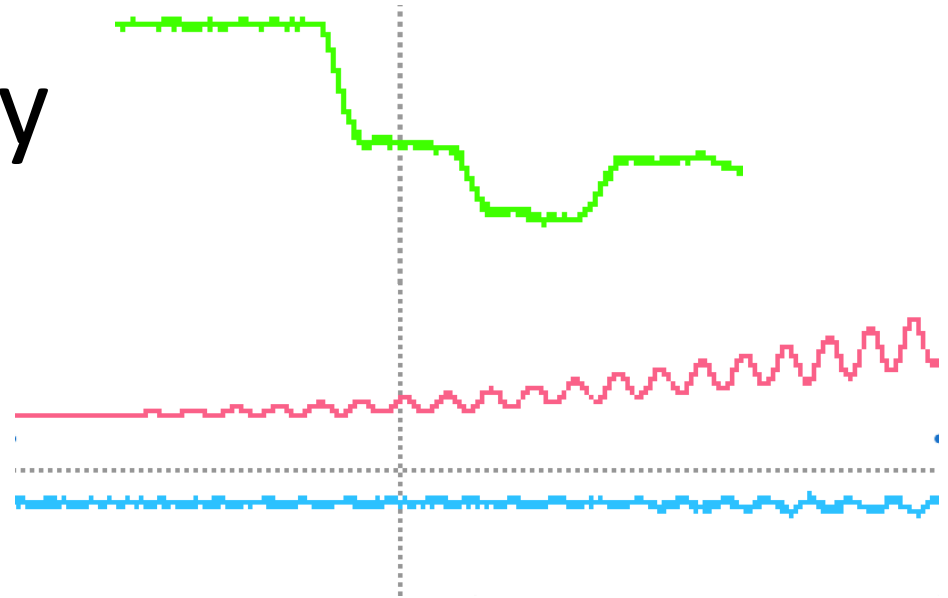
Green = Mod Signal

Red = ER Probe

Blue = Sat probe



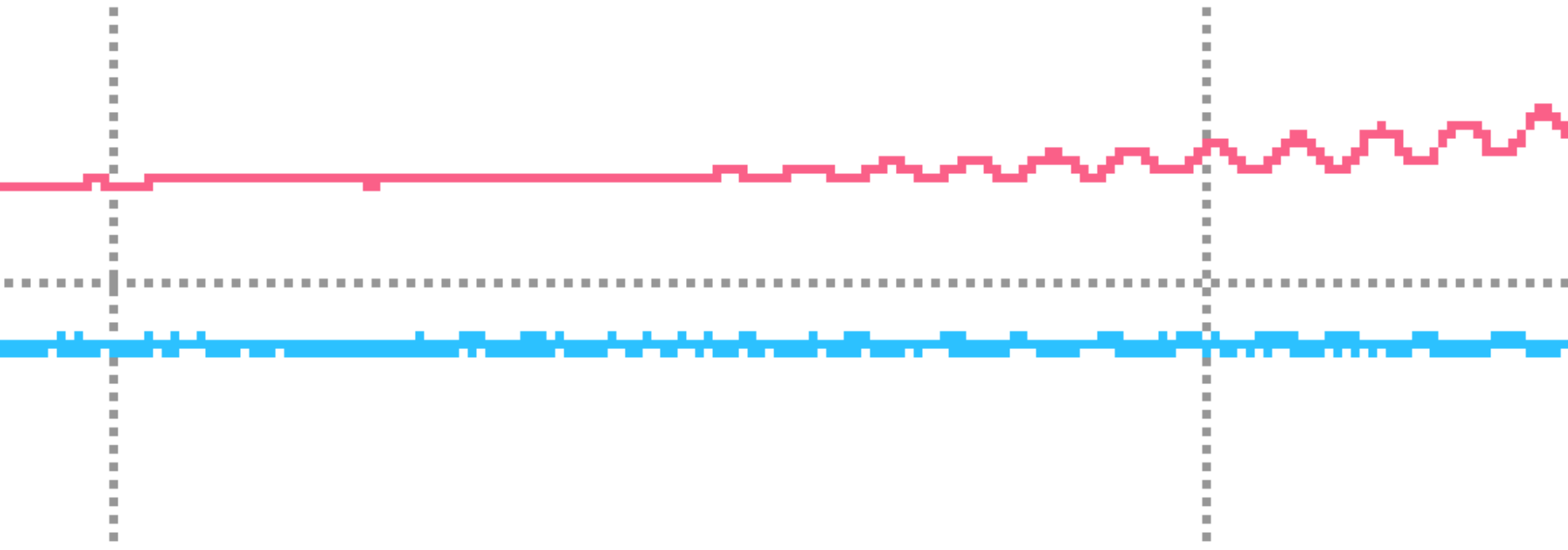
Modulation Delay



Green = Mod Signal

Red = ER Probe

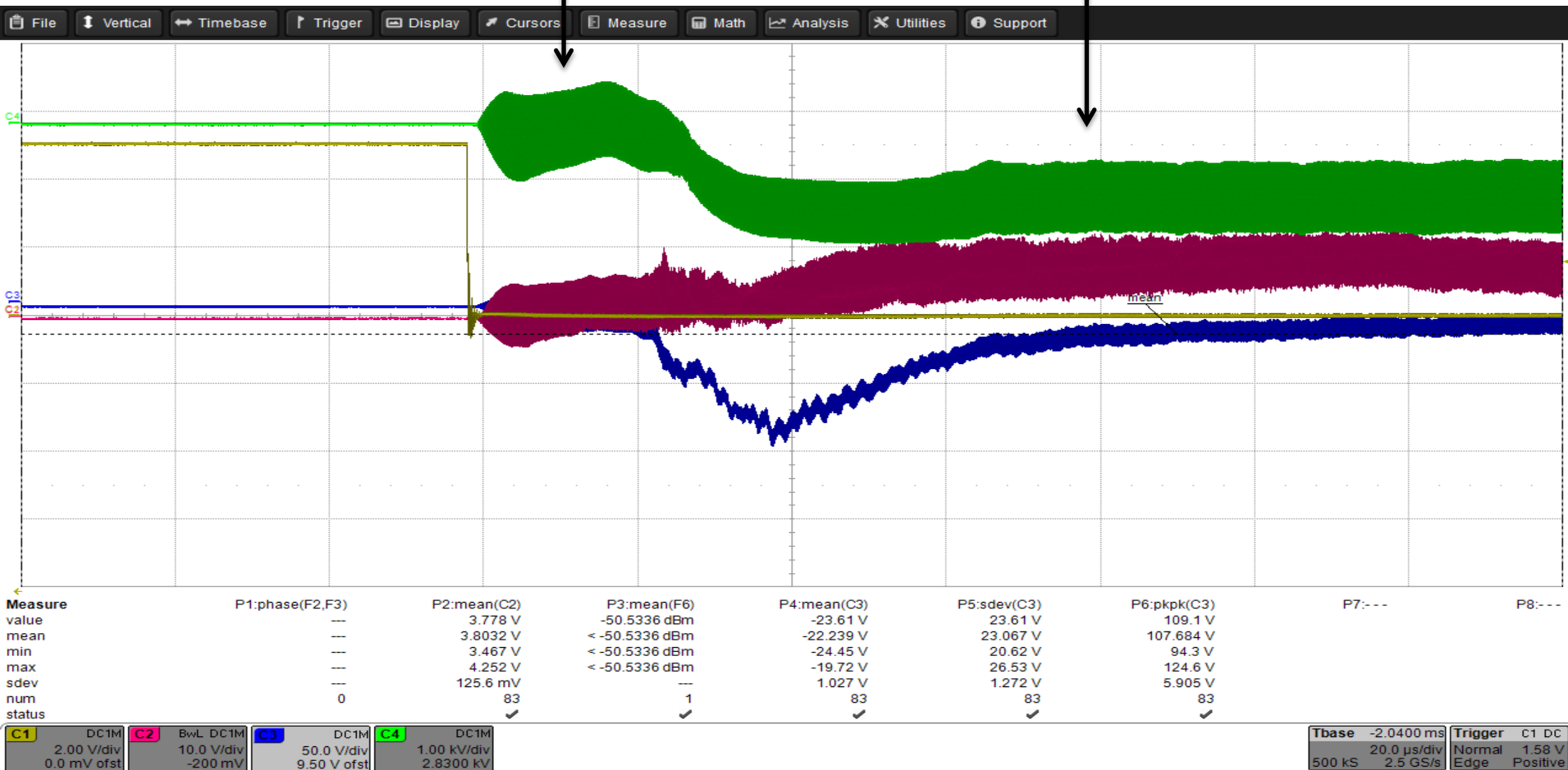
