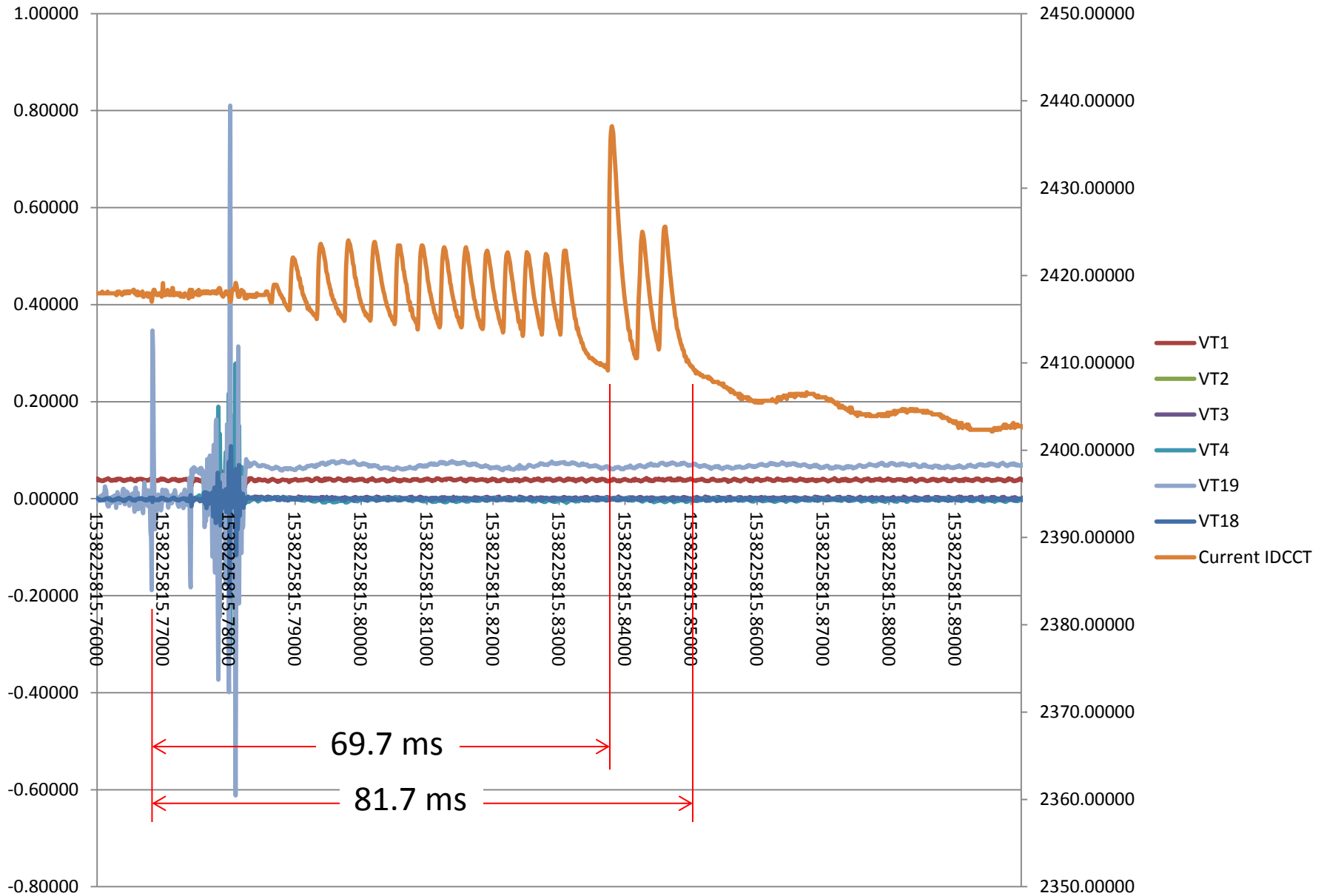


Hall B Solenoid fast Discharge on Saturday Sept 29, 2018

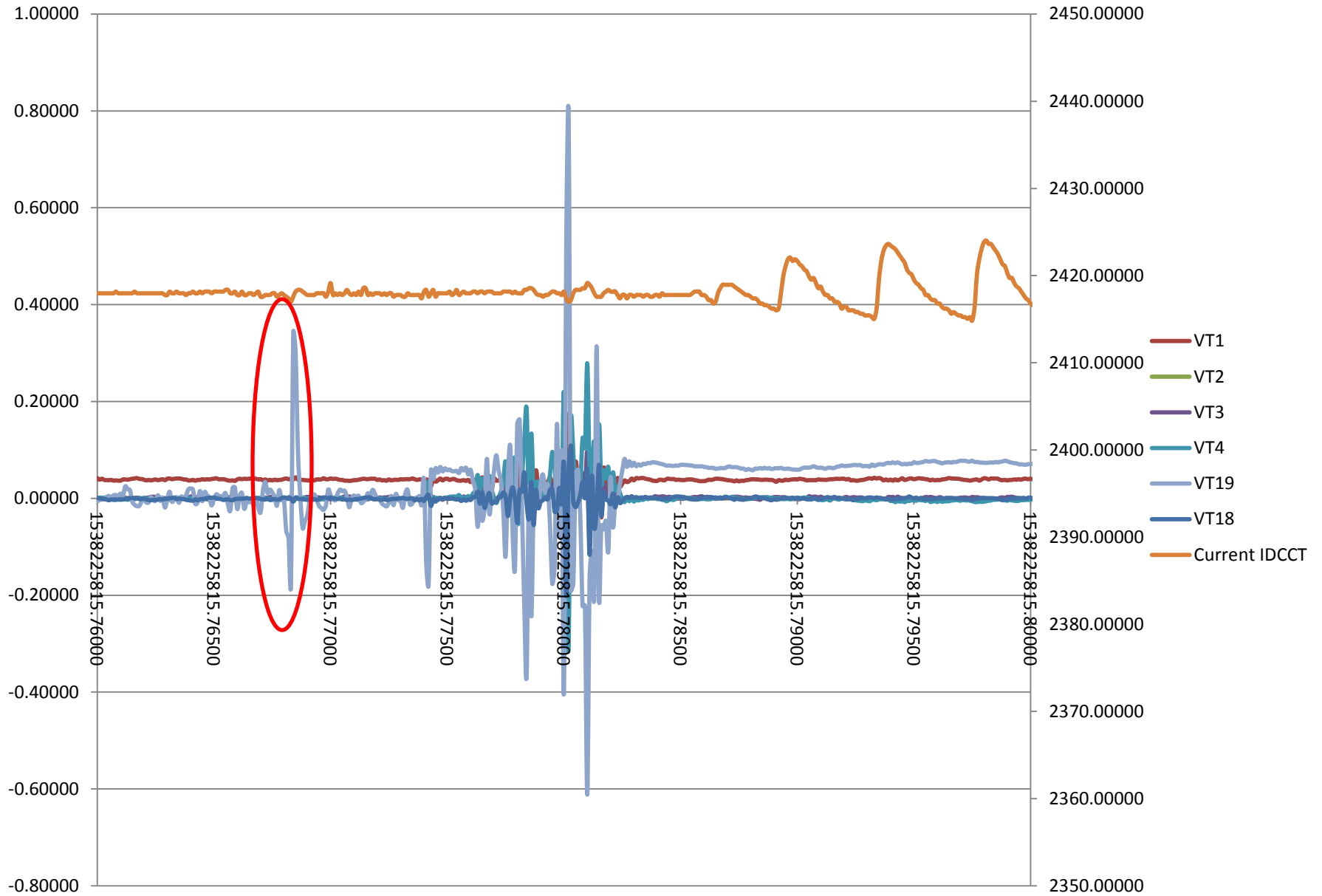
**P Ghoshal
With
Magnet team, DSG, N Sandoval**