Blue = Sat probe



27 MHz Phase Shift

Region 1

Region 2



TELEDYNE LECROY

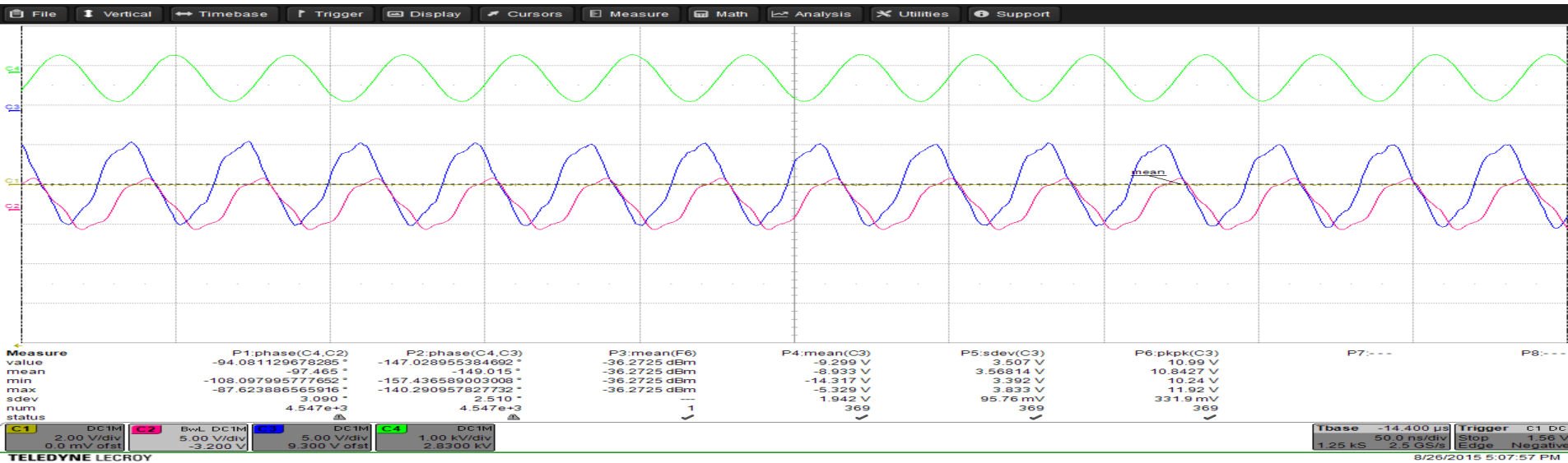
8/26/2015 4:48:16 PM

Green = Back Plate

Red = ER Probe

Blue = Sat probe

Region 1



Region 2