Oct 3rd, 2018

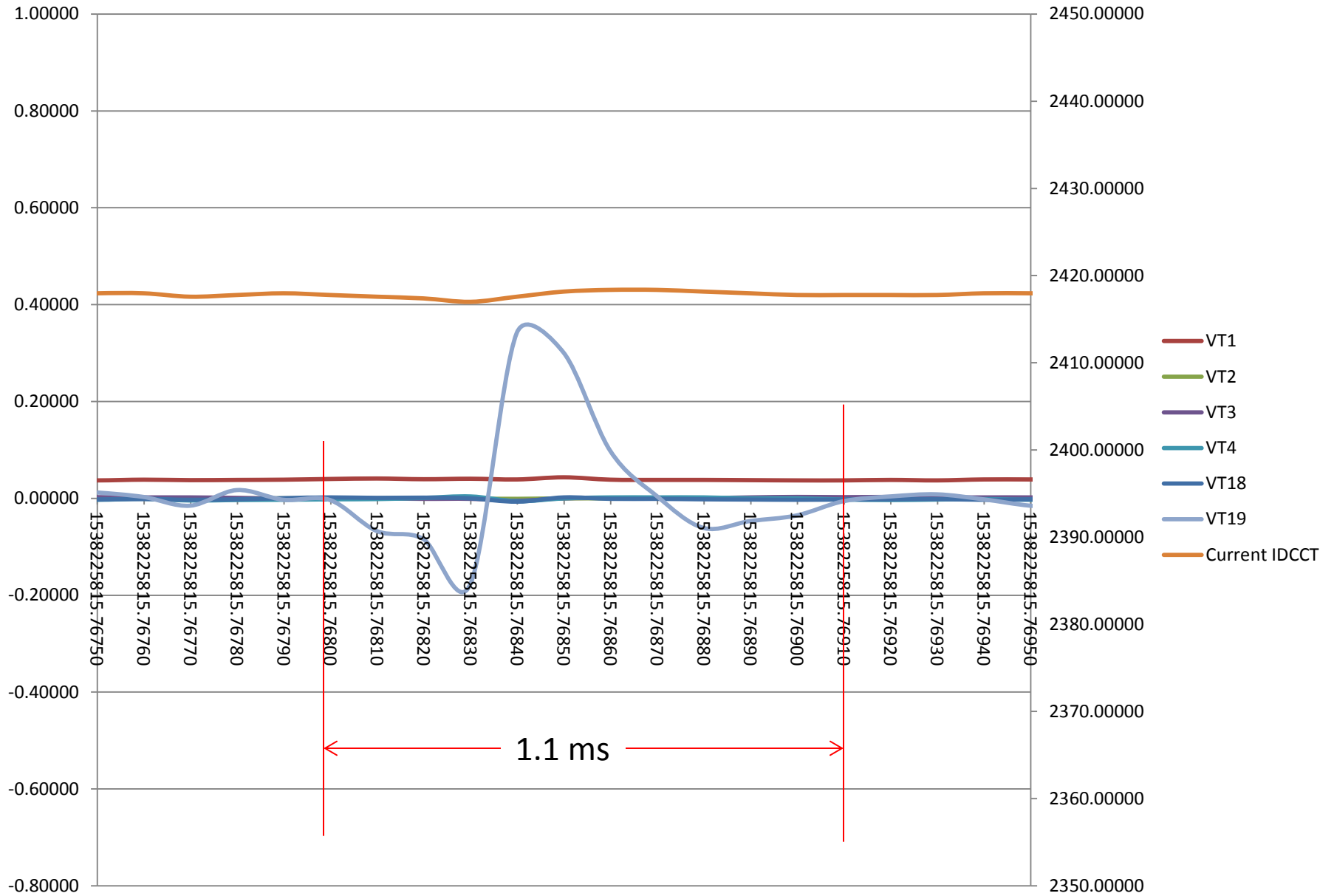
VT with IDCCT



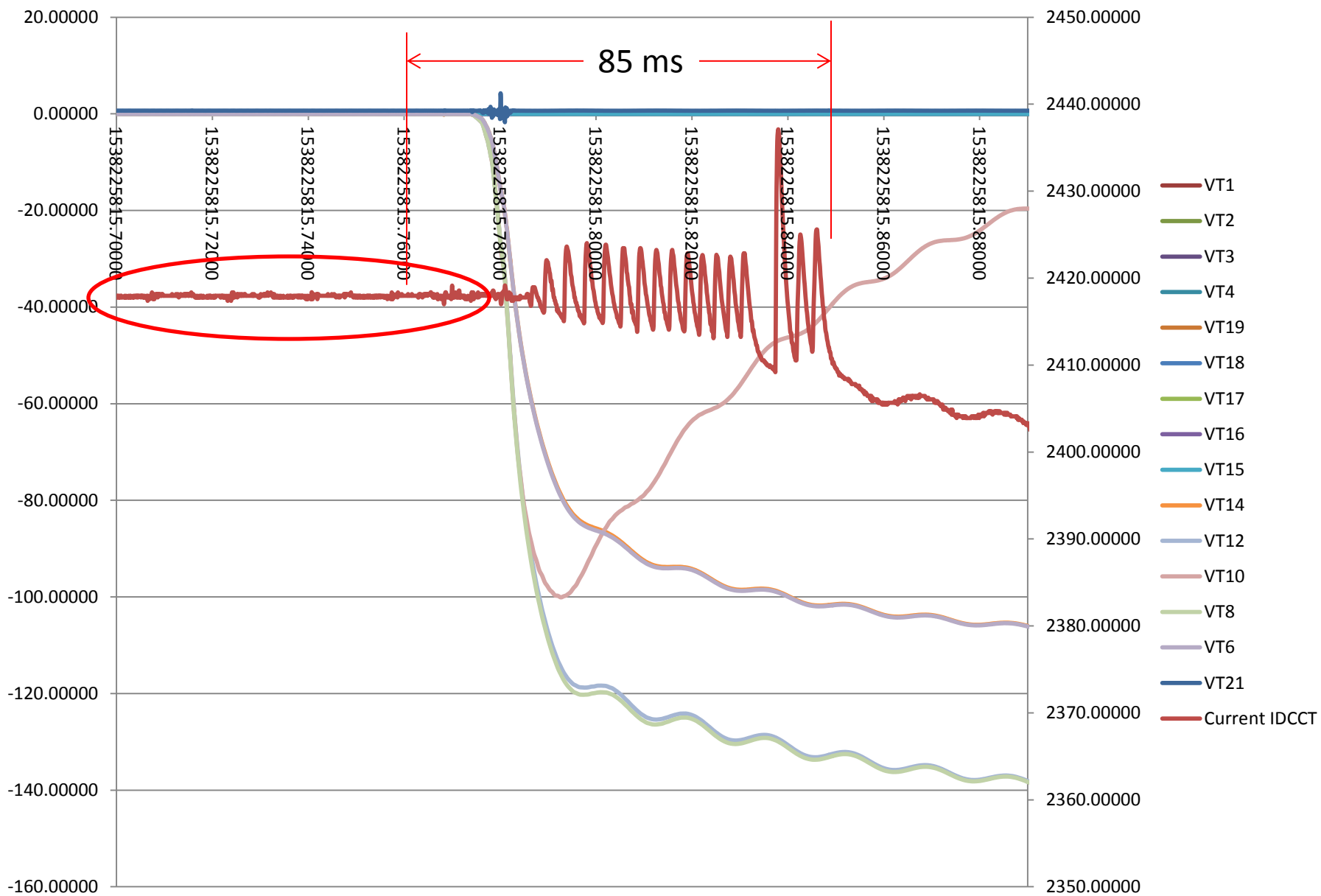
VT with IDCCT



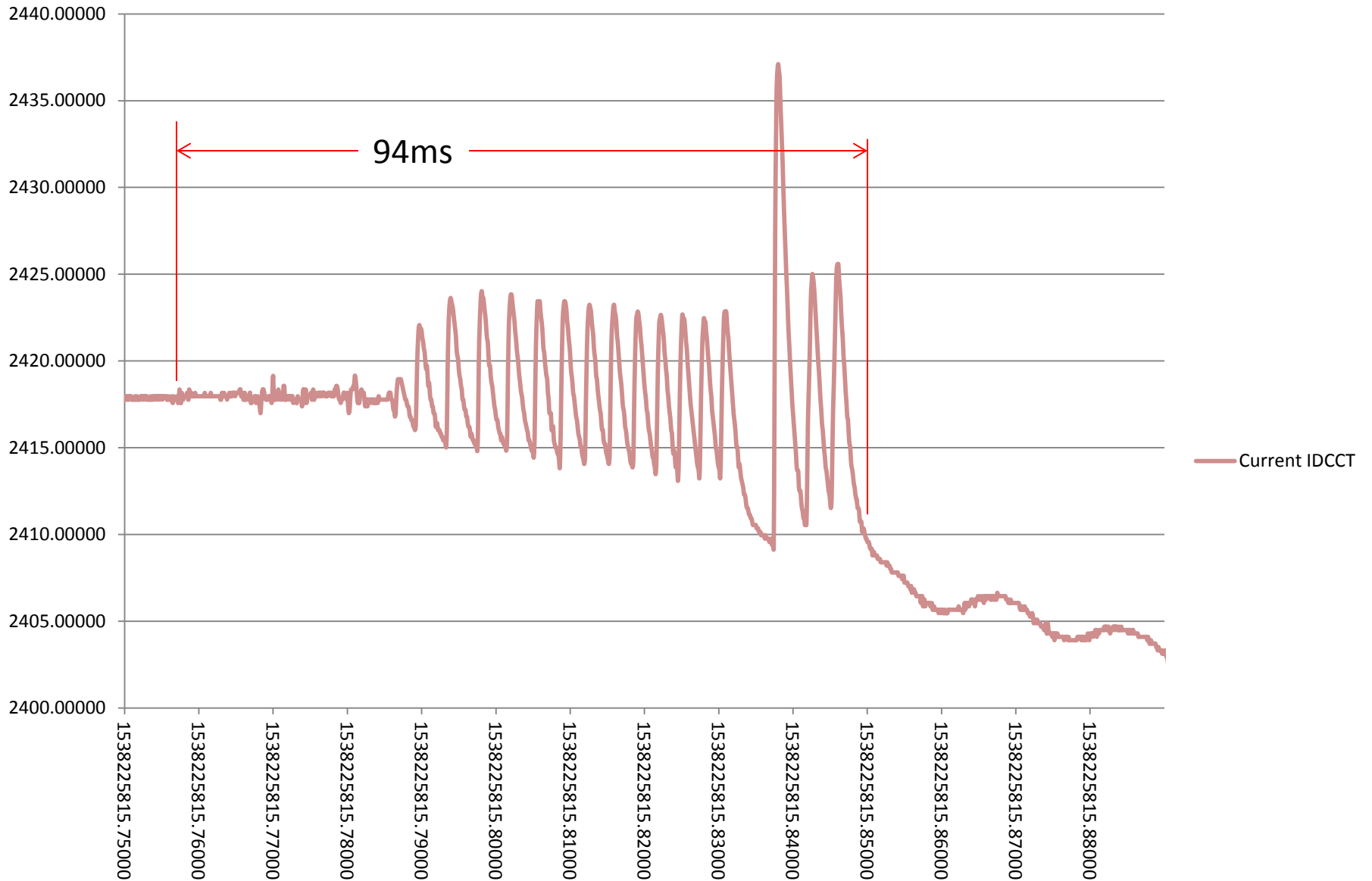
VT with IDCCT



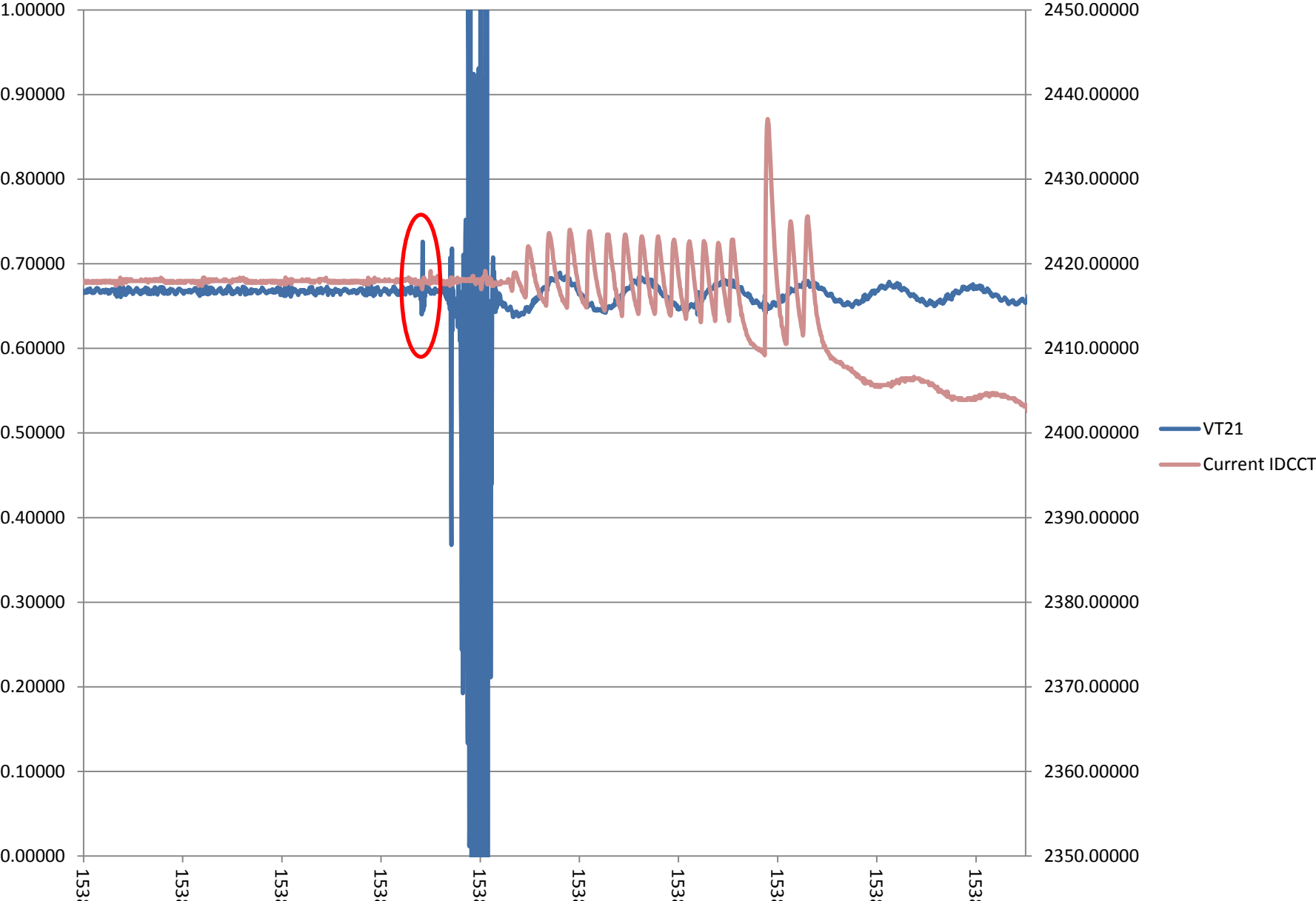
All VTs



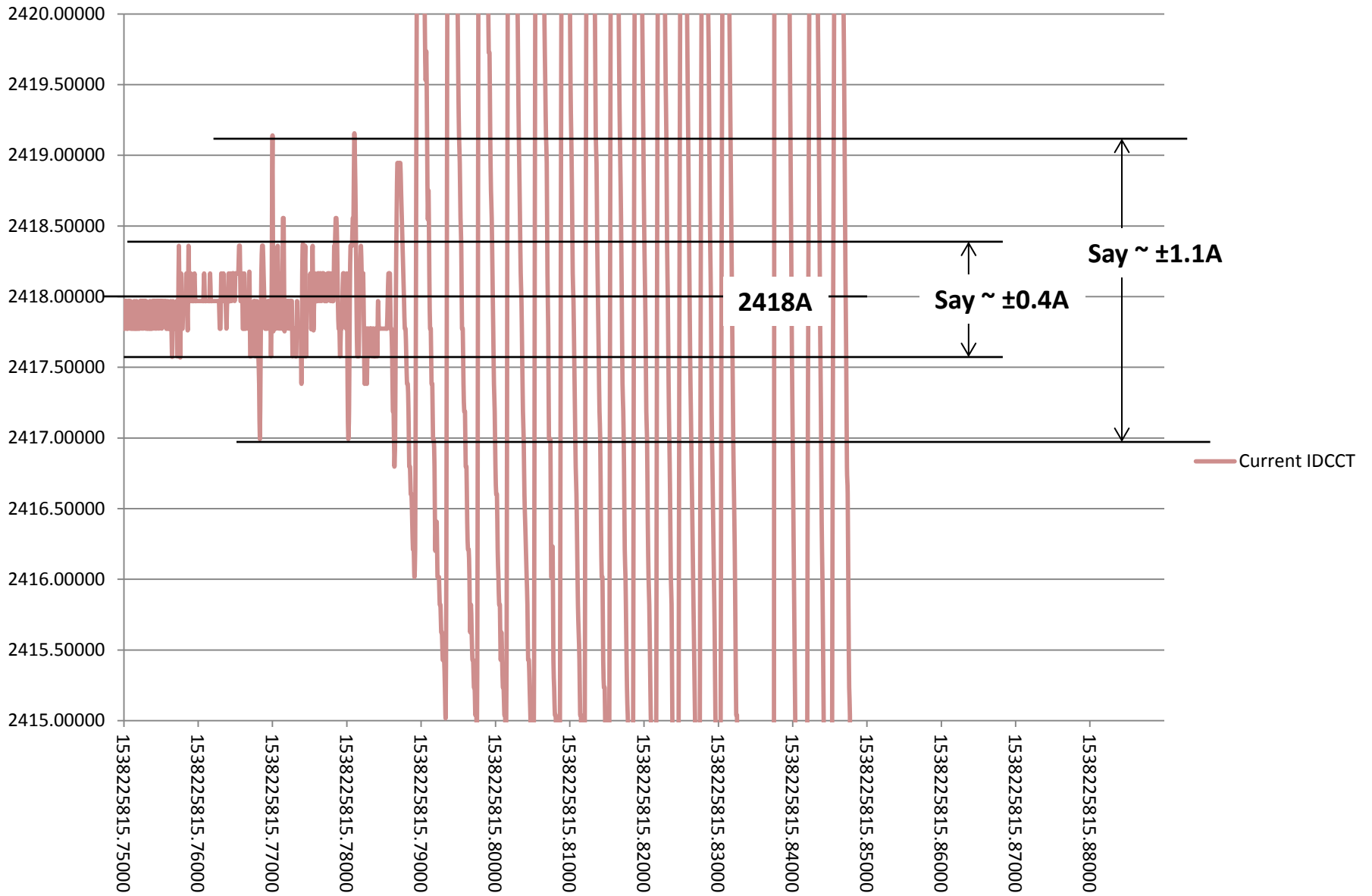
Current



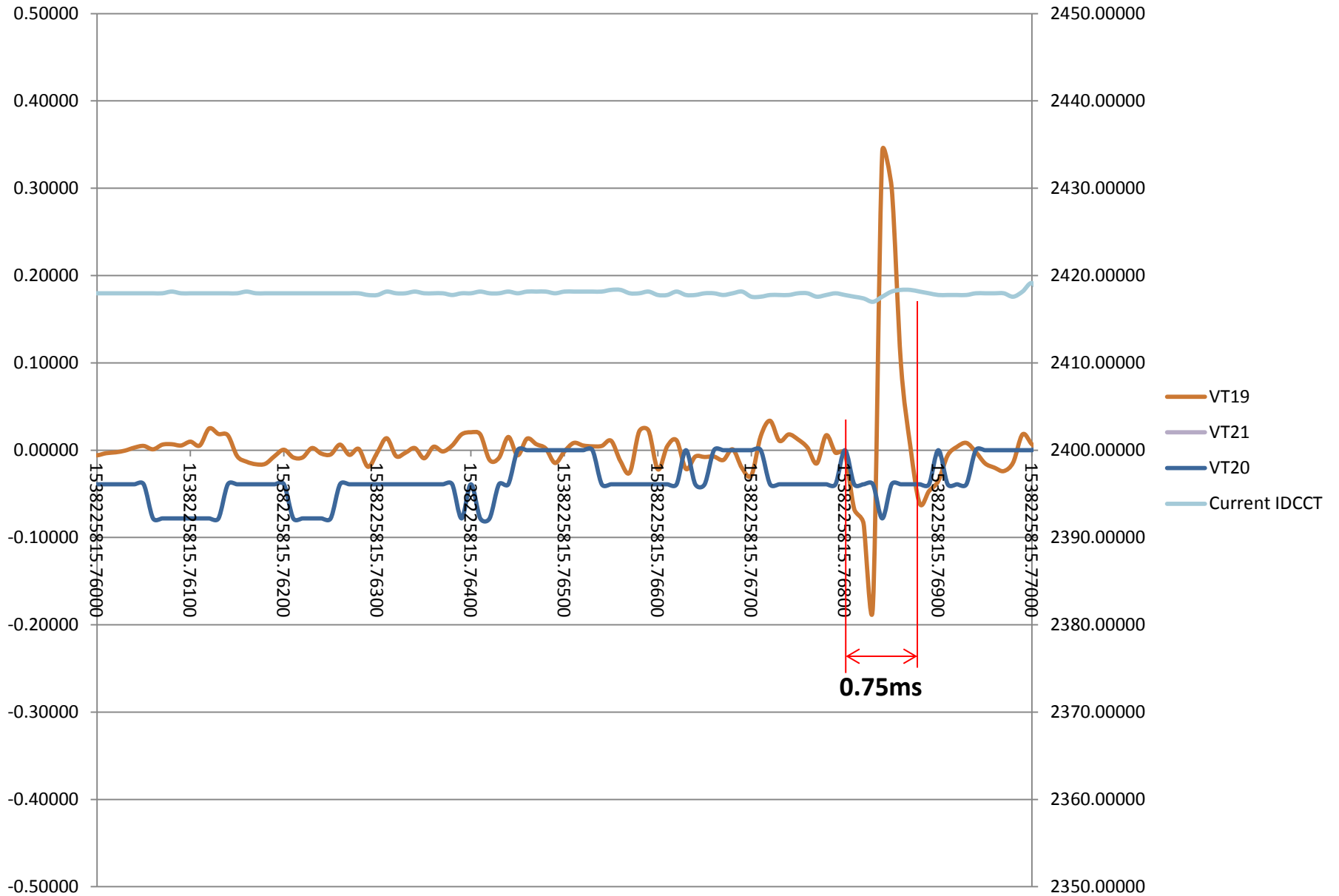
VT21 and IDCCT



Current



VT19,21,20 IDCCT



SUMMARY & OUTLOOK needs discussion

Thoughts-

- Voltage regulation issues in the Solenoid MPS
- BNC connector problem (loose) in the Control crate

Findings-

- The sudden change in the voltage tap reading in the VT19 (across the VCL) is related to the movement or stick plane and sudden release...and voltage crosses the threshold (presently set at 200 mV) but recovers within 1 ms...(time lag in the QD is 999 ms) i.e., dwelling time is small...!
- This is not resistive and do not show any sign of resistance growth within the measurement time frame..! Thus the resistance is not a question... presently.
- There will be a delay in the current (MPS) because current lags the voltage due to the inductor as load (therefore, the delay in the DCCT is real)
- We presently do not have any voltage measurement across the transistor bank MPS...

Suggestion-

- Investigate a bit further, out of the normal thinking process...MPS and its associated electronics.
- The voltage set for 2500 A is about ~6.6 V (based on 10.57 V at 4000 A). Needed to check the variation of the supply voltage across the transistor bank (driver of the supply current) and any fluctuations across the same...

MPS

- Absolute accuracy <100 ppm (Specification)
- Line and load resolution <10 ppm (Specification)
- Measurement as seen (plots attached) – Normal operation ~331 ppm and also jumps to about 868 ppm (before tripping the magnet), based on the VT21 (voltage across the LCW bus)....